# FACADE

# Concrete

## Cracks

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|  | Old | New |
| BS | **Concrete**  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation test/ BS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. Recommendations for the determination of the initial surface absorption of concrete/ BS 1881-209:1990. Testing concrete. Recommendations for the measurement of dynamic modulus of elasticity/ BS 1881-204:1988. Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986. Testing concrete. Recommendations for determination of strain in concrete/ BS 1881-121:1983. Testing concrete. Method for determination of static modulus of elasticity in compression/ BS EN 12504-2:2012. Testing concrete in structures. Non-destructive testing. Determination of rebound number/ BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete.  BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermetersBS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concreteBS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubes BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 206:2013 Concrete. Specification, performance, production and conformity/ BS 8500-1:2015 Concrete. Complementary British Standard to BS EN 206. Method of specifying and guidance for the specifier/ BS 8500-2:2015 Concrete. Complementary British Standard to BS EN 206. Specification for constituent materials and concrete  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansionBS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable waterBS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/;  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles;  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. 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Weldable reinforcing steel. Bar, coil and decoiled product. Specification  BS 4482:2005 Steel wire for the reinforcement of concrete products. SpecificationBS 4483:2005 Steel fabric for the reinforcement of concrete. Specification  BS 6744:2001+A2:2009 Stainless steel bars for the reinforcement of and use in concrete. Requirements and test methods | **Concrete**    BS EN 13139:2002 Aggregates for mortar  BS EN 12504-2:2012 Testing concrete in structures. Non-destructive testing. Determination of rebound number  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformityBS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity**Reinforcement** |
| ASTM | **Concrete**  ASTM C150 / C150M - 15 Standard Specification for Portland CementASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C33 / C33M - 13 Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through ConcreteASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse AggregatesASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened ConcreteASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened ConcreteASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM C1077 - 15a Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation  ASTM C387 / C387M - 15 Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar  **Reinforcement**  ASTM A1022 / A1022M - 15a Standard Specification for Deformed and Plain Stainless Steel Wire and Welded Wire for Concrete Reinforcement  ASTM A1064 / A1064M - 16 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete  ASTM A933/A933M-14 Standard Specification for Vinyl-Coated Steel Wire and Welded Wire Reinforcement | **Concrete**  ASTM C150 / C150M - 15 Standard Specification for Portland Cement ASTM C33 / C33M - 13 Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15a Standard Specification for Ready-Mixed Concrete ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM C1077 - 15a Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation  ASTM C387 / C387M - 15 Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar  **Reinforcement**  ASTM A1022 / A1022M - 15 Standard Specification for Deformed and Plain Stainless Steel Wire and Welded Wire for Concrete Reinforcement  ASTM A1064 / A1064M - 15 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete  ASTM A1064 / A1064M - 15 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete  ASTM A933 / A933M - 14 Standard Specification for Vinyl-Coated Steel Wire and Welded Wire Reinforcement |
| AS | **Concrete**  AS 1012.2:2014 Methods of testing concrete - Preparing concrete mixes in the laboratory  AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test  AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor test  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.11-2000 (R2014) Methods of testing concrete - Determination of the modulus of rupture  AS 1012.8.4:2015 Methods of testing concrete - Method for making and curing concrete - Drying shrinkage specimens prepared in the field or in the laboratory/ AS 1012.13:2015 Methods of testing concrete - Determination of the drying shrinkage of concrete for samples prepared in the field or in the laboratory  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concreteAS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete.  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2758.1:2014 Aggregates and rock for engineering purposes - Concrete aggregates  AS 3600-2009 Concrete structures  CIA Z9-1999 CIA Curing of ConcreteCIA Z9-1999 CIA Curing of Concrete  HB 84-2006 Guide to Concrete Repair and ProtectionHB 84-2006 Guide to Concrete Repair and Protection **Reinforcement**  AS/NZS 4671:2001 Steel reinforcing materials | **Concrete**  AS 1012.2:2014 Methods of testing concrete - Preparing concrete mixes in the laboratory  AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test  AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor test  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.11-2000 (R2014) Methods of testing concrete - Determination of the modulus of rupture  AS 1012.13:2015 Methods of testing concrete - Determination of the drying shrinkage of concrete for samples prepared in the field or in the laboratory  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2758.1:2014 Aggregates and rock for engineering purposes-Concrete aggregates  AS 3600-2009 Concrete structures CIA Z9-1999 CIA Curing of ConcreteCIA Z9-1999 CIA Curing of Concrete  HB 84-2006 Guide to Concrete Repair and Protection  **Reinforcement**  AS/NZS 4671:2001 Steel reinforcing materials  AS/NZS 4671:2001/Amdt 1:2003 Steel reinforcing materials |
| SS | **Concrete**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620: 2008 Specification for aggregates for concrete  CP 65 - 1 : 1999 Code of practice for structural use of concrete - Design and construction/ CP 65 - 2 : 1996 Code of practice for structural use of concrete - Special circumstances  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 78 - A21 : 1987 (2013) Testing concrete - Method for determination of static modules of elasticity in compression/ SS 78 - A24 : 1991 (2013) Testing concrete - Methods of analysis of hardened concrete/ SS 78 - B1 : 1992 (2013) Testing concrete - Guide to the use of non-destructive methods of test for hardened concrete/ SS 78 - B4 : 1992 (2013) Testing concrete - Recommendations for the use of electromagnetic covermeters/ SS 78 - B6 : 1992 (2013) Testing concrete - Recommendations for determination of strain in concrete/ SS 78 - B7 : 1992 (2013) Testing concrete - Recommendations for assessment of concrete strength by the near-to-surface tests/ SS 78 - B9 : 1992 (2013) Testing concrete - Recommendations for the measurement of dynamic modulus of elasticity  **Reinforcement**  SS 560 : 2010 Specification for steel for the reinforcement of concrete – Weldable reinforcing steel – Bar, coil and decoiled product  SS 561 : 2010 Specification for steel fabric for the reinforcement of concreteSS 2 - 3 : 1987 Steel for the reinforcement of concrete - Plain and ribbed bars (steel grades 250 and 460) SS 18: Part 1 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 500  SS 18: Part 2 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 485SS 32: Part 1 Welded steel fabric for the reinforcement of concrete-steel grades 300 and 500SS 32: Part 2 Welded steel fabric for the reinforcement of concrete-steel grade 485 | **Concrete**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement  SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation SS EN 12620 : 2008 Specification for aggregates for concrete  SS CP 65 Code of Practice for Structural Use of Concrete-Design and Construction SS 509:Part 1:2005 Code of practice for cleaning and surface repair of buildings. Part 2, Surface repair of natural stones, brick, terracotta and rendered finishes/  **Reinforcement** |
| ISO | **Concrete**  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete/ ISO 1920-3:2004 Testing of concrete - Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete - Part 1: Sampling of fresh concrete  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete        ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete      ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength    ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  ISO 7728:1985 Typical horizontal joints between an external wall of prefabricated ordinary concrete components and a concrete floor -- Properties. characteristics and classification criteria  ISO 7729:1985 Typical vertical joints between two prefabricated ordinary concrete external wall components -- Properties, characteristics and classification criteria  ISO 7844:1985 Grooved vertical joints with connecting bars and concrete infill between large reinforced concrete panels -- Laboratory mechanical tests -- Effect of tangential loading  ISO 7845:1985 Horizontal joints between load-bearing walls and concrete floors -- Laboratory mechanical tests -- Effect of vertical loading and of moments transmitted by the floors  **Reinforcement**  ISO 6934-1:1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2:1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3:1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4:1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5:1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabric  ISO 10144:1991 Certification scheme for steel bars and wires for the reinforcement of concrete structures  ISO 10544:1992 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric  ISO 11082:1992 Certification scheme for welded fabric for the reinforcement of concrete structures  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14655:1999 Epoxy-coated strand for the prestressing of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete  ISO 15630-1:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 1: Reinforcing bars, wire rod and wire  ISO 15630-2:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 2: Welded fabric  ISO 15630-3:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 3: Prestressing steel | **Concrete**  ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  **Reinforcement** |

## Corrosion of Reinforcement Bars

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| BS | **Concrete**  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. Recommendations for the determination of the initial surface absorption of concrete/ BS 1881-209:1990. Testing concrete. Recommendations for the measurement of dynamic modulus of elasticity/ BS 1881-204:1988. Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986. Testing concrete. Recommendations for determination of strain in concrete/ BS 1881-121:1983. Testing concrete. Method for determination of static modulus of elasticity in compression/ BS EN 12504-2:2012. Testing concrete in structures. Non-destructive testing. Determination of rebound number/ BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete.  BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters  BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 206:2013 Concrete. Specification, performance, production and conformity/ BS 8500-1:2015 Concrete. Complementary British Standard to BS EN 206. Method of specifying and guidance for the specifier/ BS 8500-2:2015 Concrete. Complementary British Standard to BS EN 206. Specification for constituent materials and concrete  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. 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General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/;  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles;  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. 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Weldable reinforcing steel. Bar, coil and decoiled product. Specification  BS 4482:2005 Steel wire for the reinforcement of concrete products. Specification  BS 4483:2005 Steel fabric for the reinforcement of concrete. Specification  BS 6744:2001+A2:2009 Stainless steel bars for the reinforcement of and use in concrete. Requirements and test methods |
| ASTM | **Concrete**  ASTM C150 / C150M - 15 Standard Specification for Portland CementASTM C150 / C150M - 15 Standard Specification for Portland Cement   ASTM C33 / C33M - 13 Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through ConcreteASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete   ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse AggregatesASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates   ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened ConcreteASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete   ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened ConcreteASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM C1077 - 15a Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation  ASTM C387 / C387M - 15 Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar  **Reinforcement**  ASTM A1022 / A1022M - 15a Standard Specification for Deformed and Plain Stainless Steel Wire and Welded Wire for Concrete Reinforcement  ASTM A1064 / A1064M - 16 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete  ASTM A933/A933M-14 Standard Specification for Vinyl-Coated Steel Wire and Welded Wire Reinforcement |
| AS | **Concrete**  AS 1012.2:2014 Methods of testing concrete - Preparing concrete mixes in the laboratory  AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test  AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor test  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.11-2000 (R2014) Methods of testing concrete - Determination of the modulus of rupture  AS 1012.8.4:2015 Methods of testing concrete - Method for making and curing concrete - Drying shrinkage specimens prepared in the field or in the laboratory/ AS 1012.13:2015 Methods of testing concrete - Determination of the drying shrinkage of concrete for samples prepared in the field or in the laboratory  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concreteAS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete.  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2758.1:2014 Aggregates and rock for engineering purposes - Concrete aggregates  AS 3600-2009 Concrete structures   CIA Z9-1999 CIA Curing of ConcreteCIA Z9-1999 CIA Curing of Concrete   HB 84-2006 Guide to Concrete Repair and ProtectionHB 84-2006 Guide to Concrete Repair and Protection  **Reinforcement**  AS/NZS 4671:2001 Steel reinforcing materials |
| SS | **Concrete**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation   SS EN 12620: 2008 Specification for aggregates for concrete  CP 65 - 1 : 1999 Code of practice for structural use of concrete - Design and construction/ CP 65 - 2 : 1996 Code of practice for structural use of concrete - Special circumstances  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 78 - A21 : 1987 (2013) Testing concrete - Method for determination of static modules of elasticity in compression/ SS 78 - A24 : 1991 (2013) Testing concrete - Methods of analysis of hardened concrete/ SS 78 - B1 : 1992 (2013) Testing concrete - Guide to the use of non-destructive methods of test for hardened concrete/ SS 78 - B4 : 1992 (2013) Testing concrete - Recommendations for the use of electromagnetic covermeters/ SS 78 - B6 : 1992 (2013) Testing concrete - Recommendations for determination of strain in concrete/ SS 78 - B7 : 1992 (2013) Testing concrete - Recommendations for assessment of concrete strength by the near-to-surface tests/ SS 78 - B9 : 1992 (2013) Testing concrete - Recommendations for the measurement of dynamic modulus of elasticity    **Reinforcement**  SS 560 : 2010 Specification for steel for the reinforcement of concrete – Weldable reinforcing steel – Bar, coil and decoiled product  SS 561 : 2010 Specification for steel fabric for the reinforcement of concrete  SS 2 - 3 : 1987 Steel for the reinforcement of concrete - Plain and ribbed bars (steel grades 250 and 460)  SS 18: Part 1 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 500  SS 18: Part 2 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 485  SS 32: Part 1 Welded steel fabric for the reinforcement of concrete-steel grades 300 and 500  SS 32: Part 2 Welded steel fabric for the reinforcement of concrete-steel grade 485 |
| ISO | **Concrete**  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete/ ISO 1920-3:2004 Testing of concrete - Part 3: Making and curing test specimens   ISO 1920-1:2004 Testing of concrete - Part 1: Sampling of fresh concrete  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete        ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete      ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength    ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  ISO 7728:1985 Typical horizontal joints between an external wall of prefabricated ordinary concrete components and a concrete floor -- Properties. characteristics and classification criteria  ISO 7729:1985 Typical vertical joints between two prefabricated ordinary concrete external wall components -- Properties, characteristics and classification criteria  ISO 7844:1985 Grooved vertical joints with connecting bars and concrete infill between large reinforced concrete panels -- Laboratory mechanical tests -- Effect of tangential loading  ISO 7845:1985 Horizontal joints between load-bearing walls and concrete floors -- Laboratory mechanical tests -- Effect of vertical loading and of moments transmitted by the floors  **Reinforcement**  ISO 6934-1:1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2:1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3:1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4:1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5:1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabric  ISO 10144:1991 Certification scheme for steel bars and wires for the reinforcement of concrete structures  ISO 10544:1992 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric  ISO 11082:1992 Certification scheme for welded fabric for the reinforcement of concrete structures  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14655:1999 Epoxy-coated strand for the prestressing of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete  ISO 15630-1:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 1: Reinforcing bars, wire rod and wire  ISO 15630-2:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 2: Welded fabric  ISO 15630-3:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 3: Prestressing steel |

## Dampness and Condensation

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| BS | **Concrete**  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. Recommendations for the determination of the initial surface absorption of concrete/ BS 1881-209:1990. Testing concrete. Recommendations for the measurement of dynamic modulus of elasticity/ BS 1881-204:1988. Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986. Testing concrete. Recommendations for determination of strain in concrete/ BS 1881-121:1983. Testing concrete. Method for determination of static modulus of elasticity in compression/ BS EN 12504-2:2012. Testing concrete in structures. Non-destructive testing. Determination of rebound number/ BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete.  BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters  BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  ;  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 206:2013 Concrete. Specification, performance, production and conformity/ BS 8500-1:2015 Concrete. Complementary British Standard to BS EN 206. Method of specifying and guidance for the specifier/ BS 8500-2:2015 Concrete. Complementary British Standard to BS EN 206. Specification for constituent materials and concrete  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/;  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles;  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. 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Introduction and general principles  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 13914-1:2016 Design, preparation and application of external rendering and internal plastering. External rendering |
| ASTM | **Concrete**  ASTM C150 / C150M - 15 Standard Specification for Portland CementASTM C150 / C150M - 15 Standard Specification for Portland Cement   ASTM C33 / C33M - 13 Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete   ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates   ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete   ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM C1077 - 15a Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation  ASTM C387 / C387M - 15 Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar  **Reinforcement**  ASTM A1022 / A1022M - 15a Standard Specification for Deformed and Plain Stainless Steel Wire and Welded Wire for Concrete Reinforcement  ASTM A1064 / A1064M - 16 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete  ASTM A933/A933M-14 Standard Specification for Vinyl-Coated Steel Wire and Welded Wire Reinforcement  **Plastering**  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C1328 / C1328M - 12 Standard Specification for Plastic (Stucco) Cement  ASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based PlastersASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters  ASTM E96 / E96M - 15 Standard Test Methods for Water Vapor Transmission of Materials  ASTM C1506 - 16a Standard Test Method for Water Retention of Hydraulic Cement-Based Mortars and Plasters  ASTM C1063 - 16 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters  ASTM C847 - 14a Standard Specification for Metal Lath  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM F710 - 11 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring  ASTM E119 - 15 Standard Test Methods for Fire Tests of Building Construction and Materials  ASTM C932 - 06(2013) Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering  ASTM C40 / C40M - 11 Standard Test Method for Organic Impurities in Fine Aggregates for Concrete |
| AS | **Concrete**  AS 1012.2:2014 Methods of testing concrete - Preparing concrete mixes in the laboratory  AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test  AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor test  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.11-2000 (R2014) Methods of testing concrete - Determination of the modulus of rupture  AS 1012.8.4:2015 Methods of testing concrete - Method for making and curing concrete - Drying shrinkage specimens prepared in the field or in the laboratory/ AS 1012.13:2015 Methods of testing concrete - Determination of the drying shrinkage of concrete for samples prepared in the field or in the laboratory  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concreteAS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete.  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2758.1:2014 Aggregates and rock for engineering purposes - Concrete aggregates  AS 3600-2009 Concrete structures   CIA Z9-1999 CIA Curing of ConcreteCIA Z9-1999 CIA Curing of Concrete   HB 84-2006 Guide to Concrete Repair and ProtectionHB 84-2006 Guide to Concrete Repair and Protection  **Reinforcement**  AS/NZS 4671:2001 Steel reinforcing materials  **Plastering**  AS 2185-1978 Fibrous plaster products  AS 2592-1983 Gypsum plaster for building purposes  DR 99462 Fibre reinforced gypsum plaster |
| SS | **Concrete**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation   SS EN 12620: 2008 Specification for aggregates for concrete  CP 65 - 1 : 1999 Code of practice for structural use of concrete - Design and construction/ CP 65 - 2 : 1996 Code of practice for structural use of concrete - Special circumstances  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 78 - A21 : 1987 (2013) Testing concrete - Method for determination of static modules of elasticity in compression/ SS 78 - A24 : 1991 (2013) Testing concrete - Methods of analysis of hardened concrete/ SS 78 - B1 : 1992 (2013) Testing concrete - Guide to the use of non-destructive methods of test for hardened concrete/ SS 78 - B4 : 1992 (2013) Testing concrete - Recommendations for the use of electromagnetic covermeters/ SS 78 - B6 : 1992 (2013) Testing concrete - Recommendations for determination of strain in concrete/ SS 78 - B7 : 1992 (2013) Testing concrete - Recommendations for assessment of concrete strength by the near-to-surface tests/ SS 78 - B9 : 1992 (2013) Testing concrete - Recommendations for the measurement of dynamic modulus of elasticity  **Reinforcement**  SS 560 : 2010 Specification for steel for the reinforcement of concrete – Weldable reinforcing steel – Bar, coil and decoiled product  SS 561 : 2010 Specification for steel fabric for the reinforcement of concrete  SS 2 - 3 : 1987 Steel for the reinforcement of concrete - Plain and ribbed bars (steel grades 250 and 460)  SS 18: Part 1 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 500  SS 18: Part 2 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 485  SS 32: Part 1 Welded steel fabric for the reinforcement of concrete-steel grades 300 and 500  SS 32: Part 2 Welded steel fabric for the reinforcement of concrete-steel grade 485  **Plastering**  CP 56 : 1991 Code of practice for internal plastering |
| ISO | **Concrete**  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete/ ISO 1920-3:2004 Testing of concrete - Part 3: Making and curing test specimens   ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  ISO 7728:1985 Typical horizontal joints between an external wall of prefabricated ordinary concrete components and a concrete floor -- Properties. characteristics and classification criteria  ISO 7729:1985 Typical vertical joints between two prefabricated ordinary concrete external wall components -- Properties, characteristics and classification criteria  ISO 7844:1985 Grooved vertical joints with connecting bars and concrete infill between large reinforced concrete panels -- Laboratory mechanical tests -- Effect of tangential loading  ISO 7845:1985 Horizontal joints between load-bearing walls and concrete floors -- Laboratory mechanical tests -- Effect of vertical loading and of moments transmitted by the floors  **Reinforcement**  ISO 6934-1:1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2:1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3:1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4:1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5:1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabric  ISO 10144:1991 Certification scheme for steel bars and wires for the reinforcement of concrete structures  ISO 10544:1992 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric  ISO 11082:1992 Certification scheme for welded fabric for the reinforcement of concrete structures  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14655:1999 Epoxy-coated strand for the prestressing of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete  ISO 15630-1:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 1: Reinforcing bars, wire rod and wire  ISO 15630-2:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 2: Welded fabric  ISO 15630-3:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 3: Prestressing steel |

## Alkali Silica reaction

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| BS | **Concrete**  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. 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Specification, performance, production and conformity/ BS 8500-1:2015 Concrete. Complementary British Standard to BS EN 206. Method of specifying and guidance for the specifier/ BS 8500-2:2015 Concrete. Complementary British Standard to BS EN 206. Specification for constituent materials and concrete  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/;  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles;  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. 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Weldable reinforcing steel. Bar, coil and decoiled product. Specification  BS 4482:2005 Steel wire for the reinforcement of concrete products. Specification  BS 4483:2005 Steel fabric for the reinforcement of concrete. Specification  BS 6744:2001+A2:2009 Stainless steel bars for the reinforcement of and use in concrete. Requirements and test methods |
| ASTM | **Concrete**  ASTM C150 / C150M - 15 Standard Specification for Portland CementASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C33 / C33M - 13 Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C1077 - 15a Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency EvaluationASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete   ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates   ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete   ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM C1077 - 15a Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation  ASTM C387 / C387M - 15 Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar  **Reinforcement**  ASTM A1022 / A1022M - 15a Standard Specification for Deformed and Plain Stainless Steel Wire and Welded Wire for Concrete Reinforcement  ASTM A1064 / A1064M - 16 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete  ASTM A933/A933M-14 Standard Specification for Vinyl-Coated Steel Wire and Welded Wire Reinforcement |
| AS | **Concrete**  AS 1012.2:2014 Methods of testing concrete - Preparing concrete mixes in the laboratory  AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test  AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor testAS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.11-2000 (R2014) Methods of testing concrete - Determination of the modulus of rupture  AS 1012.8.4:2015 Methods of testing concrete - Method for making and curing concrete - Drying shrinkage specimens prepared in the field or in the laboratory/ AS 1012.13:2015 Methods of testing concrete - Determination of the drying shrinkage of concrete for samples prepared in the field or in the laboratory  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concreteAS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete.  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2758.1:2014 Aggregates and rock for engineering purposes - Concrete aggregates  AS 3600-2009 Concrete structures   CIA Z9-1999 CIA Curing of ConcreteCIA Z9-1999 CIA Curing of Concrete   HB 84-2006 Guide to Concrete Repair and ProtectionHB 84-2006 Guide to Concrete Repair and Protection  **Reinforcement**  AS/NZS 4671:2001 Steel reinforcing materials |
| SS | **Concrete**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation   SS EN 12620: 2008 Specification for aggregates for concrete  CP 65 - 1 : 1999 Code of practice for structural use of concrete - Design and construction/ CP 65 - 2 : 1996 Code of practice for structural use of concrete - Special circumstances  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 78 - A21 : 1987 (2013) Testing concrete - Method for determination of static modules of elasticity in compression/ SS 78 - A24 : 1991 (2013) Testing concrete - Methods of analysis of hardened concrete/ SS 78 - B1 : 1992 (2013) Testing concrete - Guide to the use of non-destructive methods of test for hardened concrete/ SS 78 - B4 : 1992 (2013) Testing concrete - Recommendations for the use of electromagnetic covermeters/ SS 78 - B6 : 1992 (2013) Testing concrete - Recommendations for determination of strain in concrete/ SS 78 - B7 : 1992 (2013) Testing concrete - Recommendations for assessment of concrete strength by the near-to-surface tests/ SS 78 - B9 : 1992 (2013) Testing concrete - Recommendations for the measurement of dynamic modulus of elasticity    **Reinforcement**  SS 560 : 2010 Specification for steel for the reinforcement of concrete – Weldable reinforcing steel – Bar, coil and decoiled product  SS 561 : 2010 Specification for steel fabric for the reinforcement of concrete  SS 2 - 3 : 1987 Steel for the reinforcement of concrete - Plain and ribbed bars (steel grades 250 and 460)  SS 18: Part 1 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 500  SS 18: Part 2 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 485  SS 32: Part 1 Welded steel fabric for the reinforcement of concrete-steel grades 300 and 500  SS 32: Part 2 Welded steel fabric for the reinforcement of concrete-steel grade 485 |
| ISO | **Concrete**  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete/ ISO 1920-3:2004 Testing of concrete - Part 3: Making and curing test specimens   ISO 1920-1:2004 Testing of concrete - Part 1: Sampling of fresh concrete  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete        ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete      ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength    ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  ISO 7728:1985 Typical horizontal joints between an external wall of prefabricated ordinary concrete components and a concrete floor -- Properties. characteristics and classification criteria  ISO 7729:1985 Typical vertical joints between two prefabricated ordinary concrete external wall components -- Properties, characteristics and classification criteria  ISO 7844:1985 Grooved vertical joints with connecting bars and concrete infill between large reinforced concrete panels -- Laboratory mechanical tests -- Effect of tangential loading  ISO 7845:1985 Horizontal joints between load-bearing walls and concrete floors -- Laboratory mechanical tests -- Effect of vertical loading and of moments transmitted by the floors  **Reinforcement**  ISO 6934-1:1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2:1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3:1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4:1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5:1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabric  ISO 10144:1991 Certification scheme for steel bars and wires for the reinforcement of concrete structures  ISO 10544:1992 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric  ISO 11082:1992 Certification scheme for welded fabric for the reinforcement of concrete structures  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14655:1999 Epoxy-coated strand for the prestressing of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete  ISO 15630-1:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 1: Reinforcing bars, wire rod and wire  ISO 15630-2:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 2: Welded fabric  ISO 15630-3:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 3: Prestressing steel |

## Chloride Attack

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| BS | **Concrete**  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. 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General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/;  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles;  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. 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| ASTM | **Concrete**  ASTM C150 / C150M - 15 Standard Specification for Portland CementASTM C150 / C150M - 15 Standard Specification for Portland Cement   ASTM C33 / C33M - 13 Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through ConcreteASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete   ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse AggregatesASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates   ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened ConcreteASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete   ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened ConcreteASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM C1077 - 15a Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation  ASTM C387 / C387M - 15 Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar  **Reinforcement**  ASTM A1022 / A1022M - 15a Standard Specification for Deformed and Plain Stainless Steel Wire and Welded Wire for Concrete Reinforcement  ASTM A1064 / A1064M - 16 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete  ASTM A933/A933M-14 Standard Specification for Vinyl-Coated Steel Wire and Welded Wire Reinforcement |
| AS | **Concrete**  AS 1012.2:2014 Methods of testing concrete - Preparing concrete mixes in the laboratory  AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test  AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor test  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.11-2000 (R2014) Methods of testing concrete - Determination of the modulus of rupture  AS 1012.8.4:2015 Methods of testing concrete - Method for making and curing concrete - Drying shrinkage specimens prepared in the field or in the laboratory/ AS 1012.13:2015 Methods of testing concrete - Determination of the drying shrinkage of concrete for samples prepared in the field or in the laboratory  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concreteAS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete.  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2758.1:2014 Aggregates and rock for engineering purposes - Concrete aggregates  AS 3600-2009 Concrete structures   CIA Z9-1999 CIA Curing of ConcreteCIA Z9-1999 CIA Curing of Concrete   HB 84-2006 Guide to Concrete Repair and ProtectionHB 84-2006 Guide to Concrete Repair and Protection  **Reinforcement**  AS/NZS 4671:2001 Steel reinforcing materials |
| SS | **Concrete**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation   SS EN 12620: 2008 Specification for aggregates for concrete  CP 65 - 1 : 1999 Code of practice for structural use of concrete - Design and construction/ CP 65 - 2 : 1996 Code of practice for structural use of concrete - Special circumstances  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 78 - A21 : 1987 (2013) Testing concrete - Method for determination of static modules of elasticity in compression/ SS 78 - A24 : 1991 (2013) Testing concrete - Methods of analysis of hardened concrete/ SS 78 - B1 : 1992 (2013) Testing concrete - Guide to the use of non-destructive methods of test for hardened concrete/ SS 78 - B4 : 1992 (2013) Testing concrete - Recommendations for the use of electromagnetic covermeters/ SS 78 - B6 : 1992 (2013) Testing concrete - Recommendations for determination of strain in concrete/ SS 78 - B7 : 1992 (2013) Testing concrete - Recommendations for assessment of concrete strength by the near-to-surface tests/ SS 78 - B9 : 1992 (2013) Testing concrete - Recommendations for the measurement of dynamic modulus of elasticity    **Reinforcement**  SS 560 : 2010 Specification for steel for the reinforcement of concrete – Weldable reinforcing steel – Bar, coil and decoiled product  SS 561 : 2010 Specification for steel fabric for the reinforcement of concrete  SS 2 - 3 : 1987 Steel for the reinforcement of concrete - Plain and ribbed bars (steel grades 250 and 460)  SS 18: Part 1 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 500  SS 18: Part 2 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 485  SS 32: Part 1 Welded steel fabric for the reinforcement of concrete-steel grades 300 and 500  SS 32: Part 2 Welded steel fabric for the reinforcement of concrete-steel grade 485 |
| ISO | **Concrete**  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete/ ISO 1920-3:2004 Testing of concrete - Part 3: Making and curing test specimens   ISO 1920-1:2004 Testing of concrete - Part 1: Sampling of fresh concrete  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete        ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete      ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength    ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  ISO 7728:1985 Typical horizontal joints between an external wall of prefabricated ordinary concrete components and a concrete floor -- Properties. characteristics and classification criteria  ISO 7729:1985 Typical vertical joints between two prefabricated ordinary concrete external wall components -- Properties, characteristics and classification criteria  ISO 7844:1985 Grooved vertical joints with connecting bars and concrete infill between large reinforced concrete panels -- Laboratory mechanical tests -- Effect of tangential loading  ISO 7845:1985 Horizontal joints between load-bearing walls and concrete floors -- Laboratory mechanical tests -- Effect of vertical loading and of moments transmitted by the floors  **Reinforcement**  ISO 6934-1:1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2:1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3:1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4:1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5:1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabric  ISO 10144:1991 Certification scheme for steel bars and wires for the reinforcement of concrete structures  ISO 10544:1992 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric  ISO 11082:1992 Certification scheme for welded fabric for the reinforcement of concrete structures  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14655:1999 Epoxy-coated strand for the prestressing of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete  ISO 15630-1:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 1: Reinforcing bars, wire rod and wire  ISO 15630-2:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 2: Welded fabric  ISO 15630-3:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 3: Prestressing steel |

## Sulphate Attack

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| BS | **Concrete**  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. Recommendations for the determination of the initial surface absorption of concrete/ BS 1881-209:1990. Testing concrete. Recommendations for the measurement of dynamic modulus of elasticity/ BS 1881-204:1988. Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986. Testing concrete. Recommendations for determination of strain in concrete/ BS 1881-121:1983. Testing concrete. Method for determination of static modulus of elasticity in compression/ BS EN 12504-2:2012. Testing concrete in structures. Non-destructive testing. Determination of rebound number/ BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete.  BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters  BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  ;  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 206:2013 Concrete. Specification, performance, production and conformity/ BS 8500-1:2015 Concrete. Complementary British Standard to BS EN 206. Method of specifying and guidance for the specifier/ BS 8500-2:2015 Concrete. Complementary British Standard to BS EN 206. Specification for constituent materials and concrete  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/;  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles;  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity    **Reinforcement**  BS 4449:2005+A2:2009 Steel for the reinforcement of concrete. Weldable reinforcing steel. Bar, coil and decoiled product. Specification  BS 4482:2005 Steel wire for the reinforcement of concrete products. Specification  BS 4483:2005 Steel fabric for the reinforcement of concrete. Specification  BS 6744:2001+A2:2009 Stainless steel bars for the reinforcement of and use in concrete. Requirements and test methods |
| ASTM | **Concrete**  ASTM C150 / C150M - 15 Standard Specification for Portland CementASTM C150 / C150M - 15 Standard Specification for Portland Cement   ASTM C33 / C33M - 13 Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through ConcreteASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete   ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates   ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete   ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM C1077 - 15a Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation  ASTM C387 / C387M - 15 Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar  **Reinforcement**  ASTM A1022 / A1022M - 15a Standard Specification for Deformed and Plain Stainless Steel Wire and Welded Wire for Concrete Reinforcement  ASTM A1064 / A1064M - 16 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete  ASTM A933/A933M-14 Standard Specification for Vinyl-Coated Steel Wire and Welded Wire Reinforcement |
| AS | **Concrete**  AS 1012.2:2014 Methods of testing concrete - Preparing concrete mixes in the laboratory  AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test  AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor test  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.11-2000 (R2014) Methods of testing concrete - Determination of the modulus of rupture  AS 1012.8.4:2015 Methods of testing concrete - Method for making and curing concrete - Drying shrinkage specimens prepared in the field or in the laboratory/ AS 1012.13:2015 Methods of testing concrete - Determination of the drying shrinkage of concrete for samples prepared in the field or in the laboratory  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concreteAS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete.  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2758.1:2014 Aggregates and rock for engineering purposes - Concrete aggregates  AS 3600-2009 Concrete structures   CIA Z9-1999 CIA Curing of ConcreteCIA Z9-1999 CIA Curing of Concrete   HB 84-2006 Guide to Concrete Repair and ProtectionHB 84-2006 Guide to Concrete Repair and Protection  **Reinforcement**  AS/NZS 4671:2001 Steel reinforcing materials |
| SS | **Concrete**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation   SS EN 12620: 2008 Specification for aggregates for concrete  CP 65 - 1 : 1999 Code of practice for structural use of concrete - Design and construction/ CP 65 - 2 : 1996 Code of practice for structural use of concrete - Special circumstances  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 78 - A21 : 1987 (2013) Testing concrete - Method for determination of static modules of elasticity in compression/ SS 78 - A24 : 1991 (2013) Testing concrete - Methods of analysis of hardened concrete/ SS 78 - B1 : 1992 (2013) Testing concrete - Guide to the use of non-destructive methods of test for hardened concrete/ SS 78 - B4 : 1992 (2013) Testing concrete - Recommendations for the use of electromagnetic covermeters/ SS 78 - B6 : 1992 (2013) Testing concrete - Recommendations for determination of strain in concrete/ SS 78 - B7 : 1992 (2013) Testing concrete - Recommendations for assessment of concrete strength by the near-to-surface tests/ SS 78 - B9 : 1992 (2013) Testing concrete - Recommendations for the measurement of dynamic modulus of elasticity    **Reinforcement**  SS 560 : 2010 Specification for steel for the reinforcement of concrete – Weldable reinforcing steel – Bar, coil and decoiled product  SS 561 : 2010 Specification for steel fabric for the reinforcement of concrete  SS 2 - 3 : 1987 Steel for the reinforcement of concrete - Plain and ribbed bars (steel grades 250 and 460)  SS 18: Part 1 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 500  SS 18: Part 2 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 485  SS 32: Part 1 Welded steel fabric for the reinforcement of concrete-steel grades 300 and 500  SS 32: Part 2 Welded steel fabric for the reinforcement of concrete-steel grade 485 |
| ISO | **Concrete**  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete/ ISO 1920-3:2004 Testing of concrete - Part 3: Making and curing test specimens   ISO 1920-1:2004 Testing of concrete - Part 1: Sampling of fresh concrete  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete        ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete      ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength    ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  ISO 7728:1985 Typical horizontal joints between an external wall of prefabricated ordinary concrete components and a concrete floor -- Properties. characteristics and classification criteria  ISO 7729:1985 Typical vertical joints between two prefabricated ordinary concrete external wall components -- Properties, characteristics and classification criteria  ISO 7844:1985 Grooved vertical joints with connecting bars and concrete infill between large reinforced concrete panels -- Laboratory mechanical tests -- Effect of tangential loading  ISO 7845:1985 Horizontal joints between load-bearing walls and concrete floors -- Laboratory mechanical tests -- Effect of vertical loading and of moments transmitted by the floors  **Reinforcement**  ISO 6934-1:1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2:1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3:1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4:1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5:1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabric  ISO 10144:1991 Certification scheme for steel bars and wires for the reinforcement of concrete structures  ISO 10544:1992 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric  ISO 11082:1992 Certification scheme for welded fabric for the reinforcement of concrete structures  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14655:1999 Epoxy-coated strand for the prestressing of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete  ISO 15630-1:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 1: Reinforcing bars, wire rod and wire  ISO 15630-2:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 2: Welded fabric  ISO 15630-3:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 3: Prestressing steel |

## Biological staining

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| BS | **Concrete**  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. 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Recommendations for determination of strain in concrete  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  ;  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 206:2013 Concrete. Specification, performance, production and conformity/ BS 8500-1:2015 Concrete. Complementary British Standard to BS EN 206. Method of specifying and guidance for the specifier/ BS 8500-2:2015 Concrete. Complementary British Standard to BS EN 206. Specification for constituent materials and concrete  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/;  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles;  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity    **Reinforcement**  BS 4449:2005+A2:2009 Steel for the reinforcement of concrete. Weldable reinforcing steel. Bar, coil and decoiled product. Specification  BS 4482:2005 Steel wire for the reinforcement of concrete products. Specification  BS 4483:2005 Steel fabric for the reinforcement of concrete. Specification  BS 6744:2001+A2:2009 Stainless steel bars for the reinforcement of and use in concrete. Requirements and test methods |
| ASTM | **Concrete**  ASTM C150 / C150M - 15 Standard Specification for Portland CementASTM C150 / C150M - 15 Standard Specification for Portland Cement   ASTM C33 / C33M - 13 Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete   ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates   ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete   ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM C1077 - 15a Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation  ASTM C387 / C387M - 15 Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar  **Reinforcement**  ASTM A1022 / A1022M - 15a Standard Specification for Deformed and Plain Stainless Steel Wire and Welded Wire for Concrete Reinforcement  ASTM A1064 / A1064M - 16 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete  ASTM A933/A933M-14 Standard Specification for Vinyl-Coated Steel Wire and Welded Wire Reinforcement |
| AS | **Concrete**  AS 1012.2:2014 Methods of testing concrete - Preparing concrete mixes in the laboratory  AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test  AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor test  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.11-2000 (R2014) Methods of testing concrete - Determination of the modulus of rupture  AS 1012.8.4:2015 Methods of testing concrete - Method for making and curing concrete - Drying shrinkage specimens prepared in the field or in the laboratory/ AS 1012.13:2015 Methods of testing concrete - Determination of the drying shrinkage of concrete for samples prepared in the field or in the laboratory  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concreteAS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete.  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2758.1:2014 Aggregates and rock for engineering purposes - Concrete aggregates  AS 3600-2009 Concrete structures   CIA Z9-1999 CIA Curing of ConcreteCIA Z9-1999 CIA Curing of Concrete   HB 84-2006 Guide to Concrete Repair and ProtectionHB 84-2006 Guide to Concrete Repair and Protection  **Reinforcement**  AS/NZS 4671:2001 Steel reinforcing materials |
| SS | **Concrete**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation   SS EN 12620: 2008 Specification for aggregates for concrete  CP 65 - 1 : 1999 Code of practice for structural use of concrete - Design and construction/ CP 65 - 2 : 1996 Code of practice for structural use of concrete - Special circumstances  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 78 - A21 : 1987 (2013) Testing concrete - Method for determination of static modules of elasticity in compression/ SS 78 - A24 : 1991 (2013) Testing concrete - Methods of analysis of hardened concrete/ SS 78 - B1 : 1992 (2013) Testing concrete - Guide to the use of non-destructive methods of test for hardened concrete/ SS 78 - B4 : 1992 (2013) Testing concrete - Recommendations for the use of electromagnetic covermeters/ SS 78 - B6 : 1992 (2013) Testing concrete - Recommendations for determination of strain in concrete/ SS 78 - B7 : 1992 (2013) Testing concrete - Recommendations for assessment of concrete strength by the near-to-surface tests/ SS 78 - B9 : 1992 (2013) Testing concrete - Recommendations for the measurement of dynamic modulus of elasticity    **Reinforcement**  SS 560 : 2010 Specification for steel for the reinforcement of concrete – Weldable reinforcing steel – Bar, coil and decoiled product  SS 561 : 2010 Specification for steel fabric for the reinforcement of concrete  SS 2 - 3 : 1987 Steel for the reinforcement of concrete - Plain and ribbed bars (steel grades 250 and 460)  SS 18: Part 1 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 500  SS 18: Part 2 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 485  SS 32: Part 1 Welded steel fabric for the reinforcement of concrete-steel grades 300 and 500  SS 32: Part 2 Welded steel fabric for the reinforcement of concrete-steel grade 485 |
| ISO | **Concrete**  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete/ ISO 1920-3:2004 Testing of concrete - Part 3: Making and curing test specimens   ISO 1920-1:2004 Testing of concrete - Part 1: Sampling of fresh concrete  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete        ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete      ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength    ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  ISO 7728:1985 Typical horizontal joints between an external wall of prefabricated ordinary concrete components and a concrete floor -- Properties. characteristics and classification criteria  ISO 7729:1985 Typical vertical joints between two prefabricated ordinary concrete external wall components -- Properties, characteristics and classification criteria  ISO 7844:1985 Grooved vertical joints with connecting bars and concrete infill between large reinforced concrete panels -- Laboratory mechanical tests -- Effect of tangential loading  ISO 7845:1985 Horizontal joints between load-bearing walls and concrete floors -- Laboratory mechanical tests -- Effect of vertical loading and of moments transmitted by the floors  **Reinforcement**  ISO 6934-1:1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2:1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3:1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4:1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5:1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabric  ISO 10144:1991 Certification scheme for steel bars and wires for the reinforcement of concrete structures  ISO 10544:1992 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric  ISO 11082:1992 Certification scheme for welded fabric for the reinforcement of concrete structures  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14655:1999 Epoxy-coated strand for the prestressing of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete  ISO 15630-1:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 1: Reinforcing bars, wire rod and wire  ISO 15630-2:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 2: Welded fabric  ISO 15630-3:2010 Steel for the reinforcement and prestressing of concrete -- Test methods -- Part 3: Prestressing steel |

# Brick Wall

## Cracking of brick wall (Differential thermal expansion and contraction)

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| BS | **Masonry**  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 772-19:2000 Methods of test for masonry units. Determination of moisture expansion of large horizontally perforated clay masonry units  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  **Mortar**  BS EN 413-2:2005 Masonry cement. Test methods  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-16:2011 Methods of test for masonry units. Determination of dimensions  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar  BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)  BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars  BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)  BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)  BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar  BS EN 1015-11:1999 Methods of test for mortar for masonry. Determination of flexural and compressive strength of hardened mortar  BS EN 1015-12:2000 Methods of test for mortar for masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN 1015-17:2000 Methods of test for mortar for masonry. Determination of water-soluble chloride content of fresh mortars  BS EN 1052-1:1999 Methods of test for masonry. Determination of compressive strength  BS EN 1052-2:2016 Methods of test for masonry. Determination of flexural strength  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar  BS EN 845-1:2013 Specification for ancillary components for masonry. Wall ties, tension straps, hangers and brackets  BS EN 13055-1:2002 Lightweight aggregates. Lightweight aggregates for concrete, mortar and grout  BS EN 998-2:2010 Specification for mortar for masonry . Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 413-1:2011 Masonry cement. Composition, specifications and conformity criteria  **Sealants**  BS EN ISO 11600:2003+A1:2011 Building construction. Jointing products. Classification and requirements for sealants  BS 4255-1:1986 Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets  BS 6213:2000+A1:2010 Selection of construction sealants. Guide  **Waterproofing for masonry**  BS 8215:1991 Code of practice for design and installation of damp-proof courses in masonry construction  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 1052-4:2000 Methods of test for masonry. Determination of shear strength including damp proof course |
| ASTM | **Masonry**  ASTM C216 - 15 Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)  ASTM C62 - 13a Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)  ASTM C652 - 15 Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)  ASTM C212 - 14 Standard Specification for Structural Clay Facing Tile  ASTM C34 - 13 Standard Specification for Structural Clay Load-Bearing Wall Tile.  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.  ASTM C91 / C91M - 12 Standard Specification for Masonry Cement  ASTM C207 - 06(2011) Standard Specification for Hydrated Lime for Masonry Purposes  ASTM E518 / E518M - 15 Standard Test Methods for Flexural Bond Strength of Masonry  ASTM C1072 - 13e1 Standard Test Methods for Measurement of Masonry Flexural Bond Strength  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile   ASTM C73 - 14 Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)   ASTM C126 - 15 Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units  **Mortar**  ASTM C144 - 11 Standard Specification for Aggregate for Masonry Mortar  ASTM C270 - 14a Standard Specification for Mortar for Unit Masonry  ASTM C476 - 10 Standard Specification for Grout for Masonry.  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C595 / C595M - 15e1 Standard Specification for Blended Hydraulic Cements  ASTM C109 / C109M - 16 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.  ASTM C979 / C979M - 16 Standard Specification for Pigments for Integrally Colored Concrete  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry  ASTM C896 - 15 Standard Terminology Relating to Clay Products  ASTM C1006 - 07(2013) Standard Test Method for Splitting Tensile Strength of Masonry Units  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C1088 - 14 Standard Specification for Thin Veneer Brick Units Made From Clay or Shale  ASTM C1093 - 15a Standard Practice for Accreditation of Testing Agencies for Masonry  ASTM C1106 - 00(2012) Standard Test Methods for Chemical Resistance and Physical Properties of Carbon Brick  ASTM C1148 - 92a(2014) Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar  ASTM C1180 - 10 Standard Terminology of Mortar and Grout for Unit Masonry  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1324 - 15 Standard Test Method for Examination and Analysis of Hardened Masonry Mortar  ASTM C1384 - 12a Standard Specification for Admixtures for Masonry Mortars  ASTM C1400 - 11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls  ASTM C1403 - 15 Standard Test Method for Rate of Water Absorption of Masonry Mortars  **Sealants**  ASTM C509 - 06(2015) Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material  ASTM C717 - 14a Standard Terminology of Building Seals and Sealants  **Waterproofing for masonry**  ASTM D5095 - 91(2013) Standard Test Method for Determination of the Nonvolatile Content in Silanes, Siloxanes and Silane-Siloxane Blends Used in Masonry Water Repellent Treatments  ASTM D6532 - 00(2014) Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens  ASTM C898 / C898M - 09 Standard Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane With Separate Wearing Course |
| AS | **Masonry**  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  **Mortar**  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength  AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cementAS/NZS 2350.16:2006 AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  **Waterproofing for masonry**  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | **Masonry**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  **Mortar**  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | **Masonry**  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings  ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  **Sealant**  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  **Waterproofing for masonry**  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Staining ("Moustache" staining)

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| BS | **Masonry**  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 772-19:2000 Methods of test for masonry units. Determination of moisture expansion of large horizontally perforated clay masonry units  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  **Mortar**  BS EN 413-2:2005 Masonry cement. Test methods  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-16:2011 Methods of test for masonry units. Determination of dimensions  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar  BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)  BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars  BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)  BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)  BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar  BS EN 1015-11:1999 Methods of test for mortar for masonry. Determination of flexural and compressive strength of hardened mortar  BS EN 1015-12:2000 Methods of test for mortar for masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN 1015-17:2000 Methods of test for mortar for masonry. Determination of water-soluble chloride content of fresh mortars  BS EN 1052-1:1999 Methods of test for masonry. Determination of compressive strength  BS EN 1052-2:2016 Methods of test for masonry. Determination of flexural strength  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar  BS EN 845-1:2013 Specification for ancillary components for masonry. Wall ties, tension straps, hangers and brackets  BS EN 13055-1:2002 Lightweight aggregates. Lightweight aggregates for concrete, mortar and grout  BS EN 998-2:2010 Specification for mortar for masonry . Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 413-1:2011 Masonry cement. Composition, specifications and conformity criteria  **Sealants**  BS EN ISO 11600:2003+A1:2011 Building construction. Jointing products. Classification and requirements for sealants  BS 4255-1:1986 Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets  BS 6213:2000+A1:2010 Selection of construction sealants. Guide  **Waterproofing for masonry**  BS 8215:1991 Code of practice for design and installation of damp-proof courses in masonry construction  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 1052-4:2000 Methods of test for masonry. Determination of shear strength including damp proof course |
| ASTM | **Masonry**  ASTM C216 - 15 Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)  ASTM C62 - 13a Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)  ASTM C652 - 15 Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)  ASTM C212 - 14 Standard Specification for Structural Clay Facing Tile  ASTM C34 - 13 Standard Specification for Structural Clay Load-Bearing Wall Tile.  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.  ASTM C91 / C91M - 12 Standard Specification for Masonry Cement  ASTM C207 - 06(2011) Standard Specification for Hydrated Lime for Masonry Purposes  ASTM E518 / E518M - 15 Standard Test Methods for Flexural Bond Strength of Masonry  ASTM C1072 - 13e1 Standard Test Methods for Measurement of Masonry Flexural Bond Strength  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile   ASTM C73 - 14 Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)   ASTM C126 - 15 Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units  **Mortar**  ASTM C144 - 11 Standard Specification for Aggregate for Masonry Mortar  ASTM C270 - 14a Standard Specification for Mortar for Unit Masonry  ASTM C476 - 10 Standard Specification for Grout for Masonry.  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C595 / C595M - 15e1 Standard Specification for Blended Hydraulic Cements  ASTM C109 / C109M - 16 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.  ASTM C979 / C979M - 16 Standard Specification for Pigments for Integrally Colored Concrete  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry  ASTM C896 - 15 Standard Terminology Relating to Clay Products  ASTM C1006 - 07(2013) Standard Test Method for Splitting Tensile Strength of Masonry Units  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C1088 - 14 Standard Specification for Thin Veneer Brick Units Made From Clay or Shale  ASTM C1093 - 15a Standard Practice for Accreditation of Testing Agencies for Masonry  ASTM C1106 - 00(2012) Standard Test Methods for Chemical Resistance and Physical Properties of Carbon Brick  ASTM C1148 - 92a(2014) Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar  ASTM C1180 - 10 Standard Terminology of Mortar and Grout for Unit Masonry  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1324 - 15 Standard Test Method for Examination and Analysis of Hardened Masonry Mortar  ASTM C1384 - 12a Standard Specification for Admixtures for Masonry Mortars  ASTM C1400 - 11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls  ASTM C1403 - 15 Standard Test Method for Rate of Water Absorption of Masonry Mortars  **Sealants**  ASTM C509 - 06(2015) Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material  ASTM C717 - 14a Standard Terminology of Building Seals and Sealants  **Waterproofing for masonry**  ASTM D5095 - 91(2013) Standard Test Method for Determination of the Nonvolatile Content in Silanes, Siloxanes and Silane-Siloxane Blends Used in Masonry Water Repellent Treatments  ASTM D6532 - 00(2014) Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens  ASTM C898 / C898M - 09 Standard Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane With Separate Wearing Course |
| AS | **Masonry**  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  **Mortar**  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength  AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  **Waterproofing for masonry**  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | **Masonry**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  **Mortar**  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | **Masonry**  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings  ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  **Sealant**  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  **Waterproofing for masonry**  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Staining (Incompatible materials)

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| BS | **Masonry**  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 772-19:2000 Methods of test for masonry units. Determination of moisture expansion of large horizontally perforated clay masonry units  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  **Mortar**  BS EN 413-2:2005 Masonry cement. Test methods  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-16:2011 Methods of test for masonry units. Determination of dimensions  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar  BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)  BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars  BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)  BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)  BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar  BS EN 1015-11:1999 Methods of test for mortar for masonry. Determination of flexural and compressive strength of hardened mortar  BS EN 1015-12:2000 Methods of test for mortar for masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN 1015-17:2000 Methods of test for mortar for masonry. Determination of water-soluble chloride content of fresh mortars  BS EN 1052-1:1999 Methods of test for masonry. Determination of compressive strength  BS EN 1052-2:2016 Methods of test for masonry. Determination of flexural strength  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar  BS EN 845-1:2013 Specification for ancillary components for masonry. Wall ties, tension straps, hangers and brackets  BS EN 13055-1:2002 Lightweight aggregates. Lightweight aggregates for concrete, mortar and grout  BS EN 998-2:2010 Specification for mortar for masonry . Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 413-1:2011 Masonry cement. Composition, specifications and conformity criteria  **Sealants**  BS EN ISO 11600:2003+A1:2011 Building construction. Jointing products. Classification and requirements for sealants  BS 4255-1:1986 Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets  BS 6213:2000+A1:2010 Selection of construction sealants. Guide  **Waterproofing for masonry**  BS 8215:1991 Code of practice for design and installation of damp-proof courses in masonry construction  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 1052-4:2000 Methods of test for masonry. Determination of shear strength including damp proof course |
| ASTM | **Masonry**  ASTM C216 - 15 Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)  ASTM C62 - 13a Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)  ASTM C652 - 15 Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)  ASTM C212 - 14 Standard Specification for Structural Clay Facing Tile  ASTM C34 - 13 Standard Specification for Structural Clay Load-Bearing Wall Tile.  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.  ASTM C91 / C91M - 12 Standard Specification for Masonry Cement  ASTM C207 - 06(2011) Standard Specification for Hydrated Lime for Masonry Purposes  ASTM E518 / E518M - 15 Standard Test Methods for Flexural Bond Strength of Masonry  ASTM C1072 - 13e1 Standard Test Methods for Measurement of Masonry Flexural Bond Strength  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile   ASTM C73 - 14 Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)   ASTM C126 - 15 Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units  **Mortar**  ASTM C144 - 11 Standard Specification for Aggregate for Masonry Mortar  ASTM C270 - 14a Standard Specification for Mortar for Unit Masonry  ASTM C476 - 10 Standard Specification for Grout for Masonry.  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C595 / C595M - 15e1 Standard Specification for Blended Hydraulic Cements  ASTM C109 / C109M - 16 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.  ASTM C979 / C979M - 16 Standard Specification for Pigments for Integrally Colored Concrete  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry  ASTM C896 - 15 Standard Terminology Relating to Clay Products  ASTM C1006 - 07(2013) Standard Test Method for Splitting Tensile Strength of Masonry Units  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C1088 - 14 Standard Specification for Thin Veneer Brick Units Made From Clay or Shale  ASTM C1093 - 15a Standard Practice for Accreditation of Testing Agencies for Masonry  ASTM C1106 - 00(2012) Standard Test Methods for Chemical Resistance and Physical Properties of Carbon Brick  ASTM C1148 - 92a(2014) Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar  ASTM C1180 - 10 Standard Terminology of Mortar and Grout for Unit Masonry  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1324 - 15 Standard Test Method for Examination and Analysis of Hardened Masonry Mortar  ASTM C1384 - 12a Standard Specification for Admixtures for Masonry Mortars  ASTM C1400 - 11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls  ASTM C1403 - 15 Standard Test Method for Rate of Water Absorption of Masonry Mortars  **Sealants**  ASTM C509 - 06(2015) Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material  ASTM C717 - 14a Standard Terminology of Building Seals and Sealants  **Waterproofing for masonry**  ASTM D5095 - 91(2013) Standard Test Method for Determination of the Nonvolatile Content in Silanes, Siloxanes and Silane-Siloxane Blends Used in Masonry Water Repellent Treatments  ASTM D6532 - 00(2014) Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens  ASTM C898 / C898M - 09 Standard Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane With Separate Wearing Course |
| AS | **Masonry**  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  **Mortar**  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength  AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  **Waterproofing for masonry**  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | **Masonry**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  **Mortar**  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | **Masonry**  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings  ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  **Sealant**  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  **Waterproofing for masonry**  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Water Penetration - Dampness from construction moisture

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| BS | **Masonry**  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 772-19:2000 Methods of test for masonry units. Determination of moisture expansion of large horizontally perforated clay masonry units  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  **Mortar**  BS EN 413-2:2005 Masonry cement. Test methods  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-5:2016 Methods of test for masonry units. 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Determination of workable life and correction time of fresh mortar  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar  BS EN 1015-11:1999 Methods of test for mortar for masonry. Determination of flexural and compressive strength of hardened mortar  BS EN 1015-12:2000 Methods of test for mortar for masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN 1015-17:2000 Methods of test for mortar for masonry. Determination of water-soluble chloride content of fresh mortars  BS EN 1052-1:1999 Methods of test for masonry. Determination of compressive strength  BS EN 1052-2:2016 Methods of test for masonry. Determination of flexural strength  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar  BS EN 845-1:2013 Specification for ancillary components for masonry. Wall ties, tension straps, hangers and brackets  BS EN 13055-1:2002 Lightweight aggregates. Lightweight aggregates for concrete, mortar and grout  BS EN 998-2:2010 Specification for mortar for masonry . Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 413-1:2011 Masonry cement. Composition, specifications and conformity criteria  **Sealants**  BS EN ISO 11600:2003+A1:2011 Building construction. Jointing products. Classification and requirements for sealants  BS 4255-1:1986 Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets  BS 6213:2000+A1:2010 Selection of construction sealants. Guide  **Waterproofing for masonry**  BS 8215:1991 Code of practice for design and installation of damp-proof courses in masonry construction  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 1052-4:2000 Methods of test for masonry. Determination of shear strength including damp proof course |
| ASTM | **Masonry**  ASTM C216 - 15 Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)  ASTM C62 - 13a Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)  ASTM C652 - 15 Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)  ASTM C212 - 14 Standard Specification for Structural Clay Facing Tile  ASTM C34 - 13 Standard Specification for Structural Clay Load-Bearing Wall Tile.  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.  ASTM C91 / C91M - 12 Standard Specification for Masonry Cement  ASTM C207 - 06(2011) Standard Specification for Hydrated Lime for Masonry Purposes  ASTM E518 / E518M - 15 Standard Test Methods for Flexural Bond Strength of Masonry  ASTM C1072 - 13e1 Standard Test Methods for Measurement of Masonry Flexural Bond Strength  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile   ASTM C73 - 14 Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)   ASTM C126 - 15 Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units  **Mortar**  ASTM C144 - 11 Standard Specification for Aggregate for Masonry Mortar  ASTM C270 - 14a Standard Specification for Mortar for Unit Masonry  ASTM C476 - 10 Standard Specification for Grout for Masonry.  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C595 / C595M - 15e1 Standard Specification for Blended Hydraulic Cements  ASTM C109 / C109M - 16 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.  ASTM C979 / C979M - 16 Standard Specification for Pigments for Integrally Colored Concrete  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry  ASTM C896 - 15 Standard Terminology Relating to Clay Products  ASTM C1006 - 07(2013) Standard Test Method for Splitting Tensile Strength of Masonry Units  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C1088 - 14 Standard Specification for Thin Veneer Brick Units Made From Clay or Shale  ASTM C1093 - 15a Standard Practice for Accreditation of Testing Agencies for Masonry  ASTM C1106 - 00(2012) Standard Test Methods for Chemical Resistance and Physical Properties of Carbon Brick  ASTM C1148 - 92a(2014) Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar  ASTM C1180 - 10 Standard Terminology of Mortar and Grout for Unit Masonry  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1324 - 15 Standard Test Method for Examination and Analysis of Hardened Masonry Mortar  ASTM C1384 - 12a Standard Specification for Admixtures for Masonry Mortars  ASTM C1400 - 11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls  ASTM C1403 - 15 Standard Test Method for Rate of Water Absorption of Masonry Mortars  **Sealants**  ASTM C509 - 06(2015) Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material  ASTM C717 - 14a Standard Terminology of Building Seals and Sealants  **Waterproofing for masonry**  ASTM D5095 - 91(2013) Standard Test Method for Determination of the Nonvolatile Content in Silanes, Siloxanes and Silane-Siloxane Blends Used in Masonry Water Repellent Treatments  ASTM D6532 - 00(2014) Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens  ASTM C898 / C898M - 09 Standard Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane With Separate Wearing Course |
| AS | **Masonry**  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  **Mortar**  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength  AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  **Waterproofing for masonry**  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | **Masonry**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  **Mortar**  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | **Masonry**  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings  ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  **Sealant**  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  **Waterproofing for masonry**  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Water penetration - through motar joints

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| BS | **Masonry**  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. 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Determination of shear strength including damp proof course |
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| AS | **Masonry**  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  **Mortar**  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength  AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  **Waterproofing for masonry**  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | **Masonry**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  **Mortar**  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | **Masonry**  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings  ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  **Sealant**  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  **Waterproofing for masonry**  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Water Penetration - Deterioration of waterproofing coating

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| BS | **Masonry**  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 772-19:2000 Methods of test for masonry units. Determination of moisture expansion of large horizontally perforated clay masonry units  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  **Mortar**  BS EN 413-2:2005 Masonry cement. Test methods  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-16:2011 Methods of test for masonry units. Determination of dimensions  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar  BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)  BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars  BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)  BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)  BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar  BS EN 1015-11:1999 Methods of test for mortar for masonry. Determination of flexural and compressive strength of hardened mortar  BS EN 1015-12:2000 Methods of test for mortar for masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN 1015-17:2000 Methods of test for mortar for masonry. Determination of water-soluble chloride content of fresh mortars  BS EN 1052-1:1999 Methods of test for masonry. Determination of compressive strength  BS EN 1052-2:2016 Methods of test for masonry. Determination of flexural strength  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar  BS EN 845-1:2013 Specification for ancillary components for masonry. Wall ties, tension straps, hangers and brackets  BS EN 13055-1:2002 Lightweight aggregates. Lightweight aggregates for concrete, mortar and grout  BS EN 998-2:2010 Specification for mortar for masonry . Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 413-1:2011 Masonry cement. Composition, specifications and conformity criteria  **Sealants**  BS EN ISO 11600:2003+A1:2011 Building construction. Jointing products. Classification and requirements for sealants  BS 4255-1:1986 Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets  BS 6213:2000+A1:2010 Selection of construction sealants. Guide  **Waterproofing for masonry**  BS 8215:1991 Code of practice for design and installation of damp-proof courses in masonry construction  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 1052-4:2000 Methods of test for masonry. Determination of shear strength including damp proof course |
| ASTM | **Masonry**  ASTM C216 - 15 Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)  ASTM C62 - 13a Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)  ASTM C652 - 15 Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)  ASTM C212 - 14 Standard Specification for Structural Clay Facing Tile  ASTM C34 - 13 Standard Specification for Structural Clay Load-Bearing Wall Tile.  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.  ASTM C91 / C91M - 12 Standard Specification for Masonry Cement  ASTM C207 - 06(2011) Standard Specification for Hydrated Lime for Masonry Purposes  ASTM E518 / E518M - 15 Standard Test Methods for Flexural Bond Strength of Masonry  ASTM C1072 - 13e1 Standard Test Methods for Measurement of Masonry Flexural Bond Strength  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile   ASTM C73 - 14 Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)   ASTM C126 - 15 Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units  **Mortar**  ASTM C144 - 11 Standard Specification for Aggregate for Masonry Mortar  ASTM C270 - 14a Standard Specification for Mortar for Unit Masonry  ASTM C476 - 10 Standard Specification for Grout for Masonry.  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C595 / C595M - 15e1 Standard Specification for Blended Hydraulic Cements  ASTM C109 / C109M - 16 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.  ASTM C979 / C979M - 16 Standard Specification for Pigments for Integrally Colored Concrete  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry  ASTM C896 - 15 Standard Terminology Relating to Clay Products  ASTM C1006 - 07(2013) Standard Test Method for Splitting Tensile Strength of Masonry Units  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C1088 - 14 Standard Specification for Thin Veneer Brick Units Made From Clay or Shale  ASTM C1093 - 15a Standard Practice for Accreditation of Testing Agencies for Masonry  ASTM C1106 - 00(2012) Standard Test Methods for Chemical Resistance and Physical Properties of Carbon Brick  ASTM C1148 - 92a(2014) Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar  ASTM C1180 - 10 Standard Terminology of Mortar and Grout for Unit Masonry  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1324 - 15 Standard Test Method for Examination and Analysis of Hardened Masonry Mortar  ASTM C1384 - 12a Standard Specification for Admixtures for Masonry Mortars  ASTM C1400 - 11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls  ASTM C1403 - 15 Standard Test Method for Rate of Water Absorption of Masonry Mortars  **Sealants**  ASTM C509 - 06(2015) Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material  ASTM C717 - 14a Standard Terminology of Building Seals and Sealants  **Waterproofing for masonry**  ASTM D5095 - 91(2013) Standard Test Method for Determination of the Nonvolatile Content in Silanes, Siloxanes and Silane-Siloxane Blends Used in Masonry Water Repellent Treatments  ASTM D6532 - 00(2014) Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens  ASTM C898 / C898M - 09 Standard Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane With Separate Wearing Course |
| AS | **Masonry**  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  **Mortar**  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength  AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  **Waterproofing for masonry**  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | **Masonry**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  **Mortar**  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | **Masonry**  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings  ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  **Sealant**  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  **Waterproofing for masonry**  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Corrosion - Attack from acidic rain (Corrosion of General Surface)

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| BS | **Masonry**  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 772-19:2000 Methods of test for masonry units. Determination of moisture expansion of large horizontally perforated clay masonry units  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  **Mortar**  BS EN 413-2:2005 Masonry cement. Test methods  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-5:2016 Methods of test for masonry units. 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| AS | **Masonry**  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  **Mortar**  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength  AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  **Waterproofing for masonry**  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | **Masonry**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  **Mortar**  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | **Masonry**  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings  ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  **Sealant**  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  **Waterproofing for masonry**  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Efflorescence

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| BS | **Masonry**  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. 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Determination of workable life and correction time of fresh mortar  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar  BS EN 1015-11:1999 Methods of test for mortar for masonry. Determination of flexural and compressive strength of hardened mortar  BS EN 1015-12:2000 Methods of test for mortar for masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN 1015-17:2000 Methods of test for mortar for masonry. Determination of water-soluble chloride content of fresh mortars  BS EN 1052-1:1999 Methods of test for masonry. Determination of compressive strength  BS EN 1052-2:2016 Methods of test for masonry. Determination of flexural strength  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar  BS EN 845-1:2013 Specification for ancillary components for masonry. Wall ties, tension straps, hangers and brackets  BS EN 13055-1:2002 Lightweight aggregates. Lightweight aggregates for concrete, mortar and grout  BS EN 998-2:2010 Specification for mortar for masonry . Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 413-1:2011 Masonry cement. Composition, specifications and conformity criteria  **Sealants**  BS EN ISO 11600:2003+A1:2011 Building construction. Jointing products. Classification and requirements for sealants  BS 4255-1:1986 Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets  BS 6213:2000+A1:2010 Selection of construction sealants. Guide  **Waterproofing for masonry**  BS 8215:1991 Code of practice for design and installation of damp-proof courses in masonry construction  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 1052-4:2000 Methods of test for masonry. Determination of shear strength including damp proof course |
| ASTM | **Masonry**  ASTM C216 - 15 Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)  ASTM C62 - 13a Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)  ASTM C652 - 15 Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)  ASTM C212 - 14 Standard Specification for Structural Clay Facing Tile  ASTM C34 - 13 Standard Specification for Structural Clay Load-Bearing Wall Tile.  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.  ASTM C91 / C91M - 12 Standard Specification for Masonry Cement  ASTM C207 - 06(2011) Standard Specification for Hydrated Lime for Masonry Purposes  ASTM E518 / E518M - 15 Standard Test Methods for Flexural Bond Strength of Masonry  ASTM C1072 - 13e1 Standard Test Methods for Measurement of Masonry Flexural Bond Strength  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile   ASTM C73 - 14 Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)   ASTM C126 - 15 Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units  **Mortar**  ASTM C144 - 11 Standard Specification for Aggregate for Masonry Mortar  ASTM C270 - 14a Standard Specification for Mortar for Unit Masonry  ASTM C476 - 10 Standard Specification for Grout for Masonry.  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C595 / C595M - 15e1 Standard Specification for Blended Hydraulic Cements  ASTM C109 / C109M - 16 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.  ASTM C979 / C979M - 16 Standard Specification for Pigments for Integrally Colored Concrete  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry  ASTM C896 - 15 Standard Terminology Relating to Clay Products  ASTM C1006 - 07(2013) Standard Test Method for Splitting Tensile Strength of Masonry Units  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C1088 - 14 Standard Specification for Thin Veneer Brick Units Made From Clay or Shale  ASTM C1093 - 15a Standard Practice for Accreditation of Testing Agencies for Masonry  ASTM C1106 - 00(2012) Standard Test Methods for Chemical Resistance and Physical Properties of Carbon Brick  ASTM C1148 - 92a(2014) Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar  ASTM C1180 - 10 Standard Terminology of Mortar and Grout for Unit Masonry  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1324 - 15 Standard Test Method for Examination and Analysis of Hardened Masonry Mortar  ASTM C1384 - 12a Standard Specification for Admixtures for Masonry Mortars  ASTM C1400 - 11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls  ASTM C1403 - 15 Standard Test Method for Rate of Water Absorption of Masonry Mortars  **Sealants**  ASTM C509 - 06(2015) Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material  ASTM C717 - 14a Standard Terminology of Building Seals and Sealants  **Waterproofing for masonry**  ASTM D5095 - 91(2013) Standard Test Method for Determination of the Nonvolatile Content in Silanes, Siloxanes and Silane-Siloxane Blends Used in Masonry Water Repellent Treatments  ASTM D6532 - 00(2014) Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens  ASTM C898 / C898M - 09 Standard Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane With Separate Wearing Course |
| AS | **Masonry**  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  **Mortar**  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength  AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  **Waterproofing for masonry**  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | **Masonry**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  **Mortar**  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | **Masonry**  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings  ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  **Sealant**  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  **Waterproofing for masonry**  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Efflorescence - Scumming

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| BS | **Masonry**  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 772-19:2000 Methods of test for masonry units. Determination of moisture expansion of large horizontally perforated clay masonry units  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  **Mortar**  BS EN 413-2:2005 Masonry cement. Test methods  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-5:2016 Methods of test for masonry units. 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| AS | **Masonry**  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  **Mortar**  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength  AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  **Waterproofing for masonry**  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | **Masonry**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  **Mortar**  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | **Masonry**  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings  ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  **Sealant**  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  **Waterproofing for masonry**  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Efflorescence - Leaching of coloured compounds

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| BS | **Masonry**  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 772-19:2000 Methods of test for masonry units. Determination of moisture expansion of large horizontally perforated clay masonry units  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  **Mortar**  BS EN 413-2:2005 Masonry cement. Test methods  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-16:2011 Methods of test for masonry units. Determination of dimensions  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar  BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)  BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars  BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)  BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)  BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar  BS EN 1015-11:1999 Methods of test for mortar for masonry. Determination of flexural and compressive strength of hardened mortar  BS EN 1015-12:2000 Methods of test for mortar for masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN 1015-17:2000 Methods of test for mortar for masonry. Determination of water-soluble chloride content of fresh mortars  BS EN 1052-1:1999 Methods of test for masonry. Determination of compressive strength  BS EN 1052-2:2016 Methods of test for masonry. Determination of flexural strength  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar  BS EN 845-1:2013 Specification for ancillary components for masonry. Wall ties, tension straps, hangers and brackets  BS EN 13055-1:2002 Lightweight aggregates. Lightweight aggregates for concrete, mortar and grout  BS EN 998-2:2010 Specification for mortar for masonry . Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 413-1:2011 Masonry cement. Composition, specifications and conformity criteria  **Sealants**  BS EN ISO 11600:2003+A1:2011 Building construction. Jointing products. Classification and requirements for sealants  BS 4255-1:1986 Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets  BS 6213:2000+A1:2010 Selection of construction sealants. Guide  **Waterproofing for masonry**  BS 8215:1991 Code of practice for design and installation of damp-proof courses in masonry construction  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 1052-4:2000 Methods of test for masonry. Determination of shear strength including damp proof course |
| ASTM | **Masonry**  ASTM C216 - 15 Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)  ASTM C62 - 13a Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)  ASTM C652 - 15 Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)  ASTM C212 - 14 Standard Specification for Structural Clay Facing Tile  ASTM C34 - 13 Standard Specification for Structural Clay Load-Bearing Wall Tile.  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.  ASTM C91 / C91M - 12 Standard Specification for Masonry Cement  ASTM C207 - 06(2011) Standard Specification for Hydrated Lime for Masonry Purposes  ASTM E518 / E518M - 15 Standard Test Methods for Flexural Bond Strength of Masonry  ASTM C1072 - 13e1 Standard Test Methods for Measurement of Masonry Flexural Bond Strength  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile   ASTM C73 - 14 Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)   ASTM C126 - 15 Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units  **Mortar**  ASTM C144 - 11 Standard Specification for Aggregate for Masonry Mortar  ASTM C270 - 14a Standard Specification for Mortar for Unit Masonry  ASTM C476 - 10 Standard Specification for Grout for Masonry.  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C595 / C595M - 15e1 Standard Specification for Blended Hydraulic Cements  ASTM C109 / C109M - 16 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.  ASTM C979 / C979M - 16 Standard Specification for Pigments for Integrally Colored Concrete  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry  ASTM C896 - 15 Standard Terminology Relating to Clay Products  ASTM C1006 - 07(2013) Standard Test Method for Splitting Tensile Strength of Masonry Units  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C1088 - 14 Standard Specification for Thin Veneer Brick Units Made From Clay or Shale  ASTM C1093 - 15a Standard Practice for Accreditation of Testing Agencies for Masonry  ASTM C1106 - 00(2012) Standard Test Methods for Chemical Resistance and Physical Properties of Carbon Brick  ASTM C1148 - 92a(2014) Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar  ASTM C1180 - 10 Standard Terminology of Mortar and Grout for Unit Masonry  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1324 - 15 Standard Test Method for Examination and Analysis of Hardened Masonry Mortar  ASTM C1384 - 12a Standard Specification for Admixtures for Masonry Mortars  ASTM C1400 - 11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls  ASTM C1403 - 15 Standard Test Method for Rate of Water Absorption of Masonry Mortars  **Sealants**  ASTM C509 - 06(2015) Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material  ASTM C717 - 14a Standard Terminology of Building Seals and Sealants  **Waterproofing for masonry**  ASTM D5095 - 91(2013) Standard Test Method for Determination of the Nonvolatile Content in Silanes, Siloxanes and Silane-Siloxane Blends Used in Masonry Water Repellent Treatments  ASTM D6532 - 00(2014) Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens  ASTM C898 / C898M - 09 Standard Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane With Separate Wearing Course |
| AS | **Masonry**  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  **Mortar**  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength  AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  **Waterproofing for masonry**  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | **Masonry**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  **Mortar**  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | **Masonry**  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings  ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  **Sealant**  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  **Waterproofing for masonry**  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Efflorescence - Lime leaching

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| BS | **Masonry**  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 772-19:2000 Methods of test for masonry units. Determination of moisture expansion of large horizontally perforated clay masonry units  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  **Mortar**  BS EN 413-2:2005 Masonry cement. Test methods  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-16:2011 Methods of test for masonry units. Determination of dimensions  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar  BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)  BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars  BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)  BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)  BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar  BS EN 1015-11:1999 Methods of test for mortar for masonry. Determination of flexural and compressive strength of hardened mortar  BS EN 1015-12:2000 Methods of test for mortar for masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN 1015-17:2000 Methods of test for mortar for masonry. Determination of water-soluble chloride content of fresh mortars  BS EN 1052-1:1999 Methods of test for masonry. Determination of compressive strength  BS EN 1052-2:2016 Methods of test for masonry. Determination of flexural strength  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar  BS EN 845-1:2013 Specification for ancillary components for masonry. Wall ties, tension straps, hangers and brackets  BS EN 13055-1:2002 Lightweight aggregates. 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Determination of shear strength including damp proof course |
| ASTM | **Masonry**  ASTM C216 - 15 Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)  ASTM C62 - 13a Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)  ASTM C652 - 15 Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)  ASTM C212 - 14 Standard Specification for Structural Clay Facing Tile  ASTM C34 - 13 Standard Specification for Structural Clay Load-Bearing Wall Tile.  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.  ASTM C91 / C91M - 12 Standard Specification for Masonry Cement  ASTM C207 - 06(2011) Standard Specification for Hydrated Lime for Masonry Purposes  ASTM E518 / E518M - 15 Standard Test Methods for Flexural Bond Strength of Masonry  ASTM C1072 - 13e1 Standard Test Methods for Measurement of Masonry Flexural Bond Strength  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile   ASTM C73 - 14 Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)   ASTM C126 - 15 Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units  **Mortar**  ASTM C144 - 11 Standard Specification for Aggregate for Masonry Mortar  ASTM C270 - 14a Standard Specification for Mortar for Unit Masonry  ASTM C476 - 10 Standard Specification for Grout for Masonry.  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C595 / C595M - 15e1 Standard Specification for Blended Hydraulic Cements  ASTM C109 / C109M - 16 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.  ASTM C979 / C979M - 16 Standard Specification for Pigments for Integrally Colored Concrete  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry  ASTM C896 - 15 Standard Terminology Relating to Clay Products  ASTM C1006 - 07(2013) Standard Test Method for Splitting Tensile Strength of Masonry Units  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C1088 - 14 Standard Specification for Thin Veneer Brick Units Made From Clay or Shale  ASTM C1093 - 15a Standard Practice for Accreditation of Testing Agencies for Masonry  ASTM C1106 - 00(2012) Standard Test Methods for Chemical Resistance and Physical Properties of Carbon Brick  ASTM C1148 - 92a(2014) Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar  ASTM C1180 - 10 Standard Terminology of Mortar and Grout for Unit Masonry  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1324 - 15 Standard Test Method for Examination and Analysis of Hardened Masonry Mortar  ASTM C1384 - 12a Standard Specification for Admixtures for Masonry Mortars  ASTM C1400 - 11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls  ASTM C1403 - 15 Standard Test Method for Rate of Water Absorption of Masonry Mortars  **Sealants**  ASTM C509 - 06(2015) Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material  ASTM C717 - 14a Standard Terminology of Building Seals and Sealants  **Waterproofing for masonry**  ASTM D5095 - 91(2013) Standard Test Method for Determination of the Nonvolatile Content in Silanes, Siloxanes and Silane-Siloxane Blends Used in Masonry Water Repellent Treatments  ASTM D6532 - 00(2014) Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens  ASTM C898 / C898M - 09 Standard Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane With Separate Wearing Course |
| AS | **Masonry**  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  **Mortar**  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength  AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  **Waterproofing for masonry**  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | **Masonry**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  **Mortar**  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | **Masonry**  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings  ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  **Sealant**  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  **Waterproofing for masonry**  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Efflorescence - Brown stains

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| BS | **Masonry**  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 772-19:2000 Methods of test for masonry units. Determination of moisture expansion of large horizontally perforated clay masonry units  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  **Mortar**  BS EN 413-2:2005 Masonry cement. Test methods  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-16:2011 Methods of test for masonry units. Determination of dimensions  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar  BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)  BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars  BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)  BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)  BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar  BS EN 1015-11:1999 Methods of test for mortar for masonry. Determination of flexural and compressive strength of hardened mortar  BS EN 1015-12:2000 Methods of test for mortar for masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN 1015-17:2000 Methods of test for mortar for masonry. Determination of water-soluble chloride content of fresh mortars  BS EN 1052-1:1999 Methods of test for masonry. Determination of compressive strength  BS EN 1052-2:2016 Methods of test for masonry. Determination of flexural strength  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar  BS EN 845-1:2013 Specification for ancillary components for masonry. Wall ties, tension straps, hangers and brackets  BS EN 13055-1:2002 Lightweight aggregates. Lightweight aggregates for concrete, mortar and grout  BS EN 998-2:2010 Specification for mortar for masonry . Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 413-1:2011 Masonry cement. Composition, specifications and conformity criteria  **Sealants**  BS EN ISO 11600:2003+A1:2011 Building construction. Jointing products. Classification and requirements for sealants  BS 4255-1:1986 Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets  BS 6213:2000+A1:2010 Selection of construction sealants. Guide  **Waterproofing for masonry**  BS 8215:1991 Code of practice for design and installation of damp-proof courses in masonry construction  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 1052-4:2000 Methods of test for masonry. Determination of shear strength including damp proof course |
| ASTM | **Masonry**  ASTM C216 - 15 Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)  ASTM C62 - 13a Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)  ASTM C652 - 15 Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)  ASTM C212 - 14 Standard Specification for Structural Clay Facing Tile  ASTM C34 - 13 Standard Specification for Structural Clay Load-Bearing Wall Tile.  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.  ASTM C91 / C91M - 12 Standard Specification for Masonry Cement  ASTM C207 - 06(2011) Standard Specification for Hydrated Lime for Masonry Purposes  ASTM E518 / E518M - 15 Standard Test Methods for Flexural Bond Strength of Masonry  ASTM C1072 - 13e1 Standard Test Methods for Measurement of Masonry Flexural Bond Strength  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile   ASTM C73 - 14 Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)   ASTM C126 - 15 Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units  **Mortar**  ASTM C144 - 11 Standard Specification for Aggregate for Masonry Mortar  ASTM C270 - 14a Standard Specification for Mortar for Unit Masonry  ASTM C476 - 10 Standard Specification for Grout for Masonry.  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C595 / C595M - 15e1 Standard Specification for Blended Hydraulic Cements  ASTM C109 / C109M - 16 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.  ASTM C979 / C979M - 16 Standard Specification for Pigments for Integrally Colored Concrete  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry  ASTM C896 - 15 Standard Terminology Relating to Clay Products  ASTM C1006 - 07(2013) Standard Test Method for Splitting Tensile Strength of Masonry Units  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C1088 - 14 Standard Specification for Thin Veneer Brick Units Made From Clay or Shale  ASTM C1093 - 15a Standard Practice for Accreditation of Testing Agencies for Masonry  ASTM C1106 - 00(2012) Standard Test Methods for Chemical Resistance and Physical Properties of Carbon Brick  ASTM C1148 - 92a(2014) Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar  ASTM C1180 - 10 Standard Terminology of Mortar and Grout for Unit Masonry  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1324 - 15 Standard Test Method for Examination and Analysis of Hardened Masonry Mortar  ASTM C1384 - 12a Standard Specification for Admixtures for Masonry Mortars  ASTM C1400 - 11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls  ASTM C1403 - 15 Standard Test Method for Rate of Water Absorption of Masonry Mortars  **Sealants**  ASTM C509 - 06(2015) Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material  ASTM C717 - 14a Standard Terminology of Building Seals and Sealants  **Waterproofing for masonry**  ASTM D5095 - 91(2013) Standard Test Method for Determination of the Nonvolatile Content in Silanes, Siloxanes and Silane-Siloxane Blends Used in Masonry Water Repellent Treatments  ASTM D6532 - 00(2014) Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens  ASTM C898 / C898M - 09 Standard Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane With Separate Wearing Course |
| AS | **Masonry**  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  **Mortar**  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength  AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  **Waterproofing for masonry**  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | **Masonry**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  **Mortar**  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | **Masonry**  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings  ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  **Sealant**  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  **Waterproofing for masonry**  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Rising dampness from ground

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| BS | **Masonry**  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 772-19:2000 Methods of test for masonry units. Determination of moisture expansion of large horizontally perforated clay masonry units  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  **Mortar**  BS EN 413-2:2005 Masonry cement. Test methods  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-16:2011 Methods of test for masonry units. Determination of dimensions  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar  BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)  BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars  BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)  BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)  BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar  BS EN 1015-11:1999 Methods of test for mortar for masonry. Determination of flexural and compressive strength of hardened mortar  BS EN 1015-12:2000 Methods of test for mortar for masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN 1015-17:2000 Methods of test for mortar for masonry. Determination of water-soluble chloride content of fresh mortars  BS EN 1052-1:1999 Methods of test for masonry. Determination of compressive strength  BS EN 1052-2:2016 Methods of test for masonry. Determination of flexural strength  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar  BS EN 845-1:2013 Specification for ancillary components for masonry. Wall ties, tension straps, hangers and brackets  BS EN 13055-1:2002 Lightweight aggregates. Lightweight aggregates for concrete, mortar and grout  BS EN 998-2:2010 Specification for mortar for masonry . Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 413-1:2011 Masonry cement. Composition, specifications and conformity criteria  **Sealants**  BS EN ISO 11600:2003+A1:2011 Building construction. Jointing products. Classification and requirements for sealants  BS 4255-1:1986 Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets  BS 6213:2000+A1:2010 Selection of construction sealants. Guide  **Waterproofing for masonry**  BS 8215:1991 Code of practice for design and installation of damp-proof courses in masonry construction  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 1052-4:2000 Methods of test for masonry. 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| ASTM | **Masonry**  ASTM C216 - 15 Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)  ASTM C62 - 13a Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)  ASTM C652 - 15 Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)  ASTM C212 - 14 Standard Specification for Structural Clay Facing Tile  ASTM C34 - 13 Standard Specification for Structural Clay Load-Bearing Wall Tile.  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.  ASTM C91 / C91M - 12 Standard Specification for Masonry Cement  ASTM C207 - 06(2011) Standard Specification for Hydrated Lime for Masonry Purposes  ASTM E518 / E518M - 15 Standard Test Methods for Flexural Bond Strength of Masonry  ASTM C1072 - 13e1 Standard Test Methods for Measurement of Masonry Flexural Bond Strength  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile   ASTM C73 - 14 Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)   ASTM C126 - 15 Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units  **Mortar**  ASTM C144 - 11 Standard Specification for Aggregate for Masonry Mortar  ASTM C270 - 14a Standard Specification for Mortar for Unit Masonry  ASTM C476 - 10 Standard Specification for Grout for Masonry.  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C595 / C595M - 15e1 Standard Specification for Blended Hydraulic Cements  ASTM C109 / C109M - 16 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.  ASTM C979 / C979M - 16 Standard Specification for Pigments for Integrally Colored Concrete  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry  ASTM C896 - 15 Standard Terminology Relating to Clay Products  ASTM C1006 - 07(2013) Standard Test Method for Splitting Tensile Strength of Masonry Units  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C1088 - 14 Standard Specification for Thin Veneer Brick Units Made From Clay or Shale  ASTM C1093 - 15a Standard Practice for Accreditation of Testing Agencies for Masonry  ASTM C1106 - 00(2012) Standard Test Methods for Chemical Resistance and Physical Properties of Carbon Brick  ASTM C1148 - 92a(2014) Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar  ASTM C1180 - 10 Standard Terminology of Mortar and Grout for Unit Masonry  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1324 - 15 Standard Test Method for Examination and Analysis of Hardened Masonry Mortar  ASTM C1384 - 12a Standard Specification for Admixtures for Masonry Mortars  ASTM C1400 - 11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls  ASTM C1403 - 15 Standard Test Method for Rate of Water Absorption of Masonry Mortars  **Sealants**  ASTM C509 - 06(2015) Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material  ASTM C717 - 14a Standard Terminology of Building Seals and Sealants  **Waterproofing for masonry**  ASTM D5095 - 91(2013) Standard Test Method for Determination of the Nonvolatile Content in Silanes, Siloxanes and Silane-Siloxane Blends Used in Masonry Water Repellent Treatments  ASTM D6532 - 00(2014) Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens  ASTM C898 / C898M - 09 Standard Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane With Separate Wearing Course |
| AS | **Masonry**  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  **Mortar**  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength  AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  **Waterproofing for masonry**  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | **Masonry**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  **Mortar**  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | **Masonry**  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings  ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  **Sealant**  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  **Waterproofing for masonry**  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Biological Attack - Fungus growth

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| BS | **Masonry**  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 772-19:2000 Methods of test for masonry units. Determination of moisture expansion of large horizontally perforated clay masonry units  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  **Mortar**  BS EN 413-2:2005 Masonry cement. Test methods  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-16:2011 Methods of test for masonry units. Determination of dimensions  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar  BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)  BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars  BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)  BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)  BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar  BS EN 1015-11:1999 Methods of test for mortar for masonry. Determination of flexural and compressive strength of hardened mortar  BS EN 1015-12:2000 Methods of test for mortar for masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN 1015-17:2000 Methods of test for mortar for masonry. Determination of water-soluble chloride content of fresh mortars  BS EN 1052-1:1999 Methods of test for masonry. Determination of compressive strength  BS EN 1052-2:2016 Methods of test for masonry. Determination of flexural strength  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar  BS EN 845-1:2013 Specification for ancillary components for masonry. Wall ties, tension straps, hangers and brackets  BS EN 13055-1:2002 Lightweight aggregates. Lightweight aggregates for concrete, mortar and grout  BS EN 998-2:2010 Specification for mortar for masonry . Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 413-1:2011 Masonry cement. Composition, specifications and conformity criteria  **Sealants**  BS EN ISO 11600:2003+A1:2011 Building construction. Jointing products. Classification and requirements for sealants  BS 4255-1:1986 Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets  BS 6213:2000+A1:2010 Selection of construction sealants. Guide  **Waterproofing for masonry**  BS 8215:1991 Code of practice for design and installation of damp-proof courses in masonry construction  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 1052-4:2000 Methods of test for masonry. Determination of shear strength including damp proof course |
| ASTM | **Masonry**  ASTM C216 - 15 Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)  ASTM C62 - 13a Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)  ASTM C652 - 15 Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)  ASTM C212 - 14 Standard Specification for Structural Clay Facing Tile  ASTM C34 - 13 Standard Specification for Structural Clay Load-Bearing Wall Tile.  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.  ASTM C91 / C91M - 12 Standard Specification for Masonry Cement  ASTM C207 - 06(2011) Standard Specification for Hydrated Lime for Masonry Purposes  ASTM E518 / E518M - 15 Standard Test Methods for Flexural Bond Strength of Masonry  ASTM C1072 - 13e1 Standard Test Methods for Measurement of Masonry Flexural Bond Strength  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile  ASTM C73 - 14 Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)  ASTM C126 - 15 Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units  **Mortar**  ASTM C144 - 11 Standard Specification for Aggregate for Masonry Mortar  ASTM C270 - 14a Standard Specification for Mortar for Unit Masonry  ASTM C476 - 10 Standard Specification for Grout for Masonry.  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C595 / C595M - 15e1 Standard Specification for Blended Hydraulic Cements  ASTM C109 / C109M - 16 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.  ASTM C979 / C979M - 16 Standard Specification for Pigments for Integrally Colored Concrete  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry  ASTM C896 - 15 Standard Terminology Relating to Clay Products  ASTM C1006 - 07(2013) Standard Test Method for Splitting Tensile Strength of Masonry Units  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C1088 - 14 Standard Specification for Thin Veneer Brick Units Made From Clay or Shale  ASTM C1093 - 15a Standard Practice for Accreditation of Testing Agencies for Masonry  ASTM C1106 - 00(2012) Standard Test Methods for Chemical Resistance and Physical Properties of Carbon Brick  ASTM C1148 - 92a(2014) Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar  ASTM C1180 - 10 Standard Terminology of Mortar and Grout for Unit Masonry  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1324 - 15 Standard Test Method for Examination and Analysis of Hardened Masonry Mortar  ASTM C1384 - 12a Standard Specification for Admixtures for Masonry Mortars  ASTM C1400 - 11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls  ASTM C1403 - 15 Standard Test Method for Rate of Water Absorption of Masonry Mortars  **Sealants**  ASTM C509 - 06(2015) Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material  ASTM C717 - 14a Standard Terminology of Building Seals and Sealants  **Waterproofing for masonry**  ASTM D5095 - 91(2013) Standard Test Method for Determination of the Nonvolatile Content in Silanes, Siloxanes and Silane-Siloxane Blends Used in Masonry Water Repellent Treatments  ASTM D6532 - 00(2014) Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens  ASTM C898 / C898M - 09 Standard Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane With Separate Wearing Course |
| AS | **Masonry**  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  **Mortar**  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength    AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  **Waterproofing for masonry**  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | **Masonry**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  **Mortar**  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | **Masonry**  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings    ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  **Sealant**  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  **Waterproofing for masonry**  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Sealant Deterioration - Incorrect sealant selection

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| BS | Masonry  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteriaBS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 772-3:1998 Methods of test for masonry units. Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 772-19:2000 Methods of test for masonry units. Determination of moisture expansion of large horizontally perforated clay masonry units  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  Mortar  BS EN 413-2:2005 Masonry cement. Test methods  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-16:2011 Methods of test for masonry units. Determination of dimensions  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar  BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)  BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars  BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)  BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)  BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar  BS EN 1015-11:1999 Methods of test for mortar for masonry. Determination of flexural and compressive strength of hardened mortar  BS EN 1015-12:2000 Methods of test for mortar for masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN 1015-17:2000 Methods of test for mortar for masonry. Determination of water-soluble chloride content of fresh mortars  BS EN 1052-1:1999 Methods of test for masonry. Determination of compressive strength  BS EN 1052-2:2016 Methods of test for masonry. Determination of flexural strength  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar  BS EN 845-1:2013 Specification for ancillary components for masonry. Wall ties, tension straps, hangers and brackets  BS EN 13055-1:2002 Lightweight aggregates. Lightweight aggregates for concrete, mortar and grout  BS EN 998-2:2010 Specification for mortar for masonry . Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 413-1:2011 Masonry cement. Composition, specifications and conformity criteria  Sealants  BS EN ISO 11600:2003+A1:2011 Building construction. Jointing products. Classification and requirements for sealants  BS 4255-1:1986 Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets  BS 6213:2000+A1:2010 Selection of construction sealants. Guide  Waterproofing for masonry  BS 8215:1991 Code of practice for design and installation of damp-proof courses in masonry construction  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 1052-4:2000 Methods of test for masonry. 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| ASTM | Masonry  ASTM C216 - 15 Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)  ASTM C62 - 13a Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)  ASTM C652 - 15 Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)  ASTM C212 - 14 Standard Specification for Structural Clay Facing Tile  ASTM C34 - 13 Standard Specification for Structural Clay Load-Bearing Wall Tile.  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.  ASTM C91 / C91M - 12 Standard Specification for Masonry Cement  ASTM C207 - 06(2011) Standard Specification for Hydrated Lime for Masonry Purposes  ASTM E518 / E518M - 15 Standard Test Methods for Flexural Bond Strength of Masonry  ASTM C1072 - 13e1 Standard Test Methods for Measurement of Masonry Flexural Bond Strength  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile  ASTM C73 - 14 Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)  ASTM C126 - 15 Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units  Mortar  ASTM C144 - 11 Standard Specification for Aggregate for Masonry Mortar  ASTM C270 - 14a Standard Specification for Mortar for Unit Masonry  ASTM C476 - 10 Standard Specification for Grout for Masonry.  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C595 / C595M - 15e1 Standard Specification for Blended Hydraulic Cements  ASTM C109 / C109M - 16 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.  ASTM C979 / C979M - 16 Standard Specification for Pigments for Integrally Colored Concrete  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry  ASTM C896 - 15 Standard Terminology Relating to Clay Products  ASTM C1006 - 07(2013) Standard Test Method for Splitting Tensile Strength of Masonry Units  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C1088 - 14 Standard Specification for Thin Veneer Brick Units Made From Clay or Shale  ASTM C1093 - 15a Standard Practice for Accreditation of Testing Agencies for Masonry  ASTM C1106 - 00(2012) Standard Test Methods for Chemical Resistance and Physical Properties of Carbon Brick  ASTM C1148 - 92a(2014) Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar  ASTM C1180 - 10 Standard Terminology of Mortar and Grout for Unit Masonry  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1324 - 15 Standard Test Method for Examination and Analysis of Hardened Masonry Mortar  ASTM C1384 - 12a Standard Specification for Admixtures for Masonry Mortars  ASTM C1400 - 11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls  ASTM C1403 - 15 Standard Test Method for Rate of Water Absorption of Masonry Mortars  Sealants  ASTM C509 - 06(2015) Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material  ASTM C717 - 14a Standard Terminology of Building Seals and Sealants  Waterproofing for masonry  ASTM D5095 - 91(2013) Standard Test Method for Determination of the Nonvolatile Content in Silanes, Siloxanes and Silane-Siloxane Blends Used in Masonry Water Repellent Treatments  ASTM D6532 - 00(2014) Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens  ASTM C898 / C898M - 09 Standard Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane With Separate Wearing Course |
| AS | Masonry  AS 1617.1-2003 (R2013) Refractory bricks and shapes - Fireclay  AS 1618-2003 (R2013) Dimensions and preferred sizes for refractory bricks  AS/NZS 2699.1:2000 Built-in components for masonry construction - Wall ties  AS/NZS 2699.2:2000 Built-in components for masonry construction, - Connectors and accessories  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades  Mortar  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 1316-2003 Masonry cement  AS/NZS 2350.11:2006 Methods of testing portland, blended and masonry cements - Compressive strength    AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS/NZS 2350.17:2001 Methods of testing portland, blended and masonry cements - Determination of soundness of masonry cements  AS/NZS 2350.18:2006 Methods of testing portland, blended and masonry cements - Determination of water retention of masonry cement  AS 2701-2001 Methods of sampling and testing mortar for masonry construction  Waterproofing for masonry  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials  AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation |
| SS | Masonry  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  Mortar  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | Masonry  ISO 9652-4:2000 Masonry - Part 4: Test methods  ISO 9652-5:2000 Masonry - Part 5: Vocabulary  ISO 12678-1:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 1: Dimensions and conformity to drawings    ISO 12678-2:1996 Refractory products - Measurement of dimensions and external defects of refractory bricks - Part 2: Corner and edge defects and other surface imperfections  Sealant  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures  Waterproofing for masonry  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

# Plaster Wall

## Cracking Due To Differential Movements of Structures

## Cracking Due To Stress At Openings

## Cracking Due To A Change In Backing Wall Materials

## Cracking Due To Movement In Adjacent Apron

## Delamination of Plaster

## Crazing

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| BS | Plaster  BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 13914-1:2016 Design, preparation and application of external rendering and internal plastering. External rendering  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 13279-1:2008 Gypsum binders and gypsum plasters. Definitions and requirements/ BS EN 13279-2:2014 Gypsum binders and gypsum plasters. Test methods  BS EN 13139:2002 Aggregates for mortar  BS EN 13658-1:2005 Metal lath and beads. Definitions, requirements and test methods. Internal plastering/ BS EN 13658-2:2005 Metal lath and beads. Definitions, requirements and test methods. External rendering  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar/ BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar/ BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar/ BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)/ BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars/ BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)/ BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars/ BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)/ BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  BS EN1015-12:2000 Methods of test for mortar masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 1015-18:2002 Methods of test for mortar for masonry. Determination of water absorption coefficient due to capillary action of hardened mortar  BS EN 1015-21:2002 Methods of test for mortar for masonry. Determination of the compatibility of one-coat rendering mortars with substrates  BS EN 13658-2:2005 Metal lath and beads. Definitions, requirements and test methods. External rendering  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 13914-1:2016 Design, preparation and application of external rendering and internal plastering. External rendering |
| ASTM | Plaster  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C1328 / C1328M - 12 Standard Specification for Plastic (Stucco) Cement  ASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based PlastersASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters  ASTM E96 / E96M - 15 Standard Test Methods for Water Vapor Transmission of Materials  ASTM C1506 - 16a Standard Test Method for Water Retention of Hydraulic Cement-Based Mortars and Plasters  ASTM C1063 - 16 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters  ASTM C847 - 14a Standard Specification for Metal Lath  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM F710 - 11 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring  ASTM E119 - 15 Standard Test Methods for Fire Tests of Building Construction and Materials  ASTM C932 - 06(2013) Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering  ASTM C40 / C40M - 11 Standard Test Method for Organic Impurities in Fine Aggregates for Concrete  ASTM D75 / D75M - 14 Standard Practice for Sampling Aggregates  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates |
| AS | Plaster  AS 5101.3.1-2008 Methods for preparation and testing of stabilized materials - Lime or cement content of uncured stabilized pavement materials (EDTA method)  AS 1141.1:2015 Methods for sampling and testing aggregates - Definitions  DR AS 1141.11.1-2009 Amd 2:2015 Methods for sampling and testing aggregates - Particle size distribution - Sieving method |
| SS | SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  SS 566 : 2011 Specification for steel for the reinforcement of concrete – Plain bars  SS 18 - 1 : 1999 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric - Steel grade 500  SS 580 : 2012 Code of practice for formwork  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 32 Series - Welded steel fabric for the reinforcement of concrete  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  SS 542 : 2008 Code of practice for painting of buildings  SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes  CP 82 : 1999 Code of practice for waterproofing of reinforced concrete buildings |
| ISO | Plaster  ISO 6274:1982 Concrete; Sieve analysis of aggregates |

## Cracking Close To Floor Level Of Room Internally

## Cracking Along Conduit Installed Beneath Plastering

## Cracking Due To Plastic Settlement Of Concrete

## Biological attack - Organic Growth At Damp Areas

## Biological attack - Organic Growth Over Wide Areas

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| BS | Plaster  BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 13914-1:2016 Design, preparation and application of external rendering and internal plastering. External rendering  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 13279-1:2008 Gypsum binders and gypsum plasters. Definitions and requirements/ BS EN 13279-2:2014 Gypsum binders and gypsum plasters. Test methods  BS EN 13139:2002 Aggregates for mortar  BS EN 13658-1:2005 Metal lath and beads. Definitions, requirements and test methods. Internal plastering/ BS EN 13658-2:2005 Metal lath and beads. Definitions, requirements and test methods. External rendering  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar/ BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar/ BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar/ BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)/ BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars/ BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)/ BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars/ BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)/ BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  BS EN1015-12:2000 Methods of test for mortar masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 1015-18:2002 Methods of test for mortar for masonry. Determination of water absorption coefficient due to capillary action of hardened mortar  BS EN 1015-21:2002 Methods of test for mortar for masonry. Determination of the compatibility of one-coat rendering mortars with substrates  BS EN 13658-2:2005 Metal lath and beads. Definitions, requirements and test methods. External rendering  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 13914-1:2016 Design, preparation and application of external rendering and internal plastering. External rendering |
| ASTM | Plaster  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C1328 / C1328M - 12 Standard Specification for Plastic (Stucco) Cement  ASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based PlastersASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters  ASTM E96 / E96M - 15 Standard Test Methods for Water Vapor Transmission of Materials  ASTM C1506 - 16a Standard Test Method for Water Retention of Hydraulic Cement-Based Mortars and Plasters  ASTM C1063 - 16 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters  ASTM C847 - 14a Standard Specification for Metal Lath  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM F710 - 11 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring  ASTM E119 - 15 Standard Test Methods for Fire Tests of Building Construction and Materials  ASTM C932 - 06(2013) Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering  ASTM C40 / C40M - 11 Standard Test Method for Organic Impurities in Fine Aggregates for Concrete  ASTM D75 / D75M - 14 Standard Practice for Sampling Aggregates  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates |
| AS | Plaster  AS 5101.3.1-2008 Methods for preparation and testing of stabilized materials - Lime or cement content of uncured stabilized pavement materials (EDTA method)  AS 1141.1:2015 Methods for sampling and testing aggregates - Definitions  DR AS 1141.11.1-2009 Amd 2:2015 Methods for sampling and testing aggregates - Particle size distribution - Sieving method |
| SS | CP 56 : 1991 Code of practice for internal plastering  SS EN 197 series - Cement  SS EN 12620 : 2008 Specification for aggregates for concrete |
| ISO | Plaster  ISO 6274:1982 Concrete; Sieve analysis of aggregates |

## Staining From Ledges And Over Wide Areas

## Staining - Rust Staining From Fixtures

## Staining From Cracks

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| BS | Plaster  BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 13914-1:2016 Design, preparation and application of external rendering and internal plastering. External rendering  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 13279-1:2008 Gypsum binders and gypsum plasters. Definitions and requirements/ BS EN 13279-2:2014 Gypsum binders and gypsum plasters. Test methods  BS EN 13139:2002 Aggregates for mortar  BS EN 13658-1:2005 Metal lath and beads. Definitions, requirements and test methods. Internal plastering/ BS EN 13658-2:2005 Metal lath and beads. Definitions, requirements and test methods. External rendering  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar/ BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar/ BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar/ BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)/ BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars/ BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)/ BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars/ BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)/ BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  Masonry  BS EN1015-12:2000 Methods of test for mortar masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 1015-18:2002 Methods of test for mortar for masonry. Determination of water absorption coefficient due to capillary action of hardened mortar  BS EN 1015-21:2002 Methods of test for mortar for masonry. Determination of the compatibility of one-coat rendering mortars with substrates  BS EN 13658-2:2005 Metal lath and beads. Definitions, requirements and test methods. External rendering  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  R  BS EN 13914-1:2016 Design, preparation and application of external rendering and internal plastering. External rendering |
| ASTM | Plaster  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C1328 / C1328M - 12 Standard Specification for Plastic (Stucco) Cement  ASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based PlastersASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters  ASTM E96 / E96M - 15 Standard Test Methods for Water Vapor Transmission of Materials  ASTM C1506 - 16a Standard Test Method for Water Retention of Hydraulic Cement-Based Mortars and Plasters  ASTM C1063 - 16 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters  ASTM C847 - 14a Standard Specification for Metal Lath  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM F710 - 11 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring  ASTM E119 - 15 Standard Test Methods for Fire Tests of Building Construction and Materials  ASTM C932 - 06(2013) Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering  ASTM C40 / C40M - 11 Standard Test Method for Organic Impurities in Fine Aggregates for Concrete  ASTM D75 / D75M - 14 Standard Practice for Sampling Aggregates  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates |
| AS | Plaster  AS 5101.3.1-2008 Methods for preparation and testing of stabilized materials - Lime or cement content of uncured stabilized pavement materials (EDTA method)  AS 1141.1:2015 Methods for sampling and testing aggregates - Definitions  DR AS 1141.11.1-2009 Amd 2:2015 Methods for sampling and testing aggregates - Particle size distribution - Sieving method |
| SS | Plaster  CP 56 : 1991 Code of practice for internal plastering  Concrete  SS EN 197 series - Cement  SS EN 12620 : 2008 Specification for aggregates for concrete |
| ISO | Plaster  ISO 6274:1982 Concrete; Sieve analysis of aggregates |

## Efflorescence

## Localized Formation Of Efflorescence

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| BS | Plaster  BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 13914-1:2016 Design, preparation and application of external rendering and internal plastering. External rendering  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 13279-1:2008 Gypsum binders and gypsum plasters. Definitions and requirements/ BS EN 13279-2:2014 Gypsum binders and gypsum plasters. Test methods  BS EN 13139:2002 Aggregates for mortar  BS EN 13658-1:2005 Metal lath and beads. Definitions, requirements and test methods. Internal plastering/ BS EN 13658-2:2005 Metal lath and beads. Definitions, requirements and test methods. External rendering  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar/ BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar/ BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar/ BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)/ BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars/ BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)/ BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars/ BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)/ BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  BS EN 13658-2:2005 Metal lath and beads. Definitions, requirements and test methods. External rendering  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 13914-1:2016 Design, preparation and application of external rendering and internal plastering. External rendering |
| ASTM | Plaster  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C1328 / C1328M - 12 Standard Specification for Plastic (Stucco) Cement  ASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based PlastersASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters  ASTM E96 / E96M - 15 Standard Test Methods for Water Vapor Transmission of Materials  ASTM C1506 - 16a Standard Test Method for Water Retention of Hydraulic Cement-Based Mortars and Plasters  ASTM C1063 - 16 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters  ASTM C847 - 14a Standard Specification for Metal Lath  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM F710 - 11 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring  ASTM E119 - 15 Standard Test Methods for Fire Tests of Building Construction and Materials  ASTM C932 - 06(2013) Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering  ASTM C40 / C40M - 11 Standard Test Method for Organic Impurities in Fine Aggregates for Concrete  ASTM D75 / D75M - 14 Standard Practice for Sampling Aggregates  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates |
| AS | Plaster  AS 5101.3.1-2008 Methods for preparation and testing of stabilized materials - Lime or cement content of uncured stabilized pavement materials (EDTA method)  AS 1141.1:2015 Methods for sampling and testing aggregates - Definitions  DR AS 1141.11.1-2009 Amd 2:2015 Methods for sampling and testing aggregates - Particle size distribution - Sieving method |
| SS | Plaster  CP 56 : 1991 Code of practice for internal plastering  Concrete  SS EN 197 series - Cement  SS EN 12620 : 2008 Specification for aggregates for concrete |
| ISO | Plaster  ISO 6274:1982 Concrete; Sieve analysis of aggregates |

# Painted Wall

## Biological attack - Fungus Growth At Densely Vegetated Areas

## Biological attack - Fungus Growth At High Moisture Concentration Regions

## Biological attack - Fungus Growth Close To The Ground

## Staining

## Blistering

## Peeling & Flaking

## Discolouration

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| BS | **Paints**  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 4800:2011 Schedule of paint colours for building purposes  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints  **Waterproofing for masonry** |
| ASTM | Paints  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  Waterproofing for masonry  ASTM D5095 - 91(2013) Standard Test Method for Determination of the Nonvolatile Content in Silanes, Siloxanes and Silane-Siloxane Blends Used in Masonry Water Repellent Treatments  ASTM D6532 - 00(2014) Standard Test Method for Evaluation of the Effect of Clear Water Repellent Treatments on Water Absorption of Hydraulic Cement Mortar Specimens  ASTM C898 / C898M - 09 Standard Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane With Separate Wearing Course |
| AS | Paints  AS/NZS 2310:2002 Glossary of paint and painting terms  AS/NZS 2311:2009 Guide to the painting of buildings  AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints  AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides  HB 73.1-2005 Handbook of Australian Paint Standards - General  HB 73.2-2005 Handbook of Australian Paint Standards - Test methods  AS/NZS 1580.101.1:1999 (R2013) Paints and related materials - Methods of test - - Conditions of test - Temperature, humidity and airflow control  AS/NZS 1580.107.2:1995 Paints and related materials - Methods of test - - Determination of wet film thickness from wet film mass  AS 1580.408.5-2006 Paints and related materials - Methods of test - Adhesion - Pull-off test  AS/NZS 1580.481.1.10:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS/NZS 1580.481.1.13:1998 (Reconfirmed 2013) Methods of test for paints and related materials - Exposed to weathering - Degree of fungal or algal growth  AS/NZS 1580.481.1.9:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | Paints  SS 542 : 2008 Code of practice for painting of buildings  SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes  CP 82 : 1999 Code of practice for waterproofing of reinforced concrete buildings  SS 345: 1990 Algae resistant emulsion paint for decorative purposes |
| ISO | Paints  ISO 1513:2010 Paints and varnishes -- Examination and preparation of test samples  ISO 1514:2004 Paints and varnishes -- Standard panels for testing  ISO 1516:2002 Determination of flash/no flash -- Closed cup equilibrium method  ISO 9117-3:2010 Paints and varnishes -- Drying tests -- Part 3: Surface-drying test using ballotini  ISO 1518-1:2011 Paints and varnishes -- Determination of scratch resistance -- Part 1: Constant-loading method  ISO 1519:2011 Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520:2006 - Paints and varnishes -- Cupping test  ISO 1522:2006 Paints and varnishes -- Pendulum damping test  ISO 1523:2002 Determination of flash point -- Closed cup equilibrium method  ISO 1524:2013 Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409:2013 Paints and varnishes -- Cross-cut test  ISO 2431:2011 Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808:2007 Paints and varnishes -- Determination of film thickness  ISO 2810:2004 Paints and varnishes -- Natural weathering of coatings -- Exposure and assessment  ISO 2811-1:2016 Paints and varnishes -- Determination of density -- Part 1: Pycnometer method  ISO 2811-2:2011 Paints and varnishes -- Determination of density -- Part 2: Immersed body (plummet) method  ISO 2811-3:2011 Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4:2011 Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water  ISO 2812-2:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813:2014 Paints and varnishes -- Determination of gloss value at 20 degrees, 60 degrees and 85 degrees  BS EN ISO 2814:2006, BS 3900-D4:2006 Paints and varnishes. Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815:2003 Paints and varnishes -- Buchholz indentation test  ISO 2884-1:1999 Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear  ISO 3231: 1993 Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233-1:2013 Paints and varnishes -- Determination of the percentage volume of non-volatile matter -- Part 1: Method using a coated test panel to determine non-volatile matter and to determine dry film density by the Archimedes principle  ISO 3248: 1998 Paints and varnishes -- Determination of the effect of heat  ISO 3251:2008 Paints, varnishes and plastics -- Determination of non-volatile-matter content  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 1: General introduction and designation system  ISO 4628-2:2003 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering  ISO 4628-3:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 3: Assessment of degree of rusting  ISO 4628-4:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 4: Assessment of degree of cracking  ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking  ISO 4628-6:2011 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 6: Assessment of degree of chalking by tape method  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272-1:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 1: Falling-weight test, large-area indenter/ ISO 6272-2:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 2: Falling-weight test, small-area indenter  ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3:2006 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio of light-coloured paints at a fixed spreading rate  ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860:2006 Paints and varnishes -- Bend test (conical mandrel)  ISO 7142:2007 Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143:2007 Binders for paints and varnishes -- Methods of test for characterizing water-based binders  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method  ISO 7784-1:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Method with abrasive-paper covered wheels and rotating test specimen  ISO 7784-2:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Method with abrasive rubber wheels and rotating test specimen  ISO 7784-3:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen  ISO 8501-1:2007 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall  ISO 9514:2005 Paints and varnishes -- Determination of the pot life of multicomponent coating systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 16474-1:2013 Paints and varnishes -- Methods of exposure to laboratory light sources -- Part 1: General guidance  ISO 11668:1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1:2007 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2:2013 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909:2007 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1:2005 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2:2013 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137:2011 Paints and varnishes -- Determination of mar resistance  ISO 1518-2:2011 Paints and varnishes -- Determination of scratch resistance -- Part 2: Variable-loading method  ISO 14680-1:2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184:2012 Paints and varnishes -- Determination of film hardness by pencil test  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete  Waterproofing  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Alligatoring

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| BS | BS EN ISO 4618:2014 Paints and varnishes. Terms and definitionsBS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Plaster:  BS EN 13914-1:2016 Design, preparation and application of external rendering and internal plastering. External rendering  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles   BS EN1015-12:2000 Methods of test for mortar masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates    BS EN1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 1015-18:2002 Methods of test for mortar for masonry. Determination of water absorption coefficient due to capillary action of hardened mortar   BS EN 1015-21:2002 Methods of test for mortar for masonry. Determination of the compatibility of one-coat rendering mortars with substrates   BS EN 13658-2:2005 Metal lath and beads. Definitions, requirements and test methods. External rendering  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar   BS EN 13914-1:2016 Design, preparation and application of external rendering and internal plastering. External rendering   BS EN ISO 6270-1:2001, BS 3900-F9:2001: Paints and varnishes. Determination of resistance to humidity. Continuous condensation |
| ASTM | ASTM D2832 - 92(2011) Nonvolatile Content of Paint and Related Coatings   ASTM D3924 - 80(2011) Standard Specification for Standard Environment for Conditioning and Testing Paint, Varnish, Lacquer, and Related Materials   ASTM D822 / D822M - 13 Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings   ASTM D3168 - 85(2011) Standard Practice for Qualitative Identification of Polymers in Emulsion Paints   ASTM D3960 - 05(2013) Standard Practice for Determining Volatile Organic Compound (VOC)Content of Paints and Related Coatings   ASTM D3258 - 04(2014) Standard Test Method for Porosity of White or Near White Paint Films by Staining   ASTM D4451 - 02(2014) Standard Test Method for Pigment Content of Paints by Low-Temperature Ashing   ASTM D3723 - 05(2011) Standard Test Method for Pigment Content of Water-Emulsion Paints by Low-Temperature Ashing |
| AS | AS 3730.22-2006 Guide to the properties of paints for buildings - Concrete and masonry sealer - Solvent-borne - Interior/exterior  AS 1580.0-2004 Paints and related materials - Methods of test - Introduction and list of methods   AS 1580.408.2-2004 Paints and related materials - Methods of test - Adhesion - Knife test   AS/NZS 1580.457.1:1996 (R2013) Paints and related materials - Methods of test - - Resistance to natural weathering   AS 1580.481.0-2003 (R2013) Paints and related materials - Methods of test - Coatings - Guide to assessing paint systems exposed to weathering conditionsAS 1580.481.0-2003 (R2013) Paints and related materials - Methods of test - Coatings - Guide to assessing paint systems exposed to weathering conditions |
| SS | SS 5 - F5 : 2003 (2013) Methods of test for paints, varnishes and related materials - Washability (wet abrasion) of emulsion paintSS 5 - F5 : 2003 (2013) Methods of test for paints, varnishes and related materials - Washability (wet abrasion) of emulsion paint   SS 542 : 2008 Code of practice for painting of buildings |
| ISO | ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Chalking

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| BS | BS EN ISO 4618:2014 Paints and varnishes. Terms and definitionsBS EN ISO 4618:2014 Paints and varnishes. Terms and definitions |
| ASTM | ASTM D2832 - 92(2011) Nonvolatile Content of Paint and Related Coatings   ASTM D3924 - 80(2011) Standard Specification for Standard Environment for Conditioning and Testing Paint, Varnish, Lacquer, and Related Materials   ASTM D822 / D822M - 13 Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings   ASTM D3168 - 85(2011) Standard Practice for Qualitative Identification of Polymers in Emulsion Paints   ASTM D3960 - 05(2013) Standard Practice for Determining Volatile Organic Compound (VOC)Content of Paints and Related Coatings  ASTM D3258 - 04(2014) Standard Test Method for Porosity of White or Near White Paint Films by Staining   ASTM D4451 - 02(2014) Standard Test Method for Pigment Content of Paints by Low-Temperature Ashing   ASTM D3723 - 05(2011) Standard Test Method for Pigment Content of Water-Emulsion Paints by Low-Temperature Ashing   ASTM D3723 - 05(2011) Standard Test Method for Pigment Content of Water-Emulsion Paints by Low-Temperature Ashing |
| AS | AS 3730.22-2006 Guide to the properties of paints for buildings - Concrete and masonry sealer - Solvent-borne - Interior/exterior AS 1580.0-2004 Paints and related materials - Methods of test - Introduction and list of methods  AS 1580.408.2-2004 Paints and related materials - Methods of test - Adhesion - Knife test  AS/NZS 1580.457.1:1996 (R2013) Paints and related materials - Methods of test - - Resistance to natural weathering  AS 1580.481.0-2003 (R2013) Paints and related materials - Methods of test - Coatings - Guide to assessing paint systems exposed to weathering conditionsAS 1580.481.0-2003 (R2013) Paints and related materials - Methods of test - Coatings - Guide to assessing paint systems exposed to weathering conditions AS/NZS 1580.481.1.11:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of chalking |
| SS | SS 5 - F5 : 2003 (2013) Methods of test for paints, varnishes and related materials - Washability (wet abrasion) of emulsion paint  SS 542 : 2008 Code of practice for painting of buildings |
| ISO | ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Yellowing

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| BS | BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions |
| ASTM | ASTM D2832 - 92(2011) Nonvolatile Content of Paint and Related Coatings   ASTM D3924 - 80(2011) Standard Specification for Standard Environment for Conditioning and Testing Paint, Varnish, Lacquer, and Related Materials   ASTM D822 / D822M - 13 Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings   ASTM D3168 - 85(2011) Standard Practice for Qualitative Identification of Polymers in Emulsion Paints   ASTM D3960 - 05(2013) Standard Practice for Determining Volatile Organic Compound (VOC)Content of Paints and Related Coatings  ASTM D3258 - 04(2014) Standard Test Method for Porosity of White or Near White Paint Films by Staining   ASTM D4451 - 02(2014) Standard Test Method for Pigment Content of Paints by Low-Temperature Ashing   ASTM D3723 - 05(2011) Standard Test Method for Pigment Content of Water-Emulsion Paints by Low-Temperature Ashing   ASTM D3723 - 05(2011) Standard Test Method for Pigment Content of Water-Emulsion Paints by Low-Temperature Ashing |
| AS | AS 3730.22-2006 Guide to the properties of paints for buildings - Concrete and masonry sealer - Solvent-borne - Interior/exterior  AS 1580.0-2004 Paints and related materials - Methods of test - Introduction and list of methods  AS 1580.408.2-2004 Paints and related materials - Methods of test - Adhesion - Knife test  AS/NZS 1580.457.1:1996 (R2013) Paints and related materials - Methods of test - - Resistance to natural weathering  AS 1580.481.0-2003 (R2013) Paints and related materials - Methods of test - Coatings - Guide to assessing paint systems exposed to weathering conditions |
| SS | SS 5 - F5 : 2003 (2013) Methods of test for paints, varnishes and related materials - Washability (wet abrasion) of emulsion paint  SS 542 : 2008 Code of practice for painting of buildings |
| ISO | ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Bittiness

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| BS | |  | | --- | | BS EN ISO 4618:2014 Paints and varnishes. Terms and definitionsBS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation | |  | |  | |  | |
| ASTM | ASTM D2832 - 92(2011) Nonvolatile Content of Paint and Related Coatings  ASTM D3924 - 80(2011) Standard Specification for Standard Environment for Conditioning and Testing Paint, Varnish, Lacquer, and Related Materials  ASTM D822 / D822M - 13 Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings  ASTM D3168 - 85(2011) Standard Practice for Qualitative Identification of Polymers in Emulsion Paints  ASTM D3960 - 05(2013) Standard Practice for Determining Volatile Organic Compound (VOC)Content of Paints and Related Coatings  ASTM D3258 - 04(2014) Standard Test Method for Porosity of White or Near White Paint Films by Staining  ASTM D4451 - 02(2014) Standard Test Method for Pigment Content of Paints by Low-Temperature Ashing  ASTM D3723 - 05(2011) Standard Test Method for Pigment Content of Water-Emulsion Paints by Low-Temperature Ashing |
| AS | AS 3730.22-2006 Guide to the properties of paints for buildings - Concrete and masonry sealer - Solvent-borne - Interior/exterior  AS 1580.0-2004 Paints and related materials - Methods of test - Introduction and list of methods   AS 1580.408.2-2004 Paints and related materials - Methods of test - Adhesion - Knife test   AS/NZS 1580.457.1:1996 (R2013) Paints and related materials - Methods of test - - Resistance to natural weathering   AS 1580.481.0-2003 (R2013) Paints and related materials - Methods of test - Coatings - Guide to assessing paint systems exposed to weathering conditions |
| SS | SS 5 - F5 : 2003 (2013) Methods of test for paints, varnishes and related materials - Washability (wet abrasion) of emulsion paint  SS 542 : 2008 Code of practice for painting of buildings |
| ISO | ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method |

## Saponification

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| BS | |  | | --- | | BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions | |  | |  | |
| ASTM | ASTM D2832 - 92(2011) Nonvolatile Content of Paint and Related Coatings   ASTM D3924 - 80(2011) Standard Specification for Standard Environment for Conditioning and Testing Paint, Varnish, Lacquer, and Related Materials   ASTM D822 / D822M - 13 Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings   ASTM D3168 - 85(2011) Standard Practice for Qualitative Identification of Polymers in Emulsion Paints   ASTM D3960 - 05(2013) Standard Practice for Determining Volatile Organic Compound (VOC)Content of Paints and Related Coatings   ASTM D3258 - 04(2014) Standard Test Method for Porosity of White or Near White Paint Films by Staining   ASTM D4451 - 02(2014) Standard Test Method for Pigment Content of Paints by Low-Temperature Ashing  ASTM D3723 - 05(2011) Standard Test Method for Pigment Content of Water-Emulsion Paints by Low-Temperature Ashing   ASTM D3723 - 05(2011) Standard Test Method for Pigment Content of Water-Emulsion Paints by Low-Temperature Ashing   ASTM D3258 - 04(2014) Standard Test Method for Porosity of White or Near White Paint Films by Staining |
| AS | AS 3730.22-2006 Guide to the properties of paints for buildings - Concrete and masonry sealer - Solvent-borne - Interior/exterior  AS 1580.0-2004 Paints and related materials - Methods of test - Introduction and list of methods  AS 1580.408.2-2004 Paints and related materials - Methods of test - Adhesion - Knife test  AS/NZS 1580.457.1:1996 (R2013) Paints and related materials - Methods of test - - Resistance to natural weathering  AS 1580.481.0-2003 (R2013) Paints and related materials - Methods of test - Coatings - Guide to assessing paint systems exposed to weathering conditionsAS 1580.481.0-2003 (R2013) Paints and related materials - Methods of test - Coatings - Guide to assessing paint systems exposed to weathering conditions |
| SS | SS 5 - F5 : 2003 (2013) Methods of test for paints, varnishes and related materials - Washability (wet abrasion) of emulsion paint   SS 542 : 2008 Code of practice for painting of buildings |
| ISO | \*Nil\* |

# Precast - Surface Defects

## Blistering

## Peeling

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| BS | **Concrete**  BS EN 12350-1:2009 Testing fresh concrete. Sampling  BS EN 12390-1:2012 Testing hardened concrete. Shape, dimensions and other requirements for specimens and moulds  BS EN 12504-2:2012 Testing concrete in structures. Non-destructive testing. Determination of rebound number  BS EN 1881:2006 Products and systems for the protection and repair of concrete structures. Test methods. Testing of anchoring products by the pull-out method  BS 1881-122:2011 Testing concrete. Method for determination of water absorption  BS 1881-208:1996 Testing concrete. Recommendations for the determination of the initial surface absorption of concrete  BS EN 206:2013 Concrete. Specification, performance, production and conformity  BS 5642-1:1978+A1:2014 Sills, copings and cappings. Specification for window sills of precast concrete, cast stone, clayware, slate and natural stone  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta/ BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 6073-2:2008 Precast concrete masonry units. Guide for specifying precast concrete masonry units  BS 6093:2006+A1:2013 Design of joints and jointing in building construction. Guide  BS 8297:2000 Code of practice for Design and installation of non-loadbearing precast concrete cladding  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS EN 1169:1999 Precast concrete products. General rules for factory production control of glass-fibre reinforced cementBS EN 1170-1:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the consistency of the matrix. ‘Slump test’ method / BS EN 1170-2:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the fibre content in fresh GRC, ‘Wash out test’ / BS EN 1170-3:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the fibre content of sprayed GRC / BS EN 1170-4:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. MEASURING BENDING STRENGTH. ‘SIMPLIFIED BENDING TEST’ METHOD / BS EN 1170-5:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. MEASURING BENDING STRENGTH, “COMPLETE BENDING TEST” METHOD / BS EN 1170-6:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. DETERMINATION OF THE ABSORPTION OF WATER BY IMMERSION AND DETERMINATION OF THE DRY DENSITY / BS EN 1170-7:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. MEASUREMENT OF EXTREMES OF DIMENSIONAL VARIATIONS DUE TO MOISTURE CONTENT / BS EN 1170-8:2008 TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. CYCLIC WEATHERING TYPE TESTBS EN 1170-1:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the consistency of the matrix. ‘Slump test’ method/ BS EN 1170-2:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the fibre content in fresh GRC, ‘Wash out test’/ BS EN 1170-3:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the fibre content of sprayed GRC/ BS EN 1170-4:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring bending strength. ‘Simplified bending test’ method/ BS EN 1170-4:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring bending strength. ‘Simplified bending test’ methodBS EN 1170-5:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring bending strength, “complete bending test” method/ BS EN 1170-6:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Determination of the absorption of water by immersion and determination of the dry density/ BS EN 1170-7:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measurement of extremes of dimensional variations due to moisture content/ BS EN 1169:1999 Precast concrete products. General rules for factory production control of glass-fibre reinforced cementBS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS EN 13369:2013 Common rules for precast concrete products  **Paint**  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitionsBS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering |
| ASTM | **Concrete**  ASTM C150 / C150M - 15 Standard Specification for Portland CementASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C33 / C33M - 13 Standard Specification for Concrete Aggregates  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM C1386-07 Standard Specification for Precast Autoclaved Aerated Concrete (AAC) Wall Construction Units (Withdrawn 2013)  ASTM C990 - 09(2014) Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants  ASTM C990M - 09(2014) Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants (Metric)  ASTM C915 - 79(2010) Standard Specification for Precast Reinforced Concrete Crib Wall Members  ASTM C825 - 06(2011) Standard Specification for Precast Concrete Barriers  ASTM C901 - 10 Standard Specification for Prefabricated Masonry Panels  ASTM C367 / C367M - 09 Standard Test Methods for Strength Properties of Prefabricated Architectural Acoustical Tile or Lay-In Ceiling Panels  ASTM D7116-05 Standard Specification for Joint Sealants, Hot Applied, Jet Fuel Resistant Types, for Portland Cement Concrete Pavements (Withdrawn 2012)  ASTM C1077 - 16 Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation  ASTM E1857 - 97(2013)e1 Standard Guide for Selection of Cleaning Techniques for Masonry, Concrete, and Stucco Surfaces  ASTM D6489 - 99(2012) Standard Test Method for Determining the Water Absorption of Hardened Concrete Treated With a Water Repellent Coating  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D6690 - 15 Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements  ASTM C1451 - 11 Standard Practice for Determining Uniformity of Ingredients of Concrete From a Single Source  ASTM C1293 - 08b(2015) Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1209-05e1 Standard Terminology of Concrete Masonry Units and Related Units (Withdrawn 2009)  ASTM C1074 - 11 Standard Practice for Estimating Concrete Strength by the Maturity Method  ASTM C1064 / C1064M - 12 Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete  ASTM C1059 / C1059M - 13 Standard Specification for Latex Agents for Bonding Fresh To Hardened Concrete  ASTM C939 / C939M - 16 Standard Test Method for Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method)  ASTM C905 - 01(2012) Standard Test Methods for Apparent Density of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes  ASTM C900 - 15 Standard Test Method for Pullout Strength of Hardened Concrete  ASTM C856 - 14 Standard Practice for Petrographic Examination of Hardened Concrete  ASTM C823 / C823M - 12 Standard Practice for Examination and Sampling of Hardened Concrete in Constructions  ASTM C579 - 01(2012) Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes  ASTM C567 / C567M - 14 Standard Test Method for Determining Density of Structural Lightweight Concrete  ASTM C512 / C512M - 15 Standard Test Method for Creep of Concrete in Compression  ASTM C490 / C490M - 11e1 Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete  **Reinforcement**  ASTM A934 / A934M - 16 Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars  ASTM C330 / C330M - 14 Standard Specification for Lightweight Aggregates for Structural Concrete  ASTM C129 - 14a Standard Specification for Nonloadbearing Concrete Masonry UnitsASTM A1064 / A1064M - 16 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for ConcreteASTM A1064 / A1064M - 16 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete/ ASTM C129 - 14a Standard Specification for Nonloadbearing Concrete Masonry Units  **Paint**  ASTM D2832 - 92(2011) Nonvolatile Content of Paint and Related Coatings  ASTM D3924 - 80(2011) Standard Specification for Standard Environment for Conditioning and Testing Paint, Varnish, Lacquer, and Related Materials  ASTM D822 / D822M - 13 Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings  ASTM D3168 - 85(2016) Standard Practice for Qualitative Identification of Polymers in Emulsion Paints  ASTM D3960 - 05(2013) Standard Practice for Determining Volatile Organic Compound (VOC)Content of Paints and Related Coatings  ASTM D3258 - 04(2014) Standard Test Method for Porosity of White or Near White Paint Films by Staining  ASTM D4451 - 02(2014) Standard Test Method for Pigment Content of Paints by Low-Temperature Ashing  ASTM D3723 - 05(2011) Standard Test Method for Pigment Content of Water-Emulsion Paints by Low-Temperature Ashing  ASTM D3723 - 05(2011) Standard Test Method for Pigment Content of Water-Emulsion Paints by Low-Temperature Ashing  ASTM D3258 - 04(2014) Standard Test Method for Porosity of White or Near White Paint Films by Staining  ASTM D714 - 02(2009) Standard Test Method for Evaluating Degree of Blistering of Paints |
| AS | **Concrete**  AS 1012.2:2014 Methods of testing concrete - Preparing concrete mixes in the laboratory  AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test  AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor test  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.11-2000 (R2014) Methods of testing concrete - Determination of the modulus of rupture  AS 1012.8.4:2015 Methods of testing concrete - Method for making and curing concrete - Drying shrinkage specimens prepared in the field or in the laboratory/ AS 1012.13:2015 Methods of testing concrete - Determination of the drying shrinkage of concrete for samples prepared in the field or in the laboratory  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concreteAS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete.  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2758.1:2014 Aggregates and rock for engineering purposes - Concrete aggregates  AS 3600-2009 Concrete structures   CIA Z9-1999 CIA Curing of ConcreteCIA Z9-1999 CIA Curing of Concrete   HB 84-2006 Guide to Concrete Repair and ProtectionHB 84-2006 Guide to Concrete Repair and Protection  AS 1597.2-2013 Precast reinforced concrete box culverts - Large culverts (exceeding 1200 mm span or 1200 mm height and up to and including 4200 mm span and 4200 mm height)  AS 1597.2-2013 Precast reinforced concrete box culverts - Large culverts (exceeding 1200 mm span or 1200 mm height and up to and including 4200 mm span and 4200 mm height)  AS 3850.1:2015 Prefabricated concrete elements - General requirements  AS 3850.2:2015 Prefabricated concrete elements - Building construction  AS 3850-2003 Tilt-up concrete construction  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 2832.5-2002 Cathodic protection of metals - Steel in concrete structures  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.18-1996 (R2014) Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete  AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test  AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor test  AS 1012.3.3-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Vebe test  AS 1012.3.4-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compactibility index  AS 1012.4.1:2014 Methods of testing concrete - Determination of air content of freshly mixed concrete - Measuring reduction in concrete volume with increased air pressure  [AS 1012.8.1:2014 Methods of testing concrete - Method for making and curing concrete - Compression and indirect tensile test specimens](http://www.standards.com.au/catalogue/script/Details.asp?DocN=AS887356333093" \o "see details and prices)  AS 1012.9-1999 Methods of testing concrete - Determination of the compressive strength of concrete specimens  AS/NZS 4671:2001 Steel reinforcing materials  AS 1302-1991/Amdt 1-1992 Steel reinforcing bars for concrete  AS 1379-2007 Specification and supply of concrete  AS 1379 Supp 1-2008 Specification and supply of concrete - Commentary (Supplement 1 to AS 1379 - 2007)  AS 1418.15-1994/Amdt 1-1995 Cranes (including hoists and winches) - Concrete placing equipment  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 3600-2009 Concrete structures  AS 3600-2009 Supp 1:2014 Concrete structures - Commentary (Supplement to AS 3600-2009)  AS 3600 Supp1-1994/Amdt 1-1996 Concrete structures - Commentary  AS 3730.22-2006 Guide to the properties of paints for buildings - Concrete and masonry sealer - Solvent-borne - Interior/exterior  AS/NZS 4548.5:1999 (R2013) Guide to long-life coatings for concrete and masonry - Guidelines to methods of test  AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  CIA Concrete 1999 CIA Our Concrete Environment  CIA CPN24-2005 Design of Joints in Concrete Structures  HB 124-2007 Design and Construction of Concrete Masonry Buildings (CD-ROM) (Withdrawn)  HB 64-2002 Guide to concrete construction  HB 67-1995 Concrete practice on building sites  HB 84-2006 Guide to Concrete Repair and Protection  HB 64-2002 Guide to concrete construction  CIA Z5-2010 Shotcreting in Australia  CIA Z7/01-2014 Durability Planning/ CIA Z7/04-2014 Good Practice Through Design, Concrete Supply and Construction/ CIA Z7/07-2015 Performance Tests to Assess Concrete Durability  CIA Z9-1999 CIA Curing of Concrete  **Reinforcement**  AS/NZS 4671:2001 Steel reinforcing materials  **Paint**  AS/NZS 2310:2002 Glossary of paint and painting terms  AS/NZS 2311:2009 Guide to the painting of buildings  AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints  AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides  HB 73.1-2005 Handbook of Australian Paint Standards - General  HB 73.2-2005 Handbook of Australian Paint Standards - Test methods  AS/NZS 1580.101.1:1999 (R2013) Paints and related materials - Methods of test - - Conditions of test - Temperature, humidity and airflow control  AS/NZS 1580.107.2:1995 Paints and related materials - Methods of test - - Determination of wet film thickness from wet film mass  AS 1580.408.5-2006 Paints and related materials - Methods of test - Adhesion - Pull-off test  AS/NZS 1580.481.1.10:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS/NZS 1580.481.1.13:1998 (Reconfirmed 2013) Methods of test for paints and related materials - Exposed to weathering - Degree of fungal or algal growth  AS/NZS 1580.481.1.9:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | **Concrete**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation   SS EN 12620: 2008 Specification for aggregates for concrete  CP 65 - 1 : 1999 Code of practice for structural use of concrete - Design and construction/ CP 65 - 2 : 1996 Code of practice for structural use of concrete - Special circumstances  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  SS EN 12620 : 2008 Specification for aggregates for concrete  CP 81 : 1999 Code of practice for precast concrete slab and wall panels  SS 76 : 1972 Precast concrete blocks (Withdrawn)  SS 271 : 1983 Concrete masonry units (for non-loadbearing applications)  SS 78 - A21 : 1987 (2013) Testing concrete - Method for determination of static modules of elasticity in compression/ SS 78 - A24 : 1991 (2013) Testing concrete - Methods of analysis of hardened concrete/ SS 78 - B1 : 1992 (2013) Testing concrete - Guide to the use of non-destructive methods of test for hardened concrete/ SS 78 - B4 : 1992 (2013) Testing concrete - Recommendations for the use of electromagnetic covermeters/ SS 78 - B6 : 1992 (2013) Testing concrete - Recommendations for determination of strain in concrete/ SS 78 - B7 : 1992 (2013) Testing concrete - Recommendations for assessment of concrete strength by the near-to-surface tests/ SS 78 - B9 : 1992 (2013) Testing concrete - Recommendations for the measurement of dynamic modulus of elasticity  SS 78 - 5 : 1972 Testing concrete - Methods of testing hardened concrete for other than strength (Withdrawn - 11 Oct 2012)  SS 78 - A1 : 1987 Testing concrete - Method of sampling fresh concrete on site (Withdrawn - 24 Jun 2011)  SS 78 - A11 : 1987 Testing concrete - Method of normal curing of test specimens (27oC method) (Withdrawn - 24 Jun 2011)  SS 78 - A15 : 1987 Testing concrete - Methods for determination of density of hardened concrete (Withdrawn - 24 Jun 2011)  SS 78 - A16 : 1987 Testing concrete - Method for determination of compressive strength of concrete (Withdrawn - 24 Jun 2011)  SS 78 - A17 : 1987 Testing concrete - Method for determination of tensile splitting strength (Withdrawn - 24 Jun 2011)  SS 78 - A18 : 1987 Testing concrete - Method for determination of flexural strength (SS 78 - A18 : 1987)  SS 78 - A19 : 1987 Testing concrete - Method for determination of compressive strength using portions of beams broken in flexure (Withdrawn - 11 Oct 2012)  SS 78 - A2 : 1987 Testing concrete - Method for determination of slump  SS 78 - A22 : 1987 Testing concrete - Method for determination of water absorption (Withdrawn - 11 Oct 2012)  SS 78 - A24 : 1991 (2013) Testing concrete - Methods of analysis of hardened concrete  SS 78 - A6 : 1987 Testing concrete - Method for determination of air content of fresh concrete (Withdrawn - 24 Jun 2011)  SS 78 - B1 : 1992 (2013) Testing concrete - Guide to the use of non-destructive methods of test for hardened concrete.  **Reinforcement**  SS 560 : 2010 Specification for steel for the reinforcement of concrete – Weldable reinforcing steel – Bar, coil and decoiled product  SS 561 : 2010 Specification for steel fabric for the reinforcement of concrete  SS 2 - 3 : 1987 Steel for the reinforcement of concrete - Plain and ribbed bars (steel grades 250 and 460)  SS 18: Part 1 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 500  SS 18: Part 2 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 485  SS 32: Part 1 Welded steel fabric for the reinforcement of concrete-steel grades 300 and 500  SS 32: Part 2 Welded steel fabric for the reinforcement of concrete-steel grade 485  **Paints**  SS 542 : 2008 Code of practice for painting of buildings  SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes  CP 82 : 1999 Code of practice for waterproofing of reinforced concrete buildings  SS 345: 1990 Algae resistant emulsion paint for decorative purposes |
| ISO | **Concrete**  ISO 9882:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under non-concentrated load  ISO 9883:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under concentrated load  ISO 10144:1991 Certification scheme for steel bars and wires for the reinforcement of concrete structures  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  **Reinforcement**  ISO 6934-1:1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  ISO 7729:1985 Typical vertical joints between two prefabricated ordinary concrete external wall components -- Properties, characteristics and classification criteria  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method  ISO 7845:1985 Horizontal joints between load-bearing walls and concrete floors -- Laboratory mechanical tests -- Effect of vertical loading and of moments transmitted by the floors  ISO 9882:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under non-concentrated load  ISO 9883:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under concentrated load  **Paints**  ISO 1513:2010 Paints and varnishes -- Examination and preparation of test samples  ISO 1514:2004 Paints and varnishes -- Standard panels for testing  ISO 1516:2002 Determination of flash/no flash -- Closed cup equilibrium method  ISO 9117-3:2010 Paints and varnishes -- Drying tests -- Part 3: Surface-drying test using ballotini  ISO 1518-1:2011 Paints and varnishes -- Determination of scratch resistance -- Part 1: Constant-loading method  ISO 1519:2011 Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520:2006 - Paints and varnishes -- Cupping test  ISO 1522:2006 Paints and varnishes -- Pendulum damping test  ISO 1523:2002 Determination of flash point -- Closed cup equilibrium method  ISO 1524:2013 Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409:2013 Paints and varnishes -- Cross-cut test  ISO 2431:2011 Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808:2007 Paints and varnishes -- Determination of film thickness  ISO 2810:2004 Paints and varnishes -- Natural weathering of coatings -- Exposure and assessment  ISO 2811-1:2016 Paints and varnishes -- Determination of density -- Part 1: Pycnometer method  ISO 2811-2:2011 Paints and varnishes -- Determination of density -- Part 2: Immersed body (plummet) method  ISO 2811-3:2011 Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4:2011 Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water  ISO 2812-2:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813:2014 Paints and varnishes -- Determination of gloss value at 20 degrees, 60 degrees and 85 degrees  BS EN ISO 2814:2006, BS 3900-D4:2006 Paints and varnishes. Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815:2003 Paints and varnishes -- Buchholz indentation test  ISO 2884-1:1999 Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear  ISO 3231: 1993 Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233-1:2013 Paints and varnishes -- Determination of the percentage volume of non-volatile matter -- Part 1: Method using a coated test panel to determine non-volatile matter and to determine dry film density by the Archimedes principle  ISO 3248: 1998 Paints and varnishes -- Determination of the effect of heat  ISO 3251:2008 Paints, varnishes and plastics -- Determination of non-volatile-matter content  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 1: General introduction and designation system  ISO 4628-2:2003 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering  ISO 4628-3:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 3: Assessment of degree of rusting  ISO 4628-4:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 4: Assessment of degree of cracking  ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking  ISO 4628-6:2011 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 6: Assessment of degree of chalking by tape method  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272-1:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 1: Falling-weight test, large-area indenter/ ISO 6272-2:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 2: Falling-weight test, small-area indenter  ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3:2006 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio of light-coloured paints at a fixed spreading rate  ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860:2006 Paints and varnishes -- Bend test (conical mandrel)  ISO 7142:2007 Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143:2007 Binders for paints and varnishes -- Methods of test for characterizing water-based binders  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method  ISO 7784-1:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Method with abrasive-paper covered wheels and rotating test specimen  ISO 7784-2:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Method with abrasive rubber wheels and rotating test specimen  ISO 7784-3:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen  ISO 8501-1:2007 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall  ISO 9514:2005 Paints and varnishes -- Determination of the pot life of multicomponent coating systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 16474-1:2013 Paints and varnishes -- Methods of exposure to laboratory light sources -- Part 1: General guidance  ISO 11668:1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1:2007 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2:2013 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909:2007 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1:2005 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2:2013 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137:2011 Paints and varnishes -- Determination of mar resistance  ISO 1518-2:2011 Paints and varnishes -- Determination of scratch resistance -- Part 2: Variable-loading method  ISO 14680-1:2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184:2012 Paints and varnishes -- Determination of film hardness by pencil test  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete |

## Cracking

## Efflorescence

## Spalling

## Staining

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| BS | **Concrete**  BS EN 12350-1:2009 Testing fresh concrete. Sampling  BS EN 12390-1:2012 Testing hardened concrete. Shape, dimensions and other requirements for specimens and moulds  BS EN 12504-2:2012 Testing concrete in structures. Non-destructive testing. Determination of rebound number  BS EN 1881:2006 Products and systems for the protection and repair of concrete structures. Test methods. Testing of anchoring products by the pull-out method  BS 1881-122:2011 Testing concrete. Method for determination of water absorption  BS 1881-208:1996 Testing concrete. Recommendations for the determination of the initial surface absorption of concrete  BS EN 206:2013 Concrete. Specification, performance, production and conformity  BS 5642-1:1978+A1:2014 Sills, copings and cappings. Specification for window sills of precast concrete, cast stone, clayware, slate and natural stone  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta/ BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 6073-2:2008 Precast concrete masonry units. Guide for specifying precast concrete masonry units  BS 6093:2006+A1:2013 Design of joints and jointing in building construction. Guide  BS 8297:2000 Code of practice for Design and installation of non-loadbearing precast concrete cladding  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS EN 1169:1999 Precast concrete products. General rules for factory production control of glass-fibre reinforced cementBS EN 1170-1:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the consistency of the matrix. ‘Slump test’ method / BS EN 1170-2:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the fibre content in fresh GRC, ‘Wash out test’ / BS EN 1170-3:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the fibre content of sprayed GRC / BS EN 1170-4:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. MEASURING BENDING STRENGTH. ‘SIMPLIFIED BENDING TEST’ METHOD / BS EN 1170-5:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. MEASURING BENDING STRENGTH, “COMPLETE BENDING TEST” METHOD / BS EN 1170-6:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. DETERMINATION OF THE ABSORPTION OF WATER BY IMMERSION AND DETERMINATION OF THE DRY DENSITY / BS EN 1170-7:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. MEASUREMENT OF EXTREMES OF DIMENSIONAL VARIATIONS DUE TO MOISTURE CONTENT / BS EN 1170-8:2008 TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. CYCLIC WEATHERING TYPE TESTBS EN 1170-1:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the consistency of the matrix. ‘Slump test’ method/ BS EN 1170-2:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the fibre content in fresh GRC, ‘Wash out test’/ BS EN 1170-3:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the fibre content of sprayed GRC/ BS EN 1170-4:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring bending strength. ‘Simplified bending test’ method/ BS EN 1170-4:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring bending strength. ‘Simplified bending test’ methodBS EN 1170-5:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring bending strength, “complete bending test” method/ BS EN 1170-6:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Determination of the absorption of water by immersion and determination of the dry density/ BS EN 1170-7:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measurement of extremes of dimensional variations due to moisture content/ BS EN 1169:1999 Precast concrete products. General rules for factory production control of glass-fibre reinforced cement  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS EN 13369:2013 Common rules for precast concrete products |
| ASTM | **Concrete**  ASTM C150 / C150M - 15 Standard Specification for Portland CementASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C33 / C33M - 13 Standard Specification for Concrete Aggregates  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM C1386-07 Standard Specification for Precast Autoclaved Aerated Concrete (AAC) Wall Construction Units (Withdrawn 2013)  ASTM C990 - 09(2014) Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants  ASTM C990M - 09(2014) Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants (Metric)  ASTM C915 - 79(2010) Standard Specification for Precast Reinforced Concrete Crib Wall Members  ASTM C825 - 06(2011) Standard Specification for Precast Concrete Barriers  ASTM C901 - 10 Standard Specification for Prefabricated Masonry Panels  ASTM C367 / C367M - 09 Standard Test Methods for Strength Properties of Prefabricated Architectural Acoustical Tile or Lay-In Ceiling Panels  ASTM D7116-05 Standard Specification for Joint Sealants, Hot Applied, Jet Fuel Resistant Types, for Portland Cement Concrete Pavements (Withdrawn 2012)  ASTM C1077 - 16 Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation  ASTM E1857 - 97(2013)e1 Standard Guide for Selection of Cleaning Techniques for Masonry, Concrete, and Stucco Surfaces  ASTM D6489 - 99(2012) Standard Test Method for Determining the Water Absorption of Hardened Concrete Treated With a Water Repellent Coating  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D6690 - 15 Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements  ASTM C1451 - 11 Standard Practice for Determining Uniformity of Ingredients of Concrete From a Single Source  ASTM C1293 - 08b(2015) Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1209-05e1 Standard Terminology of Concrete Masonry Units and Related Units (Withdrawn 2009)  ASTM C1074 - 11 Standard Practice for Estimating Concrete Strength by the Maturity Method  ASTM C1064 / C1064M - 12 Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete  ASTM C1059 / C1059M - 13 Standard Specification for Latex Agents for Bonding Fresh To Hardened Concrete  ASTM C939 / C939M - 16 Standard Test Method for Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method)  ASTM C905 - 01(2012) Standard Test Methods for Apparent Density of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes  ASTM C900 - 15 Standard Test Method for Pullout Strength of Hardened Concrete  ASTM C856 - 14 Standard Practice for Petrographic Examination of Hardened Concrete  ASTM C823 / C823M - 12 Standard Practice for Examination and Sampling of Hardened Concrete in Constructions  ASTM C579 - 01(2012) Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes  ASTM C567 / C567M - 14 Standard Test Method for Determining Density of Structural Lightweight Concrete  ASTM C512 / C512M - 15 Standard Test Method for Creep of Concrete in Compression  ASTM C490 / C490M - 11e1 Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete  **Reinforcement**  ASTM A934 / A934M - 16 Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars  ASTM C330 / C330M - 14 Standard Specification for Lightweight Aggregates for Structural Concrete  ASTM C129 - 14a Standard Specification for Nonloadbearing Concrete Masonry UnitsASTM A1064 / A1064M - 16 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for ConcreteASTM A1064 / A1064M - 16 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete/ ASTM C129 - 14a Standard Specification for Nonloadbearing Concrete Masonry Units |
| AS | **Concrete**  AS 1012.2:2014 Methods of testing concrete - Preparing concrete mixes in the laboratory  AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test  AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor test  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.11-2000 (R2014) Methods of testing concrete - Determination of the modulus of rupture  AS 1012.8.4:2015 Methods of testing concrete - Method for making and curing concrete - Drying shrinkage specimens prepared in the field or in the laboratory/ AS 1012.13:2015 Methods of testing concrete - Determination of the drying shrinkage of concrete for samples prepared in the field or in the laboratory  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concreteAS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete.  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2758.1:2014 Aggregates and rock for engineering purposes - Concrete aggregates  AS 3600-2009 Concrete structures   CIA Z9-1999 CIA Curing of ConcreteCIA Z9-1999 CIA Curing of Concrete   HB 84-2006 Guide to Concrete Repair and ProtectionHB 84-2006 Guide to Concrete Repair and Protection  AS 1597.2-2013 Precast reinforced concrete box culverts - Large culverts (exceeding 1200 mm span or 1200 mm height and up to and including 4200 mm span and 4200 mm height)AS 1597.2-2013 Precast reinforced concrete box culverts - Large culverts (exceeding 1200 mm span or 1200 mm height and up to and including 4200 mm span and 4200 mm height)  AS 1597.2-2013 Precast reinforced concrete box culverts - Large culverts (exceeding 1200 mm span or 1200 mm height and up to and including 4200 mm span and 4200 mm height)  AS 3850.1:2015 Prefabricated concrete elements - General requirements  AS 3850.2:2015 Prefabricated concrete elements - Building construction  AS 3850-2003 Tilt-up concrete construction  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 2832.5-2002 Cathodic protection of metals - Steel in concrete structures  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.18-1996 (R2014) Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete  AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test  AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor test  AS 1012.3.3-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Vebe test  AS 1012.3.4-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compactibility index  AS 1012.4.1:2014 Methods of testing concrete - Determination of air content of freshly mixed concrete - Measuring reduction in concrete volume with increased air pressure  [AS 1012.8.1:2014 Methods of testing concrete - Method for making and curing concrete - Compression and indirect tensile test specimens](http://www.standards.com.au/catalogue/script/Details.asp?DocN=AS887356333093" \o "see details and prices)  AS 1012.9-1999 Methods of testing concrete - Determination of the compressive strength of concrete specimens  AS/NZS 4671:2001 Steel reinforcing materials  AS 1302-1991/Amdt 1-1992 Steel reinforcing bars for concrete  AS 1379-2007 Specification and supply of concrete  AS 1379 Supp 1-2008 Specification and supply of concrete - Commentary (Supplement 1 to AS 1379 - 2007)  AS 1418.15-1994/Amdt 1-1995 Cranes (including hoists and winches) - Concrete placing equipment  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 3600-2009 Concrete structures  AS 3600-2009 Supp 1:2014 Concrete structures - Commentary (Supplement to AS 3600-2009)  AS 3600 Supp1-1994/Amdt 1-1996 Concrete structures - Commentary  AS 3730.22-2006 Guide to the properties of paints for buildings - Concrete and masonry sealer - Solvent-borne - Interior/exterior  AS/NZS 4548.5:1999 (R2013) Guide to long-life coatings for concrete and masonry - Guidelines to methods of test  AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  CIA Concrete 1999 CIA Our Concrete Environment  CIA CPN24-2005 Design of Joints in Concrete Structures  HB 124-2007 Design and Construction of Concrete Masonry Buildings (CD-ROM) (Withdrawn)  HB 64-2002 Guide to concrete construction  HB 67-1995 Concrete practice on building sites  HB 84-2006 Guide to Concrete Repair and Protection  HB 64-2002 Guide to concrete construction  CIA Z5-2010 Shotcreting in Australia  CIA Z7/01-2014 Durability Planning/ CIA Z7/04-2014 Good Practice Through Design, Concrete Supply and Construction/ CIA Z7/07-2015 Performance Tests to Assess Concrete Durability  CIA Z9-1999 CIA Curing of Concrete  **Reinforcement**  AS/NZS 4671:2001 Steel reinforcing materials |
| SS | **Concrete**  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation   SS EN 12620: 2008 Specification for aggregates for concrete  CP 65 - 1 : 1999 Code of practice for structural use of concrete - Design and construction/ CP 65 - 2 : 1996 Code of practice for structural use of concrete - Special circumstances  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  SS EN 12620 : 2008 Specification for aggregates for concrete  CP 81 : 1999 Code of practice for precast concrete slab and wall panels  SS 76 : 1972 Precast concrete blocks (Withdrawn)  SS 271 : 1983 Concrete masonry units (for non-loadbearing applications)  SS 78 - A21 : 1987 (2013) Testing concrete - Method for determination of static modules of elasticity in compression/ SS 78 - A24 : 1991 (2013) Testing concrete - Methods of analysis of hardened concrete/ SS 78 - B1 : 1992 (2013) Testing concrete - Guide to the use of non-destructive methods of test for hardened concrete/ SS 78 - B4 : 1992 (2013) Testing concrete - Recommendations for the use of electromagnetic covermeters/ SS 78 - B6 : 1992 (2013) Testing concrete - Recommendations for determination of strain in concrete/ SS 78 - B7 : 1992 (2013) Testing concrete - Recommendations for assessment of concrete strength by the near-to-surface tests/ SS 78 - B9 : 1992 (2013) Testing concrete - Recommendations for the measurement of dynamic modulus of elasticity  SS 78 - 5 : 1972 Testing concrete - Methods of testing hardened concrete for other than strength (Withdrawn - 11 Oct 2012)  SS 78 - A1 : 1987 Testing concrete - Method of sampling fresh concrete on site (Withdrawn - 24 Jun 2011)  SS 78 - A11 : 1987 Testing concrete - Method of normal curing of test specimens (27oC method) (Withdrawn - 24 Jun 2011)  SS 78 - A15 : 1987 Testing concrete - Methods for determination of density of hardened concrete (Withdrawn - 24 Jun 2011)  SS 78 - A16 : 1987 Testing concrete - Method for determination of compressive strength of concrete (Withdrawn - 24 Jun 2011)  SS 78 - A17 : 1987 Testing concrete - Method for determination of tensile splitting strength (Withdrawn - 24 Jun 2011)  SS 78 - A18 : 1987 Testing concrete - Method for determination of flexural strength (SS 78 - A18 : 1987)  SS 78 - A19 : 1987 Testing concrete - Method for determination of compressive strength using portions of beams broken in flexure (Withdrawn - 11 Oct 2012)  SS 78 - A2 : 1987 Testing concrete - Method for determination of slump  SS 78 - A22 : 1987 Testing concrete - Method for determination of water absorption (Withdrawn - 11 Oct 2012)  SS 78 - A24 : 1991 (2013) Testing concrete - Methods of analysis of hardened concrete  SS 78 - A6 : 1987 Testing concrete - Method for determination of air content of fresh concrete (Withdrawn - 24 Jun 2011)  SS 78 - B1 : 1992 (2013) Testing concrete - Guide to the use of non-destructive methods of test for hardened concrete.  **Reinforcement**  SS 560 : 2010 Specification for steel for the reinforcement of concrete – Weldable reinforcing steel – Bar, coil and decoiled product  SS 561 : 2010 Specification for steel fabric for the reinforcement of concrete  SS 2 - 3 : 1987 Steel for the reinforcement of concrete - Plain and ribbed bars (steel grades 250 and 460)  SS 18: Part 1 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 500  SS 18: Part 2 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 485  SS 32: Part 1 Welded steel fabric for the reinforcement of concrete-steel grades 300 and 500  SS 32: Part 2 Welded steel fabric for the reinforcement of concrete-steel grade 485 |
| ISO | **Concrete**  ISO 9882:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under non-concentrated load  ISO 9883:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under concentrated load  ISO 10144:1991 Certification scheme for steel bars and wires for the reinforcement of concrete structures  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  **Reinforcement**  ISO 6934-1:1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  ISO 7729:1985 Typical vertical joints between two prefabricated ordinary concrete external wall components -- Properties, characteristics and classification criteria  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method  ISO 7845:1985 Horizontal joints between load-bearing walls and concrete floors -- Laboratory mechanical tests -- Effect of vertical loading and of moments transmitted by the floors  ISO 9882:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under non-concentrated load  ISO 9883:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under concentrated load |

## Tile Delamination due to Defective Construction

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| BS | Concrete  BS EN 12350-1:2009 Testing fresh concrete. Sampling  BS EN 12390-1:2012 Testing hardened concrete. Shape, dimensions and other requirements for specimens and moulds  BS EN 12504-2:2012 Testing concrete in structures. Non-destructive testing. Determination of rebound number  BS EN 1881:2006 Products and systems for the protection and repair of concrete structures. Test methods. Testing of anchoring products by the pull-out method  BS 1881-122:2011 Testing concrete. Method for determination of water absorption  BS 1881-208:1996 Testing concrete. Recommendations for the determination of the initial surface absorption of concrete  BS EN 206:2013 Concrete. Specification, performance, production and conformity  BS 5642-1:1978+A1:2014 Sills, copings and cappings. Specification for window sills of precast concrete, cast stone, clayware, slate and natural stone  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta/ BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 6073-2:2008 Precast concrete masonry units. Guide for specifying precast concrete masonry units  BS 6093:2006+A1:2013 Design of joints and jointing in building construction. Guide  BS 8297:2000 Code of practice for Design and installation of non-loadbearing precast concrete cladding  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS EN 1169:1999 Precast concrete products. General rules for factory production control of glass-fibre reinforced cementBS EN 1170-1:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the consistency of the matrix. ‘Slump test’ method / BS EN 1170-2:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the fibre content in fresh GRC, ‘Wash out test’ / BS EN 1170-3:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the fibre content of sprayed GRC / BS EN 1170-4:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. MEASURING BENDING STRENGTH. ‘SIMPLIFIED BENDING TEST’ METHOD / BS EN 1170-5:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. MEASURING BENDING STRENGTH, “COMPLETE BENDING TEST” METHOD / BS EN 1170-6:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. DETERMINATION OF THE ABSORPTION OF WATER BY IMMERSION AND DETERMINATION OF THE DRY DENSITY / BS EN 1170-7:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. MEASUREMENT OF EXTREMES OF DIMENSIONAL VARIATIONS DUE TO MOISTURE CONTENT / BS EN 1170-8:2008 TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. CYCLIC WEATHERING TYPE TESTBS EN 1170-1:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the consistency of the matrix. ‘Slump test’ method/ BS EN 1170-2:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the fibre content in fresh GRC, ‘Wash out test’/ BS EN 1170-3:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the fibre content of sprayed GRC/ BS EN 1170-4:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring bending strength. ‘Simplified bending test’ method/ BS EN 1170-4:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring bending strength. ‘Simplified bending test’ methodBS EN 1170-5:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring bending strength, “complete bending test” method/ BS EN 1170-6:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Determination of the absorption of water by immersion and determination of the dry density/ BS EN 1170-7:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measurement of extremes of dimensional variations due to moisture content/ BS EN 1169:1999 Precast concrete products. General rules for factory production control of glass-fibre reinforced cement  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS EN 13369:2013 Common rules for precast concrete products  Reinforcement  BS 4449:2005+A2:2009 Steel for the reinforcement of concrete. Weldable reinforcing steel. Bar, coil and decoiled product. Specification  BS 4482:2005 Steel wire for the reinforcement of concrete products. Specification  BS 4483:2005 Steel fabric for the reinforcement of concrete. Specification  BS 6744:2001+A2:2009 Stainless steel bars for the reinforcement of and use in concrete. Requirements and test methods  Tile  BS 5385-3:2014 Wall and floor tiling. Design and installation of internal and external ceramic and mosaic floor tiling in normal conditions. Code of practice |
| ASTM | Concrete  ASTM C150 / C150M - 15 Standard Specification for Portland CementASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C33 / C33M - 13 Standard Specification for Concrete Aggregates  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM C1386-07 Standard Specification for Precast Autoclaved Aerated Concrete (AAC) Wall Construction Units (Withdrawn 2013)  ASTM C990 - 09(2014) Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants  ASTM C990M - 09(2014) Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants (Metric)  ASTM C915 - 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05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D6690 - 15 Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements  ASTM C1451 - 11 Standard Practice for Determining Uniformity of Ingredients of Concrete From a Single Source  ASTM C1293 - 08b(2015) Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1209-05e1 Standard Terminology of Concrete Masonry Units and Related Units (Withdrawn 2009)  ASTM C1074 - 11 Standard Practice for Estimating Concrete Strength by the Maturity Method  ASTM C1064 / C1064M - 12 Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete  ASTM C1059 / C1059M - 13 Standard Specification for Latex Agents for Bonding Fresh To Hardened Concrete  ASTM C939 / C939M - 16 Standard Test Method for Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method)  ASTM C905 - 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09 Standard Test Method for Measuring Warpage of Ceramic Tile  ASTM C920 - 14a Standard Specification for Elastomeric Joint Sealants |
| AS | Concrete  AS 1012.2:2014 Methods of testing concrete - Preparing concrete mixes in the laboratory  AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test  AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor test  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.11-2000 (R2014) Methods of testing concrete - Determination of the modulus of rupture  AS 1012.8.4:2015 Methods of testing concrete - Method for making and curing concrete - Drying shrinkage specimens prepared in the field or in the laboratory/ AS 1012.13:2015 Methods of testing concrete - Determination of the drying shrinkage of concrete for samples prepared in the field or in the laboratory  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concreteAS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete.  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Vebe test  AS 1012.3.4-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compactibility index  AS 1012.4.1:2014 Methods of testing concrete - Determination of air content of freshly mixed concrete - Measuring reduction in concrete volume with increased air pressure  [AS 1012.8.1:2014 Methods of testing concrete - Method for making and curing concrete - Compression and indirect tensile test specimens](http://www.standards.com.au/catalogue/script/Details.asp?DocN=AS887356333093" \o "see details and prices)  AS 1012.9-1999 Methods of testing concrete - Determination of the compressive strength of concrete specimens  AS/NZS 4671:2001 Steel reinforcing materials  AS 1302-1991/Amdt 1-1992 Steel reinforcing bars for concrete  AS 1379-2007 Specification and supply of concrete  AS 1379 Supp 1-2008 Specification and supply of concrete - Commentary (Supplement 1 to AS 1379 - 2007)  AS 1418.15-1994/Amdt 1-1995 Cranes (including hoists and winches) - Concrete placing equipment  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 3600-2009 Concrete structures  AS 3600-2009 Supp 1:2014 Concrete structures - Commentary (Supplement to AS 3600-2009)  AS 3600 Supp1-1994/Amdt 1-1996 Concrete structures - Commentary  AS 3730.22-2006 Guide to the properties of paints for buildings - Concrete and masonry sealer - Solvent-borne - Interior/exterior  AS/NZS 4548.5:1999 (R2013) Guide to long-life coatings for concrete and masonry - Guidelines to methods of test  AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  CIA Concrete 1999 CIA Our Concrete Environment  CIA CPN24-2005 Design of Joints in Concrete Structures  HB 124-2007 Design and Construction of Concrete Masonry Buildings (CD-ROM) (Withdrawn)  HB 64-2002 Guide to concrete construction  HB 67-1995 Concrete practice on building sites  HB 84-2006 Guide to Concrete Repair and Protection  HB 64-2002 Guide to concrete construction  CIA Z5-2010 Shotcreting in Australia  CIA Z7/01-2014 Durability Planning/ CIA Z7/04-2014 Good Practice Through Design, Concrete Supply and Construction/ CIA Z7/07-2015 Performance Tests to Assess Concrete Durability  CIA Z9-1999 CIA Curing of Concrete  Reinforcement  AS/NZS 4671:2001 Steel reinforcing materials  Tile  AS 3958.2-1992 Ceramic tiles - Guide to the selection of a ceramic tiling system  AS 4459.10-1999 Methods of sampling and testing ceramic tiles - Determination of moisture expansion  AS 4459.14-1999 Methods of sampling and testing ceramic tiles - Determination of resistance to stains  AS 4459.13-1999 Methods of sampling and testing ceramic tiles - Determination of chemical resistance  AS 4459.8-1997 Methods of sampling and testing ceramic tiles - Determination of linear thermal expansion  AS 4459.2-1999 Methods of sampling and testing ceramic tiles - Determination of dimensions and surface quality  AS 4459.3-1999 Methods of sampling and testing ceramic tiles - Determination of water absorption, apparent porosity, apparent relative density and bulk density |
| SS | Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation   SS EN 12620: 2008 Specification for aggregates for concrete  CP 65 - 1 : 1999 Code of practice for structural use of concrete - Design and construction/ CP 65 - 2 : 1996 Code of practice for structural use of concrete - Special circumstances  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  SS EN 12620 : 2008 Specification for aggregates for concrete  CP 81 : 1999 Code of practice for precast concrete slab and wall panels  SS 76 : 1972 Precast concrete blocks (Withdrawn)  SS 271 : 1983 Concrete masonry units (for non-loadbearing applications)  SS 78 - A21 : 1987 (2013) Testing concrete - Method for determination of static modules of elasticity in compression/ SS 78 - A24 : 1991 (2013) Testing concrete - Methods of analysis of hardened concrete/ SS 78 - B1 : 1992 (2013) Testing concrete - Guide to the use of non-destructive methods of test for hardened concrete/ SS 78 - B4 : 1992 (2013) Testing concrete - Recommendations for the use of electromagnetic covermeters/ SS 78 - B6 : 1992 (2013) Testing concrete - Recommendations for determination of strain in concrete/ SS 78 - B7 : 1992 (2013) Testing concrete - Recommendations for assessment of concrete strength by the near-to-surface tests/ SS 78 - B9 : 1992 (2013) Testing concrete - Recommendations for the measurement of dynamic modulus of elasticity  SS 78 - 5 : 1972 Testing concrete - Methods of testing hardened concrete for other than strength (Withdrawn - 11 Oct 2012)  SS 78 - A1 : 1987 Testing concrete - Method of sampling fresh concrete on site (Withdrawn - 24 Jun 2011)  SS 78 - A11 : 1987 Testing concrete - Method of normal curing of test specimens (27oC method) (Withdrawn - 24 Jun 2011)  SS 78 - A15 : 1987 Testing concrete - Methods for determination of density of hardened concrete (Withdrawn - 24 Jun 2011)  SS 78 - A16 : 1987 Testing concrete - Method for determination of compressive strength of concrete (Withdrawn - 24 Jun 2011)  SS 78 - A17 : 1987 Testing concrete - Method for determination of tensile splitting strength (Withdrawn - 24 Jun 2011)  SS 78 - A18 : 1987 Testing concrete - Method for determination of flexural strength (SS 78 - A18 : 1987)  SS 78 - A19 : 1987 Testing concrete - Method for determination of compressive strength using portions of beams broken in flexure (Withdrawn - 11 Oct 2012)  SS 78 - A2 : 1987 Testing concrete - Method for determination of slump  SS 78 - A22 : 1987 Testing concrete - Method for determination of water absorption (Withdrawn - 11 Oct 2012)  SS 78 - A24 : 1991 (2013) Testing concrete - Methods of analysis of hardened concrete  SS 78 - A6 : 1987 Testing concrete - Method for determination of air content of fresh concrete (Withdrawn - 24 Jun 2011)  SS 78 - B1 : 1992 (2013) Testing concrete - Guide to the use of non-destructive methods of test for hardened concrete.  Reinforcement  SS 560 : 2010 Specification for steel for the reinforcement of concrete – Weldable reinforcing steel – Bar, coil and decoiled product  SS 561 : 2010 Specification for steel fabric for the reinforcement of concrete  SS 2 - 3 : 1987 Steel for the reinforcement of concrete - Plain and ribbed bars (steel grades 250 and 460)  SS 18: Part 1 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 500  SS 18: Part 2 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric -steel grade 485  SS 32: Part 1 Welded steel fabric for the reinforcement of concrete-steel grades 300 and 500  SS 32: Part 2 Welded steel fabric for the reinforcement of concrete-steel grade 485  Tile  SS 301: 1985 Singapore Standard for Ceramic Tile  SS CP68: 1997 Ceramic Wall and Floor Tiling |
| ISO | Concrete  ISO 9882:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under non-concentrated load  ISO 9883:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under concentrated load  ISO 10144:1991 Certification scheme for steel bars and wires for the reinforcement of concrete structures  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  Reinforcement  ISO 6934-1:1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  ISO 7729:1985 Typical vertical joints between two prefabricated ordinary concrete external wall components -- Properties, characteristics and classification criteria  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method  ISO 7845:1985 Horizontal joints between load-bearing walls and concrete floors -- Laboratory mechanical tests -- Effect of vertical loading and of moments transmitted by the floors  ISO 9882:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under non-concentrated load  ISO 9883:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under concentrated load  Tile  ISO 10545-2:1995 Ceramic tiles -- Part 2: Determination of dimensions and surface quality  ISO 10545-3:1995 Ceramic tiles -- Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density  ISO 10545-4:2014 Ceramic tiles -- Part 4: Determination of modulus of rupture and breaking strength |

# Precast - Performance Defects

## Water Penetration

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| BS | BS 3811:1993 Glossary of terms used in terotechnology (Withdrawn)BS 3811:1993 Glossary of terms used in terotechnology (Withdrawn)  BS 7543:2015 Guide to durability of buildings and building elements, products and components  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 12350-1:2009 Testing fresh concrete. Sampling  BS EN 12390-1:2012 Testing hardened concrete. Shape, dimensions and other requirements for specimens and moulds  BS EN 12504-2:2012 Testing concrete in structures. Non-destructive testing. Determination of rebound number  BS EN 1881:2006 Products and systems for the protection and repair of concrete structures. Test methods. Testing of anchoring products by the pull-out method  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8110: Design for Precast Facade  BS 1881-122:2011 Testing concrete. Method for determination of water absorption  BS 1881-208:1996 Testing concrete. Recommendations for the determination of the initial surface absorption of concrete  BS 5642-1:1978+A1:2014 Sills, copings and cappings. Specification for window sills of precast concrete, cast stone, clayware, slate and natural stone  BS 6073-2:2008 Precast concrete masonry units. Guide for specifying precast concrete masonry units  BS 6093:2006+A1:2013 Design of joints and jointing in building construction. Guide  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS 8297:2000 Code of practice for Design and installation of non-loadbearing precast concrete cladding  BS EN 1169:1999 Precast concrete products. General rules for factory production control of glass-fibre reinforced cement  BS EN 1170-1:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the consistency of the matrix. ‘Slump test’ method / BS EN 1170-2:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the fibre content in fresh GRC, ‘Wash out test’ / BS EN 1170-3:1998 Precast concrete products. Test method for glass-fibre reinforced cement. Measuring the fibre content of sprayed GRC / BS EN 1170-4:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. MEASURING BENDING STRENGTH. ‘SIMPLIFIED BENDING TEST’ METHOD / BS EN 1170-5:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. MEASURING BENDING STRENGTH, “COMPLETE BENDING TEST” METHOD / BS EN 1170-6:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. DETERMINATION OF THE ABSORPTION OF WATER BY IMMERSION AND DETERMINATION OF THE DRY DENSITY / BS EN 1170-7:1998 PRECAST CONCRETE PRODUCTS. TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. MEASUREMENT OF EXTREMES OF DIMENSIONAL VARIATIONS DUE TO MOISTURE CONTENT / BS EN 1170-8:2008 TEST METHOD FOR GLASS-FIBRE REINFORCED CEMENT. CYCLIC WEATHERING TYPE TEST  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS EN 13369:2013 Common rules for precast concrete products  BS EN 206:2013 Concrete. Specification, performance, production and conformity  BS 5531:1988 Code of practice for safety in erecting structural frames (Withdrawn)  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta/ BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS 8297:2000 Code of practice for Design and installation of non-loadbearing precast concrete cladding  CP 110 : Part 1 : 1972 Code of practice for the structural use of concrete. Design, materials and workmanship.  CP 116:1969 The structural use of precast concrete (Withdrawn) |
| ASTM | ASTM C150 / C150M - 15 Standard Specification for Portland CementASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C33 / C33M - 13 Standard Specification for Concrete Aggregates  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM C1504 - 16 Standard Specification for Manufacture of Precast Reinforced Concrete Three-Sided Structures for Culverts and Storm Drains  ASTM C1504M - 16 Standard Specification for Manufacture of Precast Reinforced Concrete Three-Sided Structures for Culverts and Storm Drains (Metric)  ASTM C1479 - 13 Standard Practice for Installation of Precast Concrete Sewer, Storm Drain, and Culvert Pipe Using Standard Installations  ASTM C1433 - 16a Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers  ASTM C1433M - 16a Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers (Metric)  ASTM C1386-07 Standard Specification for Precast Autoclaved Aerated Concrete (AAC) Wall Construction Units (Withdrawn 2013)  ASTM C1227 - 13 Standard Specification for Precast Concrete Septic Tanks  ASTM C1103 - 14 Standard Practice for Joint Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines  ASTM C1103M - 14 Standard Practice for Joint Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines (Metric)  ASTM C1037 - 08(2015) Standard Practice for Inspection of Underground Precast Concrete Utility Structures  ASTM C990 - 09(2014) Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants  ASTM C990M - 09(2014) Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants (Metric)  ASTM C969 - 02(2009) Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines  ASTM C969M - 02(2009) Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines (Metric)  ASTM C915 - 79(2010) Standard Specification for Precast Reinforced Concrete Crib Wall Members  ASTM C913 - 08 Standard Specification for Precast Concrete Water and Wastewater Structures  ASTM C891 - 11 Standard Practice for Installation of Underground Precast Concrete Utility Structures  ASTM C890 - 13 Standard Practice for Minimum Structural Design Loading for Monolithic or Sectional Precast Concrete Water and Wastewater Structures  ASTM C877 - 08 Standard Specification for External Sealing Bands for Concrete Pipe, Manholes, and Precast Box Sections  ASTM C877M - 02(2009) Standard Specification for External Sealing Bands for Concrete Pipe, Manholes, and Precast Box Sections (Metric)  ASTM C858 - 10e1 Standard Specification for Underground Precast Concrete Utility Structures  ASTM C857 - 14 Standard Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures  ASTM C825 - 06(2011) Standard Specification for Precast Concrete Barriers  ASTM C478 - 15a Standard Specification for Circular Precast Reinforced Concrete Manhole Sections  ASTM C478M - 15a Standard Specification for Circular Precast Reinforced Concrete Manhole Sections (Metric)  ASTM C901 - 10 Standard Specification for Prefabricated Masonry Panels  ASTM C367 / C367M - 09 Standard Test Methods for Strength Properties of Prefabricated Architectural Acoustical Tile or Lay-In Ceiling Panels  ASTM A934 / A934M - 16 Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars  ASTM D7116-05 Standard Specification for Joint Sealants, Hot Applied, Jet Fuel Resistant Types, for Portland Cement Concrete Pavements (Withdrawn 2012)  ASTM C1077 - 16 Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation  ASTM E1857 - 97(2013)e1 Standard Guide for Selection of Cleaning Techniques for Masonry, Concrete, and Stucco Surfaces  ASTM D6489 - 99(2012) Standard Test Method for Determining the Water Absorption of Hardened Concrete Treated With a Water Repellent Coating  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D6690 - 15 Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements  ASTM C1451 - 11 Standard Practice for Determining Uniformity of Ingredients of Concrete From a Single Source  ASTM C1293 - 08b(2015) Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1209-05e1 Standard Terminology of Concrete Masonry Units and Related Units (Withdrawn 2009)  ASTM C1074 - 11 Standard Practice for Estimating Concrete Strength by the Maturity Method  ASTM C1064 / C1064M - 12 Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete  ASTM C1059 / C1059M - 13 Standard Specification for Latex Agents for Bonding Fresh To Hardened Concrete  ASTM C939 / C939M - 16 Standard Test Method for Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method)  ASTM C905 - 01(2012) Standard Test Methods for Apparent Density of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes  ASTM C900 - 15 Standard Test Method for Pullout Strength of Hardened Concrete  ASTM C856 - 14 Standard Practice for Petrographic Examination of Hardened Concrete  ASTM C823 / C823M - 12 Standard Practice for Examination and Sampling of Hardened Concrete in Constructions  ASTM C579 - 01(2012) Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes  ASTM C567 / C567M - 14 Standard Test Method for Determining Density of Structural Lightweight Concrete  ASTM C512 / C512M - 15 Standard Test Method for Creep of Concrete in Compression  ASTM C490 / C490M - 11e1 Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete  ASTM C330 / C330M - 14 Standard Specification for Lightweight Aggregates for Structural Concrete  ASTM C129 - 14a Standard Specification for Nonloadbearing Concrete Masonry Units  ASTM A1064 / A1064M - 16 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete |
| AS | ASAS 1597.2-2013 Precast reinforced concrete box culverts - Large culverts (exceeding 1200 mm span or 1200 mm height and up to and including 4200 mm span and 4200 mm height)AS 1597.2-2013 Precast reinforced concrete box culverts - Large culverts (exceeding 1200 mm span or 1200 mm height and up to and including 4200 mm span and 4200 mm height)  AS 1597.2-2013 Precast reinforced concrete box culverts - Large culverts (exceeding 1200 mm span or 1200 mm height and up to and including 4200 mm span and 4200 mm height)  AS 3850.1:2015 Prefabricated concrete elements - General requirements  AS 3850.2:2015 Prefabricated concrete elements - Building construction  AS 3850-2003 Tilt-up concrete construction  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 2832.5-2002 Cathodic protection of metals - Steel in concrete structures  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.18-1996 (R2014) Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete  AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test  AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor test  AS 1012.3.3-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Vebe test  AS 1012.3.4-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compactibility index  AS 1012.4.1:2014 Methods of testing concrete - Determination of air content of freshly mixed concrete - Measuring reduction in concrete volume with increased air pressure  [AS 1012.8.1:2014 Methods of testing concrete - Method for making and curing concrete - Compression and indirect tensile test specimens](http://www.standards.com.au/catalogue/script/Details.asp?DocN=AS887356333093" \o "see details and prices)  AS 1012.9-1999 Methods of testing concrete - Determination of the compressive strength of concrete specimens  AS/NZS 4671:2001 Steel reinforcing materials  AS 1302-1991/Amdt 1-1992 Steel reinforcing bars for concrete  AS 1379-2007 Specification and supply of concrete  AS 1379 Supp 1-2008 Specification and supply of concrete - Commentary (Supplement 1 to AS 1379 - 2007)  AS 1418.15-1994/Amdt 1-1995 Cranes (including hoists and winches) - Concrete placing equipment  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 3600-2009 Concrete structures  AS 3600-2009 Supp 1:2014 Concrete structures - Commentary (Supplement to AS 3600-2009)  AS 3600 Supp1-1994/Amdt 1-1996 Concrete structures - Commentary  AS 3730.22-2006 Guide to the properties of paints for buildings - Concrete and masonry sealer - Solvent-borne - Interior/exterior  AS/NZS 4548.5:1999 (R2013) Guide to long-life coatings for concrete and masonry - Guidelines to methods of test  AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  CIA Concrete 1999 CIA Our Concrete Environment  CIA CPN24-2005 Design of Joints in Concrete Structures  HB 124-2007 Design and Construction of Concrete Masonry Buildings (CD-ROM) (Withdrawn)  HB 64-2002 Guide to concrete construction  HB 67-1995 Concrete practice on building sites  HB 84-2006 Guide to Concrete Repair and Protection  HB 64-2002 Guide to concrete construction  CIA Z5-2010 Shotcreting in Australia  CIA Z7/01-2014 Durability Planning/ CIA Z7/04-2014 Good Practice Through Design, Concrete Supply and Construction/ CIA Z7/07-2015 Performance Tests to Assess Concrete Durability  CIA Z9-1999 CIA Curing of Concrete |
| SS | CP 81 : 1999 Code of practice for precast concrete slab and wall panels  SS 76 : 1972 Precast concrete blocks (Withdrawn)  SS 271 : 1983 Concrete masonry units (for non-loadbearing applications)  SS 214 : 2009 Specification for precast concrete kerbs  CP 65 - 1 : 1999 Code of practice for structural use of concrete - Design and construction  CP 65 - 2 : 1996 Code of practice for structural use of concrete - Special circumstances  SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  CP 82 : 1999 Code of practice for waterproofing of reinforced concrete buildings  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 78 - 5 : 1972 Testing concrete - Methods of testing hardened concrete for other than strength (Withdrawn - 11 Oct 2012)  SS 78 - A1 : 1987 Testing concrete - Method of sampling fresh concrete on site (Withdrawn - 24 Jun 2011)  SS 78 - A11 : 1987 Testing concrete - Method of normal curing of test specimens (27oC method) (Withdrawn - 24 Jun 2011)  SS 78 - A15 : 1987 Testing concrete - Methods for determination of density of hardened concrete (Withdrawn - 24 Jun 2011)  SS 78 - A16 : 1987 Testing concrete - Method for determination of compressive strength of concrete (Withdrawn - 24 Jun 2011)  SS 78 - A17 : 1987 Testing concrete - Method for determination of tensile splitting strength (Withdrawn - 24 Jun 2011)  SS 78 - A18 : 1987 Testing concrete - Method for determination of flexural strength (SS 78 - A18 : 1987)  SS 78 - A19 : 1987 Testing concrete - Method for determination of compressive strength using portions of beams broken in flexure (Withdrawn - 11 Oct 2012)  SS 78 - A2 : 1987 Testing concrete - Method for determination of slump  SS 78 - A22 : 1987 Testing concrete - Method for determination of water absorption (Withdrawn - 11 Oct 2012)  SS 78 - A24 : 1991 (2013) Testing concrete - Methods of analysis of hardened concrete  SS 78 - A6 : 1987 Testing concrete - Method for determination of air content of fresh concrete (Withdrawn - 24 Jun 2011)  SS 78 - B1 : 1992 (2013) Testing concrete - Guide to the use of non-destructive methods of test for hardened concrete.  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity  SS 544 - 1 : 2014 Concrete – Complementary Singapore Standard to SS EN 206 – Part 1: Method of specifying and guidance for the specifier  SS 544 - 2 : 2014 Concrete – Complementary Singapore Standard to SS EN 206 – Part 2: Specification for constituent materials and concrete |
| ISO | |  | | --- | | ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete/ ISO 1920-3:2004 Testing of concrete - Part 3: Making and curing test specimens  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 4103:1979 Concrete -- Classification of consistency (Withdrawn)ISO 4103:1979 Concrete -- Classification of consistency (Withdrawn)  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabric  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete  ISO 14655:1999 Epoxy-coated strand for the prestressing of concrete | |  | |  | | ISO 9882:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under non-concentrated load  ISO 9883:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under concentrated load  ISO 10144:1991 Certification scheme for steel bars and wires for the reinforcement of concrete structures  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 6934-1:1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  ISO 7729:1985 Typical vertical joints between two prefabricated ordinary concrete external wall components -- Properties, characteristics and classification criteria  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method  ISO 7845:1985 Horizontal joints between load-bearing walls and concrete floors -- Laboratory mechanical tests -- Effect of vertical loading and of moments transmitted by the floors  ISO 9882:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under non-concentrated load  ISO 9883:1993 Performance standards in building -- Performance test for precast concrete floors -- Behaviour under concentrated load | |

# Cladding & Curtainwall

## METAL

## Dirt Staining - Misalignment of Joints

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| BS | BS EN ISO 1461:2009 Hot dip galvanized coatings on fabricated iron and steel articles. Specifications and test methods  BS EN ISO 18286:2010 Hot-rolled stainless steel plates. Tolerances on dimensions and shape / BS EN 10029:2010 Hot-rolled steel plates 3 mm thick or above. Tolerances on dimensions and shape / BS EN ISO 9445-1:2010 Continuously cold-rolled stainless steel. Tolerances on dimensions and form. Narrow strip and cut lengths / BS EN ISO 9445-2:2010 Continuously cold-rolled stainless steel. Tolerances on dimensions and form. Wide strip and plate/sheet / BS EN 10048:1997 Hot rolled narrow steel strip. Tolerances on dimensions and shape / BS EN 10095:1999 Heat resisting steels and nickel alloys / BS EN 10051:2010 Continuously hot-rolled strip and plate/sheet cut from wide strip of non-alloy and alloy steels. Tolerances on dimensions and shape  BS EN 515:1993 Aluminium and aluminium alloys. Wrought products. Temper designations / BS EN 485-3:2003 Aluminium and aluminium alloys. Sheet, strip and plate. Tolerances on dimensions and form for hot-rolled products / BS EN 573-3:2013 Aluminium and aluminium alloys. Chemical composition and form of wrought products. Chemical composition and form of products / BS EN 573-2:1995 Aluminium and aluminium alloys. Chemical composition and form of wrought products. Chemical symbol based designation system / BS EN 485-2:2013 Aluminium and aluminium alloys. Sheet, strip and plate. Mechanical properties  BS 6161-14:1987 Methods of test for anodic oxidation coatings on aluminium and its alloys. Determination of infra-red reflectance (WIthdrawn) (Withdrawn) / BS EN ISO 8251:2011 Anodizing of aluminium and its alloys. Measurement of abrasion resistance of anodic oxidation coatings / BS EN ISO 7668:2010 Anodizing of aluminium and its alloys. Measurement of specular reflectance and specular gloss of anodic oxidation coatings at angles of 20 degrees, 45 degrees, 60 degrees or 85 degrees / BS EN ISO 2376:2010 Anodizing of aluminium and its alloys. Determination of electric breakdown potential / BS EN ISO 7599:2010 Anodizing of aluminium and its alloys. General specifications for anodic oxidation coatings on aluminium / BS EN ISO 8251:2011 Anodizing of aluminium and its alloys. Measurement of abrasion resistance of anodic oxidation coatings  BS EN ISO 1463:2004 Metallic and oxide coatings. Measurement of coating thickness. Microscopical method  BS EN ISO 17834:2003 Thermal spraying. Coatings for protection against corrosion and oxidation at elevated temperatures  BS EN 10346:2015 Continuously hot-dip coated steel flat products for cold forming. Technical delivery conditions / BS EN 10346:2015 Continuously hot-dip coated steel flat products for cold forming. 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Accelerated test of light fastness of coloured anodic oxidation coatings using artificial light  BS 6161-11:1985 Methods of test for anodic oxidation coatings on aluminium and its alloys. Measurement of total reflectance using a photoelectric reflectometer (Withdrawn)  BS EN ISO 2376:2010 Anodizing of aluminium and its alloys. Determination of electric breakdown potential  BS EN ISO 8993:2010 Anodizing of aluminium and its alloys. Rating system for the evaluation of pitting corrosion. Chart method  BS EN ISO 8994:2011 Anodizing of aluminium and its alloys. Rating system for the evaluation of pitting corrosion. Grid method  BS 6161-14:1987 Methods of test for anodic oxidation coatings on aluminium and its alloys. Determination of infra-red reflectance (WIthdrawn)  BS 6161-18:1991 Methods of test for anodic oxidation coatings on aluminium and its alloys. Determination of surface abrasion resistance  BS 6213:2000+A1:2010 Selection of construction sealants. Guide  BS 6496:1984 Specification for powder organic coatings for application and stoving to aluminium alloy extrusions, sheet and preformed sections for external architectural purposes, and for the finish on aluminium alloy extrusions, sheet and preformed sections  BS EN 13438:2013 Paints and varnishes. Powder organic coatings for hot dip galvanised or sherardised steel products for construction purposes  BS 6915:2001+A1:2014 Design and construction of fully supported lead sheet roof and wall coverings. Code of practice  BS 7543:2015 Guide to durability of buildings and building elements, products and components  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1999-1-4:2007+A1:2011 Eurocode 9. Design of aluminium structures. Cold-formed structural sheeting / BS EN 1999-1-3:2007+A1:2011 Eurocode 9. Design of aluminium structures. Structures susceptible to fatigue / BS EN 1999-1-1:2007+A2:2013 Eurocode 9: Design of aluminium structures. General structural rules  BS EN 1999-1-1:2007+A2:2013 Eurocode 9: Design of aluminium structures. General structural rules  CP 143-1:1958 Code of practice for sheet roof and wall coverings. Aluminium, corrugated and troughed  CP 143-10:1973 Code of practice for sheet roof and wall coverings. Code of practice for sheet roof and wall coverings. Galvanized corrugated steel. Metric units  CP 143-12:1970 Code of practice for sheet roof and wall coverings. Code of practice for sheet roof and wall coverings. Copper. Metric units  CP 143-15:1973 Code of practice for sheet roof and wall coverings. Code of practice for sheet roof and wall coverings. Aluminium. Metric units  BS EN 1172:2011 Copper and copper alloys. Sheet and strip for building purposes  BS EN 2004-5:1993 Test methods for aluminium and aluminium alloy products. Determination of cladding thickness and copper diffusion of clad semi-finished products  BS EN ISO 18286:2010 Hot-rolled stainless steel plates. Tolerances on dimensions and shape / BS EN 10029:2010 Hot-rolled steel plates 3 mm thick or above. Tolerances on dimensions and shape  BS EN 10169:2010+A1:2012 Continuously organic coated (coil coated) steel flat products. Technical delivery conditionsContinuously organic coated (coil coated) steel flat products. Technical delivery conditions  BS EN 12153:2000 Curtain walling. Air permeability. Test method  BS EN 12154:2000 Curtain walling. Watertightness. Performance requirements and classification  BS EN 12155:2000 Curtain walling. Watertightness. Laboratory test under static pressure  BS EN 12179:2000 Curtain walling. Resistance to wind load. Test method  BS EN 12588:2006 Lead and lead alloys. Rolled lead sheet for building purposes  BS EN 13050:2011 Curtain Walling. Watertightness. Laboratory test under dynamic condition of air pressure and water spray  BS EN 13051:2001 Curtain walling. Watertightness. Site test  BS EN 13116:2001 Curtain walling. Resistance to wind load. Performance requirements |
| ASTM | ASTM B137 - 95(2014) Standard Test Method for Measurement of Coating Mass Per Unit Area on Anodically Coated Aluminum  ASTM B244 - 09(2014) Standard Test Method for Measurement of Thickness of Anodic Coatings on Aluminum and of Other Nonconductive Coatings on Nonmagnetic Basis Metals with Eddy-Current Instruments  ASTM B580 - 79(2014) Standard Specification for Anodic Oxide Coatings on Aluminum  ASTM B659 - 90(2014) Standard Guide for Measuring Thickness of Metallic and Inorganic Coatings  ASTM B680 - 80(2014) Standard Test Method for Seal Quality of Anodic Coatings on Aluminum by Acid Dissolution  ASTM B767 - 88(2010) Standard Guide for Determining Mass Per Unit Area of Electrodeposited and Related Coatings by Gravimetric and Other Chemical Analysis Procedures  ASTM C509 - 06(2015) Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material  ASTM C717 - 14a Standard Terminology of Building Seals and Sealants  ASTM C1401 - 14 Standard Guide for Structural Sealant Glazing  ASTM C1392 - 00(2014) Standard Guide for Evaluating Failure of Structural Sealant Glazing  ASTM D523 - 14 Standard Test Method for Specular Gloss  ASTM D610 - 08(2012) Standard Practice for Evaluating Degree of Rusting on Painted Steel Surfaces  ASTM D968 - 15 Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive  ASTM D1654 - 08 Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments  ASTM D2247 - 15 Standard Practice for Testing Water Resistance of Coatings in 100 % Relative HumidityASTM D2244 - 15a Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates  ASTM D2247 - 15 Standard Practice for Testing Water Resistance of Coatings in 100 % Relative Humidity  ASTM D2794 - 93(2010) Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)  ASTM E1592 - 05(2012) Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference  ASTM E283 - 04(2012) Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen  ASTM E376 - 11 Standard Practice for Measuring Coating Thickness by Magnetic-Field or Eddy-Current (Electromagnetic) Testing Methods  ASTM E1424 - 91(2008) Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure and Temperature Differences Across the Specimen  ASTM E1233 / E1233M - 14 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Cyclic Air Pressure Differential  ASTM E1105 - 15 Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference  ASTM E547 - 00(2009) Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference  ASTM E331 - 00(2009) Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference  ASTM E330 / E330M - 14 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference  ASTM E1996 - 14a Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes  ASTM E998 - 12 Standard Test Method for Structural Performance of Glass in Windows, Curtain Walls, and Doors Under the Influence of Uniform Static Loads by Nondestructive Method  ASTM E1886 - 13a Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials  ASTM E997 - 15 Standard Test Method for Evaluating Glass Breakage Probability Under the Influence of Uniform Static Loads by Proof Load Testing |
| AS | AS 1562.1-1992 Design and installation of sheet roof and wall cladding - Metal   |  | | --- | | AS 1562.1-1992/Amdt 1-1993 Design and installation of sheet roof and wall cladding – Metal  AS 1562.1-1992/Amdt 2-1995 Design and installation of sheet roof and wall cladding – Metal  AS 1562.1-1992/Amdt 3-2012 Design and installation of sheet roof and wall cladding - MetalAS 4040.0-1992 Methods of testing sheet roof and wall cladding - Introduction, list of methods and general requirementsAS 4040.1-1992 Methods of testing sheet roof and wall cladding - Resistance to concentrated loadsAS 4040.2-1992 Methods of testing sheet roof and wall cladding - Resistance to wind pressures for non-cyclone regionsAS 4040.4-2006 Methods of testing sheet roof and wall cladding - Resistance to impact (sandbag) - Sheet roof materialsAS/NZS 4040.5:1996 Methods of testing sheet roof and wall cladding - Resistance to impact (sandbag) for wall boardsSA HB 39:2015  Installation code for metal roof and wall claddingHB 39 Supp 1-1997 (CD-ROM) Installation code for metal roof and wall cladding – Multimedia guide on CD-ROM (Supplement to SAA HB39-1997) (Withdrawn 15 Apr 2004) | |  | |
| SS | SS 381 : 1996 (2007) Materials and performance tests for aluminium curtain walls |
| ISO | BS EN ISO 2177:2004 Metallic coatings. Measurement of coating thickness. Coulometric method by anodic dissolution  BS EN ISO 2178:2016 Non-magnetic coatings on magnetic substrates. Measurement of coating thickness. Magnetic method  BS EN ISO 2360:2003 Non-conductive coatings on non-magnetic electrically conductive basis materials. Measurement of coating thickness. Amplitude-sensitive eddy current method  BS EN ISO 2819:1995 Metallic coatings on metallic substrates. Electrodeposited and chemically deposited coatings. Review of methods available for testing adhesion  BS EN ISO 3882:2003 Metallic and other inorganic coatings. Review of methods of measurement of thickness  BS EN ISO 4518:1995 Metallic coatings. Measurement of coating thickness. Profilometric method  BS EN ISO 8401:1995 Metallic coatings. Review of methods of measurement of ductility  BS EN ISO 9220:1995 Metallic coatings. Measurement of coating thickness. Scanning electron microscope method |

## Dirt Staining - Biological Staining

## Dirt Staining – Ledges

## Dirt Staining - Protrusions

## Dirt Staining - Slanted joints

## Dirt Staining - Louvres

## Dirt Staining - Fixtures

## Dirt Staining - Rounded Louver Units

## Dirt Staining - Design feature

## Dirt Staining - Staining due to Joint Design

## Dirt Staining - Staining from cracks

## Corrosion - Deterioration of coating

## Corrosion - Exposure of base metal

## Chipping - Chip-off

## Chipping - Dentures

## Chipping - Scratches And Abrasions

## Sealant Deterioration - Crazing and hardening

## Sealant Deterioration - Incompatibility of sealant

## Sealant Deterioration - Backer rod incorrectly fixed

## Sealant Deterioration - Mould contamination

## Sealant Deterioration - Incorrect sealant joint dimension

## Sealant Deterioration - Flushed sealant joint

## Sealant Staining

## Discolouration - Erosion by rainwater

## Discolouration - Exposure to atmospheric conditions

## Discolouration – Decolouration

## Discolouration - Abrasive cleaning actions

## Colour Inconsistency: Fabrication inconsistency

## Colour Inconsistency: Different orientation during painting

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| --- | --- |
| BS | BS EN ISO 1463:2004 Metallic and oxide coatings. Measurement of coating thickness. Microscopical method  BS EN ISO 17834:2003 Thermal spraying. Coatings for protection against corrosion and oxidation at elevated temperatures  BS 3811:1993 Glossary of terms used in terotechnology (Withdrawn)  BS EN ISO 11600:2003+A1:2011 Building construction. Jointing products. Classification and requirements for sealants  BS 4255-1:1986 Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets  BS 4868:1972 Specification for profiled aluminium sheet for building  BS 4900:1976 Specification for vitreous enamel colours for building purposes  BS 4904:1978 Specification for external cladding colours for building purposes  BS EN ISO 4516:2002 Metallic and other inorganic coatings. 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| AS | S 1562.1-1992 Design and installation of sheet roof and wall cladding - Metal  AS 1562.1-1992/Amdt 1-1993 Design and installation of sheet roof and wall cladding – Metal  AS 1562.1-1992/Amdt 2-1995 Design and installation of sheet roof and wall cladding – Metal  AS 1562.1-1992/Amdt 3-2012 Design and installation of sheet roof and wall cladding - MetalAS 4040.0-1992 Methods of testing sheet roof and wall cladding - Introduction, list of methods and general requirementsAS 4040.1-1992 Methods of testing sheet roof and wall cladding - Resistance to concentrated loadsAS 4040.2-1992 Methods of testing sheet roof and wall cladding - Resistance to wind pressures for non-cyclone regionsAS 4040.4-2006 Methods of testing sheet roof and wall cladding - Resistance to impact (sandbag) - Sheet roof materialsAS/NZS 4040.5:1996 Methods of testing sheet roof and wall cladding - Resistance to impact (sandbag) for wall boardsSA HB 39:2015  Installation code for metal roof and wall claddingHB 39 Supp 1-1997 (CD-ROM) Installation code for metal roof and wall cladding – Multimedia guide on CD-ROM (Supplement to SAA HB39-1997) (Withdrawn 15 Apr 2004) |
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## STONE

## Staining - Brown "coffee" stains in panel

## Staining - Wetting patterns of stone

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| --- | --- |
| BS | ;  BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/;  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles;  BS 8298:1989 British standard code of practice for design and installation of natural stone cladding and lining.  BS 5385-5:1994 Wall and floor tiling. Code of practice for the design and installation of terrazzo tile and slab, Natural stone cladding (non-loadbearing)  BS 8221-1:2000: Code of practice for cleaning and surface repair of buildings. Cleaning of natural stones, brick, terracotta and concrete |
| ASTM | C615-99: Standard Specifications for Granite Dimension Stone. C97-96: Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.  C99-87 (2000): Standard Test Method for Modulus of Rupture of Dimension Stone.  C170-90(1999): Standard Test Method for Compressive Strength of Dimension Stone  C1248-93(1998): Standard Test Method for Staining of Porous Substrate by Joint Sealants  C1496-01 Standard Guide for Assesment and Maintenance of Exterior Dimension Stone Masonry Walls and Facades  C1364-97 Standard Specification for Architectural Cast Stone  D6092-97e1 Standard Practice for Specifying Standard Sizes of Stone for Erosion Control  C503-99e1 Standard Specification for Marble Dimension Stone (Exterior) |
| AS | AS 1004.2-1998 Surface plates for metrology - Granite  AS 2341.28-2002 Methods of testing bitumen and related roadmaking products - Determination of stone coating ability and water resistance  AS 2700S-1996 (Y55) Colour Standards for general purposes - Deep Stone  AS 4517.1-2006 Blanks for superabrasive cutting-off wheels - Manually guided cutting-off in building and civil engineering/ AS 4517.2-2006 Blanks for superabrasive cutting-off wheels - Hand-held cutting-off in building and civil engineering  AS/NZS 4524.10:1998 Bonded abrasive products - Dimensions - Honing stones and superfinishings  AS/NZS 4284:2008 Testing of building facades |
| SS | SS CP 67: Cleaning and Surface Repair of Buildings Part 1:1997 Natural Stone, Cast Stone and Clay brick masonry  SS 341 : 2001 Safety glazing materials for use in buildings (human impact considerations)  CP 68 : 1997 Code of practice for ceramic wall and floor tiling |
| ISO | ISO 3920:1976 Honing stones of square section; Designation and dimensions  ISO 603-10:1999 Bonded abrasive products - Dimensions - Part 10: Stones for honing and superfinishings - ISO 603-10:1999  ISO 603-10:1999/COR1:1999 Bonded abrasive products - Dimensions - Part 10: Stones for honing and superfinishings  ISO 8512-2:1990 Surface plates; part 2: granite  ISO 10563:2005 Building construction - Sealants - Determination of change in mass and volume  ISO 10590:2005 Building construction - Sealants - Determination of tensile properties of sealants at maintained extension after immersion in water  ISO 10591:2005 Building construction -- Sealants -- Determination of adhesion/cohesion properties of sealants after immersion in water  ISO 11431:2002 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  ISO 11432:2005 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:2002 Building construction -- Jointing products -- Classification and requirements for sealants  ISO 13638:1996 Building construction - Sealants - Determination of resistance to prolonged exposure to water  ISO 8340:2005 Building construction -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394-1:2010 Building construction -- Jointing products -- Part 1: Determination of extrudability of sealants  ISO 9047:2001 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants at variable temperatures |

## Staining - Incompatible materials

## Staining Originating from Fixtures

## Staining - Runoff from Ledge

|  |  |
| --- | --- |
| BS | ;  BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/;  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles;  BS 8298:1989 British standard code of practice for design and installation of natural stone cladding and lining. |
| ASTM | ASTM C615-99: Standard Specifications for Granite Dimension Stone.  ASTM C97-96 Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.  ASTM C99-87 (2000) Standard Test Method for Modulus of Rupture of Dimension Stone.  ASTM C170-90(1999) Standard Test Method for Compressive Strength of Dimension Stone  ASTM C1248-93(1998) Standard Test Method for Staining of Porous Substrate by Joint Sealants |
| AS | \*same as above\* |
| SS | \*same as above\* |
| ISO | \*same as above\* |

## Sealant Staining - Sealant Migration

## Sealant Staining - Sealant Decomposition

## Biological Staining - Algae Growth

|  |  |
| --- | --- |
| BS | ;  BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/;  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles;  BS 8298:1989 British standard code of practice for design and installation of natural stone cladding and lining.  BS ISO 11600 : 1993 Building construction - Sealants - Classfication and requirements  BS 4254 : 1993 2-part polysulfied - based sealants  BS 5215 : 1986 1-part gun-grade polysulfide-based sealants  BS 5889 : 1989 1-part gun-grade silicone-based sealants |
| ASTM | ASTM C615-99: Standard Specifications for Granite Dimension Stone.  ASTM C97-96 Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.  ASTM C99-87 (2000) Standard Test Method for Modulus of Rupture of Dimension Stone.  ASTM C170-90(1999) Standard Test Method for Compressive Strength of Dimension Stone  ASTM C920 - 14a Standard Specification for Elastomeric Joint Sealants |
| AS | \*same as above\* |
| SS | \*same as above\* |
| ISO | \*same as above\* |

## Chipping Off - Mishandling of Material

## Rust Staining - Inherent Properties

|  |  |
| --- | --- |
| BS | ;  BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/;  BS 8000-11.2:1990 Workmanship on building sites. Code of practice for wall and floor tiling. Natural stone tiles  BS 8298:1994 Code of practice for design and installation of natural stone cladding and lining  BS ISO 11600 : 1993 Building construction - Sealants - Classification and requirements  BS 4254 : 1993 2-part polysulfied - based sealants  BS 5215 : 1986 1-part gun-grade polysulfide-based sealants  BS 5889 : 1989 1-part gun-grade silicone-based sealants  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS EN 12407:2000 Natural stone test methods. Petrographic examination  BS 5385-1:1995 Wall and floor tiling. Code of practice for the design and installation of internal ceramic and natural stone wall tiling and mosaics in normal conditions |
| ASTM | \*same as above\* |
| AS | \*same as above\* |
| SS | \*same as above\* |
| ISO | \*same as above\* |

## Rust Staining due to Fittings Deterioration

|  |  |
| --- | --- |
| BS | ;  BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/;  BS 8000-11.2:1990 Workmanship on building sites. Code of practice for wall and floor tiling. Natural stone tiles  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8298:1994 Code of practice for design and installation of natural stone cladding and lining  BS EN 1925:1999 Natural stone test methods. Determination of water absorption coefficient by capillarity |
| ASTM | C1496 Standard Guide for Assesment and Maintenance of Exterior Dimension Stone Masonry Walls and Facades  C1354 Standard Test Method for Strength of Individual Stone Anchorages in Dimension Stone  C1242 Standard Guide for Design, Selection, and Installation of Stone Anchors and Anchoring Systems  D6092 Standard Practice for Specifying Standard Sizes of Stone for Erosion Control  C1201 Standard Test Method for Structural Performance of Exterior Dimension Stone Cladding Systems by Uniform Static Air Pressure Difference See All Results |
| AS | \*same as above\* |
| SS | \*same as above\* |
| ISO | \*same as above\* |

## GLASS CURTAINWALL

## Sealant Staining

## Staining - Uncontrolled flow over roof

## Staining - Staining at joints

## Cleaning Access

|  |  |
| --- | --- |
| BS | **Glass**  BS 952-1:1995 Glass for glazing. Classification  BS 952-2:1980 Glass for glazing. Terminology for work on glass  BS EN 1288-3:2000 Glass in building. Determination of the bending strength of glass. Test with specimen supported at two points (four point bending)  BS EN 1288-5:2000 Glass in building. Determination of the bending strength of glass. Coaxial double ring test on flat specimens with small test surface areas  BS EN 1748-1:1998 Glass in building. Borosilicate glasses  BS 6262:1982 Code of practice for glazing for buildings  BS 6262-4:1994 Glazing for buildings. Safety related to human impact  BS 7603:1992 Method for determination of stresses in glass-to-glass sealings  BS 8000-7:1990 Workmanship on building sites. Code of practice for glazing / BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN ISO 10077-1:2000 Thermal performance of windows, doors and shutters. Calculation of thermal transmittance. Simplified method  BS EN ISO 12543-1:1998 Glass in building. Laminated glass and laminated safety glass. Definitions and description of component parts  BS EN ISO 12543-3:1998 Glass in building. Laminated glass and laminated safety glass. Laminated glass  BS EN ISO 12543-4:1998 Glass in building. Laminated glass and laminated safety glass. Test methods for durability  BS EN ISO 12543-5:1998 Glass in building. Laminated glass and laminated safety glass. Dimensions and edge finishing  BS EN ISO 12543-6:1998 Glass in building. Laminated glass and laminated safety glass. Appearance  BS EN ISO 14438:2002 Glass in building. Determination of energy balance value. Calculation method  BS EN 357:2000 Glass in building. Fire resistant glazed elements with transparent or translucent glass products. Classification of fire resistance  BS EN 410:1998 Glass in building. Determination of luminous and solar characteristics of glazing  **Sealants**  BS EN ISO 11431:2002 Building construction. Jointing products. Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  BS ISO 13640:1999 Building construction. Jointing products. Specifications for test substrates |
| ASTM | **Glass**  ASTM C1036 Specification for flat glass  C1193-00 Standard Guide for Use of Joint SEALANTs  E1300-02 Standard Practice for Determining Load Resistance of GLASS in Buildings  C158-95 Standard Test Methods for Strength of GLASS by Flexure (Determination of Modulus of Rupture)  **Sealant**  ASTM C509 Specification for cellular elastomeric preformed gasket and sealing material  ASTM C510-90 Standard Test Method for Staining and Color Change of Single- or Multicomponent Joint Sealants  ASTM C603-90 Standard Test Method for Extrusion Rate and Application Life of Elastomeric Sealants  ASTM C679-97 Standard Test Method for Tack-Free Time of Elastomeric Sealants  ASTM C719-93(1998) Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle)  ASTM C792-93(1998) Standard Test Method for Effects of Heat Aging on Weight Loss, Cracking, and Chalking of Elastomeric Sealants  ASTM C794-93 Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants  ASTM C794 Test method for adhesion- in Peel of elastomeric gasket and sealing material  C1021-01 Standard Practice for Laboratories Engaged in the Testing of Building SEALANTs  C1299-99 Standard Guide for Use in Selection of Liquid-Applied SEALANTs  ASTM C1401-02 Standard Guide for Structural Sealant Glazing  ASTM ASTM C1392 - 00(2014) Standard Guide for Evaluating Failure of Structural Sealant Glazing  ASTM C719 :Joint width and movement. To find out what the sealant’s plus-minus movement ability.  C1294-95 Standard Test Method for Compatibility of Insulating Glass Edge SEALANTs with Liquid-Applied Glazing Materials |
| AS | **Glass**  AS 1288-1994 Glass in buildings - Selection and installation  AS 1288-1994/Amdt 1-1997 Glass in buildings - Selection and installation  AS 1288-1994/Amdt 2-2000 Glass in buildings - Selection and installation  AS/NZS 4668:2000 Glossary of terms used in the glass and glazing industry  AS/NZS 4667:2000 Quality requirements for cut-to-size and processed glass |
| SS | **Glass**  SS 309 : 1985 Method for the determination of shading coefficients of glazing materials  SS 341 : 2001 Safety glazing materials for use in buildings (human impact considerations) |
| ISO | **Glass**  ISO 10291:1994 Glass in building - Determination of steady-state U values (thermal transmittance) of multiple glazing - Guarded hot plate method  ISO 10292:1994 Glass in building - Calculation of steady-state U values (thermal transmittance) of multiple glazing  ISO 10293:1997 Glass in building - Determination of steady-state U values (thermal transmittance) of multiple glazing - Heat flow meter method  ISO 10345-1:1992 Glass; determination of stress-optical coefficient; part 1: tensile test  ISO 10345-2:1992 Glass; determination of stress-optical coefficient; part 2: bending test  ISO 12543-1:1998 Glass in building - Laminated glass and laminated safety glass - Part 1: Definitions and description of component parts  ISO 12543-3:1998 Glass in building - Laminated glass and laminated safety glass - Part 3: Laminated glass  ISO 12543-4:1998 Glass in building - Laminated glass and laminated safety glass - Part 4: Test methods for durability  ISO 12543-5:1998 Glass in building - Laminated glass and laminated safety glass - Part 5: Dimensions and edge finishing  ISO 12543-6:1998 Glass in building - Laminated glass and laminated safety glass - Part 6: Appearance  ISO 14438:2002 Glass in building - Determination of energy balance value - Calculation method  ISO 9050:1990 Glass in building; determination of light transmittance, solar direct transmittance, total solar energy transmittance and ultraviolet transmittance, and related glazing factors  ISO 9051:2001 Glass in building - Fire-resistant glazed assemblies containing transparent or translucent glass, for use in building  ISO 9051:1990 Glass in building; glazed assemblies containing fire-resistant transparent or translucent glass, for use in building  **Sealant**  ISO 11431:2002 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass |

## Cracks

|  |  |
| --- | --- |
| BS | \*same as above\* |
| ASTM | ASTM C509 Specification for cellular elastomeric preformed gasket and sealing material  ASTM C510-90  ASTM C603-90  ASTM C639-90  ASTM C661-93  ASTM C679-87  ASTM C717-94  ASTM C719-93  ASTM C792-93  ASTM C793-01-91  ASTM C794-93  ASTM C1087-87  ASTM C794 Test method for adhesion- in Peel of elastomeric gasket and sealing material  ASTM C1036 Specification for flat glass  ASTM C1184-91  ASTM C1193-91  C1193-00 Standard Guide for Use of Joint SEALANTs  C1021-01 Standard Practice for Laboratories Engaged in the Testing of Building SEALANTs  ASTM C1247-93  C1299-99 Standard Guide for Use in Selection of Liquid-Applied SEALANTs  ASTM C1401-02 Standard Guide for Structural Sealant Glazing  ASTM ASTM C1392 - 00(2014) Standard Guide for Evaluating Failure of Structural Sealant Glazing  ASTM C719 :Joint width and movement. To find out what the sealant’s plus-minus movement ability.  C1294-95 Standard Test Method for Compatibility of Insulating Glass Edge SEALANTs with Liquid-Applied Glazing Materials |
| AS | \*same as above\* |
| SS | \*same as above\* |
| ISO | \*same as above\* |

## CURTAINWALL SYSTEM FAILURE

## Water Penetration

|  |  |
| --- | --- |
| BS | **Glass**  BS 952-1:1995 Glass for glazing. Classification  BS 952-2:1980 Glass for glazing. Terminology for work on glass  BS EN 1288-3:2000 Glass in building. Determination of the bending strength of glass. Test with specimen supported at two points (four point bending)  BS EN 1288-5:2000 Glass in building. Determination of the bending strength of glass. Coaxial double ring test on flat specimens with small test surface areas  BS EN 1748-1:1998 Glass in building. Borosilicate glasses  BS 6262:1982 Code of practice for glazing for buildings  BS 6262-4:1994 Glazing for buildings. Safety related to human impact  BS 7603:1992 Method for determination of stresses in glass-to-glass sealings  BS 8000-7:1990 Workmanship on building sites. Code of practice for glazing / BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN ISO 10077-1:2000 Thermal performance of windows, doors and shutters. Calculation of thermal transmittance. Simplified method  BS EN ISO 12543-1:1998 Glass in building. Laminated glass and laminated safety glass. Definitions and description of component parts  BS EN ISO 12543-3:1998 Glass in building. Laminated glass and laminated safety glass. Laminated glass  BS EN ISO 12543-4:1998 Glass in building. Laminated glass and laminated safety glass. Test methods for durability  BS EN ISO 12543-5:1998 Glass in building. Laminated glass and laminated safety glass. Dimensions and edge finishing  BS EN ISO 12543-6:1998 Glass in building. Laminated glass and laminated safety glass. Appearance  BS EN ISO 14438:2002 Glass in building. Determination of energy balance value. Calculation method  BS EN 357:2000 Glass in building. Fire resistant glazed elements with transparent or translucent glass products. Classification of fire resistance  BS EN 410:1998 Glass in building. Determination of luminous and solar characteristics of glazing  **Sealants**  BS EN ISO 11431:2002 Building construction. Jointing products. Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass  BS ISO 13640:1999 Building construction. Jointing products. Specifications for test substrates |
| ASTM | **Glass**  ASTM C1036 Specification for flat glass  C1193-00 Standard Guide for Use of Joint SEALANTs  E1300-02 Standard Practice for Determining Load Resistance of GLASS in Buildings  C158-95 Standard Test Methods for Strength of GLASS by Flexure (Determination of Modulus of Rupture)  **Sealant**  ASTM C509 Specification for cellular elastomeric preformed gasket and sealing material  ASTM C510-90 Standard Test Method for Staining and Color Change of Single- or Multicomponent Joint Sealants  ASTM C603-90 Standard Test Method for Extrusion Rate and Application Life of Elastomeric Sealants  ASTM C679-97 Standard Test Method for Tack-Free Time of Elastomeric Sealants  ASTM C719-93(1998) Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle)  ASTM C792-93(1998) Standard Test Method for Effects of Heat Aging on Weight Loss, Cracking, and Chalking of Elastomeric Sealants  ASTM C794-93 Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants  ASTM C794 Test method for adhesion- in Peel of elastomeric gasket and sealing material  C1021-01 Standard Practice for Laboratories Engaged in the Testing of Building SEALANTs  C1299-99 Standard Guide for Use in Selection of Liquid-Applied SEALANTs  ASTM C1401-02 Standard Guide for Structural Sealant Glazing  ASTM ASTM C1392 - 00(2014) Standard Guide for Evaluating Failure of Structural Sealant Glazing  ASTM C719 :Joint width and movement. To find out what the sealant’s plus-minus movement ability.  C1294-95 Standard Test Method for Compatibility of Insulating Glass Edge SEALANTs with Liquid-Applied Glazing Materials |
| AS | AS 1288-1994 Glass in buildings - Selection and installation  AS 1288-1994/Amdt 1-1997 Glass in buildings - Selection and installation  AS 1288-1994/Amdt 2-2000 Glass in buildings - Selection and installation  AS/NZS 4668:2000 Glossary of terms used in the glass and glazing industry  AS/NZS 4667:2000 Quality requirements for cut-to-size and processed glass |
| SS | **Glass**  SS 309 : 1985 Method for the determination of shading coefficients of glazing materials  SS 341 : 2001 Safety glazing materials for use in buildings (human impact considerations) |
| ISO | **Glass**  ISO 10291:1994 Glass in building - Determination of steady-state U values (thermal transmittance) of multiple glazing - Guarded hot plate method  ISO 10292:1994 Glass in building - Calculation of steady-state U values (thermal transmittance) of multiple glazing  ISO 10293:1997 Glass in building - Determination of steady-state U values (thermal transmittance) of multiple glazing - Heat flow meter method  ISO 10345-1:1992 Glass; determination of stress-optical coefficient; part 1: tensile test  ISO 10345-2:1992 Glass; determination of stress-optical coefficient; part 2: bending test  ISO 12543-1:1998 Glass in building - Laminated glass and laminated safety glass - Part 1: Definitions and description of component parts  ISO 12543-3:1998 Glass in building - Laminated glass and laminated safety glass - Part 3: Laminated glass  ISO 12543-4:1998 Glass in building - Laminated glass and laminated safety glass - Part 4: Test methods for durability  ISO 12543-5:1998 Glass in building - Laminated glass and laminated safety glass - Part 5: Dimensions and edge finishing  ISO 12543-6:1998 Glass in building - Laminated glass and laminated safety glass - Part 6: Appearance  ISO 14438:2002 Glass in building - Determination of energy balance value - Calculation method  ISO 9050:1990 Glass in building; determination of light transmittance, solar direct transmittance, total solar energy transmittance and ultraviolet transmittance, and related glazing factors  ISO 9051:2001 Glass in building - Fire-resistant glazed assemblies containing transparent or translucent glass, for use in building  ISO 9051:1990 Glass in building; glazed assemblies containing fire-resistant transparent or translucent glass, for use in building  **Sealant**  ISO 11431:2002 Building construction - Jointing products - Determination of adhesion/cohesion properties of sealants after exposure to heat, water and artificial light through glass |

## CLADDING SYSTEM FAILURE

## Buckling - Confinement of movement due to chambering

## Buckling - Delamination of outer sheet

## Buckling - Insufficient allowance for expansion due to butt jointing

## Buckling: Poor design of framing

## Bad Joint Design

## Fixing Failure

## Misalignment of Joints - Poor installation practices

## Misalignment of Joints - Special edges and corners

## Cracking - Stress at folding edge of panel

## Cracking - Poor workmanship

## Cracking - Changes to panel support system

|  |  |
| --- | --- |
| BS | BS EN ISO 1463:2004 Metallic and oxide coatings. Measurement of coating thickness. Microscopical method  BS EN ISO 17834:2003 Thermal spraying. Coatings for protection against corrosion and oxidation at elevated temperatures  BS 3811:1993 Glossary of terms used in terotechnology (Withdrawn)  BS EN ISO 11600:2003+A1:2011 Building construction. Jointing products. Classification and requirements for sealants  BS 4255-1:1986 Rubber used in preformed gaskets for weather exclusion from buildings. Specification for non-cellular gaskets  BS 4868:1972 Specification for profiled aluminium sheet for building  BS 4900:1976 Specification for vitreous enamel colours for building purposes  BS 4904:1978 Specification for external cladding colours for building purposes  BS EN ISO 4516:2002 Metallic and other inorganic coatings. Vickers and Knoop microhardness tests  BS 5427:2016 Code of practice for the use of profiled sheet for roof and wall cladding on buildings  BS EN ISO 12944-1:1998 Paints and varnishes. Corrosion protection of steel structures by protective paint systems. General introduction / BS EN ISO 12944-3:1998 Paints and varnishes. Corrosion protection of steel structures by protective paint systems. Design considerations / BS EN ISO 12944-4:1998 Paints and varnishes. Corrosion protection of steel structures by protective paint systems. Types of surface and surface preparation / BS EN ISO 12944-5:2007 Paints and varnishes. Corrosion protection of steel structures by protective paint systems. Protective paint systems / BS EN ISO 12944-6:1998 Paints and varnishes. Corrosion protection of steel structures by protective paint systems. Laboratory performance test methods / BS EN ISO 12944-7:1998 Paints and varnishes. Corrosion protection of steel structures by protective paint systems. Execution and supervision of paintwork / BS EN ISO 12944-8:1998 Paints and varnishes. Corrosion protection of steel structures by protective paint systems. Development of specifications for new work and maintenance / BS EN ISO 12944-2:1998 Paints and varnishes. Corrosion protection of steel structures by protective paint systems. Classification of environments / BS EN ISO 14713-1:2009 Zinc coatings. Guidelines and recommendations for the protection against corrosion of iron and steel in structures. General principles of design and corrosion resistance / BS EN ISO 14713-2:2009 Zinc coatings. Guidelines and recommendations for the protection against corrosion of iron and steel in structures. Hot dip galvanizing / BS EN ISO 14713-3:2009 Zinc coatings. Guidelines and recommendations for the protection against corrosion of iron and steel in structures. Sherardizing  BS EN 1993-1-3:2006 Eurocode 3. Design of steel structures. General rules. Supplementary rules for cold-formed members and sheeting  BS 6093:2006+A1:2013 Design of joints and jointing in building construction. Guide  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS ISO 2135:2010 Anodizing of aluminium and its alloys. Accelerated test of light fastness of coloured anodic oxidation coatings using artificial light  BS 6161-11:1985 Methods of test for anodic oxidation coatings on aluminium and its alloys. Measurement of total reflectance using a photoelectric reflectometer (Withdrawn)  BS EN ISO 2376:2010 Anodizing of aluminium and its alloys. Determination of electric breakdown potential  BS EN ISO 8993:2010 Anodizing of aluminium and its alloys. Rating system for the evaluation of pitting corrosion. Chart method  BS EN ISO 8994:2011 Anodizing of aluminium and its alloys. Rating system for the evaluation of pitting corrosion. Grid method  BS 6161-14:1987 Methods of test for anodic oxidation coatings on aluminium and its alloys. Determination of infra-red reflectance (WIthdrawn)  BS 6161-18:1991 Methods of test for anodic oxidation coatings on aluminium and its alloys. Determination of surface abrasion resistance  BS 6213:2000+A1:2010 Selection of construction sealants. Guide  BS 6496:1984 Specification for powder organic coatings for application and stoving to aluminium alloy extrusions, sheet and preformed sections for external architectural purposes, and for the finish on aluminium alloy extrusions, sheet and preformed sections  BS 6915:2001+A1:2014 Design and construction of fully supported lead sheet roof and wall coverings. Code of practice  BS 7543:2015 Guide to durability of buildings and building elements, products and components  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1999-1-4:2007+A1:2011 Eurocode 9. Design of aluminium structures. Cold-formed structural sheeting / BS EN 1999-1-3:2007+A1:2011 Eurocode 9. Design of aluminium structures. Structures susceptible to fatigue / BS EN 1999-1-1:2007+A2:2013 Eurocode 9: Design of aluminium structures. General structural rules  BS EN 1999-1-1:2007+A2:2013 Eurocode 9: Design of aluminium structures. General structural rules  CP 143-1:1958 Code of practice for sheet roof and wall coverings. Aluminium, corrugated and troughed  CP 143-10:1973 Code of practice for sheet roof and wall coverings. Code of practice for sheet roof and wall coverings. Galvanized corrugated steel. Metric units  CP 143-12:1970 Code of practice for sheet roof and wall coverings. Code of practice for sheet roof and wall coverings. Copper. Metric units  CP 143-15:1973 Code of practice for sheet roof and wall coverings. Code of practice for sheet roof and wall coverings. Aluminium. Metric units  BS EN 1172:2011 Copper and copper alloys. Sheet and strip for building purposes  BS EN 2004-5:1993 Test methods for aluminium and aluminium alloy products. Determination of cladding thickness and copper diffusion of clad semi-finished products  BS EN ISO 18286:2010 Hot-rolled stainless steel plates. Tolerances on dimensions and shape / BS EN 10029:2010 Hot-rolled steel plates 3 mm thick or above. Tolerances on dimensions and shape  BS EN 10169:2010+A1:2012 Continuously organic coated (coil coated) steel flat products. Technical delivery conditionsContinuously organic coated (coil coated) steel flat products. Technical delivery conditions  BS EN 12153:2000 Curtain walling. Air permeability. Test method  BS EN 12154:2000 Curtain walling. Watertightness. Performance requirements and classification  BS EN 12155:2000 Curtain walling. Watertightness. Laboratory test under static pressure  BS EN 12179:2000 Curtain walling. Resistance to wind load. Test method  BS EN 12588:2006 Lead and lead alloys. Rolled lead sheet for building purposes  BS EN 13050:2011 Curtain Walling. Watertightness. Laboratory test under dynamic condition of air pressure and water spray  BS EN 13051:2001 Curtain walling. Watertightness. Site test  BS EN 13116:2001 Curtain walling. Resistance to wind load. Performance requirements |
| ASTM | ASTM B137 - 95(2014) Standard Test Method for Measurement of Coating Mass Per Unit Area on Anodically Coated Aluminum  ASTM B244 - 09(2014) Standard Test Method for Measurement of Thickness of Anodic Coatings on Aluminum and of Other Nonconductive Coatings on Nonmagnetic Basis Metals with Eddy-Current Instruments  ASTM B580 - 79(2014) Standard Specification for Anodic Oxide Coatings on Aluminum  ASTM B659 - 90(2014) Standard Guide for Measuring Thickness of Metallic and Inorganic Coatings  ASTM B680 - 80(2014) Standard Test Method for Seal Quality of Anodic Coatings on Aluminum by Acid Dissolution  ASTM B767 - 88(2010) Standard Guide for Determining Mass Per Unit Area of Electrodeposited and Related Coatings by Gravimetric and Other Chemical Analysis Procedures  ASTM C509 - 06(2015) Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material  ASTM C717 - 14a Standard Terminology of Building Seals and Sealants  ASTM C1401 - 14 Standard Guide for Structural Sealant Glazing  ASTM C1392 - 00(2014) Standard Guide for Evaluating Failure of Structural Sealant Glazing  ASTM D523 - 14 Standard Test Method for Specular Gloss  ASTM D610 - 08(2012) Standard Practice for Evaluating Degree of Rusting on Painted Steel Surfaces  ASTM D968 - 15 Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive  ASTM D1654 - 08 Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments  ASTM D2247 - 15 Standard Practice for Testing Water Resistance of Coatings in 100 % Relative HumidityASTM D2244 - 15a Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates  ASTM D2247 - 15 Standard Practice for Testing Water Resistance of Coatings in 100 % Relative Humidity  ASTM D2794 - 93(2010) Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)  ASTM E1592 - 05(2012) Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference  ASTM E283 - 04(2012) Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen  ASTM E376 - 11 Standard Practice for Measuring Coating Thickness by Magnetic-Field or Eddy-Current (Electromagnetic) Testing Methods  ASTM E1424 - 91(2008) Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure and Temperature Differences Across the Specimen  ASTM E1233 / E1233M - 14 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Cyclic Air Pressure Differential  ASTM E1105 - 15 Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference  ASTM E547 - 00(2009) Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference  ASTM E331 - 00(2009) Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference  ASTM E330 / E330M - 14 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference  ASTM E1996 - 14a Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes  ASTM E998 - 12 Standard Test Method for Structural Performance of Glass in Windows, Curtain Walls, and Doors Under the Influence of Uniform Static Loads by Nondestructive Method  ASTM E1886 - 13a Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials  ASTM E997 - 15 Standard Test Method for Evaluating Glass Breakage Probability Under the Influence of Uniform Static Loads by Proof Load Testing |
| AS | AS 1562.1-1992  Design and installation of sheet roof and wall cladding - Metal  AS 1562.1-1992/Amdt 1-1993  Design and installation of sheet roof and wall cladding - Metal  AS 1562.1-1992/Amdt 2-1995  Design and installation of sheet roof and wall cladding - Metal  AS 4040.0-1992  Methods of testing sheet roof and wall cladding - Introduction, list of methods and general requirements  AS 4040.1-1992  Methods of testing sheet roof and wall cladding - Resistance to concentrated loads  AS 4040.2-1992  Methods of testing sheet roof and wall cladding - Resistance to wind pressures for non-cyclone regions  AS/NZS 4040.4:1996  Methods of testing sheet roof and wall cladding - Resistance to impact (sandbag) for sheet roof materials  AS/NZS 4040.5:1996  Methods of testing sheet roof and wall cladding - Resistance to impact (sandbag) for wall boards  HB 39-1997  Installation code for metal roof and wall cladding  HB 39 Supp 1-1997 (CD-ROM)  Installation code for metal roof and wall cladding - Multimedia guide on CD-ROM (Supplement to SAA HB39-1997) |
| SS | SS 381 : 1996 (2007) Materials and performance tests for aluminium curtain walls |
| ISO | BS EN ISO 2177:2004 Metallic coatings. Measurement of coating thickness. Coulometric method by anodic dissolution  BS EN ISO 2178:2016 Non-magnetic coatings on magnetic substrates. Measurement of coating thickness. Magnetic method  BS EN ISO 2360:2003 Non-conductive coatings on non-magnetic electrically conductive basis materials. Measurement of coating thickness. Amplitude-sensitive eddy current method  BS EN ISO 2819:1995 Metallic coatings on metallic substrates. Electrodeposited and chemically deposited coatings. Review of methods available for testing adhesion  BS EN ISO 3882:2003 Metallic and other inorganic coatings. Review of methods of measurement of thickness  BS EN ISO 4518:1995 Metallic coatings. Measurement of coating thickness. Profilometric method  BS EN ISO 8401:1995 Metallic coatings. Review of methods of measurement of ductility  BS EN ISO 9220:1995 Metallic coatings. Measurement of coating thickness. Scanning electron microscope method |

# Tiled Wall

## Dirt staining at mortar joints

## Dirt staining after delamination

## Dirt staining due to design feature

## Dirt staining due to fixtures

## Debonding - Tile Delamination

## Debonding - Failure of bond of brick tile

## Debonding - Debonding of mosiac tiles

## Debonding - Render delaminate from substrate

## Debonding - Buckling of Tile System

## Debonding - Cracking due to differential movement

## Tile cracking - Diagonal crack due to substrate movement

## Tile cracking - Choice of bedding adhesive and tile material

## Tile cracking - Diagonal crack due to substrate movement

## Efflorescence

## Water Penetration

## Biological attack

## Joint Failure

## Tile Chipping

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| --- | --- |
| BS | **Rendering**  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS EN 13279-1:2008 Gypsum binders and gypsum plasters. Definitions and requirements/ BS EN 13279-2:2014 Gypsum binders and gypsum plasters. Test methods  BS EN 13139:2002 Aggregates for mortar  BS EN 13658-1:2005 Metal lath and beads. Definitions, requirements and test methods. Internal plastering/ BS EN 13658-2:2005 Metal lath and beads. Definitions, requirements and test methods. External rendering  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar/ BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar/ BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar/ BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)/ BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars/ BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)/ BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars/ BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)/ BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  BS EN1015-12:2000 Methods of test for mortar masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 1015-18:2002 Methods of test for mortar for masonry. Determination of water absorption coefficient due to capillary action of hardened mortar  BS EN 1015-21:2002 Methods of test for mortar for masonry. Determination of the compatibility of one-coat rendering mortars with substrates  BS EN 13658-2:2005 Metal lath and beads. Definitions, requirements and test methods. External rendering  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 13914-1:2016 Design, preparation and application of external rendering and internal plastering. External rendering  **Tiling**  BS 8000:Part11:Section 11.1:1989- Workmanship on building sites- Code of practice for wall and floor tiling-ceramic, terrazzo and mosaics tiles  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  BS 5385-3:1995- Wall and floor tiling. Code of practice for the design and installation of ceramic floor tiles and mosaics in normal conditions  BS 5980:1980- Specification or adhesives for use with ceramic tiles and mosaics  BS 6431-1:1983, EN 87:1991-Ceramic floor and wall tiles. Specification for classification and marking, including definitions and characteristics  BS 6431-2:1984, EN 121:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a low water absorption (E <= 3%). Group A1  BS 6431-3.1:1986, EN 186-1:1991-Ceramic floor and wall tiles. Extruded ceramic tiles with a water absorption of 3% <E<=6% Group A11a. Specification for general products  BS 6431-5:1986, EN 188:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a water absorption of E > 10%. Group A111  BS 6431-7:1986, EN 177:1991-Ceramic floor and wall tiles.  BS 6431-8:1986, EN 178:1991-Ceramic floor and wall tiles.  BS 6431-10:1984, EN 98:1991-Ceramic floor and wall tiles. Method for determination of dimensions and surface quality  BS 6431-11:1983, EN 99:199-1Ceramic floor and wall tiles. Method for determination of water absorption  BS 6431-12:1983, EN 100:1991-Ceramic floor and wall tiles. Method for determination of modulus of rupture  BS 6431-13:1986, EN 101:1991-Ceramic floor and wall tiles. Method for determination of scratch hardness of surface according to Mohs  BS 6431-14:1983, EN 102:1991-Ceramic floor and wall tiles. Method for determination of resistance to deep abrasion. Unglazed tiles  BS 6431-18:1983, EN 106:1991Ceramic floor and wall tiles. Method for determination of chemical resistance. Unglazed tiles |
| ASTM | **Rendering**  C778-02 Standard Specification for Standard SAND  C35-01 Standard Specification for Inorganic Aggregates for Use in Gypsum Plaster  C1329-00 Standard Specification for Mortar Cement  ASTM C1328 / C1328M - 12 Standard Specification for Plastic (Stucco) Cement  C472-99 Standard Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete  C28/C28M-00e1 Standard Specification for Gypsum Plasters  **Tilings**  D5343:97- Standard Guide for Evaluating Cleaning Performance of Ceramic Tile Cleaners  C485-83:1999- Standard Test Method for Measuring Warpage of Ceramic Tile  C1378:1997- Standard Test Method for Determination of Resistance to Staining  C650:1997- Standard Test Method for Resistance of Ceramic Tile to Chemical Substances  C648:1998- Standard Test Method for Breaking Strength of Ceramic Tile  19C1027:99-Standard Test Method for Determining Visible Abrasion Resistance of Glazed Ceramic Tile  C609-90:2000- Standard Test Method for Measurement of Small Color Differences Between Ceramic Wall or Floor Tile  C499-78:1999- Standard Test Method for Facial Dimensions and Thickness of Flat, Rectangular Ceramic Wall and Floor Tile |
| AS | **Rendering**  AS CA27-1959 Code of recommended practice for internal plastering on soid backgrounds  AS/NZS 2350.11-1997/Amdt 1-1998 Methods of testing portland and blended cements - Compressive strength of portland and blended cements  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.2 -1991 Methods of testing portland and blended cements - Chemical composition of portland cement  **Tilings**  AS 3958.2:1992 - Ceramic tiles - Guide to the selection of a ceramic tiling system  AS 1884-1985-Floor coverings - Resilient sheet and tiles - Laying and maintenance practices  AS 2358-1990-Adhesives - For fixing ceramic tiles  AS 3958.1-1991/Amdt 1-1992-Ceramic tiles - Guide to the installation of ceramic tiles  AS 3958.2-1992-Ceramic tiles - Guide to the selection of a ceramic tiling system  AS 4459.1-1999-Methods of sampling and testing ceramic tiles - Sampling and basis for acceptance  AS 4459.10-1999-Methods of sampling and testing ceramic tiles - Determination of moisture expansion  AS 4459.11-1997-Methods of sampling and testing ceramic tiles - Determination of crazing resistance for glazed tiles  AS 4459.13-1999-Methods of sampling and testing ceramic tiles - Determination of chemical resistance  AS 4459.14-1999-Methods of sampling and testing ceramic tiles - Determination of resistance to stains  AS 4459.2-1999-Methods of sampling and testing ceramic tiles - Determination of dimensions and surface quality  AS 4459.3-1999-Methods of sampling and testing ceramic tiles - Determination of water absorption, apparent porosity, apparent relative density and bulk density  AS 4459.4-1997-Methods of sampling and testing ceramic tiles - Determination of modulus of rupture and breaking strength  AS 4459.6-1999-Methods of sampling and testing ceramic tiles - Determination of resistance to deep abrasion for unglazed tiles  AS 4459.8-1997-Methods of sampling and testing ceramic tiles - Determination of linear thermal expansion |
| SS | **Rendering**  SS 397 :1997 Methods of testing cement  SS EN 197 series - Cement  **Tilings**  SS 57:1989- Specification for glazed ceramic tiles and tile fittings for internal walls  SS 301:1985- The use of cement sand cover for tiling  CP 68: 1997- Code of practice for ceramic wall and floor tiling |
| ISO | **Tilings**  ISO 10545-1:1995- Ceramic tiles -- Part 1: Sampling and basis for acceptance  ISO 10545-3:1995- Ceramic tiles -- Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density  ISO 10545-4:1994- Ceramic tiles -- Part 4: Determination of modulus of rupture and breaking strength  ISO 10545-5:1996- Ceramic tiles -- Part 5: Determination of impact resistance by measurement of coefficient of restitution  ISO 10545-6:1995- Ceramic tiles -- Part 6: Determination of resistance to deep abrasion for unglazed tiles  ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 10545-13:1995- Ceramic tiles -- Part 13: Determination of chemical resistance  ISO 10545-14:1995- Ceramic tiles -- Part 14: Determination of resistance to stains  ISO 10545-16:1999- Ceramic tiles -- Part 16: Determination of small colour differences  ISO 13006:1998- Ceramic tiles -- Definitions, classification, characteristics and marking  ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 13006:1998- Ceramic tiles-definitions, classification, characteristics and making |

# WET AREAS

# Structural floor

## Water Leakage Through RC Internal Slab

## Water Leakage Through RC Internal Floor Slab

## Water Leakage Through Crack

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| BS | Waterproofing  BS 8000 Part4:1989: Workmanship on building sites. Code of practice for waterproofing  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  Concrete  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. Recommendations for the determination of the initial surface absorption of concrete/ BS 1881-209:1990. Testing concrete. Recommendations for the measurement of dynamic modulus of elasticity/ BS 1881-204:1988. Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986. Testing concrete. Recommendations for determination of strain in concrete/ BS 1881-121:1983. Testing concrete. Method for determination of static modulus of elasticity in compression/ BS EN 12504-2:2012. Testing concrete in structures. Non-destructive testing. Determination of rebound number/ BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete.  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS 5328Concrete. Guide to specifying concrete/Concrete. Methods for specifying concrete mixes  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  Plaster  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar / BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration) / BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars / BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis) / BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars / BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table) / BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar / BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar / BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar / BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  Paints  BS EN ISO 6270:1995, BS 3900-F9:1982: Paints and varnishes. Determination of resistance to humidity (continuous condensation)  BS 2015:1992: Glossary of paint and related terms  BS 2992:1970: Specification for painters' and decorators' brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991:Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983: Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980: Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986: Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973: Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976: Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS 3900-F17:1998: Methods of test for paint. Durability tests on paint films. Determination of wet-scrub resistance and cleanability of coatings  BS 3900-H2:1983: Methods of test for paints. Evaluation of paint and varnish defects. Designation of degree of blistering  BS 3900-H5:1983: Methods of test for paints. Evaluation of paint and varnish defects. Designation of degree of flaking  BS 6150:1991: Code of practice for painting of buildings  BS 6949:1991: Specification for bitumen-based coatings for cold application excluding use in contact with potable  BS 7664:2000: Specification for undercoat and finishing paints |
| ASTM | Waterproofing  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  Concrete  C33-01- Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  Plaster  ASTM C1063 - 16a Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  Paints  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates) |
| AS | Waterproofing  AS 3740:1994 Waterproofing of wet areas within residential buildings   AS 3740-Amdt 1:1995 Waterproofing of wet areas within residential buildings  Concrete  AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)   AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1303-1991 : Steel reinforcing wire for concrete  concreteAS 1379-2007/Amdt 1-2009 Specification and supply of concrete - AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2550.15-1994 Cranes - Safe use - Concrete placing equipment  AS 3600-2009 Concrete structures  AS 3648-1993 : Specification and methods of test for packaged concrete mixes  Plaster  AS 2185-1978: Fibrous plaster products  AS 2592-1983: Gypsum plaster for building purposes  Paints  HB 73.1-1995: Handbook of Australian Paint Standards - General  HB 73.2-1995: Handbook of Australian Paint Standards - Test methods  AS 1580.101.1:1999: Paints and related materials - Methods of test - Conditions of test - Temperature, humidity and airflow control  AS 1580.107.2:1995:Paints and related materials - Methods of test - Determination of wet film thickness from wet film mass  AS 1580.408.5:1994: Paints and related materials - Methods of test - Adhesion - Pull-off test  AS 1580.481.1.10:1998:Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS 1580.481.1.13:1998:Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of fungal or algal growth  AS 1580.481.1.9:1998:Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering  AS 2310:1995: Glossary of paint and painting terms  AS 2311:2000:Guide to the painting of buildings  AS 3730.0-1991:Guide to the properties of paints for buildings: General information on the specification, purchasing and testing of paints  AS 3730.100-1994:Guide to the properties of paints for buildings: Introduction and list of guides |
| SS | Waterproofing  SS CP 82:1999 Code of practice- waterproofing of reinforced concrete buildings  Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS 31:1998 Aggregates from natural sources for concrete  SS 32:1985 Welded steel fabric for the reinforcement of concrete  SS 78: 1987-1991 Testing concrete  SS 289-Part 1 to 4:2000 Ready Mix Concrete   SS 320: 1987 Concrete admixtures  SS 397: 1997 Methods of testing cement  Plaster  CP 56 : 1991 Code of practice for internal plastering  Paints  SS 5: 1992 Methods of tests for paints, varnishes and related materials  SS 7: 1998 Paint: finishing, gloss enamel  SS CP 22:1981 Painting of buildings  SS 34: 1998 Undercoat for gloss enamel  SS 150: 1998 Emulsion paints for decorative purposes |
| ISO | Concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 4103:1979 Concrete -- Classification of consistency  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  Paints  ISO 1513:2010 Paints and varnishes -- Examination and preparation of test samples  ISO 1514:2004 Paints and varnishes -- Standard panels for testing  ISO 1516:2002 Determination of flash/no flash -- Closed cup equilibrium method  ISO 9117-3:2010 Paints and varnishes -- Drying tests -- Part 3: Surface-drying test using ballotini  ISO 1518-1:2011 Paints and varnishes -- Determination of scratch resistance -- Part 1: Constant-loading method  ISO 1519:2011 Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520:2006 - Paints and varnishes -- Cupping test  ISO 1522:2006 Paints and varnishes -- Pendulum damping test  ISO 1523:2002 Determination of flash point -- Closed cup equilibrium method  ISO 1524:2013 Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409:2013 Paints and varnishes -- Cross-cut test  ISO 2431:2011 Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808:2007 Paints and varnishes -- Determination of film thickness  ISO 2810:2004 Paints and varnishes -- Natural weathering of coatings -- Exposure and assessment  ISO 2811-1:2016 Paints and varnishes -- Determination of density -- Part 1: Pycnometer method  ISO 2811-2:2011 Paints and varnishes -- Determination of density -- Part 2: Immersed body (plummet) method  ISO 2811-3:2011 Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4:2011 Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water  ISO 2812-2:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813:2014 Paints and varnishes -- Determination of gloss value at 20 degrees, 60 degrees and 85 degrees  BS EN ISO 2814:2006, BS 3900-D4:2006 Paints and varnishes. Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815:2003 Paints and varnishes -- Buchholz indentation test  ISO 2884-1:1999 Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear  ISO 3231: 1993 Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233-1:2013 Paints and varnishes -- Determination of the percentage volume of non-volatile matter -- Part 1: Method using a coated test panel to determine non-volatile matter and to determine dry film density by the Archimedes principle  ISO 3248: 1998 Paints and varnishes -- Determination of the effect of heat  ISO 3251:2008 Paints, varnishes and plastics -- Determination of non-volatile-matter content  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 1: General introduction and designation system  ISO 4628-2:2003 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering  ISO 4628-3:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 3: Assessment of degree of rusting  ISO 4628-4:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 4: Assessment of degree of cracking  ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking  ISO 4628-6:2011 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 6: Assessment of degree of chalking by tape method  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272-1:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 1: Falling-weight test, large-area indenter/ ISO 6272-2:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 2: Falling-weight test, small-area indenter  ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3:2006 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio of light-coloured paints at a fixed spreading rate  ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860:2006 Paints and varnishes -- Bend test (conical mandrel)  ISO 7142:2007 Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143:2007 Binders for paints and varnishes -- Methods of test for characterizing water-based binders  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method  ISO 7784-1:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Method with abrasive-paper covered wheels and rotating test specimen  ISO 7784-2:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Method with abrasive rubber wheels and rotating test specimen  ISO 7784-3:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen  ISO 8501-1:2007 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall  ISO 9514:2005 Paints and varnishes -- Determination of the pot life of multicomponent coating systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 16474-1:2013 Paints and varnishes -- Methods of exposure to laboratory light sources -- Part 1: General guidance  ISO 11668:1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1:2007 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2:2013 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909:2007 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1:2005 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2:2013 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137:2011 Paints and varnishes -- Determination of mar resistance  ISO 1518-2:2011 Paints and varnishes -- Determination of scratch resistance -- Part 2: Variable-loading method  ISO 14680-1:2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184:2012 Paints and varnishes -- Determination of film hardness by pencil test |

## Water Leakage at Pipe Penetrations

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| BS | Waterproofing  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water.  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles.  Plumbing  BS 3402:1969 British Standard Specification for Quality of Vitreous China Sanitary Appliances  BS 5572:1994 - Code of practice for sanitary pipework  Bs 6465 Part 1: 1994 Sanitary installations-Code of practice for scale of provision, selection and installation of sanitary appliances.  BS EN 274: 1993 Sanitary tapware- waste fittings for basins, bidets and baths- General technical specifications  BS 8000 Part13 : 1989 - Code of practice for above ground drainage and sanitary appliances.  BS EN 12056 : 2000 - Gravity Dranage System Inside Buildings. |
| ASTM | Waterproofing  D5957-98 - Standard Guide for Flood Testing Horizontal Waterproofing Installations.  D5295-00 -Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems.  Plumbing  ASTM B698-97 Standard classification for seamless copper and copper alloy plumbing pipe and tube  ASTM A74-98 Standard specification for cast iron soil pipe and fittings  D618-00 - Standard Practice for Conditioning Plastics for Testing  D1599-99 - Standard Test Method for Resistance to Short-Time Hydraulic Failure Pressure of Plastic Pipe, Tubing, and Fittings  D1600-99 - Standard Terminology for Abbreviated Terms Relating to Plastics  D1784-99a Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds  D1785-99 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120  D2122-98 Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings  D2464-99 Standard Specification for Threaded Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80  D2749-92(1999)e1 Standard Symbols for Dimensions of Plastic Pipe Fittings  F412-01 Standard Terminology Relating to Plastic Piping Systems  F437-99 Standard Specification for Threaded Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80 |
| AS | Waterproofing  AS 3740-2010 Waterproofing of domestic wet areas / AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas.  AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings.  Plumbing  AS 3500.0:1995 National Plumbing and Drainage Code - Glossary of terms  AS 3500.2.1-1996 National Plumbing and Drainage - Sanitary plumbing and drainage - Performance requirements  AS 3500.2.2-1996/Amdt 1-1999 National Plumbing and Drainage - Sanitary plumbing and drainage-Acceptable solutions  AS 3500.2.2:1996/Amdt 2-2002 National Plumbing and Drainage  AS 3558 1989 Methods of testing plastics and composite materials sanitary plumbing fixtures  AS 3795-1996 Copper alloy tubes for plumbing and drainage applications |
| SS | Waterproofing  CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings.  Plumbing  SS 33 : 1975 Cast iron spigot and socket soil, waste and ventilating pipes (sand cast and spun) and fitting  SS 174 : 1977 Joints and fittings for use with unplasticized PVC pressure pipes  SS 213 : 1998 Unplasticised PVC pipes and fittings for soil, waste and vent applications |
| ISO | Plumbing  ISO 3474: 1976 Unplasticized polyvinyl chloride (PVC) pipes -- Specification and measurement of opacity  ISO 3114: 1977 Unplasticized polyvinyl chloride (PVC) pipes for potable water supply -- Extractability of lead and tin -- Test method  ISO 3603: 1977 Fittings for unplasticized polyvinyl chloride (PVC) pressure pipes with elastic sealing ring type joints -- Pressure test for leakproofness  ISO 3633: 1991 Unplasticized poly(vinyl chloride) (PVC-U) pipes and fittings for soil and waste discharge (low and high temperature) systems inside buildings – Specifications  ISO/TR 4191: 1989 Unplasticized polyvinyl chloride (PVC-U) pipes for water supply -- Recommended practice for laying  ISO 4422-1: 1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 1: General   ISO 4422-2: 1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 2: Pipes (with or without integral sockets)  ISO 4422-3: 1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 3: Fittings and joints  ISO 4422-4: 1997 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 4: Valves and ancillary equipment  ISO 4422-5: 1997 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 5: Fitness for purpose of the system  ISO 4439: 1979 Unplasticized polyvinyl chloride (PVC) pipes and fittings -- Determination and specification of density  ISO 6412-1996- Technical drawings -simplified represnetation of pipelines  ISO/TR 7024-1985 Above-ground drainage-Recommended practice and techniques for the installation of unplasticised polyvinyl chloride (PVC-U) sanitary pipework for above ground systems inside the buildings.  ISO 6455: 1983 Unplasticized polyvinyl chloride (PVC) fittings with elastic sealing ring type joints for pipes under pressure -- Dimensions of laying lengths -- Metric series  ISO 6594: 1983 Cast iron drainage pipes and fittings -- Spigot series  ISO 6992: 1986 Unplasticized polyvinyl chloride (PVC-U) pipes for drinking water supply -- Extractability of cadmium and mercury occurring as impurities  ISO 8283-1: 1991 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U) and chlorinated poly (vinyl chloride) (PVC-C)  ISO 8283-2: 1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 2: Polyethylene (PE)  ISO 8283-3: 1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 3: Polypropylene (PP)  ISO 8283-4: 1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 4: Acrylonitrile/butadiene/styrene (ABS)  ISO 13844: 2000 Plastics piping systems -- Elastomeric-sealing-ring-type socket joints of unplasticized poly(vinyl chloride) (PVC-U) for use with PVC-U pipes -- Test method for leaktightness under negative pressure  ISO 13845: 2000 Plastics piping systems -- Elastomeric-sealing-ring-type socket joints for use with unplasticized poly(vinyl chloride) (PVC-U) pipes -- Test method for leaktightness under internal pressure and with angular deflection  ISO 265-1: 1988 Pipes and fittings of plastics materials -- Fittings for domestic and industrial waste pipes -- Basic dimensions : Metric series -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U) |

## Water Leakage at Floor Traps (PVC)

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| BS | Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Plumbing  BS 5255:1989 - Specification for thermoplastics waste pipe and fittings  BS 3943:1979 - Specification for plastics waste traps  BS 4514:2001 - Unplasticized PVC soil and ventilating pipes of 82.4 mm minimum mean outside diameter, and fittings and accessories of 82.4 mm and of other sizes. Specification  BS 5572: 1978 - Code of practice for sanitary pipework  BS 8000-Part13:1989 - Workmanship on building sites. Code of practice for above ground drainage and sanitary appliances |
| ASTM | Waterproofing  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  Plumbing  D618-00 - Standard Practice for Conditioning Plastics for Testing  D1599-99 - Standard Test Method for Resistance to Short-Time Hydraulic Failure Pressure of Plastic Pipe, Tubing, and Fittings  D1600-99 - Standard Terminology for Abbreviated Terms Relating to Plastics  D1784-99a Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds  D1785-99 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120  D2122-98 Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings  D2464-99 Standard Specification for Threaded Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80  D2749-92(1999)e1 Standard Symbols for Dimensions of Plastic Pipe Fittings  F412-01 Standard Terminology Relating to Plastic Piping Systems  F437-99 Standard Specification for Threaded Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80  F1498-00 Standard Specification for Taper Pipe Threads 60° for Thermoplastic Pipe and Fittings  F1674-96 Standard Test Method for Joint Restraint Products for Use with PVC Pipe |
| AS | Waterproofing  AS 3740-2010 Waterproofing of domestic wet areas / AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas  AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings  Plumbing  AS 3500.0:1995 National Plumbing and Drainage Code - Glossary of terms  AS 3500.2.1-1996 National Plumbing and Drainage - Sanitary plumbing and drainage - Performance requirements  AS 3500.2.2-1996/Amdt 1-1999 National Plumbing and Drainage - Sanitary plumbing and drainage-Acceptable solutions  AS 3500.2.2:1996/Amdt 2-2002 National Plumbing and Drainage  AS 3558 1989 Methods of testing plastics and composite materials sanitary plumbing fixtures  AS 3795-1996 Copper alloy tubes for plumbing and drainage applications |
| SS | Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  Plumbing  SS 174 : 1977 Joints and fittings for use with unplasticized PVC pressure pipes  SS 213 : 1998 Unplasticised PVC pipes and fittings for soil, waste and vent applications |
| ISO | Plumbing  ISO 3474: 1976 Unplasticized polyvinyl chloride (PVC) pipes -- Specification and measurement of opacity  ISO 3114: 1977 Unplasticized polyvinyl chloride (PVC) pipes for potable water supply -- Extractability of lead and tin -- Test method  ISO 3603: 1977 Fittings for unplasticized polyvinyl chloride (PVC) pressure pipes with elastic sealing ring type joints -- Pressure test for leakproofness  ISO 3633: 1991 Unplasticized poly(vinyl chloride) (PVC-U) pipes and fittings for soil and waste discharge (low and high temperature) systems inside buildings – Specifications  ISO/TR 4191: 1989 Unplasticized polyvinyl chloride (PVC-U) pipes for water supply -- Recommended practice for laying  ISO 4422-1: 1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 1: General   ISO 4422-2: 1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 2: Pipes (with or without integral sockets)  ISO 4422-3: 1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 3: Fittings and joints  ISO 4422-4: 1997 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 4: Valves and ancillary equipment  ISO 4422-5: 1997 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 5: Fitness for purpose of the system  ISO 4439: 1979 Unplasticized polyvinyl chloride (PVC) pipes and fittings -- Determination and specification of density  ISO 6455: 1983 Unplasticized polyvinyl chloride (PVC) fittings with elastic sealing ring type joints for pipes under pressure -- Dimensions of laying lengths -- Metric series  ISO 6992: 1986 Unplasticized polyvinyl chloride (PVC-U) pipes for drinking water supply -- Extractability of cadmium and mercury occurring as impurities  ISO 8283-1: 1991 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U) and chlorinated poly (vinyl chloride) (PVC-C)  ISO 8283-2: 1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 2: Polyethylene (PE)  ISO 8283-3: 1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 3: Polypropylene (PP)  ISO 8283-4: 1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 4: Acrylonitrile/butadiene/styrene (ABS)  ISO 13844: 2000 Plastics piping systems -- Elastomeric-sealing-ring-type socket joints of unplasticized poly(vinyl chloride) (PVC-U) for use with PVC-U pipes -- Test method for leaktightness under negative pressure  ISO 13845: 2000 Plastics piping systems -- Elastomeric-sealing-ring-type socket joints for use with unplasticized poly(vinyl chloride) (PVC-U) pipes -- Test method for leaktightness under internal pressure and with angular deflection  ISO 265-1: 1988 Pipes and fittings of plastics materials -- Fittings for domestic and industrial waste pipes -- Basic dimensions : Metric series -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U) |

## Water Leakage at Floor Traps (Cast iron)

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| BS | Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8000-Part13:1989 - Workmanship on building sites. Code of practice for above ground drainage and sanitary appliances.  Plumbing  BS 8000 Part13 : 1989 - Code of practice for above ground drainage and sanitary appliances.  BS 5572:1994 - Code of practice for sanitary pipework  BS 12056 : 2000 - Gravity Dranage System Inside Buildings.  Bs 6465 Part 1: 1994 Sanitary installations-Code of practice for scale of provision, selection and installation of sanitary appliances.  BS EN 274: 1993 Sanitary tapware- waste fittings for basins, bidets and baths- General technical specifications  BS 416-1:1990 Discharge and ventilating pipes and fittings, sand-cast or spun in cast iron. Specification for spigot and socket systems  BS 437:1978 Specification for cast iron spigot and socket drain pipes and fittings  BS 2035:1966 Specification for cast iron flanged pipes and flanged fittings  Paint  BS 5493:1977- Code of practice for protective coating of iron and steel structures against corrosion |
| ASTM | Waterproofing  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  Plumbing  A888-98e1 Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications  C1277-97 Standard Specification for Shielded Couplings Joining Hubless Cast Iron Soil Pipe and Fittings  A74-98 Standard Specification for Cast Iron Soil Pipe and Fittings  E351-93(2000)e1 Standard Test Methods for Chemical Analysis of Cast Iron--All Types  A532/A532M-93a(1999)e1 Standard Specification for Abrasion-Resistant Cast Irons  Paints  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates) |
| AS | Waterproofing  AS 3740-2010 Waterproofing of domestic wet areas / AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas   AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings  Plumbing  AS 3500.0:1995 National Plumbing and Drainage Code - Glossary of terms  AS 3500.2.1-1996 National Plumbing and Drainage - Sanitary plumbing and drainage - Performance requirements  AS 3500.2.2-1996/Amdt 1-1999 National Plumbing and Drainage - Sanitary plumbing and drainage-Acceptable solutions  AS 3500.2.2:1996/Amdt 2-2002 National Plumbing and Drainage  AS 1631-1994 Cast grey and ductile iron non-pressure pipes and fittings  AS 1830-2002 Grey cast iron  AS 1831-2002 Ductile cast iron  AS 3673-1989 Malleable cast iron threaded pipe fittings  AS 4331.2:1995 Metallic flanges - Cast iron flanges  Paints  AS 2310:1995: Glossary of paint and painting terms  AS 2311:2000:Guide to the painting of buildings  AS 3730.0-1991:Guide to the properties of paints for buildings: General information on the specification, purchasing and testing of paints  AS 3730.100-1994:Guide to the properties of paints for buildings: Introduction and list of guides  HB 73.1-1995: Handbook of Australian Paint Standards - General  HB 73.2-1995: Handbook of Australian Paint Standards - Test methods  AS 1580.101.1:1999: Paints and related materials - Methods of test - Conditions of test - Temperature, humidity and airflow control  AS 1580.107.2:1995:Paints and related materials - Methods of test - Determination of wet film thickness from wet film mass  AS 1580.408.5:1994: Paints and related materials - Methods of test - Adhesion - Pull-off test  AS 1580.481.1.10:1998:Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS 1580.481.1.13:1998:Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of fungal or algal growth  AS 1580.481.1.9:1998:Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  Plumbing  SS 33 : 1975 Cast iron spigot and socket soil, waste and ventilating pipes (sand cast and spun) and fitting  Paints  SS CP 22:1981 Painting of buildings  SS 5: 1992 Methods of tests for paints, varnishes and related materials  SS 7: 1998 Paint: finishing, gloss enamel  SS 34: 1998 Undercoat for gloss enamel  SS 150: 1998 Emulsion paints for decorative purposes |
| ISO | Plumbing  ISO 6594:1983 Cast iron drainage pipes and fittings -- Spigot series  ISO 49:1994 Malleable cast iron fittings threaded to ISO 7-1  ISO 185:1988 Grey cast iron -- Classification  ISO 437:1982 Steel and cast iron -- Determination of total carbon content -- Combustion gravimetric method  ISO 629:1982 Steel and cast iron -- Determination of manganese content -- Spectrophotometric method  ISO 671:1982 Steel and cast iron -- Determination of sulphur content -- Combustion titrimetric method  ISO 945:1975 Cast iron -- Designation of microstructure of graphite  ISO 946:1975 Grey cast iron -- Beam unnotched impact test  ISO 1071:1983 Covered electrodes for manual arc welding of cast iron -- Symbolization  ISO 1083:1987 Spheroidal graphite cast iron -- Classification  ISO 2724:1973 Vitreous and porcelain enamels for cast iron -- Production of specimens for testing  ISO 2892:1973 Austenitic cast iron  ISO 4829-1:1986 Steel and cast iron -- Determination of total silicon content -- Reduced molybdosilicate  spectrophotometric method -- Part 1: Silicon contents between 0,05 and 1,0 %  ISO 4934:1980 Steel and cast iron -- Determination of sulfur content -- Gravimetric method  ISO 4939:1984 Steel and cast iron -- Determination of nickel content -- Dimethylglyoxime spectrophotometric method  ISO 4940:1985 Steel and cast iron -- Determination of nickel content -- Flame atomic absorption spectrometric method  ISO 4943:1985 Steel and cast iron -- Determination of copper content -- Flame atomic absorption spectrometric method  ISO 4946:1984 Steel and cast iron -- Determination of copper content -- 2,2'-Diquinolyl spectrophotometric method  ISO 4947:1986 Steel and cast iron -- Determination of vanadium content -- Potentiometric titration method  ISO 5922:1981 Malleable cast iron  ISO 5996:1984 Cast iron gate valves  ISO 6594:1983 Cast iron drainage pipes and fittings -- Spigot series  ISO 6624-1:2001 Internal combustion engines -- Piston rings -- Part 1: Keystone rings made of cast iron (available in English only)  ISO 7005-2:1988 Metallic flanges -- Part 2: Cast iron flanges  ISO 7259:1988 Predominantly key-operated cast iron gate valves for underground use  ISO 8512-1:1990 Surface plates -- Part 1: Cast iron  Paints  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 9514:2005 Paints and varnishes -- Determination of the pot life of multicomponent coating systems -- Preparation and conditioning of samples and guidelines for testing |

## Water Leakage through Joint (Waterproofing)

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| BS | Concrete  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. Recommendations for the determination of the initial surface absorption of concrete/ BS 1881-209:1990. Testing concrete. Recommendations for the measurement of dynamic modulus of elasticity/ BS 1881-204:1988. Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986. Testing concrete. Recommendations for determination of strain in concrete/ BS 1881-121:1983. Testing concrete. Method for determination of static modulus of elasticity in compression/ BS EN 12504-2:2012. Testing concrete in structures. Non-destructive testing. Determination of rebound number/ BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete.  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS 4550:(varies)-Methods of testing cement  BS 4887:1986-Mortar admixtures  BS EN 206:2013 Concrete. Specification, performance, production and conformity  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Plaster  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar / BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration) / BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars / BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis) / BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars / BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table) / BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar / BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar / BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar / BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Paints  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints. |
| ASTM | Waterproofing  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  Concrete  C33-01- Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  Paints  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  Plaster  ASTM C1063 - 16a Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster |
| AS | Waterproofing  AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas   AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings  Concrete  AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  concreteAS 1379-2007/Amdt 1-2009 Specification and supply of concrete - AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2550.15-1994 Cranes - Safe use - Concrete placing equipment  AS 3600-2009 Concrete structures  AS 3648-1993 : Specification and methods of test for packaged concrete mixes  Steel  DR 01047 : Cathodic protection of metals - Part 5: Steel in concrete structures  AS 1302-1991/ Amd 1:1992 : Steel reinforcing bars for concrete  AS 1303-1991 : Steel reinforcing wire for concrete  Paints  AS/NZS 2310:2002 Glossary of paint and painting terms  AS/NZS 2311:2009 Guide to the painting of buildings  AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints  AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides  HB 73.1-2005 Handbook of Australian Paint Standards - General  HB 73.2-2005 Handbook of Australian Paint Standards - Test methods  AS 1580.101.1:1999-Paints and related materials - Methods of test - Conditions of test - Temperature, humidity and airflow control  AS 1580.107.2:1995-Paints and related materials - Methods of test - Determination of wet film thickness from wet film mass  AS 1580.408.5:1994-Paints and related materials - Methods of test - Adhesion - Pull-off test  AS 1580.481.1.10:1998-Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS 1580.481.1.13:1998-Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of fungal or algal growth  AS 1580.481.1.9:1998-Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 32 Series - Welded steel fabric for the reinforcement of concrete  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1   SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  Paints  SS 542 : 2008 Code of practice for painting of buildings  SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes |
| ISO | Concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 4103:1979 Concrete -- Classification of consistency  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  Steel  ISO 6934-1: 1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2: 1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3: 1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4: 1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5: 1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1: 1991 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2: 1991 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabricPaints  ISO 1513:2010 Paints and varnishes -- Examination and preparation of test samples  ISO 1514:2004 Paints and varnishes -- Standard panels for testing  ISO 1516:2002 Determination of flash/no flash -- Closed cup equilibrium method  ISO 9117-3:2010 Paints and varnishes -- Drying tests -- Part 3: Surface-drying test using ballotini  ISO 1518-1:2011 Paints and varnishes -- Determination of scratch resistance -- Part 1: Constant-loading method  ISO 1519:2011 Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520:2006 - Paints and varnishes -- Cupping test  ISO 1522:2006 Paints and varnishes -- Pendulum damping test  ISO 1523:2002 Determination of flash point -- Closed cup equilibrium method  ISO 1524:2013 Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409:2013 Paints and varnishes -- Cross-cut test  ISO 2431:2011 Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808:2007 Paints and varnishes -- Determination of film thickness  ISO 2810:2004 Paints and varnishes -- Natural weathering of coatings -- Exposure and assessment  ISO 2811-1:2016 Paints and varnishes -- Determination of density -- Part 1: Pycnometer method  ISO 2811-2:2011 Paints and varnishes -- Determination of density -- Part 2: Immersed body (plummet) method  ISO 2811-3:2011 Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4:2011 Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water  ISO 2812-2:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813:2014 Paints and varnishes -- Determination of gloss value at 20 degrees, 60 degrees and 85 degrees  BS EN ISO 2814:2006, BS 3900-D4:2006 Paints and varnishes. Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815:2003 Paints and varnishes -- Buchholz indentation test  ISO 2884-1:1999 Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear  ISO 3231: 1993 Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233-1:2013 Paints and varnishes -- Determination of the percentage volume of non-volatile matter -- Part 1: Method using a coated test panel to determine non-volatile matter and to determine dry film density by the Archimedes principle  ISO 3248: 1998 Paints and varnishes -- Determination of the effect of heat  ISO 3251:2008 Paints, varnishes and plastics -- Determination of non-volatile-matter content  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 1: General introduction and designation system  ISO 4628-2:2003 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering  ISO 4628-3:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 3: Assessment of degree of rusting  ISO 4628-4:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 4: Assessment of degree of cracking  ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking  ISO 4628-6:2011 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 6: Assessment of degree of chalking by tape method  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272-1:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 1: Falling-weight test, large-area indenter/ ISO 6272-2:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 2: Falling-weight test, small-area indenter  ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3:2006 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio of light-coloured paints at a fixed spreading rate  ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860:2006 Paints and varnishes -- Bend test (conical mandrel)  ISO 7142:2007 Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143:2007 Binders for paints and varnishes -- Methods of test for characterizing water-based binders  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method  ISO 7784-1:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Method with abrasive-paper covered wheels and rotating test specimen  ISO 7784-2:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Method with abrasive rubber wheels and rotating test specimen  ISO 7784-3:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen  ISO 8501-1:2007 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall  ISO 9514:2005 Paints and varnishes -- Determination of the pot life of multicomponent coating systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 16474-1:2013 Paints and varnishes -- Methods of exposure to laboratory light sources -- Part 1: General guidance  ISO 11668:1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1:2007 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2:2013 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909:2007 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1:2005 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2:2013 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137:2011 Paints and varnishes -- Determination of mar resistance  ISO 1518-2:2011 Paints and varnishes -- Determination of scratch resistance -- Part 2: Variable-loading method  ISO 14680-1:2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184:2012 Paints and varnishes -- Determination of film hardness by pencil test |

## Water Leakage through Joint (Floor Trap)

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| BS | Concrete  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS 4550:(varies)-Methods of testing cement  BS 5328Concrete. Guide to specifying concrete/Concrete. Methods for specifying concrete mixes  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS 8000 -Part 2 : 1990- Workmanship on Building Sites Part 2: Code of Practice for Concrete work section 2.2: Site work with in-situ and precast concrete.  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. Recommendations for the determination of the initial surface absorption of concrete/ BS 1881-209:1990. Testing concrete. Recommendations for the measurement of dynamic modulus of elasticity/ BS 1881-204:1988. Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986. Testing concrete. Recommendations for determination of strain in concrete/ BS 1881-121:1983. Testing concrete. Method for determination of static modulus of elasticity in compression/ BS EN 12504-2:2012. Testing concrete in structures. Non-destructive testing. Determination of rebound number/ BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete.  Pipes and Fittings  BS 3943:1979 - Specification for plastics waste traps  BS 4514:2001 - Unplasticized PVC soil and ventilating pipes of 82.4 mm minimum mean outside diameter, and fittings and accessories of 82.4 mm and of other sizes. Specification  BS 5255:1989 - Specification for thermoplastics waste pipe and fittings  BS 5572: 1978 - Code of practice for sanitary pipework  Plaster  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar / BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration) / BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars / BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis) / BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars / BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table) / BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar / BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar / BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar / BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  BS 4887:1986-Mortar admixtures  Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8000-Part13:1989 - Workmanship on building sites. Code of practice for above ground drainage and sanitary appliances |
| ASTM | Pipes and Fittings  D618-00 - Standard Practice for Conditioning Plastics for Testing  D1599-99 - Standard Test Method for Resistance to Short-Time Hydraulic Failure Pressure of Plastic Pipe, Tubing, and Fittings  D1600-99 - Standard Terminology for Abbreviated Terms Relating to Plastics  D1784-99a Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds  D1785-99 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120  D2122-98 Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings  D2464-99 Standard Specification for Threaded Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80  D2749-92(1999)e1 Standard Symbols for Dimensions of Plastic Pipe Fittings  F412-01 Standard Terminology Relating to Plastic Piping Systems  F437-99 Standard Specification for Threaded Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80  F1498-00 Standard Specification for Taper Pipe Threads 60° for Thermoplastic Pipe and Fittings  F1674-96 Standard Test Method for Joint Restraint Products for Use with PVC Pipe  Waterproofing  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  Concrete  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  C33-01- Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete |
| AS | Waterproofing  AS 3740-2010 Waterproofing of domestic wet areas / AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas   AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings  Concrete  AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)   AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  DR 01047 : Cathodic protection of metals - Part 5: Steel in concrete structures  concreteAS 1379-2007/Amdt 1-2009 Specification and supply of concrete - AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2550.15-1994 Cranes - Safe use - Concrete placing equipment  AS 3600-2009 Concrete structures  AS 3648-1993 : Specification and methods of test for packaged concrete mixes  Steel  AS 1302-1991/ Amd 1:1992 : Steel reinforcing bars for concrete  AS 1303-1991 : Steel reinforcing wire for concrete |
| SS | Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  Steel  SS 566 : 2011 Specification for steel for the reinforcement of concrete – Plain bars   SS 18 - 1 : 1999 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric - Steel grade 500  SS 580 : 2012 Code of practice for formwork  SS 32 Series - Welded steel fabric for the reinforcement of concrete  Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1   SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | Concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 4103:1979 Concrete -- Classification of consistency  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  Steel  ISO 6934-1: 1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2: 1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3: 1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4: 1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5: 1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1: 1991 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2: 1991 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabricPaints  ISO 1513:2010 Paints and varnishes -- Examination and preparation of test samples  ISO 1514:2004 Paints and varnishes -- Standard panels for testing  ISO 1516:2002 Determination of flash/no flash -- Closed cup equilibrium method  ISO 9117-3:2010 Paints and varnishes -- Drying tests -- Part 3: Surface-drying test using ballotini  ISO 1518-1:2011 Paints and varnishes -- Determination of scratch resistance -- Part 1: Constant-loading method  ISO 1519:2011 Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520:2006 - Paints and varnishes -- Cupping test  ISO 1522:2006 Paints and varnishes -- Pendulum damping test  ISO 1523:2002 Determination of flash point -- Closed cup equilibrium method  ISO 1524:2013 Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409:2013 Paints and varnishes -- Cross-cut test  ISO 2431:2011 Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808:2007 Paints and varnishes -- Determination of film thickness  ISO 2810:2004 Paints and varnishes -- Natural weathering of coatings -- Exposure and assessment  ISO 2811-1:2016 Paints and varnishes -- Determination of density -- Part 1: Pycnometer method  ISO 2811-2:2011 Paints and varnishes -- Determination of density -- Part 2: Immersed body (plummet) method  ISO 2811-3:2011 Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4:2011 Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water  ISO 2812-2:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813:2014 Paints and varnishes -- Determination of gloss value at 20 degrees, 60 degrees and 85 degrees  BS EN ISO 2814:2006, BS 3900-D4:2006 Paints and varnishes. Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815:2003 Paints and varnishes -- Buchholz indentation test  ISO 2884-1:1999 Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear  ISO 3231: 1993 Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233-1:2013 Paints and varnishes -- Determination of the percentage volume of non-volatile matter -- Part 1: Method using a coated test panel to determine non-volatile matter and to determine dry film density by the Archimedes principle  ISO 3248: 1998 Paints and varnishes -- Determination of the effect of heat  ISO 3251:2008 Paints, varnishes and plastics -- Determination of non-volatile-matter content  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 1: General introduction and designation system  ISO 4628-2:2003 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering  ISO 4628-3:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 3: Assessment of degree of rusting  ISO 4628-4:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 4: Assessment of degree of cracking  ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking  ISO 4628-6:2011 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 6: Assessment of degree of chalking by tape method  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272-1:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 1: Falling-weight test, large-area indenter/ ISO 6272-2:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 2: Falling-weight test, small-area indenter  ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3:2006 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio of light-coloured paints at a fixed spreading rate  ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860:2006 Paints and varnishes -- Bend test (conical mandrel)  ISO 7142:2007 Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143:2007 Binders for paints and varnishes -- Methods of test for characterizing water-based binders  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method  ISO 7784-1:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Method with abrasive-paper covered wheels and rotating test specimen  ISO 7784-2:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Method with abrasive rubber wheels and rotating test specimen  ISO 7784-3:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen  ISO 8501-1:2007 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall  ISO 9514:2005 Paints and varnishes -- Determination of the pot life of multicomponent coating systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 16474-1:2013 Paints and varnishes -- Methods of exposure to laboratory light sources -- Part 1: General guidance  ISO 11668:1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1:2007 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2:2013 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909:2007 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1:2005 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2:2013 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137:2011 Paints and varnishes -- Determination of mar resistance  ISO 1518-2:2011 Paints and varnishes -- Determination of scratch resistance -- Part 2: Variable-loading method  ISO 14680-1:2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184:2012 Paints and varnishes -- Determination of film hardness by pencil test |

## Water Leakage through Joint (Screeding)

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| BS | Screed  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar / BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration) / BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars / BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis) / BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars / BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table) / BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar / BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar / BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar / BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  BS 8204-3:1993 Screeds, bases and in-situ floorings. Code of practice for polymer modified cementitious wearing surfaces  BS EN 13318:2000 Screed material and floor screeds. Definitions  BS EN 13813:2002 Screed material and floor screeds. Screed material. Properties and requirements  BS EN 13892-1:2002 Methods of test for screed materials. Sampling, making and curing specimens for test  BS EN 13892-2:2002 Methods of test for screed materials. Determination of flexural and compressive strength  BS EN 13892-4:2002Methods of test for screed materials. Determination of wear resistance-BCA  BS EN 13892-6:2002 Methods of test for screed materials. Determination of surface hardness  BS EN 13892-8:2002 Methods of test for screed materials. Determination of bond strength  Ventilation  BS 5250:2002 Code of practice for control of condensation in buildings  PD CR 1752:1999 Ventilation for buildings. Design criteria for the indoor environment  BS 5720:1979 Code of practice for mechanical ventilation and air conditioning in buildings  BS 5925:1991 Code of practice for ventilation principles and designing for natural ventilation  PD CR 14378:2002, CR 14378:2002 Ventilation for buildings. Experimental determination of mechanical energy loss coefficients of air handling components  BS EN 1751:1999 Ventilation for buildings. Air terminal devices. Aerodynamic testing of dampers and valves |
| ASTM | Screed  C1222-99 Standard Practice for Evaluation of Laboratories Testing Hydraulic cement  C1157-02 Standard Performance Specification for Hydraulic cement  C688-00 Standard Specification for Functional Additions for Use in Hydraulic cements  C595-02a Standard Specification for Blended Hydraulic cements  C563-02 Standard Test Method for Optimum SO3 in Hydraulic cement Using 24-h Compressive Strength  C1107-02 Standard Specification for Packaged Dry, Hydraulic-Cement GROUT (Nonshrink)  C939-97 Standard Test Method for Flow of GROUT for Preplaced-Aggregate Concrete (Flow Cone Method)  C938-97 Standard Practice for Proportioning GROUT Mixtures for Preplaced-Aggregate Concrete  Ventilation  D6245-98 Standard Guide for Using Indoor Carbon Dioxide Concentrations to Evaluate Indoor Air Quality and ventilation  D5952-96(2002) Standard Guide for Inspecting Water Systems for Legionellae and Investigating Possible Outbreaks of Legionellosis (Legionnaires' Disease or Pontiac Fever)  F1040-87(2001) Standard Specification for Filter Units, Air Conditioning Viscous-Impingement and Dry Types, Replaceable  E337-84(1996)e1 Standard Test Method for Measuring Humidity with a Psychrometer (the Measurement of Wet- and Dry-Bulb Temperatures)  E741-00 Standard Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution |
| AS | Screed  AS 1141.72-1996 Methods for sampling and testing of aggregates - Cement content of cement stabilized materials  AS 1141.72-1996/Amdt 1-1999 Methods for sampling and testing aggregates - Cement content of cement stabilized materials  AS 1316-2003 Masonry cement  AS 2349-1991 Method of sampling portland and blended cements  AS 2350.0:1999 Methods of testing portland and blended cements - General introduction and list of methods  AS 2350.10-1991 Methods of testing portland and blended cements - Calcium oxide content of blended cement  AS 2350.11:2001 Methods of testing portland, blended and masonry cements - Compressive strength  AS 2350.11-1997/Amdt 1-1998 Methods of testing portland and blended cements - Compressive strength of portland and blended cements  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  AS 2350.16:2001 AS/NZS 2350.16:2006 Methods of testing portland, blended and masonry cements - Determination of air content of masonry cement  AS 2350.2-1991 Methods of testing portland and blended cements - Chemical composition of portland cement  AS 2350.4:1999 Methods of testing portland and blended cements - Setting time of portland and blended cements  Ventilation  AS 1324.1-2001 Air filters for use in general ventilation and airconditioning - Application, performance and construction  AS 1324.2-1996 Air filters for use in general ventilation and airconditioning - Methods of test  DR 01312 CP Air filters for use in general ventilation and airconditioning  HB 40-2001 The Australian Refrigeration and Air-conditioning Code of Good Practice - Reduction of emissions of fluorocarbon refrigerants in commercial and industrial refrigeration and air-conditioning applications |
| SS | Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  Masonry  SS 271 : 1983 Concrete masonry units (for non-loadbearing applications)  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  CP 67 : Part 2 : 1999 Code of practice for cleaning and surface repair of buildings - Natural stone, cast stone and clay brick masonry  Plastering  CP 56 : 1991 Code of practice for internal plastering  Screed  SS EN 197 series - Cement  SS EN 12620 : 2008 Specification for aggregates for concrete  Ventilation  CP 13 : 1999 Code of practice for mechanical ventilation and air-conditioning in buildings |
| ISO | Screed  ISO 6274:1982 Concrete; Sieve analysis of aggregates  Ventilation  ISO 4219:1979 Air quality -- Determination of gaseous sulphur compounds in ambient air -- Sampling equipment  ISO 4221:1980 Air quality -- Determination of mass concentration of sulphur dioxide in ambient air -- Thorin spectrophotometric method  ISO 4225:1994 Air quality -- General aspects -- Vocabulary  ISO 4226:1993 Air quality -- General aspects -- Units of measurement  ISO 6879:1995 Air quality -- Performance characteristics and related concepts for air quality measuring methods (available in English only)  ISO 7168-1:1999 Air quality -- Exchange of data -- Part 1: General data format  ISO 7168-2:1999 Air quality -- Exchange of data -- Part 2: Condensed data format  ISO 7708:1995 Air quality -- Particle size fraction definitions for health-related sampling  ISO 8672:1993 Air quality -- Determination of the number concentration of airborne inorganic fibres by phase contrast optical microscopy -- Membrane filter method  ISO 8756:1994 Air quality -- Handling of temperature, pressure and humidity data  ISO 9169:1994 Air quality -- Determination of performance characteristics of measurement methods  ISO 9359:1989 Air quality -- Stratified sampling method for assessment of ambient air quality  ISO 11222:2002 Air quality -- Determination of the uncertainty of the time average of air quality measurements  ISO 13752:1998 Air quality -- Assessment of uncertainty of a measurement method under field conditions using a second method as reference  ISO 13964:1998 Air quality -- Determination of ozone in ambient air -- Ultraviolet photometric method  ISO 14956:2002 Air quality -- Evaluation of the suitability of a measurement procedure by comparison with a required measurement uncertainty |

## Water Leakage- through external wall and joint

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| BS | Ventilation  BS 5720 : Code of practice for mechanical ventilation and air conditioning in buildings, British Standards Institution, London  Masonry  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 5628-1:1992 - Code of practice for use of masonry. Structural use of unreinforced masonry  BS EN 846-5:2000 - Methods of test for ancillary components for masonry. Determination of tensile and compressive load capacity and load displacement characteristics of wall ties (couplet test)  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar/ BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar/ BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar/ BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)/ BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars/ BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)/ BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars/ BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)/ BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  BS EN1015-12:2000 Methods of test for mortar masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 1015-18:2002 Methods of test for mortar for masonry. Determination of water absorption coefficient due to capillary action of hardened mortar  BS EN 1015-21:2002 Methods of test for mortar for masonry. Determination of the compatibility of one-coat rendering mortars with substrates  Coatings  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000Specification for undercoat and finishing paints  Plastering  BS 8000-10:1995 Workmanship on building sites. Code of practice for plastering and rendering  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS EN 459-1:2015 Building lime. Definitions, specifications and conformity criteria  BS EN 13279-1:2008 Gypsum binders and gypsum plasters. Definitions and requirements/ BS EN 13279-2:2014 Gypsum binders and gypsum plasters. Test methods  BS EN 13139:2002 Aggregates for mortar  BS EN 13658-1:2005 Metal lath and beads. Definitions, requirements and test methods. Internal plastering/ BS EN 13658-2:2005 Metal lath and beads. Definitions, requirements and test methods. External rendering  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar |
| ASTM | Ventilation  D6245-98 Standard Guide for Using Indoor Carbon Dioxide Concentrations to Evaluate Indoor Air Quality and ventilation  D5952-96(2002) Standard Guide for Inspecting Water Systems for Legionellae and Investigating Possible Outbreaks of Legionellosis (Legionnaires' Disease or Pontiac Fever)  F1040-87(2001) Standard Specification for Filter Units, Air Conditioning Viscous-Impingement and Dry Types, Replaceable  E337-84(1996)e1 Standard Test Method for Measuring Humidity with a Psychrometer (the Measurement of Wet- and Dry-Bulb Temperatures)  E741-00 Standard Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution  Masonry  C90-02 Standard Specification for Loadbearing Concrete MASONRY Units  C270-02 Standard Specification for Mortar for Unit MASONRY  C1384-02a Standard Specification for Admixtures for MASONRY Mortars  C1142-95(2001) Standard Specification for Extended Life Mortar for Unit MASONRY  Paints  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints   ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  D4541-95e1-Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers  Plaster  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C1328 / C1328M - 12 Standard Specification for Plastic (Stucco) Cement  ASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based PlastersASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters  ASTM E96 / E96M - 15 Standard Test Methods for Water Vapor Transmission of Materials  ASTM C1506 - 16a Standard Test Method for Water Retention of Hydraulic Cement-Based Mortars and Plasters  ASTM C1063 - 16 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters |
| AS | Ventilation  AS 1324.1-2001 Air filters for use in general ventilation and airconditioning - Application, performance and construction  AS 1324.2-1996 Air filters for use in general ventilation and airconditioning - Methods of test  DR 01312 CP Air filters for use in general ventilation and airconditioning  HB 40-2001 The Australian Refrigeration and Air-conditioning Code of Good Practice - Reduction of emissions of fluorocarbon refrigerants in commercial and industrial refrigeration and air-conditioning applications  Paints  AS 2310:1995-Glossary of paint and painting terms   AS 2311:2000-Guide to the painting of buildings  AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints  AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides  HB 73.1-2005 Handbook of Australian Paint Standards - General  HB 73.2-2005 Handbook of Australian Paint Standards - Test methods  AS 1580.101.1:1999-Paints and related materials - Methods of test - Conditions of test - Temperature, humidity and airflow control  AS 1580.107.2:1995-Paints and related materials - Methods of test - Determination of wet film thickness from wet film mass  AS 1580.408.5:1994-Paints and related materials - Methods of test - Adhesion - Pull-off test  AS 1580.481.1.10:1998-Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS 1580.481.1.13:1998-Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of fungal or algal growth  AS 1580.481.1.9:1998-Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | Screed  SS EN 197 series - Cement  SS EN 12620 : 2008 Specification for aggregates for concrete  Ventilation  CP 13 : 1999 Code of practice for mechanical ventilation and air-conditioning in buildings  Masonry  SS 271 : 1983 Concrete masonry units (for non-loadbearing applications)  SS 509 - 1 : 2015 Code of practice for cleaning and surface repair of buildings – Part 1 : Cleaning of natural stone, brick, terracotta, concrete and rendered finishes/ SS 509 - 2 : 2005 (2015) Code of practice for cleaning and surface repair of buildings - Surface repair of natural stones, brick, terracotta and rendered finishes  CP 67 : Part 2 : 1999 Code of practice for cleaning and surface repair of buildings - Natural stone, cast stone and clay brick masonry  Plastering  CP 56 : 1991 Code of practice for internal plastering |
| ISO | Ventilation  ISO 4219:1979 Air quality -- Determination of gaseous sulphur compounds in ambient air -- Sampling equipment  ISO 4221:1980 Air quality -- Determination of mass concentration of sulphur dioxide in ambient air -- Thorin spectrophotometric method  ISO 4225:1994 Air quality -- General aspects -- Vocabulary  ISO 4226:1993 Air quality -- General aspects -- Units of measurement  ISO 6879:1995 Air quality -- Performance characteristics and related concepts for air quality measuring methods (available in English only)  ISO 7168-1:1999 Air quality -- Exchange of data -- Part 1: General data format  ISO 7168-2:1999 Air quality -- Exchange of data -- Part 2: Condensed data format  ISO 7708:1995 Air quality -- Particle size fraction definitions for health-related sampling  ISO 8672:1993 Air quality -- Determination of the number concentration of airborne inorganic fibres by phase contrast optical microscopy -- Membrane filter method  ISO 8756:1994 Air quality -- Handling of temperature, pressure and humidity data  ISO 9169:1994 Air quality -- Determination of performance characteristics of measurement methods  ISO 9359:1989 Air quality -- Stratified sampling method for assessment of ambient air quality  ISO 11222:2002 Air quality -- Determination of the uncertainty of the time average of air quality measurements  ISO 13752:1998 Air quality -- Assessment of uncertainty of a measurement method under field conditions using a second method as reference  ISO 13964:1998 Air quality -- Determination of ozone in ambient air -- Ultraviolet photometric method  ISO 14956:2002 Air quality -- Evaluation of the suitability of a measurement procedure by comparison with a required measurement uncertainty  Screed  ISO 6274:1982 Concrete; Sieve analysis of aggregates  Paints  ISO 11503:1995-Paints and varnishes - Determination of resistance to humidity (intermittent condensation   ISO 11998:1998-Paints and varnishes - Determination of wet-scrub resistance and cleanability of coatings |

## Water Leakage Through Porous Floor and Wall

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| BS | Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Concrete  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. Recommendations for the determination of the initial surface absorption of concrete/ BS 1881-209:1990. Testing concrete. Recommendations for the measurement of dynamic modulus of elasticity/ BS 1881-204:1988. Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986. Testing concrete. Recommendations for determination of strain in concrete/ BS 1881-121:1983. Testing concrete. Method for determination of static modulus of elasticity in compression/ BS EN 12504-2:2012. Testing concrete in structures. Non-destructive testing. Determination of rebound number/ BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete.  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS 4550:(varies)-Methods of testing cement  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar / BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration) / BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars / BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis) / BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars / BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table) / BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar / BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar / BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar / BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  BS 4887:1986-Mortar admixtures  BS EN 206:2013 Concrete. Specification, performance, production and conformity  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles |
| ASTM | Waterproofing  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  Concrete  C33-01- Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates) |
| AS | Waterproofing  AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas   AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings  Concrete  AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)   AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  concreteAS 1379-2007/Amdt 1-2009 Specification and supply of concrete - AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2550.15-1994 Cranes - Safe use - Concrete placing equipment  AS 3600-2009 Concrete structures  AS 3648-1993 : Specification and methods of test for packaged concrete mixes |
| SS | Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1   SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | Concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 4103:1979 Concrete -- Classification of consistency  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method |

## Water Leakage - Bathtub

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| BS | Sanitary  BS 3402:1969 - Specification for quality of vitreous china sanitary appliances  BS 5572: 1978 - Code of Practice for Sanitory pipework  BS 3380:1982 - Specification for wastes (excluding skeleton sink wastes) and bath overflows  BS 1189:1986 - Specification for baths made from porcelain enamelled cast iron  BS 4305-1:1989, EN 198:1987 - Baths for domestic purposes made of acrylic material. Specification for finished baths  BS 4305-2:1989 - Baths for domestic purposes made of acrylic material. Specification for connecting dimensions  BS 1390:1990 - Specification for baths made from vitreous enamelled sheet steel  BS EN 232:1992 - Baths. Connecting dimensions  BS 6465-1:1994 - Sanitary installations. Code of practice for scale of provision, selection and installation of sanitary appliances  BS 6465-2:1996 - Sanitary installations. Code of practice for space requirements for sanitary appliances  Waterproofing  BS 8000-Part13:1989 - Workmanship on building sites. Code of practice for above ground drainage and sanitary appliances  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Sealant  BS 4254:1983 - Specification for two-part polysulphide-based sealants  BS 3712-1 to 4:1985-1991 - Building and construction sealants.  BS 4550:(varies)-Methods of testing cement  BS 5215:1986 - Specification for one-part gun grade polysulphide-based sealants  BS 5889:1989 - Specification for one-part gun grade silicone-based sealants |
| ASTM | Sanitary  C448-88(1999) Standard Test Methods for Abrasion Resistance of Porcelain ENAMELS  C1203-91(2002) Standard Test Method for Quantitative Determination of Alkali Resistance of a Ceramic-Glass Enamel  C614-74(1999) Standard Test Method for Alkali Resistance of Porcelain ENAMELS  C756-93-(1999) Standard Test Method for Cleanability of Surface Finishes  C286-99 Standard Terminology Relating to PORCELAIN Enamel and Ceramic-Metal Systems  C839-82(1999) Standard Test Method for Compressive Stress of PORCELAIN Enamels by Loaded-Beam Method  C282-99 Standard Test Method for Acid Resistance of PORCELAIN Enamels (Citric Acid Spot Test)  C810-90(2000) Standard Test Method for Nickel on Steel for PORCELAIN Enameling by X-Ray Emission Spectrometry  C715-90(2000) Standard Test Method for Nickel on Steel for PORCELAIN Enameling by Photometric Analysis  Waterproofing  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  Sealant  C639:1995- Standard Test Method for Rheological (Flow) Properties of Elastomeric Sealants  C736-00 Standard Test Method for Extension-Recovery and Adhesion of Latex Sealants  C972-00 - Standard Test Method for Compression-Recovery of Tape Sealant  C771-97 - Standard Test Method for Weight Loss After Heat Aging of Preformed Sealing Tapes  C792-93:1998 - Standard Test Method for Effects of Heat Aging on Weight Loss, Cracking, and Chalking of Elastomeric Sealants  C1246-00 - Standard Test Method for Effects of Heat Aging on Weight Loss, Cracking, and Chalking of Elastomeric Sealants After Cure  C719-93(1998) - Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle)  C910-93a(1997) Standard Test Method for Bond and Cohesion of One-Part Elastomeric Solvent Release-Type Sealants  C1135-00 Standard Test Method for Determining Tensile Adhesion Properties of Structural Sealants  C1216-92(1997) Standard Test Method for Adhesion and Cohesion of One-Part Elastomeric Solvent Release Sealants  C794-01 Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants  C510-90(1997) Standard Test Method for Staining and Color Change of Single- or Multicomponent Joint Sealants  C1248-93(1998) Standard Test Method for Staining of Porous Substrate by Joint Sealants  D2203-01 Standard Test Method for Staining from Sealants  C713-94(1999)e1 Standard Test Method for Slump of an Oil-Base Knife-Grade Channel Glazing Compound  D2202-00 Standard Test Method for Slump of Sealants  C603-90(1997)e1 Standard Test Method for Extrusion Rate and Application Life of Elastomeric Sealants  C731-00 Standard Test Method for Extrudability, After Package Aging, of Latex Sealants  C1183-91(1997) Standard Test Method for Extrusion Rate of Elastomeric Sealants  D2452-94(1999)e1 Standard Test Method for Extrudability of Oil- and Resin-Base Caulking Compounds  C1193-00 Standard Guide for Use of Joint Sealants  C1299-99 Standard Guide for Use in Selection of Liquid-Applied Sealants |
| AS | Sanitary  AS 1976-1992 Vitreous china used in sanitary appliances  AS 3500.2.1-1996 National Plumbing and Drainage - Sanitary plumbing and drainage - Performance requirements  AS/NZS 3500.2.2:1996 National Plumbing and Drainage - Sanitary plumbing and drainage - Acceptable solutions  AS/NZS 3500.2.2-1996/Amdt 1-1999 National Plumbing and Drainage - Sanitary plumbing and drainage-Acceptable solutions  AS 1976-1992 Vitreous china used in sanitary appliances  AS 4023-1992 Non-vitreous china used in sanitary appliances  Waterproofing  AS 3740-2010 Waterproofing of domestic wet areas / AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas   AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings |
| SS | Sanitary  SS 205 : 1978: Vitreous china washdown WC pans - Dimensions and functional requirements  SS 379 : 1996: Vitreous china WC pans for use with low capacity WC flushing cisterns up to 4.5L maximum  SS 396 : 1997: Vitreous china WC pans for use with 6 L flush valves  Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings |
| ISO | Sanitary  ISO 1772: 1975 Laboratory crucibles in porcelain and silica  ISO 1775: 1975 Porcelain laboratory apparatus -- Requirements and methods of test  ISO 2722: 1997 Vitreous and porcelain enamels -- Determination of resistance to citric acid at room temperature  ISO 2723: 1995 Vitreous and porcelain enamels for sheet steel -- Production of specimens for testing  ISO 2724: 1973 Vitreous and porcelain enamels for cast iron -- Production of specimens for testing  ISO 2733: 1983 Vitreous and porcelain enamels -- Apparatus for testing with acid and neutral liquids and their vapours  ISO 2734: 1997 Vitreous and porcelain enamels -- Apparatus for testing with alkaline liquids  ISO 2742: 1998 Vitreous and porcelain enamels -- Determination of resistance to boiling citric acid  ISO 2743: 1986 Vitreous and porcelain enamels -- Determination of resistance to condensing hydrochloric acid vapour  ISO 2744: 1998 Vitreous and porcelain enamels -- Determination of resistance to boiling water and water vapour  ISO 2745: 1998 Vitreous and porcelain enamels -- Determination of resistance to hot sodium hydroxide  ISO 4531-1: 1998 Vitreous and porcelain enamels -- Release of lead and cadmium from enamelled ware in contact with food -- Part 1: Method of test  ISO 4531-2: 1998 Vitreous and porcelain enamels -- Release of lead and cadmium from enamelled ware in contact with food -- Part 2: Permissible limits  ISO 4532: 1991 Vitreous and porcelain enamels -- Determination of the resistance of enamelled articles to impact -- Pistol test  ISO 4533: 1983 Vitreous and porcelain enamels -- Determination of resistance to hot detergent solutions used for washing textiles  ISO 4534: 1980 Vitreous and porcelain enamels -- Determination of fluidity behaviour -- Fusion flow test  ISO 4535: 1983 Vitreous and porcelain enamels -- Apparatus for determination of resistance to hot detergent solutions used for washing textiles  ISO 4791-1:1985 Laboratory apparatus -- Vocabulary relating to apparatus made essentially from glass, porcelain or vitreous silica -- Part 1: Names for items of apparatus  ISO 6370-1: 1991 Vitreous and porcelain enamels -- Determination of the resistance to abrasion -- Part 1: Abrasion testing apparatus  ISO 6370-2: 1991 Vitreous and porcelain enamels -- Determination of the resistance to abrasion -- Part 2: Loss in mass after sub-surface abrasion  ISO 8289: 2000 Vitreous and porcelain enamels -- Low voltage test for detecting and locating defects  ISO 8290: 1998 Vitreous and porcelain enamels -- Determination of resistance to sulfuric acid at room temperature  ISO 8291: 1986 Vitreous and porcelain enamels -- Method of test of self-cleaning properties  ISO 13806: 1999 Vitreous and porcelain enamels -- Corrosion tests in closed systems  ISO 15695: 2000 Vitreous and porcelain enamels -- Determination of scratch resistance of enamel finishes    Sealant  ISO 11600:1993 - Building construction - sealants- classification and requirements  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete  ISO 6927: 1981 Building construction -- Jointing products -- Sealants -- Vocabulary  ISO 8339: 1984 Building construction -- Jointing products -- Sealants -- Determination of tensile properties  ISO 8340: 1984 Building construction -- Jointing products -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394: 1988 Building construction -- Jointing products -- Determination of extrudability of one-component sealants  ISO 9046: 1987 Building construction -- Sealants -- Determination of adhesion/cohesion properties at constant temperature  ISO 9047: 2001 Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants at variable temperatures (available in English only)  ISO 9048: 1987 Building construction -- Jointing products -- Determination of extrudability of sealants using standardized apparatus  ISO 10563: 1991 Building construction -- Sealants for joints -- Determination of change in mass and volume  ISO 10590: 1991 Building construction -- Sealants -- Determination of adhesion/cohesion properties at maintained extension after immersion in water  ISO 10591: 1991 Building construction -- Sealants -- Determination of adhesion/cohesion properties after immersion in water  ISO 11431: 1993 Building construction -- Sealants -- Determination of adhesion/cohesion properties after exposure to artificial light through glass  ISO 11432: 1993 Building construction -- Sealants -- Determination of resistance to compression  ISO 11600: 1993 Building construction -- Sealants -- Classification and requirements  ISO 13638: 1996 Building construction -- Sealants -- Determination of resistance to prolonged exposure to water |

## Spalling-RC internal Floor Slab

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| BS | Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Concrete  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. Recommendations for the determination of the initial surface absorption of concrete/ BS 1881-209:1990. Testing concrete. Recommendations for the measurement of dynamic modulus of elasticity/ BS 1881-204:1988. Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986. Testing concrete. Recommendations for determination of strain in concrete/ BS 1881-121:1983. Testing concrete. Method for determination of static modulus of elasticity in compression/ BS EN 12504-2:2012. Testing concrete in structures. Non-destructive testing. Determination of rebound number/ BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete.  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS 5328Concrete. Guide to specifying concrete/Concrete. Methods for specifying concrete mixes  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings |
| ASTM | Waterproofing  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  Concrete  C33-01- Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  Steel  ASTM A1022 / A1022M - 15a Standard Specification for Deformed and Plain Stainless Steel Wire and Welded Wire for Concrete Reinforcement  ASTM A1064 / A1064M - 16 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete  ASTM A933/A933M-14 Standard Specification for Vinyl-Coated Steel Wire and Welded Wire Reinforcement |
| AS | Waterproofing  AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas  AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings  Concrete  AS 1012.10-2000  : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)  DR 01033  : Chemical admixtures for concrete, mortar and grout Methods of sampling and testing admixtures for mortar and grout  AS 1012.1 to 21  : Methods of testing concrete  AS 1379-1997/Amdt 1-2000  : Specification and supply of concrete  AS 1478.1-2000  : Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2550.15-1994  : Cranes - Safe use - Concrete placing equipment  AS 3600-2001  : Concrete structures  AS 3648-1993  : Specification and methods of test for packaged concrete mixes  Steel  DR 01047  : Cathodic protection of metals - Part 5: Steel in concrete structures  AS 1302-1991/ Amd 1:1992  : Steel reinforcing bars for concrete  AS 1303-1991  : Steel reinforcing wire for concrete |
| SS | Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 32 Series - Welded steel fabric for the reinforcement of concrete  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  Steel  SS 566 : 2011 Specification for steel for the reinforcement of concrete – Plain bars  SS 18 - 1 : 1999 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric - Steel grade 500  SS 580 : 2012 Code of practice for formwork |
| ISO | Concrete  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete/ ISO 1920-3:2004 Testing of concrete - Part 3: Making and curing test specimens  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 4103:1979 Concrete -- Classification of consistency (Withdrawn)ISO 4103:1979 Concrete -- Classification of consistency (Withdrawn)  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete/ ISO 1920-3:2004 Testing of concrete - Part 3: Making and curing test specimens  Steel  ISO 6934-1:1991  Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2:1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3:1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4:1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5:1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabric  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete |

## Spalling-RC internal Floor Slab

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| BS | Concrete  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. Recommendations for the determination of the initial surface absorption of concrete/ BS 1881-209:1990. Testing concrete. Recommendations for the measurement of dynamic modulus of elasticity/ BS 1881-204:1988. Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986. Testing concrete. Recommendations for determination of strain in concrete/ BS 1881-121:1983. Testing concrete. Method for determination of static modulus of elasticity in compression/ BS EN 12504-2:2012. Testing concrete in structures. Non-destructive testing. Determination of rebound number/ BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete.  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS 5328Concrete. Guide to specifying concrete/Concrete. Methods for specifying concrete mixes  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings |
| ASTM | Concrete  C33-01- Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  Steel  ASTM A1022 / A1022M - 15a Standard Specification for Deformed and Plain Stainless Steel Wire and Welded Wire for Concrete Reinforcement  ASTM A1064 / A1064M - 16 Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete  ASTM A933/A933M-14 Standard Specification for Vinyl-Coated Steel Wire and Welded Wire Reinforcement |
| AS | Concrete  AS 1012.10-2000  : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)  DR 01033  : Chemical admixtures for concrete, mortar and grout Methods of sampling and testing admixtures for mortar and grout  AS 1012.1 to 21  : Methods of testing concrete  AS 1379-1997/Amdt 1-2000  : Specification and supply of concrete  AS 1478.1-2000  : Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2550.15-1994  : Cranes - Safe use - Concrete placing equipment  AS 3600-2001  : Concrete structures  AS 3648-1993  : Specification and methods of test for packaged concrete mixes  Steel  DR 01047  : Cathodic protection of metals - Part 5: Steel in concrete structures  AS 1302-1991/ Amd 1:1992  : Steel reinforcing bars for concrete  AS 1303-1991  : Steel reinforcing wire for concrete |
| SS | Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 32 Series - Welded steel fabric for the reinforcement of concrete  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  Steel  SS 566 : 2011 Specification for steel for the reinforcement of concrete – Plain bars  SS 18 - 1 : 1999 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric - Steel grade 500  SS 580 : 2012 Code of practice for formwork |
| ISO | Concrete  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete/ ISO 1920-3:2004 Testing of concrete - Part 3: Making and curing test specimens  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 4103:1979 Concrete -- Classification of consistency (Withdrawn)ISO 4103:1979 Concrete -- Classification of consistency (Withdrawn)  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete/ ISO 1920-3:2004 Testing of concrete - Part 3: Making and curing test specimens  Steel  ISO 6934-1:1991  Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2:1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3:1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4:1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5:1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabric  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete |

## Waterponding

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| BS | Tiling  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  BS 5385-3:1995- Wall and floor tiling. Code of practice for the design and installation of ceramic floor tiles and mosaics  BS 5980:1980- Specification or adhesives for use with ceramic tiles and mosaics  BS 6431-1:1983, EN 87:1991-Ceramic floor and wall tiles. Specification for classification and marking, including definitions and characteristics  BS 6431-2:1984, EN 121:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a low water absorption (E <= 3%). Group A1  BS 6431-3.1:1986, EN 186-1:1991-Ceramic floor and wall tiles. Extruded ceramic tiles with a water absorption of 3% <E<=6% Group A11a. Specification for general products  BS 6431-5:1986, EN 188:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a water absorption of E > 10%. Group A111  BS 6431-7:1986, EN 177:1991-Ceramic floor and wall tiles.  BS 6431-8:1986, EN 178:1991-Ceramic floor and wall tiles.  BS 6431-10:1984, EN 98:1991-Ceramic floor and wall tiles. Method for determination of dimensions and surface quality  BS 6431-11:1983, EN 99:199-1Ceramic floor and wall tiles. Method for determination of water absorption  BS 6431-12:1983, EN 100:1991-Ceramic floor and wall tiles. Method for determination of modulus of rupture  BS 6431-13:1986, EN 101:1991-Ceramic floor and wall tiles. Method for determination of scratch hardness of surface according to Mohs  BS 6431-14:1983, EN 102:1991-Ceramic floor and wall tiles. Method for determination of resistance to deep abrasion. Unglazed tiles  BS 6431-18:1983, EN 106:1991Ceramic floor and wall tiles. Method for determination of chemical resistance. Unglazed tiles |
| ASTM | Tiling  D5343:97- Standard Guide for Evaluating Cleaning Performance of Ceramic Tile Cleaners  C485-83:1999- Standard Test Method for Measuring Warpage of Ceramic Tile  C1378:1997- Standard Test Method for Determination of Resistance to Staining  C650:1997- Standard Test Method for Resistance of Ceramic Tile to Chemical Substances  C648:1998- Standard Test Method for Breaking Strength of Ceramic Tile  19C1027:1999-Standard Test Method for Determining Visible Abrasion Resistance of Glazed Ceramic Tile  C609-90:2000- Standard Test Method for Measurement of Small Color Differences Between Ceramic Wall or Floor Tile  C499-78:1999- Standard Test Method for Facial Dimensions and Thickness of Flat, Rectangular Ceramic Wall and Floor Tile |
| AS | Tiling  AS 2358-1990-Adhesives - For fixing ceramic tiles  AS 3958.1-1991/Amdt 1-1992-Ceramic tiles - Guide to the installation of ceramic tiles  AS 3958.2-1992-Ceramic tiles - Guide to the selection of a ceramic tiling system  AS 4459.1-1999-Methods of sampling and testing ceramic tiles - Sampling and basis for acceptance  AS 4459.10-1999-Methods of sampling and testing ceramic tiles - Determination of moisture expansion  AS 4459.11-1997-Methods of sampling and testing ceramic tiles - Determination of crazing resistance for glazed tiles  AS 4459.13-1999-Methods of sampling and testing ceramic tiles - Determination of chemical resistance  AS 4459.14-1999-Methods of sampling and testing ceramic tiles - Determination of resistance to stains  AS 4459.2-1999-Methods of sampling and testing ceramic tiles - Determination of dimensions and surface quality  AS 4459.3-1999-Methods of sampling and testing ceramic tiles - Determination of water absorption, apparent porosity, apparent relative density and bulk density  AS 4459.4-1997-Methods of sampling and testing ceramic tiles - Determination of modulus of rupture and breaking strength  AS 4459.6-1999-Methods of sampling and testing ceramic tiles - Determination of resistance to deep abrasion for unglazed tiles  AS 4459.8-1997-Methods of sampling and testing ceramic tiles - Determination of linear thermal expansion |
| SS | Tiling  SS 301:1985- The use of cement sand cover for tiling  SS 57:1989- Specification for glazed ceramic tiles and tile fittings for internal walls |
| ISO | Cement mortar and grouting  ISO 680:1990 Cement -- Test methods -- Chemical analysis  ISO 863:1990 Cement -- Test methods -- Pozzolanicity test for pozzolanic cements  Tiling  ISO 10545-1:1995- Ceramic tiles -- Part 1: Sampling and basis for acceptance  ISO 10545-3:1995- Ceramic tiles -- Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density  ISO 10545-4:1994- Ceramic tiles -- Part 4: Determination of modulus of rupture and breaking strength  ISO 10545-5:1996- Ceramic tiles -- Part 5: Determination of impact resistance by measurement of coefficient of restitution  ISO 10545-6:1995- Ceramic tiles -- Part 6: Determination of resistance to deep abrasion for unglazed tiles  ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 10545-13:1995- Ceramic tiles -- Part 13: Determination of chemical resistance  ISO 10545-14:1995- Ceramic tiles -- Part 14: Determination of resistance to stains  ISO 10545-16:1999- Ceramic tiles -- Part 16: Determination of small colour differences  ISO 13006:1998- Ceramic tiles -- Definitions, classification, characteristics and marking   ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 133006:1998- Ceramic tiles-definitions, classification, characteristics and making. |

# Architectural Finishes

## Tile – Cracks (Rendering)

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| BS | Rendering  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS EN 13279-1:2008 Gypsum binders and gypsum plasters. Definitions and requirements/ BS EN 13279-2:2014 Gypsum binders and gypsum plasters. Test methods  BS EN 13139:2002 Aggregates for mortar  BS EN 13658-1:2005 Metal lath and beads. Definitions, requirements and test methods. Internal plastering/ BS EN 13658-2:2005 Metal lath and beads. Definitions, requirements and test methods. External rendering  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar/ BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar/ BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar/ BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)/ BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars/ BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)/ BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars/ BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)/ BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  BS EN1015-12:2000 Methods of test for mortar masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 1015-18:2002 Methods of test for mortar for masonry. Determination of water absorption coefficient due to capillary action of hardened mortar  BS EN 1015-21:2002 Methods of test for mortar for masonry. Determination of the compatibility of one-coat rendering mortars with substrates  BS EN 13658-2:2005 Metal lath and beads. Definitions, requirements and test methods. External rendering  BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 13914-1:2016 Design, preparation and application of external rendering and internal plastering. External rendering  Tilings  BS 8000:Part11:Section 11.1:1989- Workmanship on building sites- Code of practice for wall and floor tiling-ceramic, terrazzo and mosaics tiles  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  BS 5385-3:1995- Wall and floor tiling. Code of practice for the design and installation of ceramic floor tiles and mosaics in normal conditions  BS 5980:1980- Specification or adhesives for use with ceramic tiles and mosaics  BS 6431-1:1983, EN 87:1991-Ceramic floor and wall tiles. Specification for classification and marking, including definitions and characteristics  BS 6431-2:1984, EN 121:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a low water absorption (E <= 3%). Group A1  BS 6431-3.1:1986, EN 186-1:1991-Ceramic floor and wall tiles. Extruded ceramic tiles with a water absorption of 3% <E<=6% Group A11a. Specification for general products  BS 6431-5:1986, EN 188:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a water absorption of E > 10%. Group A111  BS 6431-7:1986, EN 177:1991-Ceramic floor and wall tiles.  BS 6431-8:1986, EN 178:1991-Ceramic floor and wall tiles.  BS 6431-10:1984, EN 98:1991-Ceramic floor and wall tiles. Method for determination of dimensions and surface quality  BS 6431-11:1983, EN 99:199-1Ceramic floor and wall tiles. Method for determination of water absorption  BS 6431-12:1983, EN 100:1991-Ceramic floor and wall tiles. Method for determination of modulus of rupture  BS 6431-13:1986, EN 101:1991-Ceramic floor and wall tiles. Method for determination of scratch hardness of surface according to Mohs  BS 6431-14:1983, EN 102:1991-Ceramic floor and wall tiles. Method for determination of resistance to deep abrasion. Unglazed tiles  BS 6431-18:1983, EN 106:1991Ceramic floor and wall tiles. Method for determination of chemical resistance. Unglazed tiles |
| ASTM | Rendering  C778-02 Standard Specification for Standard SAND  C35-01 Standard Specification for Inorganic Aggregates for Use in Gypsum Plaster  C1329-00 Standard Specification for Mortar Cement  ASTM C1328 / C1328M - 12 Standard Specification for Plastic (Stucco) Cement  C472-99 Standard Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete  C28/C28M-00e1 Standard Specification for Gypsum Plasters  Tilings  D5343:97- Standard Guide for Evaluating Cleaning Performance of Ceramic Tile Cleaners  C485-83:1999- Standard Test Method for Measuring Warpage of Ceramic Tile  C1378:1997- Standard Test Method for Determination of Resistance to Staining  C650:1997- Standard Test Method for Resistance of Ceramic Tile to Chemical Substances  C648:1998- Standard Test Method for Breaking Strength of Ceramic Tile  19C1027:99-Standard Test Method for Determining Visible Abrasion Resistance of Glazed Ceramic Tile  C609-90:2000- Standard Test Method for Measurement of Small Color Differences Between Ceramic Wall or Floor Tile  C499-78:1999- Standard Test Method for Facial Dimensions and Thickness of Flat, Rectangular Ceramic Wall and Floor Tile |
| AS | Rendering  AS CA27-1959 Code of recommended practice for internal plastering on soid backgrounds  AS/NZS 2350.11-1997/Amdt 1-1998 Methods of testing portland and blended cements - Compressive strength of portland and blended cements  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.2 -1991 Methods of testing portland and blended cements - Chemical composition of portland cement  Tilings  AS 3958.2:1992 - Ceramic tiles - Guide to the selection of a ceramic tiling system  AS 1884-1985-Floor coverings - Resilient sheet and tiles - Laying and maintenance practices  AS 2358-1990-Adhesives - For fixing ceramic tiles  AS 3958.1-1991/Amdt 1-1992-Ceramic tiles - Guide to the installation of ceramic tiles  AS 3958.2-1992-Ceramic tiles - Guide to the selection of a ceramic tiling system  AS 4459.1-1999-Methods of sampling and testing ceramic tiles - Sampling and basis for acceptance  AS 4459.10-1999-Methods of sampling and testing ceramic tiles - Determination of moisture expansion  AS 4459.11-1997-Methods of sampling and testing ceramic tiles - Determination of crazing resistance for glazed tiles  AS 4459.13-1999-Methods of sampling and testing ceramic tiles - Determination of chemical resistance  AS 4459.14-1999-Methods of sampling and testing ceramic tiles - Determination of resistance to stains  AS 4459.2-1999-Methods of sampling and testing ceramic tiles - Determination of dimensions and surface quality  AS 4459.3-1999-Methods of sampling and testing ceramic tiles - Determination of water absorption, apparent porosity, apparent relative density and bulk density  AS 4459.4-1997-Methods of sampling and testing ceramic tiles - Determination of modulus of rupture and breaking strength  AS 4459.6-1999-Methods of sampling and testing ceramic tiles - Determination of resistance to deep abrasion for unglazed tiles  AS 4459.8-1997-Methods of sampling and testing ceramic tiles - Determination of linear thermal expansion |
| SS | Rendering  SS 397 :1997 Methods of testing cement  SS EN 197 series - Cement  Tilings  SS 57:1989- Specification for glazed ceramic tiles and tile fittings for internal walls  SS 301:1985- The use of cement sand cover for tiling  CP 68: 1997- Code of practice for ceramic wall and floor tiling |
| ISO | Tilings  ISO 10545-1:1995- Ceramic tiles -- Part 1: Sampling and basis for acceptance   ISO 10545-3:1995- Ceramic tiles -- Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density  ISO 10545-4:1994- Ceramic tiles -- Part 4: Determination of modulus of rupture and breaking strength  ISO 10545-5:1996- Ceramic tiles -- Part 5: Determination of impact resistance by measurement of coefficient of restitution  ISO 10545-6:1995- Ceramic tiles -- Part 6: Determination of resistance to deep abrasion for unglazed tiles  ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 10545-13:1995- Ceramic tiles -- Part 13: Determination of chemical resistance  ISO 10545-14:1995- Ceramic tiles -- Part 14: Determination of resistance to stains  ISO 10545-16:1999- Ceramic tiles -- Part 16: Determination of small colour differences  ISO 13006:1998- Ceramic tiles -- Definitions, classification, characteristics and marking   ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 13006:1998- Ceramic tiles-definitions, classification, characteristics and making |

## Tile – Crack (Tiling)

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| BS | Tilings  BS 8000:Part11:Section 11.1:1989- Workmanship on building sites- Code of practice for wall and floor tiling-ceramic, terrazzo and mosaics tiles  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  BS 5385-3:1995- Wall and floor tiling. Code of practice for the design and installation of ceramic floor tiles and mosaics in normal conditions  BS 5980:1980- Specification or adhesives for use with ceramic tiles and mosaics  BS 6431-1:1983, EN 87:1991-Ceramic floor and wall tiles. Specification for classification and marking, including definitions and characteristics  BS 6431-2:1984, EN 121:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a low water absorption (E <= 3%). Group A1  BS 6431-3.1:1986, EN 186-1:1991-Ceramic floor and wall tiles. Extruded ceramic tiles with a water absorption of 3% <E<=6% Group A11a. Specification for general products  BS 6431-5:1986, EN 188:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a water absorption of E > 10%. Group A111  BS 6431-7:1986, EN 177:1991-Ceramic floor and wall tiles.  BS 6431-8:1986, EN 178:1991-Ceramic floor and wall tiles.  BS 6431-10:1984, EN 98:1991-Ceramic floor and wall tiles. Method for determination of dimensions and surface quality  BS 6431-11:1983, EN 99:199-1Ceramic floor and wall tiles. Method for determination of water absorption  BS 6431-12:1983, EN 100:1991-Ceramic floor and wall tiles. Method for determination of modulus of rupture  BS 6431-13:1986, EN 101:1991-Ceramic floor and wall tiles. Method for determination of scratch hardness of surface according to Mohs  BS 6431-14:1983, EN 102:1991-Ceramic floor and wall tiles. Method for determination of resistance to deep abrasion. Unglazed tiles  BS 6431-18:1983, EN 106:1991Ceramic floor and wall tiles. Method for determination of chemical resistance. Unglazed tiles |
| ASTM | Tilings  D5343:97- Standard Guide for Evaluating Cleaning Performance of Ceramic Tile Cleaners  C485-83:1999- Standard Test Method for Measuring Warpage of Ceramic Tile  C1378-97- Standard Test Method for Determination of Resistance to Staining  C650-97- Standard Test Method for Resistance of Ceramic Tile to Chemical Substances  C648-98- Standard Test Method for Breaking Strength of Ceramic Tile  C1027-99 Standard Test Method for Determining Visible Abrasion Resistance of Glazed Ceramic Tile  C609-90:2000- Standard Test Method for Measurement of Small Color Differences Between Ceramic Wall or Floor Tile  C499-78:1999- Standard Test Method for Facial Dimensions and Thickness of Flat, Rectangular Ceramic Wall and Floor Tile |
| AS | Tilings  AS 3958.2:1992 - Ceramic tiles - Guide to the selection of a ceramic tiling system  AS 1884-1985-Floor coverings - Resilient sheet and tiles - Laying and maintenance practices  AS 2358-1990-Adhesives - For fixing ceramic tiles  AS 3958.1-1991/Amdt 1-1992-Ceramic tiles - Guide to the installation of ceramic tiles  AS 3958.2-1992-Ceramic tiles - Guide to the selection of a ceramic tiling system  AS 4459.1-1999-Methods of sampling and testing ceramic tiles - Sampling and basis for acceptance  AS 4459.10-1999-Methods of sampling and testing ceramic tiles - Determination of moisture expansion  AS 4459.11-1997-Methods of sampling and testing ceramic tiles - Determination of crazing resistance for glazed tiles  AS 4459.13-1999-Methods of sampling and testing ceramic tiles - Determination of chemical resistance  AS 4459.14-1999-Methods of sampling and testing ceramic tiles - Determination of resistance to stains  AS 4459.2-1999-Methods of sampling and testing ceramic tiles - Determination of dimensions and surface quality  AS 4459.3-1999-Methods of sampling and testing ceramic tiles - Determination of water absorption, apparent porosity, apparent relative density and bulk density  AS 4459.4-1997-Methods of sampling and testing ceramic tiles - Determination of modulus of rupture and breaking strength  AS 4459.8-1997-Methods of sampling and testing ceramic tiles - Determination of linear thermal expansion  AS 4459.7-1999-Methods of sampling and testing ceramic tiles - Determination of resistance to surface abrasion for glazed tiles |
| SS | Tilings  SS 57:1989- Specification for glazed ceramic tiles and tile fittings for internal walls  SS 301:1985- The use of cement sand cover for tiling  CP 68: 1997- Code of practice for ceramic wall and floor tiling |
| ISO | Tilings  ISO 10545-1:1995- Ceramic tiles -- Part 1: Sampling and basis for acceptance   ISO 10545-3:1995- Ceramic tiles -- Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density  ISO 10545-4:1994- Ceramic tiles -- Part 4: Determination of modulus of rupture and breaking strength  ISO 10545-5:1996- Ceramic tiles -- Part 5: Determination of impact resistance by measurement of coefficient of restitution  ISO 10545-6:1995- Ceramic tiles -- Part 6: Determination of resistance to deep abrasion for unglazed tiles ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion ISO 10545-13:1995- Ceramic tiles -- Part 13: Determination of chemical resistance ISO 10545-14:1995- Ceramic tiles -- Part 14: Determination of resistance to stains ISO 10545-16:1999- Ceramic tiles -- Part 16: Determination of small colour differences ISO 13006:1998- Ceramic tiles -- Definitions, classification, characteristics and marking  ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion ISO 13006:1998- Ceramic tiles-definitions, classification, characteristics and making |

## Cracking Due to Hollowness Behind Tile

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| BS | Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8000:Part11:Section 11.1:1989- Workmanship on building sites- Code of practice for wall and floor tiling-ceramic, terrazzo and mosaics tiles  Tilings  BS 5385-3:1995- Wall and floor tiling. Code of practice for the design and installation of ceramic floor tiles and mosaics in normal conditions  BS 5980:1980- Specification or adhesives for use with ceramic tiles and mosaics  BS 6431-1:1983, EN 87:1991-Ceramic floor and wall tiles. Specification for classification and marking, including definitions and characteristics  BS 6431-2:1984, EN 121:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a low water absorption (E <= 3%). Group A1  BS 6431-3.1:1986, EN 186-1:1991-Ceramic floor and wall tiles. Extruded ceramic tiles with a water absorption of 3% <E<=6% Group A11a. Specification for general products  BS 6431-5:1986, EN 188:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a water absorption of E > 10%. Group A111  BS 6431-7:1986, EN 177:1991-Ceramic floor and wall tiles.  BS 6431-8:1986, EN 178:1991-Ceramic floor and wall tiles.  BS 6431-10:1984, EN 98:1991-Ceramic floor and wall tiles. Method for determination of dimensions and surface quality  BS 6431-11:1983, EN 99:199-1Ceramic floor and wall tiles. Method for determination of water absorption  BS 6431-12:1983, EN 100:1991-Ceramic floor and wall tiles. Method for determination of modulus of rupture  BS 6431-13:1986, EN 101:1991-Ceramic floor and wall tiles. Method for determination of scratch hardness of surface according to Mohs  BS 6431-14:1983, EN 102:1991-Ceramic floor and wall tiles. Method for determination of resistance to deep abrasion. Unglazed tiles  BS 6431-18:1983, EN 106:1991Ceramic floor and wall tiles. Method for determination of chemical resistance. Unglazed tiles |
| ASTM | Waterproofing  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  Tilings  D5343:97- Standard Guide for Evaluating Cleaning Performance of Ceramic Tile Cleaners  C485-83:1999- Standard Test Method for Measuring Warpage of Ceramic Tile  C1378-97- Standard Test Method for Determination of Resistance to Staining  C650-97- Standard Test Method for Resistance of Ceramic Tile to Chemical Substances  C648-98- Standard Test Method for Breaking Strength of Ceramic Tile  C1027-99 Standard Test Method for Determining Visible Abrasion Resistance of Glazed Ceramic Tile  C609-90:2000- Standard Test Method for Measurement of Small Color Differences Between Ceramic Wall or Floor Tile  C499-78:1999- Standard Test Method for Facial Dimensions and Thickness of Flat, Rectangular Ceramic Wall and Floor Tile |
| AS | Waterproofing  AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas  AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings  Tilings  AS 1884-1985-Floor coverings - Resilient sheet and tiles - Laying and maintenance practices  AS 2358-1990-Adhesives - For fixing ceramic tiles  AS 3958.1-1991/Amdt 1-1992-Ceramic tiles - Guide to the installation of ceramic tiles  AS 3958.2-1992-Ceramic tiles - Guide to the selection of a ceramic tiling system  AS 4459.1-1999-Methods of sampling and testing ceramic tiles - Sampling and basis for acceptance  AS 4459.10-1999-Methods of sampling and testing ceramic tiles - Determination of moisture expansion  AS 4459.11-1997-Methods of sampling and testing ceramic tiles - Determination of crazing resistance for glazed tiles  AS 4459.13-1999-Methods of sampling and testing ceramic tiles - Determination of chemical resistance  AS 4459.14-1999-Methods of sampling and testing ceramic tiles - Determination of resistance to stains  AS 4459.2-1999-Methods of sampling and testing ceramic tiles - Determination of dimensions and surface quality  AS 4459.3-1999-Methods of sampling and testing ceramic tiles - Determination of water absorption, apparent porosity, apparent relative density and bulk density  AS 4459.4-1997-Methods of sampling and testing ceramic tiles - Determination of modulus of rupture and breaking strength  AS 4459.6-1999-Methods of sampling and testing ceramic tiles - Determination of resistance to deep abrasion for unglazed tiles  AS 4459.8-1997-Methods of sampling and testing ceramic tiles - Determination of linear thermal expansion |
| SS | Tilings  SS 57:1989- Specification for glazed ceramic tiles and tile fittings for internal walls  SS 301:1985- The use of cement sand cover for tiling  CP 68: 1997- Code of practice for ceramic wall and floor tiling |
| ISO | Tilings  ISO 10545-1:1995- Ceramic tiles -- Part 1: Sampling and basis for acceptance   ISO 10545-3:1995- Ceramic tiles -- Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density  ISO 10545-4:1994- Ceramic tiles -- Part 4: Determination of modulus of rupture and breaking strength  ISO 10545-5:1996- Ceramic tiles -- Part 5: Determination of impact resistance by measurement of coefficient of restitution  ISO 10545-6:1995- Ceramic tiles -- Part 6: Determination of resistance to deep abrasion for unglazed tiles  ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 10545-13:1995- Ceramic tiles -- Part 13: Determination of chemical resistance  ISO 10545-14:1995- Ceramic tiles -- Part 14: Determination of resistance to stains  ISO 10545-16:1999- Ceramic tiles -- Part 16: Determination of small colour differences  ISO 13006:1998- Ceramic tiles -- Definitions, classification, characteristics and marking   ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 13006:1998- Ceramic tiles-definitions, classification, characteristics and making |

## Tile – Cracks (Cleaning)

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| BS | BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and framework/BS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviews/BS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures/BS 7543:2015 Guide to durability of buildings and building elements, products and components/ |
| ASTM | D6361-98 Standard Guide for Selecting CLEANING Agents and Processes  G122-96(2002) Standard Test Method for Evaluating the Effectiveness of CLEANING Agents  D5343-97 Standard Guide for Evaluating CLEANING Performance of Ceramic Tile Cleaners |
| AS |  |
| SS | SS499 - Cleaning Standard for Commercial Cleaning |
| ISO |  |

## Tile Staining (Screeding)

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| BS | Plasters and Screeds  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  Cement mortar and grout  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  Tiling  BS 5385-5:1994-Wall and floor tiling. Code of practice for the design and installation of terrazzo tile and slab, natural stone and composition block floorings  BS 5385-1:1995- Wall and floor tiling. Code of practice for the design and installation of internal ceramic and natural stone wall tiling and mosaics in normal conditions  BS 8000-11.2:1990- Workmanship on building sites. Code of practice for wall and floor tiling. Natural stone tiles  BS 8221-1:2000- Code of practice for cleaning and surface repair of buildings. Cleaning of natural stones, brick, terracotta and concrete  BS 8221-2:2000- Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  BS EN 14157 Natural stone test. Determination of abrasion resistance |
| ASTM | Plaster and Screeds  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C1063 - 16 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  Cement mortar and Grout  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C778: 2000-Standard Specification for Standard Sand  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of Prisms Broken in Flexure)  C387-00e1 Standard Specification for Packaged, Dry, Combined Materials for MORTAR and Concrete  C1384-02a Standard Specification for Admixtures for Masonry MORTARs  C952-91(1997)e1 Standard Test Method for Bond Strength of MORTAR to Masonry Units  C1012-02 Standard Test Method for Length Change of Hydraulic-Cement MORTARs Exposed to a Sulfate Solution  C887-79a(2001) Standard Specification for Packaged, Dry, Combined Materials for Surface Bonding MORTAR  Tiling  C503-99e1 Standard Specification for MARBLE Dimension Stone (Exterior)  C568-99 Standard Specification for Limestone Dimension Stone  F963-96ae2 Standard Consumer Safety Specification on Toy Safety  E1857-97 Standard Guide for Selection of Cleaning Techniques for Masonry, Concrete, and Stucco Surfaces  D5107-90(1997) Standard Practice for Preparatory Surface Cleaning of Architectural Sandstone |
| AS | Plaster and Screed  AS CA27-1959 Code of recommended practice for internal plastering on solid backgrounds  Cement mortar and Grout  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution |
| SS | Screed  SS 397 :1997 Methods of testing cement  SS EN 197 series - Cement  Tiling  SS 57:1989- Specification for glazed ceramic tiles and tile fittings for internal walls   CP 67 Part 1: 1997- Code of practice for cleaning and surface repair of buildings: Natural stone, cast stone and clay brick masonry.  CP 68: 1997- Code of practice for ceramic wall and floor tiling  SS 301:1985- The use of cement sand cover for tiling |
| ISO | Cement mortar and Grout  ISO 680:1990 Cement -- Test methods -- Chemical analysis  ISO 863:1990 Cement -- Test methods -- Pozzolanicity test for pozzolanic cements  Tiling  ISO 3920:1976 Honing stones of square section; Designation and dimensions  ISO 603-10:1999 Bonded abrasive products - Dimensions - Part 10: Stones for honing and superfinishings - ISO 603-10:1999  ISO 603-10:1999/COR1:1999 Bonded abrasive products - Dimensions - Part 10: Stones for honing and superfinishings  ISO 8512-2:1990 Surface plates; part 2: granite |

## Staining of Tiles (Tiling)

## Grout Staining

## Dirt Staining (Tiling)

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| BS | Plasters and Screedings  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  Cement Mortar and Grout  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity    Tilings  BS 8000:Part11:Section 11.1:1989- Workmanship on building sites- Code of practice for wall and floor tiling-ceramic, terrazzo and mosaics tiles  BS 5385-3:1995- Wall and floor tiling. Code of practice for the design and installation of ceramic floor tiles and mosaics  BS 5980:1980- Specification or adhesives for use with ceramic tiles and mosaics  BS 6431-1:1983, EN 87:1991-Ceramic floor and wall tiles. Specification for classification and marking, including definitions and characteristics  BS 6431-2:1984, EN 121:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a low water absorption (E <= 3%). Group A1  BS 6431-3.1:1986, EN 186-1:1991Ceramic floor and wall tiles. Extruded ceramic tiles with a water absorption of 3% <E<=6% Group A11a. Specification for general products  BS 6431-5:1986, EN 188:1991Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a water absorption of E > 10%. Group A111  BS 6431-7:1986, EN 177:1991-Ceramic floor and wall tiles.  BS 6431-8:1986, EN 178:1991-Ceramic floor and wall tiles.  BS 6431-10:1984, EN 98:1991-Ceramic floor and wall tiles. Method for determination of dimensions and surface quality  BS 6431-11:1983, EN 99:199-1Ceramic floor and wall tiles. Method for determination of water absorption  BS 6431-12:1983, EN 100:1991-Ceramic floor and wall tiles. Method for determination of modulus of rupture  BS 6431-13:1986, EN 101:1991-Ceramic floor and wall tiles. Method for determination of scratch hardness of surface according to Mohs  BS 6431-14:1983, EN 102:1991-Ceramic floor and wall tiles. Method for determination of resistance to deep abrasion. Unglazed tiles  BS 6431-18:1983, EN 106:1991Ceramic floor and wall tiles. Method for determination of chemical resistance. Unglazed tiles |
| ASTM | Cement Mortar and Grout  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of Prisms Broken in Flexure)  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete  C387-00e1 Standard Specification for Packaged, Dry, Combined Materials for MORTAR and Concrete  C1384-02a Standard Specification for Admixtures for Masonry MORTARs  C952-91(1997)e1 Standard Test Method for Bond Strength of MORTAR to Masonry Units  C1012-02 Standard Test Method for Length Change of Hydraulic-Cement MORTARs Exposed to a Sulfate Solution  C887-79a(2001) Standard Specification for Packaged, Dry, Combined Materials for Surface Bonding MORTAR  Tilings  C1378:1997- Standard Test Method for Determination of Resistance to Staining  D5343:97- Standard Guide for Evaluating Cleaning Performance of Ceramic Tile Cleaners  C485-83:1999- Standard Test Method for Measuring Warpage of Ceramic Tile  C1378:1997- Standard Test Method for Determination of Resistance to Staining  C650:1997- Standard Test Method for Resistance of Ceramic Tile to Chemical Substances  C648:1998- Standard Test Method for Breaking Strength of Ceramic Tile  19C1027:99-Standard Test Method for Determining Visible Abrasion Resistance of Glazed Ceramic Tile  C609-90:2000- Standard Test Method for Measurement of Small Color Differences Between Ceramic Wall or Floor Tile  C499-78:1999- Standard Test Method for Facial Dimensions and Thickness of Flat, Rectangular Ceramic Wall and Floor Tile |
| AS | Plaster and Screed  AS CA27-1959 Code of recommended practice for internal plastering on solid backgrounds  Cement Mortar and Grout  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  Tilings  AS 3958.2:1992 - Ceramic tiles - Guide to the selection of a ceramic tiling system  [AS 1884-1985](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000002603" \t "_blank)-Floor coverings - Resilient sheet and tiles - Laying and maintenance practices  [AS 2358-1990](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000003380" \t "_blank)-Adhesives - For fixing ceramic tiles  [AS 3958.1-1991/Amdt 1-1992](http://www.standards.com.au/catalogue/script/Details.asp?DocN=amdm000743990" \t "_blank)-Ceramic tiles - Guide to the installation of ceramic tiles  [AS 3958.2-1992](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000006082" \t "_blank)-Ceramic tiles - Guide to the selection of a ceramic tiling system  [AS 4459.1-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000023986" \t "_blank)-Methods of sampling and testing ceramic tiles - Sampling and basis for acceptance  [AS 4459.10-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000024079" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of moisture expansion  [AS 4459.11-1997](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000008190" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of crazing resistance for glazed tiles  [AS 4459.13-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000024077" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of chemical resistance  [AS 4459.14-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000024081" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of resistance to stains  [AS 4459.2-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000023983" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of dimensions and surface quality  [AS 4459.3-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000023980" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of water absorption, apparent porosity, apparent relative density and bulk density  [AS 4459.4-1997](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000008187" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of modulus of rupture and breaking strength  [AS 4459.6-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000023989" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of resistance to deep abrasion for unglazed tiles  [AS 4459.8-1997](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000008188" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of linear thermal expansion |
| SS | Rendering  SS 397 :1997 Methods of testing cement  SS EN 197 series - Cement  Tilings  SS 57:1989- Specification for glazed ceramic tiles and tile fittings for internal walls   CP 67 Part 1: 1997- Code of practice for cleaning and surface repair of buildings: Natural stone, cast stone and clay brick masonry.  CP 68: 1997- Code of practice for ceramic wall and floor tiling  SS 301:1985- The use of cement sand cover for tiling |
| ISO | Cement mortar and grouting  ISO 680:1990 Cement -- Test methods -- Chemical analysis  ISO 863:1990 Cement -- Test methods -- Pozzolanicity test for pozzolanic cements  Tilings  ISO 10545-1:1995- Ceramic tiles -- Part 1: Sampling and basis for acceptance   ISO 10545-3:1995- Ceramic tiles -- Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density  ISO 10545-4:1994- Ceramic tiles -- Part 4: Determination of modulus of rupture and breaking strength  ISO 10545-5:1996- Ceramic tiles -- Part 5: Determination of impact resistance by measurement of coefficient of restitution  ISO 10545-6:1995- Ceramic tiles -- Part 6: Determination of resistance to deep abrasion for unglazed tiles  ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 10545-13:1995- Ceramic tiles -- Part 13: Determination of chemical resistance  ISO 10545-14:1995- Ceramic tiles -- Part 14: Determination of resistance to stains  ISO 10545-16:1999- Ceramic tiles -- Part 16: Determination of small colour differences  ISO 13006:1998- Ceramic tiles -- Definitions, classification, characteristics and marking   ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 13006:1998- Ceramic tiles-definitions, classification, characteristics and making |

## Tile Staining

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| BS | Tilings  BS 8000:Part11:Section 11.1:1989- Workmanship on building sites- Code of practice for wall and floor tiling-ceramic, terrazzo and mosaics tiles  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  BS 5385-3:1995- Wall and floor tiling. Code of practice for the design and installation of ceramic floor tiles and mosaics  BS 5980:1980- Specification or adhesives for use with ceramic tiles and mosaics  BS 6431-1:1983, EN 87:1991-Ceramic floor and wall tiles. Specification for classification and marking, including definitions and characteristics  BS 6431-2:1984, EN 121:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a low water absorption (E <= 3%). Group A1  BS 6431-3.1:1986, EN 186-1:1991-Ceramic floor and wall tiles. Extruded ceramic tiles with a water absorption of 3% <E<=6% Group A11a. Specification for general products  BS 6431-5:1986, EN 188:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a water absorption of E > 10%. Group A111  BS 6431-7:1986, EN 177:1991-Ceramic floor and wall tiles.  BS 6431-8:1986, EN 178:1991-Ceramic floor and wall tiles.  BS 6431-10:1984, EN 98:1991-Ceramic floor and wall tiles. Method for determination of dimensions and surface quality  BS 6431-11:1983, EN 99:199-1Ceramic floor and wall tiles. Method for determination of water absorption  BS 6431-12:1983, EN 100:1991-Ceramic floor and wall tiles. Method for determination of modulus of rupture  BS 6431-13:1986, EN 101:1991-Ceramic floor and wall tiles. Method for determination of scratch hardness of surface according to Mohs  BS 6431-14:1983, EN 102:1991-Ceramic floor and wall tiles. Method for determination of resistance to deep abrasion. Unglazed tiles  BS 6431-18:1983, EN 106:1991-Ceramic floor and wall tiles. Method for determination of chemical resistance. Unglazed tiles |
| ASTM | Sand and Concrete  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C778: 2000-Standard Specification for Standard Sand  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of Prisms Broken in Flexure)  C150: 2000-Standard Specification for Portland Cement  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  C 494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete  C33: 2001a-Standard Specification for Concrete Aggregates  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  Water  D1067: 1992(1996)-Standard Test Methods for Acidity or Alkalinity of Water  D1129: 2001-Standard Terminology Relating to Water  D1193: 1999e1-Standard Specification for Reagent Water  D1293: 1999-Standard Test Methods for pH of Water  Tilings  [D5343:97](http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/PAGES/D5343.htm?L%2Bmystore%2Bicct0588" \t "_blank)- Standard Guide for Evaluating Cleaning Performance of Ceramic Tile Cleaners  C485-83:1999- Standard Test Method for Measuring Warpage of Ceramic Tile  C1378:1997- Standard Test Method for Determination of Resistance to Staining  C650:1997- Standard Test Method for Resistance of Ceramic Tile to Chemical Substances  C648:1998- Standard Test Method for Breaking Strength of Ceramic Tile  19C1027:99-Standard Test Method for Determining Visible Abrasion Resistance of Glazed Ceramic Tile  C609-90:2000- Standard Test Method for Measurement of Small Color Differences Between Ceramic Wall or Floor Tile  C499-78:1999- Standard Test Method for Facial Dimensions and Thickness of Flat, Rectangular Ceramic Wall and Floor Tile |
| AS | Concrete  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout   AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  Tilings  AS 3958.2:1992 - Ceramic tiles - Guide to the selection of a ceramic tiling system  [AS 1884-1985](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000002603" \t "_blank)-Floor coverings - Resilient sheet and tiles - Laying and maintenance practices  [AS 2358-1990-](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000003380" \t "_blank)Adhesives - For fixing ceramic tiles  [AS 3958.1-1991/Amdt 1-1992](http://www.standards.com.au/catalogue/script/Details.asp?DocN=amdm000743990" \t "_blank)-Ceramic tiles - Guide to the installation of ceramic tiles  [AS 3958.2-1992](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000006082" \t "_blank)-Ceramic tiles - Guide to the selection of a ceramic tiling system  [AS 4459.1-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000023986" \t "_blank)-Methods of sampling and testing ceramic tiles - Sampling and basis for acceptance  [AS 4459.10-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000024079" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of moisture expansion  [AS 4459.11-1997](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000008190" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of crazing resistance for glazed tiles  [AS 4459.13-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000024077" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of chemical resistance  [AS 4459.14-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000024081" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of resistance to stains  [AS 4459.2-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000023983" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of dimensions and surface quality  [AS 4459.3-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000023980" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of water absorption, apparent porosity, apparent relative density and bulk density  [AS 4459.4-1997](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000008187" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of modulus of rupture and breaking strength  [AS 4459.6-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000023989" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of resistance to deep abrasion for unglazed tiles  [AS 4459.8-1997](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000008188" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of linear thermal expansion  Fittings  AS 3588:1996- Shower bases and shower modules |
| SS | Concrete  SS 26: 1997 Portland cement (ordinary and hardening)   SS 31: 1998 Coarse and fine aggregates from natural sources of concrete  Tilings  SS 57:1989- Specification for glazed ceramic tiles and tile fittings for internal walls  SS 301:1985- The use of cement sand cover for tiling  CP 68: 1997- Code of practice for ceramic wall and floor tiling |
| ISO | Cement mortar and grouting  ISO 680:1990 Cement -- Test methods -- Chemical analysis  ISO 863:1990 Cement -- Test methods -- Pozzolanicity test for pozzolanic cements  Tilings  ISO 10545-1:1995- Ceramic tiles -- Part 1: Sampling and basis for acceptance   ISO 10545-3:1995- Ceramic tiles -- Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density  ISO 10545-4:1994- Ceramic tiles -- Part 4: Determination of modulus of rupture and breaking strength  ISO 10545-5:1996- Ceramic tiles -- Part 5: Determination of impact resistance by measurement of coefficient of restitution  ISO 10545-6:1995- Ceramic tiles -- Part 6: Determination of resistance to deep abrasion for unglazed tiles  ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 10545-13:1995- Ceramic tiles -- Part 13: Determination of chemical resistance  ISO 10545-14:1995- Ceramic tiles -- Part 14: Determination of resistance to stains  ISO 10545-16:1999- Ceramic tiles -- Part 16: Determination of small colour differences  ISO 13006:1998- Ceramic tiles -- Definitions, classification, characteristics and marking  ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 13006:1998- Ceramic tiles-definitions, classification, characteristics and making |

## Tile Staining (marble-tiled floor in a commercial building)

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| BS | Cement mortar and grout  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  Tilings  BS 5385-5:1994-Wall and floor tiling. Code of practice for the design and installation of terrazzo tile and slab, natural stone and composition block floorings  BS 5385-1:1995- Wall and floor tiling. Code of practice for the design and installation of internal ceramic and natural stone wall tiling and mosaics in normal conditions  BS 8000-11.2:1990- Workmanship on building sites. Code of practice for wall and floor tiling. Natural stone tiles  BS 8221-1:2000- Code of practice for cleaning and surface repair of buildings. Cleaning of natural stones, brick, terracotta and concrete  BS 8221-2:2000- Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  BS EN 14157 Natural stone test. Determination of abrasion resistance  BS 5980: 1980- Specification for adhesives for use with ceramic tiles and mosaic |
| ASTM | Cement mortar  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C778: 2000-Standard Specification for Standard Sand  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of Prisms Broken in Flexure)  C150: 2000-Standard Specification for Portland Cement  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  C 494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete  C33: 2001a-Standard Specification for Concrete Aggregates  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  Water  D1067: 1992(1996)-Standard Test Methods for Acidity or Alkalinity of Water  D1129: 2001-Standard Terminology Relating to Water  D1193: 1999e1-Standard Specification for Reagent Water  D1293: 1999-Standard Test Methods for pH of Water  Tiling  C503-99e1 Standard Specification for MARBLE Dimension Stone (Exterior)  C568-99 Standard Specification for Limestone Dimension Stone  F963-96ae2 Standard Consumer Safety Specification on Toy Safety  E1857-97 Standard Guide for Selection of Cleaning Techniques for Masonry, Concrete, and Stucco Surfaces  D5107-90(1997) Standard Practice for Preparatory Surface Cleaning of Architectural Sandstone |
| AS | Cement and Grout  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout   AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution |
| SS | Rendering  SS 397 :1997 Methods of testing cement  SS EN 197 series - Cement  Tilings  SS 57:1989- Specification for glazed ceramic tiles and tile fittings for internal walls   CP 67 Part 1: 1997- Code of practice for cleaning and surface repair of buildings: Natural stone, cast stone and clay brick masonry.  CP 68: 1997- Code of practice for ceramic wall and floor tiling  SS 301:1985- The use of cement sand cover for tiling |
| ISO | Cement mortar and grouting  ISO 680:1990 Cement -- Test methods -- Chemical analysis  ISO 863:1990 Cement -- Test methods -- Pozzolanicity test for pozzolanic cements  Tilings  ISO 3920:1976 Honing stones of square section; Designation and dimensions  ISO 603-10:1999 Bonded abrasive products - Dimensions - Part 10: Stones for honing and superfinishings - ISO 603-10:1999  ISO 603-10:1999/COR1:1999 Bonded abrasive products - Dimensions - Part 10: Stones for honing and superfinishings  ISO 8512-2:1990 Surface plates; part 2: granite |

## Staining along veins

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| BS | Screedings  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  Tilings  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  BS 5385-5:1994-Wall and floor tiling. Code of practice for the design and installation of terrazzo tile and slab, natural stone and composition block floorings  BS 5385-1:1995- Wall and floor tiling. Code of practice for the design and installation of internal ceramic and natural stone wall tiling and mosaics in normal conditions  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  BS 8000-11.2:1990- Workmanship on building sites. Code of practice for wall and floor tiling. Natural stone tiles  BS 8221-1:2000- Code of practice for cleaning and surface repair of buildings. Cleaning of natural stones, brick, terracotta and concrete  BS 8221-2:2000- Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  BS EN 14157 Natural stone test. Determination of abrasion resistance  BS 5980: 1980- Specification for adhesives for use with ceramic tiles and mosaic |
| ASTM | Cement mortar and grout  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C778: 2000-Standard Specification for Standard Sand  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of Prisms Broken in Flexure)  C150: 2000-Standard Specification for Portland Cement  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  C 494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete  C33: 2001a-Standard Specification for Concrete Aggregates  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  Tilings  C503-99e1 Standard Specification for MARBLE Dimension Stone (Exterior)  C568-99 Standard Specification for Limestone Dimension Stone  F963-96ae2 Standard Consumer Safety Specification on Toy Safety  E1857-97 Standard Guide for Selection of Cleaning Techniques for Masonry, Concrete, and Stucco Surfaces  D5107-90(1997) Standard Practice for Preparatory Surface Cleaning of Architectural Sandstone |
| AS | Plaster and Screed  AS CA27-1959 Code of recommended practice for internal plastering on solid backgrounds  Cement Mortar and Grout  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution |
| SS | Rendering  SS 397 :1997 Methods of testing cement  SS EN 197 series - Cement  Tilings  SS 57:1989- Specification for glazed ceramic tiles and tile fittings for internal walls   CP 67 Part 1: 1997- Code of practice for cleaning and surface repair of buildings: Natural stone, cast stone and clay brick masonry.  CP 68: 1997- Code of practice for ceramic wall and floor tiling  SS 301:1985- The use of cement sand cover for tiling |
| ISO | Cement mortar and grouting  ISO 680:1990 Cement -- Test methods -- Chemical analysis  ISO 863:1990 Cement -- Test methods -- Pozzolanicity test for pozzolanic cements  Tilings  ISO 3920:1976 Honing stones of square section; Designation and dimensions  ISO 603-10:1999 Bonded abrasive products - Dimensions - Part 10: Stones for honing and superfinishings - ISO 603-10:1999  ISO 603-10:1999/COR1:1999 Bonded abrasive products - Dimensions - Part 10: Stones for honing and superfinishings  ISO 8512-2:1990 Surface plates; part 2: granite |

## Tile Staining (Plumbing)

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| BS | Plasters and Screedings  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  Cement Mortar and Grout  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity    Tilings  BS 8000:Part11:Section 11.1:1989- Workmanship on building sites- Code of practice for wall and floor tiling-ceramic, terrazzo and mosaics tiles  BS 5385-3:1995- Wall and floor tiling. Code of practice for the design and installation of ceramic floor tiles and mosaics  BS 5980:1980- Specification or adhesives for use with ceramic tiles and mosaics  BS 6431-1:1983, EN 87:1991-Ceramic floor and wall tiles. Specification for classification and marking, including definitions and characteristics  BS 6431-2:1984, EN 121:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a low water absorption (E <= 3%). Group A1  BS 6431-3.1:1986, EN 186-1:1991Ceramic floor and wall tiles. Extruded ceramic tiles with a water absorption of 3% <E<=6% Group A11a. Specification for general products  BS 6431-5:1986, EN 188:1991Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a water absorption of E > 10%. Group A111  BS 6431-7:1986, EN 177:1991-Ceramic floor and wall tiles.  BS 6431-8:1986, EN 178:1991-Ceramic floor and wall tiles.  BS 6431-10:1984, EN 98:1991-Ceramic floor and wall tiles. Method for determination of dimensions and surface quality  BS 6431-11:1983, EN 99:199-1Ceramic floor and wall tiles. Method for determination of water absorption  BS 6431-12:1983, EN 100:1991-Ceramic floor and wall tiles. Method for determination of modulus of rupture  BS 6431-13:1986, EN 101:1991-Ceramic floor and wall tiles. Method for determination of scratch hardness of surface according to Mohs  BS 6431-14:1983, EN 102:1991-Ceramic floor and wall tiles. Method for determination of resistance to deep abrasion. Unglazed tiles  BS 6431-18:1983, EN 106:1991Ceramic floor and wall tiles. Method for determination of chemical resistance. Unglazed tiles |
| ASTM | Plaster and Screeds  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C1063 - 16 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  Cement mortar and grout  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C778: 2000-Standard Specification for Standard Sand  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of Prisms Broken in Flexure)  C150: 2000-Standard Specification for Portland Cement  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  C 494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete  C33: 2001a-Standard Specification for Concrete Aggregates  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  Tiling  [D5343:97](http://www.astm.org/cgi-bin/SoftCart.exe/DATABASE.CART/PAGES/D5343.htm?L%2Bmystore%2Bicct0588" \t "_blank)- Standard Guide for Evaluating Cleaning Performance of Ceramic Tile Cleaners  C485-83:1999- Standard Test Method for Measuring Warpage of Ceramic Tile  C1378:1997- Standard Test Method for Determination of Resistance to Staining  C650:1997- Standard Test Method for Resistance of Ceramic Tile to Chemical Substances  C648:1998- Standard Test Method for Breaking Strength of Ceramic Tile  19C1027:99-Standard Test Method for Determining Visible Abrasion Resistance of Glazed Ceramic Tile  C609-90:2000- Standard Test Method for Measurement of Small Color Differences Between Ceramic Wall or Floor Tile  C499-78:1999- Standard Test Method for Facial Dimensions and Thickness of Flat, Rectangular Ceramic Wall and Floor Tile |
| AS | Plaster and Screed  AS CA27-1959 Code of recommended practice for internal plastering on solid backgrounds  Cement mortar and Grout  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout   AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  Tilings  AS 3958.2:1992 - Ceramic tiles - Guide to the selection of a ceramic tiling system  [AS 1884-1985](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000002603" \t "_blank)-Floor coverings - Resilient sheet and tiles - Laying and maintenance practices  [AS 2358-1990](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000003380" \t "_blank)-Adhesives - For fixing ceramic tiles  [AS 3958.1-1991/Amdt 1-1992](http://www.standards.com.au/catalogue/script/Details.asp?DocN=amdm000743990" \t "_blank)-Ceramic tiles - Guide to the installation of ceramic tiles  [AS 3958.2-1992](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000006082" \t "_blank)-Ceramic tiles - Guide to the selection of a ceramic tiling system  [AS 4459.1-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000023986" \t "_blank)-Methods of sampling and testing ceramic tiles - Sampling and basis for acceptance  [AS 4459.10-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000024079" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of moisture expansion  [AS 4459.11-1997](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000008190" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of crazing resistance for glazed tiles  [AS 4459.13-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000024077" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of chemical resistance  [AS 4459.14-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000024081" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of resistance to stains  [AS 4459.2-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000023983" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of dimensions and surface quality  [AS 4459.3-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000023980" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of water absorption, apparent porosity, apparent relative density and bulk density  [AS 4459.4-1997](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000008187" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of modulus of rupture and breaking strength  [AS 4459.6-1999](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000023989" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of resistance to deep abrasion for unglazed tiles  [AS 4459.8-1997](http://www.standards.com.au/catalogue/script/Details.asp?DocN=stds000008188" \t "_blank)-Methods of sampling and testing ceramic tiles - Determination of linear thermal expansion |
| SS | Rendering  SS 397 :1997 Methods of testing cement  SS EN 197 series - Cement  Tilings  SS 57:1989- Specification for glazed ceramic tiles and tile fittings for internal walls   CP 67 Part 1: 1997- Code of practice for cleaning and surface repair of buildings: Natural stone, cast stone and clay brick masonry.  CP 68: 1997- Code of practice for ceramic wall and floor tiling  SS 301:1985- The use of cement sand cover for tiling |
| ISO | Cement mortar and grouting  ISO 680:1990 Cement -- Test methods -- Chemical analysis  ISO 863:1990 Cement -- Test methods -- Pozzolanicity test for pozzolanic cements  Tilings  ISO 10545-1:1995- Ceramic tiles -- Part 1: Sampling and basis for acceptance   ISO 10545-3:1995- Ceramic tiles -- Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density  ISO 10545-4:1994- Ceramic tiles -- Part 4: Determination of modulus of rupture and breaking strength  ISO 10545-5:1996- Ceramic tiles -- Part 5: Determination of impact resistance by measurement of coefficient of restitution  ISO 10545-6:1995- Ceramic tiles -- Part 6: Determination of resistance to deep abrasion for unglazed tiles  ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 10545-13:1995- Ceramic tiles -- Part 13: Determination of chemical resistance  ISO 10545-14:1995- Ceramic tiles -- Part 14: Determination of resistance to stains  ISO 10545-16:1999- Ceramic tiles -- Part 16: Determination of small colour differences  ISO 13006:1998- Ceramic tiles -- Definitions, classification, characteristics and marking   ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 13006:1998- Ceramic tiles-definitions, classification, characteristics and making |

## Damp Patch

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| BS | Screedings  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  Cement mortar and grout  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  Tilings  BS 5385-5:1994-Wall and floor tiling. Code of practice for the design and installation of terrazzo tile and slab, natural stone and composition block floorings  BS 5385-1:1995- Wall and floor tiling. Code of practice for the design and installation of internal ceramic and natural stone wall tiling and mosaics in normal conditions  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  BS 8000-11.2:1990- Workmanship on building sites. Code of practice for wall and floor tiling. Natural stone tiles  BS 8221-1:2000- Code of practice for cleaning and surface repair of buildings. Cleaning of natural stones, brick, terracotta and concrete  BS 8221-2:2000- Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  BS EN 14157 Natural stone test. Determination of abrasion resistance  BS 5980: 1980- Specification for adhesives for use with ceramic tiles and mosaic |
| ASTM | Cement mortar and grout  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C778: 2000-Standard Specification for Standard Sand  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of Prisms Broken in Flexure)  C150: 2000-Standard Specification for Portland Cement  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  C 494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete  C33: 2001a-Standard Specification for Concrete Aggregates  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  Tilings  C615-99 Standard Specification for GRANITE Dimension Stone  E1857-97 Standard Guide for Selection of Cleaning Techniques for Masonry, Concrete, and Stucco Surfaces  D5107-90(1997) Standard Practice for Preparatory Surface Cleaning of Architectural Sandstone  D4700-91(1998)e1 Standard Guide for Soil Sampling from the Vadose Zone  D2203-01 Standard Test Method for Staining from Sealants |
| AS | Plaster and Screed  AS CA27-1959 Code of recommended practice for internal plastering on solid backgrounds  Cement mortar and grout  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout   AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution |
| SS | Rendering  SS 397 :1997 Methods of testing cement  SS EN 197 series - Cement  Tilings  SS 57:1989- Specification for glazed ceramic tiles and tile fittings for internal walls   CP 67 Part 1: 1997- Code of practice for cleaning and surface repair of buildings: Natural stone, cast stone and clay brick masonry.  CP 68: 1997- Code of practice for ceramic wall and floor tiling  SS 301:1985- The use of cement sand cover for tiling |
| ISO | Cement mortar and grouting  ISO 680:1990 Cement -- Test methods -- Chemical analysis  ISO 863:1990 Cement -- Test methods -- Pozzolanicity test for pozzolanic cements  Tilings  ISO 3920:1976 Honing stones of square section; Designation and dimensions  ISO 603-10:1999 Bonded abrasive products - Dimensions - Part 10: Stones for honing and superfinishings - ISO 603-10:1999  ISO 603-10:1999/COR1:1999 Bonded abrasive products - Dimensions - Part 10: Stones for honing and superfinishings  ISO 8512-2:1990 Surface plates; part 2: granite |

## Uneven Tile Surfaces

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| BS | Tiling  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  BS 5385-3:1995- Wall and floor tiling. Code of practice for the design and installation of ceramic floor tiles and mosaics  BS 5980:1980- Specification or adhesives for use with ceramic tiles and mosaics  BS 6431-1:1983, EN 87:1991-Ceramic floor and wall tiles. Specification for classification and marking, including definitions and characteristics  BS 6431-2:1984, EN 121:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a low water absorption (E <= 3%). Group A1  BS 6431-3.1:1986, EN 186-1:1991-Ceramic floor and wall tiles. Extruded ceramic tiles with a water absorption of 3% <E<=6% Group A11a. Specification for general products  BS 6431-5:1986, EN 188:1991-Ceramic floor and wall tiles. Specification for extruded ceramic tiles with a water absorption of E > 10%. Group A111  BS 6431-7:1986, EN 177:1991-Ceramic floor and wall tiles.  BS 6431-8:1986, EN 178:1991-Ceramic floor and wall tiles.  BS 6431-10:1984, EN 98:1991-Ceramic floor and wall tiles. Method for determination of dimensions and surface quality  BS 6431-11:1983, EN 99:199-1Ceramic floor and wall tiles. Method for determination of water absorption  BS 6431-12:1983, EN 100:1991-Ceramic floor and wall tiles. Method for determination of modulus of rupture  BS 6431-13:1986, EN 101:1991-Ceramic floor and wall tiles. Method for determination of scratch hardness of surface according to Mohs  BS 6431-14:1983, EN 102:1991-Ceramic floor and wall tiles. Method for determination of resistance to deep abrasion. Unglazed tiles  BS 6431-18:1983, EN 106:1991Ceramic floor and wall tiles. Method for determination of chemical resistance. Unglazed tiles |
| ASTM | Tiling  D5343:97- Standard Guide for Evaluating Cleaning Performance of Ceramic Tile Cleaners  C485-83:1999- Standard Test Method for Measuring Warpage of Ceramic Tile  C1378:1997- Standard Test Method for Determination of Resistance to Staining  C650:1997- Standard Test Method for Resistance of Ceramic Tile to Chemical Substances  C648:1998- Standard Test Method for Breaking Strength of Ceramic Tile  19C1027:99-Standard Test Method for Determining Visible Abrasion Resistance of Glazed Ceramic Tile  C609-90:2000- Standard Test Method for Measurement of Small Color Differences Between Ceramic Wall or Floor Tile  C499-78:1999- Standard Test Method for Facial Dimensions and Thickness of Flat, Rectangular Ceramic Wall and Floor Tile |
| AS | Tiling  AS 1884-1985-Floor coverings - Resilient sheet and tiles - Laying and maintenance practices  AS 2358-1990-Adhesives - For fixing ceramic tiles  AS 3958.1-1991/Amdt 1-1992-Ceramic tiles - Guide to the installation of ceramic tiles  AS 3958.2-1992-Ceramic tiles - Guide to the selection of a ceramic tiling system  AS 4459.1-1999-Methods of sampling and testing ceramic tiles - Sampling and basis for acceptance  AS 4459.10-1999-Methods of sampling and testing ceramic tiles - Determination of moisture expansion  AS 4459.11-1997-Methods of sampling and testing ceramic tiles - Determination of crazing resistance for glazed tiles  AS 4459.13-1999-Methods of sampling and testing ceramic tiles - Determination of chemical resistance  AS 4459.14-1999-Methods of sampling and testing ceramic tiles - Determination of resistance to stains  AS 4459.2-1999-Methods of sampling and testing ceramic tiles - Determination of dimensions and surface quality  AS 4459.3-1999-Methods of sampling and testing ceramic tiles - Determination of water absorption, apparent porosity, apparent relative density and bulk density  AS 4459.4-1997-Methods of sampling and testing ceramic tiles - Determination of modulus of rupture and breaking strength  AS 4459.6-1999-Methods of sampling and testing ceramic tiles - Determination of resistance to deep abrasion for unglazed tiles  AS 4459.8-1997-Methods of sampling and testing ceramic tiles - Determination of linear thermal expansion |
| SS | Rendering  SS 397 :1997 Methods of testing cement  SS EN 197 series - Cement  Tiling  SS 301:1985- The use of cement sand cover for tiling  SS 57:1989- Specification for glazed ceramic tiles and tile fittings for internal walls |
| ISO | Cement mortar and grouting  ISO 680:1990 Cement -- Test methods -- Chemical analysis  ISO 863:1990 Cement -- Test methods -- Pozzolanicity test for pozzolanic cements  Tiling  ISO 10545-1:1995- Ceramic tiles -- Part 1: Sampling and basis for acceptance  ISO 10545-3:1995- Ceramic tiles -- Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density  ISO 10545-4:1994- Ceramic tiles -- Part 4: Determination of modulus of rupture and breaking strength  ISO 10545-5:1996- Ceramic tiles -- Part 5: Determination of impact resistance by measurement of coefficient of restitution  ISO 10545-6:1995- Ceramic tiles -- Part 6: Determination of resistance to deep abrasion for unglazed tiles  ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 10545-13:1995- Ceramic tiles -- Part 13: Determination of chemical resistance  ISO 10545-14:1995- Ceramic tiles -- Part 14: Determination of resistance to stains  ISO 10545-16:1999- Ceramic tiles -- Part 16: Determination of small colour differences  ISO 13006:1998- Ceramic tiles -- Definitions, classification, characteristics and marking  ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 133006:1998- Ceramic tiles-definitions, classification, characteristics and making |

## Paint Peeling

## Flaking off of Paint

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| BS | Paints  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 4800:2011 Schedule of paint colours for building purposes  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints  Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles |
| ASTM | Paints  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  Waterproofing  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014) |
| AS | Paints  AS/NZS 2310:2002 Glossary of paint and painting terms  AS/NZS 2311:2009 Guide to the painting of buildings  AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints  AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides  HB 73.1-2005 Handbook of Australian Paint Standards - General  HB 73.2-2005 Handbook of Australian Paint Standards - Test methods  AS/NZS 1580.101.1:1999 (R2013) Paints and related materials - Methods of test - - Conditions of test - Temperature, humidity and airflow control  AS/NZS 1580.107.2:1995 Paints and related materials - Methods of test - - Determination of wet film thickness from wet film mass  AS 1580.408.5-2006 Paints and related materials - Methods of test - Adhesion - Pull-off test  AS/NZS 1580.481.1.10:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS/NZS 1580.481.1.13:1998 (Reconfirmed 2013) Methods of test for paints and related materials - Exposed to weathering - Degree of fungal or algal growth  AS/NZS 1580.481.1.9:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering  Waterproofing  AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas   AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings |
| SS | Paints  SS 542 : 2008 Code of practice for painting of buildings  SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes  CP 82 : 1999 Code of practice for waterproofing of reinforced concrete buildings  SS 345: 1990 Algae resistant emulsion paint for decorative purposes  Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings |
| ISO | Paints  ISO 1513:2010 Paints and varnishes -- Examination and preparation of test samples  ISO 1514:2004 Paints and varnishes -- Standard panels for testing  ISO 1516:2002 Determination of flash/no flash -- Closed cup equilibrium method  ISO 9117-3:2010 Paints and varnishes -- Drying tests -- Part 3: Surface-drying test using ballotini  ISO 1518-1:2011 Paints and varnishes -- Determination of scratch resistance -- Part 1: Constant-loading method  ISO 1519:2011 Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520:2006 - Paints and varnishes -- Cupping test  ISO 1522:2006 Paints and varnishes -- Pendulum damping test  ISO 1523:2002 Determination of flash point -- Closed cup equilibrium method  ISO 1524:2013 Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409:2013 Paints and varnishes -- Cross-cut test  ISO 2431:2011 Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808:2007 Paints and varnishes -- Determination of film thickness  ISO 2810:2004 Paints and varnishes -- Natural weathering of coatings -- Exposure and assessment  ISO 2811-1:2016 Paints and varnishes -- Determination of density -- Part 1: Pycnometer method  ISO 2811-2:2011 Paints and varnishes -- Determination of density -- Part 2: Immersed body (plummet) method  ISO 2811-3:2011 Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4:2011 Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water  ISO 2812-2:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813:2014 Paints and varnishes -- Determination of gloss value at 20 degrees, 60 degrees and 85 degrees  BS EN ISO 2814:2006, BS 3900-D4:2006 Paints and varnishes. Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815:2003 Paints and varnishes -- Buchholz indentation test  ISO 2884-1:1999 Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear  ISO 3231: 1993 Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233-1:2013 Paints and varnishes -- Determination of the percentage volume of non-volatile matter -- Part 1: Method using a coated test panel to determine non-volatile matter and to determine dry film density by the Archimedes principle  ISO 3248: 1998 Paints and varnishes -- Determination of the effect of heat  ISO 3251:2008 Paints, varnishes and plastics -- Determination of non-volatile-matter content  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 1: General introduction and designation system  ISO 4628-2:2003 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering  ISO 4628-3:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 3: Assessment of degree of rusting  ISO 4628-4:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 4: Assessment of degree of cracking  ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking  ISO 4628-6:2011 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 6: Assessment of degree of chalking by tape method  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272-1:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 1: Falling-weight test, large-area indenter/ ISO 6272-2:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 2: Falling-weight test, small-area indenter  ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3:2006 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio of light-coloured paints at a fixed spreading rate  ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860:2006 Paints and varnishes -- Bend test (conical mandrel)  ISO 7142:2007 Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143:2007 Binders for paints and varnishes -- Methods of test for characterizing water-based binders  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method  ISO 7784-1:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Method with abrasive-paper covered wheels and rotating test specimen  ISO 7784-2:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Method with abrasive rubber wheels and rotating test specimen  ISO 7784-3:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen  ISO 8501-1:2007 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall  ISO 9514:2005 Paints and varnishes -- Determination of the pot life of multicomponent coating systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 16474-1:2013 Paints and varnishes -- Methods of exposure to laboratory light sources -- Part 1: General guidance  ISO 11668:1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1:2007 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2:2013 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909:2007 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1:2005 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2:2013 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137:2011 Paints and varnishes -- Determination of mar resistance  ISO 1518-2:2011 Paints and varnishes -- Determination of scratch resistance -- Part 2: Variable-loading method  ISO 14680-1:2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184:2012 Paints and varnishes -- Determination of film hardness by pencil test  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete |

## Peeling of Paint

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| BS | Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Concrete  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. Recommendations for the determination of the initial surface absorption of concrete/ BS 1881-209:1990. Testing concrete. Recommendations for the measurement of dynamic modulus of elasticity/ BS 1881-204:1988. Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986. Testing concrete. Recommendations for determination of strain in concrete/ BS 1881-121:1983. Testing concrete. Method for determination of static modulus of elasticity in compression/ BS EN 12504-2:2012. Testing concrete in structures. Non-destructive testing. Determination of rebound number/ BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete.  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS 4550:(varies)-Methods of testing cement  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar / BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration) / BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars / BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis) / BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars / BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table) / BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar / BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar / BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar / BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  BS 4887:1986-Mortar admixtures  BS EN 206:2013 Concrete. Specification, performance, production and conformity  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles    Paints  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. 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Assessment of degree of flaking  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints |
| ASTM | Waterproofing  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  Concrete  C33-01- Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  insert paint |
| AS | Waterproofing  AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas   AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings  Concrete  AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  Paints  AS/NZS 2310:2002 Glossary of paint and painting terms  AS/NZS 2311:2009 Guide to the painting of buildings  AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints  AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides  HB 73.1-2005 Handbook of Australian Paint Standards - General  HB 73.2-2005 Handbook of Australian Paint Standards - Test methods  AS/NZS 1580.101.1:1999 (R2013) Paints and related materials - Methods of test - - Conditions of test - Temperature, humidity and airflow control  AS/NZS 1580.107.2:1995 Paints and related materials - Methods of test - - Determination of wet film thickness from wet film mass  AS 1580.408.5-2006 Paints and related materials - Methods of test - Adhesion - Pull-off test  AS/NZS 1580.481.1.10:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS/NZS 1580.481.1.13:1998 (Reconfirmed 2013) Methods of test for paints and related materials - Exposed to weathering - Degree of fungal or algal growth  AS/NZS 1580.481.1.9:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 32 Series - Welded steel fabric for the reinforcement of concrete  SS 117 : 1975 HOT DIP GALVANIZED COATINGS ON IRON AND STEEL ARTICLES (REFER TO ISO 1460 AND ISO 1461)  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  Paints  SS 542 : 2008 Code of practice for painting of buildings  SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes |
| ISO | Concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 4103:1979 Concrete -- Classification of consistency  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression    Steel  ISO 6934-1: 1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2: 1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3: 1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4: 1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5: 1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1: 1991 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2: 1991 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabric ISO 7033: 1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water  absorption -- Pycnometer method  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete  Paints  ISO 1513:2010 Paints and varnishes -- Examination and preparation of test samples  ISO 1514:2004 Paints and varnishes -- Standard panels for testing  ISO 1516: 1981 Paints, varnishes, petroleum and related products -- Flash/no flash test -- Closed cup equilibrium  method  ISO 9117-3:2010 Paints and varnishes -- Drying tests -- Part 3: Surface-drying test using ballotini  ISO 1518-1:2011 Paints and varnishes -- Determination of scratch resistance -- Part 1: Constant-loading method  ISO 1519:2011 Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520:2006 - Paints and varnishes -- Cupping test  ISO 1522:2006 Paints and varnishes -- Pendulum damping test  ISO 1523: 1983 Paints, varnishes, petroleum and related products -- Determination of flashpoint -- Closed cup  equilibrium method  ISO 1524:2013 Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409:2013 Paints and varnishes -- Cross-cut test  ISO 2431:2011 Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808:2007 Paints and varnishes -- Determination of film thickness  ISO 2810:2004 Paints and varnishes -- Natural weathering of coatings -- Exposure and assessment  ISO 2811-1:2016 Paints and varnishes -- Determination of density -- Part 1: Pycnometer method  ISO 2811-2:2011 Paints and varnishes -- Determination of density -- Part 2: Immersed body (plummet) method  ISO 2811-3:2011 Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4:2011 Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water  ISO 2812-2:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813: 1994 Paints and varnishes -- Determination of specular gloss of non-metallic paint films at 20 degrees, 60  degrees and 85 degrees  ISO 2814: 1973 Paints and varnishes -- Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815:2003 Paints and varnishes -- Buchholz indentation test  ISO 2884-1: 1999 Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate  viscometer operated at a high rate of shear  ISO 3231: 1993 Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233-1:2013 Paints and varnishes -- Determination of the percentage volume of non-volatile matter -- Part 1: Method using a coated test panel to determine non-volatile matter and to determine dry film density by the Archimedes principle  ISO 3248: 1998 Paints and varnishes -- Determination of the effect of heat  ISO 3251: 1993 Paints and varnishes -- Determination of non-volatile matter of paints, varnishes and binders for paints  and varnishes  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4618-2: 1999 Paints and varnishes -- Terms and definitions for coating materials -- Part 2: Special terms relating  to paint characteristics and properties  ISO 4618-3: 1999 Paints and varnishes -- Terms and definitions for coating materials -- Part 3: Surface preparation and  methods of application  ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1: 1982 Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity,  quantity and size of common types of defect -- Part 1: General principles and rating schemes  ISO 4628-2: 1982 Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity,  quantity and size of common types of defect -- Part 2: Designation of degree of blistering  ISO 4628-3: 1982 Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity,  quantity and size of common types of defect -- Part 3: Designation of degree of rusting  ISO 4628-4: 1982 Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity,  quantity and size of common types of defect -- Part 4: Designation of degree of cracking  ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking  ISO 4628-6:2011 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 6: Assessment of degree of chalking by tape method  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272-1:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 1: Falling-weight test, large-area indenter/ ISO 6272-2:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 2: Falling-weight test, small-area indenter    ISO 6441-1: 1999 Paints and varnishes -- Determination of micro-indentation hardness -- Part 1: Knoop hardness by  measurement of indentation length  ISO 6441-2: 1999 Paints and varnishes -- Determination of micro-indentation hardness -- Part 2: Knoop hardness by  measurement of indentation depth under load  ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and  light-coloured paints  ISO 6504-3: 1998 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio  (opacity) of light-coloured paints at a fixed spreading rate  ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride  content  ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860:2006 Paints and varnishes -- Bend test (conical mandrel)  ISO 7142:2007 Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143:2007 Binders for paints and varnishes -- Methods of test for characterizing water-based binders          ISO 7783-1: 1996 Paints and varnishes -- Determination of water-vapour transmission rate -- Part 1: Dish method for  free films  ISO 7783-2: 1999 Paints and varnishes -- Coating materials and coating systems for exterior masonry and concrete --  Part 2: Determination and classification of water-vapour transmission rate (permeability)  ISO 7784-1: 1997 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Rotating abrasive-paper- covered wheel method  ISO 7784-2: 1997 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Rotating abrasive rubber  wheel method  ISO 7784-3: 2000 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Reciprocating test panel  method  ISO 8501-1:2007 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall  ISO 9514: 1992 Paints and varnishes -- Determination of the pot-life of liquid systems -- Preparation and conditioning  of samples and guidelines for testing  ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 11507: 1997 Paints and varnishes -- Exposure of coatings to artificial weathering -- Exposure to fluorescent UV  and water  ISO 11668:1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1: 2000 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1:  Difference method  ISO 11890-2: 2000 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas- chromatographic method  ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909:2007 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1:2005 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2:2013 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137:2011 Paints and varnishes -- Determination of mar resistance  ISO 1518-2:2011 Paints and varnishes -- Determination of scratch resistance -- Part 2: Variable-loading method  ISO 14680-1:2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184:2012 Paints and varnishes -- Determination of film hardness by pencil test |

## Paint peeling

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| BS | Concrete  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. Recommendations for the determination of the initial surface absorption of concrete/ BS 1881-209:1990. Testing concrete. Recommendations for the measurement of dynamic modulus of elasticity/ BS 1881-204:1988. Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986. Testing concrete. Recommendations for determination of strain in concrete/ BS 1881-121:1983. Testing concrete. Method for determination of static modulus of elasticity in compression/ BS EN 12504-2:2012. Testing concrete in structures. Non-destructive testing. Determination of rebound number/ BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete.  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS 4550:(varies)-Methods of testing cement  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar / BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration) / BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars / BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis) / BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars / BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table) / BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar / BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar / BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar / BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  BS 4887:1986-Mortar admixtures  BS EN 206:2013 Concrete. Specification, performance, production and conformity  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Paints  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints    BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. 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Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles |
| ASTM | Waterproofing  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  Concrete  C33-01- Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  Paints  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  Plaster  ASTM C1063 - 16a Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster |
| AS | Waterproofing  AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas   AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings  Steel  DR 01047 : Cathodic protection of metals - Part 5: Steel in concrete structures  AS 1302-1991/ Amd 1:1992 : Steel reinforcing bars for concrete  AS 1303-1991 : Steel reinforcing wire for concrete  Concrete  AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  concreteAS 1379-2007/Amdt 1-2009 Specification and supply of concrete - AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2550.15-1994 Cranes - Safe use - Concrete placing equipment  AS 3600-2009 Concrete structures  AS 3648-1993 : Specification and methods of test for packaged concrete mixes  Paints  AS/NZS 2310:2002 Glossary of paint and painting terms  AS/NZS 2311:2009 Guide to the painting of buildings  AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints  AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides  HB 73.1-2005 Handbook of Australian Paint Standards - General  HB 73.2-2005 Handbook of Australian Paint Standards - Test methods  AS/NZS 1580.101.1:1999 (R2013) Paints and related materials - Methods of test - - Conditions of test - Temperature, humidity and airflow control  AS/NZS 1580.107.2:1995 Paints and related materials - Methods of test - - Determination of wet film thickness from wet film mass  AS 1580.408.5-2006 Paints and related materials - Methods of test - Adhesion - Pull-off test  AS/NZS 1580.481.1.10:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS/NZS 1580.481.1.13:1998 (Reconfirmed 2013) Methods of test for paints and related materials - Exposed to weathering - Degree of fungal or algal growth  AS/NZS 1580.481.1.9:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  Steel  SS 566 : 2011 Specification for steel for the reinforcement of concrete – Plain bars  SS 18 - 1 : 1999 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric - Steel grade 500  SS 580 : 2012 Code of practice for formwork  SS 32 Series - Welded steel fabric for the reinforcement of concrete  Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  Paints  SS 542 : 2008 Code of practice for painting of buildings  SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes |
| ISO | Concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 4103:1979 Concrete -- Classification of consistency  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 4635: 1982 Rubber, vulcanized -- Preformed compression seals for use between concrete motorway paving  sections -- Specification for material  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783: 1982 Coarse aggregates for concrete -- Determination of particle density and water absorption --  Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  Steel  ISO 6934-1: 1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2: 1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3: 1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4: 1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5: 1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent  processing  ISO 6935-1: 1991 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2: 1991 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabric ISO 7033: 1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water  absorption -- Pycnometer method  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete  Paints  ISO 1513:2010 Paints and varnishes -- Examination and preparation of test samples  ISO 1514:2004 Paints and varnishes -- Standard panels for testing  ISO 1516: 1981 Paints, varnishes, petroleum and related products -- Flash/no flash test -- Closed cup equilibrium  method  ISO 9117-3:2010 Paints and varnishes -- Drying tests -- Part 3: Surface-drying test using ballotini  ISO 1518-1:2011 Paints and varnishes -- Determination of scratch resistance -- Part 1: Constant-loading method  ISO 1519:2011 Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520:2006 - Paints and varnishes -- Cupping test  ISO 1522:2006 Paints and varnishes -- Pendulum damping test  ISO 1523: 1983 Paints, varnishes, petroleum and related products -- Determination of flashpoint -- Closed cup  equilibrium method  ISO 1524:2013 Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409:2013 Paints and varnishes -- Cross-cut test  ISO 2431:2011 Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808:2007 Paints and varnishes -- Determination of film thickness  ISO 2810:2004 Paints and varnishes -- Natural weathering of coatings -- Exposure and assessment  ISO 2811-1:2016 Paints and varnishes -- Determination of density -- Part 1: Pycnometer method  ISO 2811-2:2011 Paints and varnishes -- Determination of density -- Part 2: Immersed body (plummet) method  ISO 2811-3:2011 Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4:2011 Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water  ISO 2812-2:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813: 1994 Paints and varnishes -- Determination of specular gloss of non-metallic paint films at 20 degrees, 60  degrees and 85 degrees  ISO 2814: 1973 Paints and varnishes -- Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815:2003 Paints and varnishes -- Buchholz indentation test  ISO 2884-1: 1999 Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate  viscometer operated at a high rate of shear  ISO 3231: 1993 Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233: 1998 Paints and varnishes -- Determination of percentage volume of non-volatile matter by measuring the  density of a dried coating  ISO 3248: 1998 Paints and varnishes -- Determination of the effect of heat  ISO 3251:2008 Paints, varnishes and plastics -- Determination of non-volatile-matter content  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4618:2014 Paints and varnishes -- Terms and definitions    ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 1: General introduction and designation system  ISO 4628-2:2003 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering  ISO 4628-3:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 3: Assessment of degree of rusting  ISO 4628-4:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 4: Assessment of degree of cracking  ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking  ISO 4628-6:2011 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 6: Assessment of degree of chalking by tape method  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272-1:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 1: Falling-weight test, large-area indenter/ ISO 6272-2:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 2: Falling-weight test, small-area indenter        ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3:2006 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio of light-coloured paints at a fixed spreading rate  ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860:2006 Paints and varnishes -- Bend test (conical mandrel)  ISO 7142:2007 Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143:2007 Binders for paints and varnishes -- Methods of test for characterizing water-based binders          ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method    ISO 7784-1:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Method with abrasive-paper covered wheels and rotating test specimen  ISO 7784-2:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Method with abrasive rubber wheels and rotating test specimen  ISO 7784-3:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen  ISO 8501-1:2007 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall  ISO 9514:2005 Paints and varnishes -- Determination of the pot life of multicomponent coating systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 11507: 1997 Paints and varnishes -- Exposure of coatings to artificial weathering -- Exposure to fluorescent UV  and water  ISO 11668:1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1:2007 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2:2013 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909:2007 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1:2005 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2:2013 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137:2011 Paints and varnishes -- Determination of mar resistance  ISO 1518-2:2011 Paints and varnishes -- Determination of scratch resistance -- Part 2: Variable-loading method  ISO 14680-1:2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184:2012 Paints and varnishes -- Determination of film hardness by pencil test |

## Paint Blistering – Blistering around the PVC floor trap

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| BS | Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Paints  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints |
| ASTM | Waterproofing  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  Paints  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  Plaster  ASTM C1063 - 16a Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster |
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| SS | Paints  SS 542 : 2008 Code of practice for painting of buildings  SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes  CP 82 : 1999 Code of practice for waterproofing of reinforced concrete buildings  Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings |
| ISO | Paints  ISO 1513:2010 Paints and varnishes -- Examination and preparation of test samples  ISO 1514:2004 Paints and varnishes -- Standard panels for testing  ISO 1516:2002 Determination of flash/no flash -- Closed cup equilibrium method  ISO 9117-3:2010 Paints and varnishes -- Drying tests -- Part 3: Surface-drying test using ballotini  ISO 1518-1:2011 Paints and varnishes -- Determination of scratch resistance -- Part 1: Constant-loading method  ISO 1519:2011 Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520:2006 - Paints and varnishes -- Cupping test  ISO 1522:2006 Paints and varnishes -- Pendulum damping test  ISO 1523:2002 Determination of flash point -- Closed cup equilibrium method  ISO 1524:2013 Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409:2013 Paints and varnishes -- Cross-cut test  ISO 2431:2011 Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808:2007 Paints and varnishes -- Determination of film thickness  ISO 2810:2004 Paints and varnishes -- Natural weathering of coatings -- Exposure and assessment  ISO 2811-1:2016 Paints and varnishes -- Determination of density -- Part 1: Pycnometer method  ISO 2811-2:2011 Paints and varnishes -- Determination of density -- Part 2: Immersed body (plummet) method  ISO 2811-3:2011 Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4:2011 Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water  ISO 2812-2:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813:2014 Paints and varnishes -- Determination of gloss value at 20 degrees, 60 degrees and 85 degrees  BS EN ISO 2814:2006, BS 3900-D4:2006 Paints and varnishes. Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815:2003 Paints and varnishes -- Buchholz indentation test  ISO 2884-1:1999 Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear  ISO 3231: 1993 Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233-1:2013 Paints and varnishes -- Determination of the percentage volume of non-volatile matter -- Part 1: Method using a coated test panel to determine non-volatile matter and to determine dry film density by the Archimedes principle  ISO 3248: 1998 Paints and varnishes -- Determination of the effect of heat  ISO 3251:2008 Paints, varnishes and plastics -- Determination of non-volatile-matter content  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 1: General introduction and designation system  ISO 4628-2:2003 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering  ISO 4628-3:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 3: Assessment of degree of rusting  ISO 4628-4:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 4: Assessment of degree of cracking  ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking  ISO 4628-6:2011 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 6: Assessment of degree of chalking by tape method  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272-1:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 1: Falling-weight test, large-area indenter/ ISO 6272-2:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 2: Falling-weight test, small-area indenter  ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3:2006 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio of light-coloured paints at a fixed spreading rate  ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860:2006 Paints and varnishes -- Bend test (conical mandrel)  ISO 7142:2007 Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143:2007 Binders for paints and varnishes -- Methods of test for characterizing water-based binders  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method  ISO 7784-1:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Method with abrasive-paper covered wheels and rotating test specimen  ISO 7784-2:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Method with abrasive rubber wheels and rotating test specimen  ISO 7784-3:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen  ISO 8501-1:2007 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall  ISO 9514:2005 Paints and varnishes -- Determination of the pot life of multicomponent coating systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 16474-1:2013 Paints and varnishes -- Methods of exposure to laboratory light sources -- Part 1: General guidance  ISO 11668:1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1:2007 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2:2013 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909:2007 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1:2005 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2:2013 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137:2011 Paints and varnishes -- Determination of mar resistance  ISO 1518-2:2011 Paints and varnishes -- Determination of scratch resistance -- Part 2: Variable-loading method  ISO 14680-1:2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184:2012 Paints and varnishes -- Determination of film hardness by pencil test |

## Blistering - wet area slab soffit

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| BS | Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Concrete  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. Recommendations for the determination of the initial surface absorption of concrete/ BS 1881-209:1990. Testing concrete. Recommendations for the measurement of dynamic modulus of elasticity/ BS 1881-204:1988. Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986. Testing concrete. Recommendations for determination of strain in concrete/ BS 1881-121:1983. Testing concrete. Method for determination of static modulus of elasticity in compression/ BS EN 12504-2:2012. Testing concrete in structures. Non-destructive testing. Determination of rebound number/ BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete.  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS 4550:(varies)-Methods of testing cement  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar / BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration) / BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars / BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis) / BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars / BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table) / BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar / BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar / BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar / BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  BS 4887:1986-Mortar admixtures  BS EN 206:2013 Concrete. Specification, performance, production and conformity  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles    Paints  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints |
| ASTM | Waterproofing  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  Concrete  C33-01- Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  insert paint |
| AS | Waterproofing  AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas   AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings  Concrete  AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  Paints  AS/NZS 2310:2002 Glossary of paint and painting terms  AS/NZS 2311:2009 Guide to the painting of buildings  AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints  AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides  HB 73.1-2005 Handbook of Australian Paint Standards - General  HB 73.2-2005 Handbook of Australian Paint Standards - Test methods  AS/NZS 1580.101.1:1999 (R2013) Paints and related materials - Methods of test - - Conditions of test - Temperature, humidity and airflow control  AS/NZS 1580.107.2:1995 Paints and related materials - Methods of test - - Determination of wet film thickness from wet film mass  AS 1580.408.5-2006 Paints and related materials - Methods of test - Adhesion - Pull-off test  AS/NZS 1580.481.1.10:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS/NZS 1580.481.1.13:1998 (Reconfirmed 2013) Methods of test for paints and related materials - Exposed to weathering - Degree of fungal or algal growth  AS/NZS 1580.481.1.9:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 32 Series - Welded steel fabric for the reinforcement of concrete  SS 117 : 1975 HOT DIP GALVANIZED COATINGS ON IRON AND STEEL ARTICLES (REFER TO ISO 1460 AND ISO 1461)  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  Paints  SS 542 : 2008 Code of practice for painting of buildings  SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes |
| ISO | Concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 4103:1979 Concrete -- Classification of consistency  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression    Steel  ISO 6934-1: 1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2: 1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3: 1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4: 1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5: 1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1: 1991 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2: 1991 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabric ISO 7033: 1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water  absorption -- Pycnometer method  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete  Paints  ISO 1513:2010 Paints and varnishes -- Examination and preparation of test samples  ISO 1514:2004 Paints and varnishes -- Standard panels for testing  ISO 1516: 1981 Paints, varnishes, petroleum and related products -- Flash/no flash test -- Closed cup equilibrium  method  ISO 9117-3:2010 Paints and varnishes -- Drying tests -- Part 3: Surface-drying test using ballotini  ISO 1518-1:2011 Paints and varnishes -- Determination of scratch resistance -- Part 1: Constant-loading method  ISO 1519:2011 Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520:2006 - Paints and varnishes -- Cupping test  ISO 1522:2006 Paints and varnishes -- Pendulum damping test  ISO 1523: 1983 Paints, varnishes, petroleum and related products -- Determination of flashpoint -- Closed cup  equilibrium method  ISO 1524:2013 Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409:2013 Paints and varnishes -- Cross-cut test  ISO 2431:2011 Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808:2007 Paints and varnishes -- Determination of film thickness  ISO 2810:2004 Paints and varnishes -- Natural weathering of coatings -- Exposure and assessment  ISO 2811-1:2016 Paints and varnishes -- Determination of density -- Part 1: Pycnometer method  ISO 2811-2:2011 Paints and varnishes -- Determination of density -- Part 2: Immersed body (plummet) method  ISO 2811-3:2011 Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4:2011 Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water  ISO 2812-2:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813: 1994 Paints and varnishes -- Determination of specular gloss of non-metallic paint films at 20 degrees, 60  degrees and 85 degrees  ISO 2814: 1973 Paints and varnishes -- Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815:2003 Paints and varnishes -- Buchholz indentation test  ISO 2884-1: 1999 Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate  viscometer operated at a high rate of shear  ISO 3231: 1993 Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233-1:2013 Paints and varnishes -- Determination of the percentage volume of non-volatile matter -- Part 1: Method using a coated test panel to determine non-volatile matter and to determine dry film density by the Archimedes principle  ISO 3248: 1998 Paints and varnishes -- Determination of the effect of heat  ISO 3251: 1993 Paints and varnishes -- Determination of non-volatile matter of paints, varnishes and binders for paints  and varnishes  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4618-2: 1999 Paints and varnishes -- Terms and definitions for coating materials -- Part 2: Special terms relating  to paint characteristics and properties  ISO 4618-3: 1999 Paints and varnishes -- Terms and definitions for coating materials -- Part 3: Surface preparation and  methods of application  ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1: 1982 Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity,  quantity and size of common types of defect -- Part 1: General principles and rating schemes  ISO 4628-2: 1982 Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity,  quantity and size of common types of defect -- Part 2: Designation of degree of blistering  ISO 4628-3: 1982 Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity,  quantity and size of common types of defect -- Part 3: Designation of degree of rusting  ISO 4628-4: 1982 Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity,  quantity and size of common types of defect -- Part 4: Designation of degree of cracking  ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking  ISO 4628-6:2011 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 6: Assessment of degree of chalking by tape method  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272-1:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 1: Falling-weight test, large-area indenter/ ISO 6272-2:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 2: Falling-weight test, small-area indenter    ISO 6441-1: 1999 Paints and varnishes -- Determination of micro-indentation hardness -- Part 1: Knoop hardness by  measurement of indentation length  ISO 6441-2: 1999 Paints and varnishes -- Determination of micro-indentation hardness -- Part 2: Knoop hardness by  measurement of indentation depth under load  ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and  light-coloured paints  ISO 6504-3: 1998 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio  (opacity) of light-coloured paints at a fixed spreading rate  ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride  content  ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860:2006 Paints and varnishes -- Bend test (conical mandrel)  ISO 7142:2007 Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143:2007 Binders for paints and varnishes -- Methods of test for characterizing water-based binders          ISO 7783-1: 1996 Paints and varnishes -- Determination of water-vapour transmission rate -- Part 1: Dish method for  free films  ISO 7783-2: 1999 Paints and varnishes -- Coating materials and coating systems for exterior masonry and concrete --  Part 2: Determination and classification of water-vapour transmission rate (permeability)  ISO 7784-1: 1997 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Rotating abrasive-paper- covered wheel method  ISO 7784-2: 1997 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Rotating abrasive rubber  wheel method  ISO 7784-3: 2000 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Reciprocating test panel  method  ISO 8501-1:2007 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall  ISO 9514: 1992 Paints and varnishes -- Determination of the pot-life of liquid systems -- Preparation and conditioning  of samples and guidelines for testing  ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 11507: 1997 Paints and varnishes -- Exposure of coatings to artificial weathering -- Exposure to fluorescent UV  and water  ISO 11668:1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1: 2000 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1:  Difference method  ISO 11890-2: 2000 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas- chromatographic method  ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909:2007 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1:2005 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2:2013 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137:2011 Paints and varnishes -- Determination of mar resistance  ISO 1518-2:2011 Paints and varnishes -- Determination of scratch resistance -- Part 2: Variable-loading method  ISO 14680-1:2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184:2012 Paints and varnishes -- Determination of film hardness by pencil test |

## Biological Attack - Algae Growth

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| BS | Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Paints  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitionsBS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS 3900 Part H2 1983 Methods of Test Paint Group H2 : Designation of Degree of Blistering  Concrete  BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. 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Pull-off test for adhesion  ISO 4628-1:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 1: General introduction and designation system  ISO 4628-2:2003 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering  ISO 4628-3:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 3: Assessment of degree of rusting  ISO 4628-4:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 4: Assessment of degree of cracking  ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking  ISO 4628-6:2011 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 6: Assessment of degree of chalking by tape method  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272-1:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 1: Falling-weight test, large-area indenter/ ISO 6272-2:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 2: Falling-weight test, small-area indenter  ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3:2006 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio of light-coloured paints at a fixed spreading rate  ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860:2006 Paints and varnishes -- Bend test (conical mandrel)  ISO 7142:2007 Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143:2007 Binders for paints and varnishes -- Methods of test for characterizing water-based binders  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method  ISO 7784-1:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Method with abrasive-paper covered wheels and rotating test specimen  ISO 7784-2:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Method with abrasive rubber wheels and rotating test specimen  ISO 7784-3:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen  ISO 8501-1:2007 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall  ISO 9514:2005 Paints and varnishes -- Determination of the pot life of multicomponent coating systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 16474-1:2013 Paints and varnishes -- Methods of exposure to laboratory light sources -- Part 1: General guidance  ISO 11668:1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1:2007 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2:2013 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909:2007 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1:2005 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2:2013 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137:2011 Paints and varnishes -- Determination of mar resistance  ISO 1518-2:2011 Paints and varnishes -- Determination of scratch resistance -- Part 2: Variable-loading method  ISO 14680-1:2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184:2012 Paints and varnishes -- Determination of film hardness by pencil test  ISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete |

## Biological attack - Fungi Growth

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Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing/ BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water/ BS EN 771-1:2011 Specification for masonry units. Clay masonry units  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS EN 772-1:2011+A1:2015 Methods of test for masonry units. Determination of compressive strength  BS EN 772-2:1998 Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation)  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-7:1998 Methods of test for masonry units. Determination of water absorption of clay masonry damp proof course units by boiling in water  BS EN 772-19:2000 Methods of test for masonry units. Determination of moisture expansion of large horizontally perforated clay masonry units  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures  PD 6697:2010 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2/ BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures/ BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry/ BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8215:1991 Code of practice for design and installation of damp-proof courses in masonry construction  BS EN 413-2:2005 Masonry cement. Test methods  BS EN 772-5:2016 Methods of test for masonry units. Determination of the active soluble salts content of clay masonry units  BS EN 772-16:2011 Methods of test for masonry units. Determination of dimensions  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar  BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis)  BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars  BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table)  BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration)  BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar  BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar  BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar  BS EN 1015-11:1999 Methods of test for mortar for masonry. Determination of flexural and compressive strength of hardened mortar  BS EN 1015-12:2000 Methods of test for mortar for masonry. Determination of adhesive strength of hardened rendering and plastering mortars on substrates  BS EN 1015-17:2000 Methods of test for mortar for masonry. Determination of water-soluble chloride content of fresh mortars  BS EN 1052-1:1999 Methods of test for masonry. Determination of compressive strength  BS EN 1052-2:2016 Methods of test for masonry. Determination of flexural strength  BS EN 13139:2002 Aggregates for mortar  BS EN 13139:2002 Aggregates for mortar  BS EN 845-1:2013 Specification for ancillary components for masonry. Wall ties, tension straps, hangers and brackets  BS EN 13055-1:2002 Lightweight aggregates. Lightweight aggregates for concrete, mortar and grout  BS EN 998-2:2010 Specification for mortar for masonry . Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS EN 413-1:2011 Masonry cement. Composition, specifications and conformity criteria  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  Plastering  BS 5492:1990- Code of practice for internal plastering  Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Paints  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints |
| ASTM | Brick and masonry  ASTM C216 - 15 Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)  ASTM C 62 (building brick)  ASTM C652 - 15 Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)  ASTM C212 - 14 Standard Specification for Structural Clay Facing Tile  ASTM C34 - 13 Standard Specification for Structural Clay Load-Bearing Wall Tile.  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.  ASTM C91 / C91M - 12 Standard Specification for Masonry Cement  ASTM C207 - 06(2011) Standard Specification for Hydrated Lime for Masonry Purposes  ASTM C144 - 11 Standard Specification for Aggregate for Masonry Mortar  ASTM C270 - 14a Standard Specification for Mortar for Unit Masonry  ASTM C476 - 10 Standard Specification for Grout for Masonry.  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM E518 / E518M - 15 Standard Test Methods for Flexural Bond Strength of Masonry  ASTM C1072 - 13e1 Standard Test Methods for Measurement of Masonry Flexural Bond Strength  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C595 / C595M - 15e1 Standard Specification for Blended Hydraulic Cements  ASTM C109 / C109M - 16 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.  ASTM C 979 Specification for Pigments for Integrally Colored Concrete are suitable for mortar.  ASTM C511 Specification for Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes  ASTM C62 - 13a Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile  ASTM C73 - 14 Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)  ASTM C126 - 15 Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units  ASTM C212-00 Standard Specification for Structural Clay Facing Tile  ASTM C216-01a Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)  ASTM C144-99 Standard Specification for Aggregate for Masonry Mortar  ASTM C270-01a Standard Specification for Mortar for Unit Masonry  ASTM C476-01 Standard Specification for Grout for Masonry  ASTM C652-01a Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)  ASTM C780 - 15a Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry  ASTM C896 - 15 Standard Terminology Relating to Clay Products  ASTM C1006 - 07(2013) Standard Test Method for Splitting Tensile Strength of Masonry Units  ASTM C1019 - 16 Standard Test Method for Sampling and Testing Grout  ASTM C1088 - 14 Standard Specification for Thin Veneer Brick Units Made From Clay or Shale  ASTM C1093 - 15a Standard Practice for Accreditation of Testing Agencies for Masonry  ASTM C1106 - 00(2012) Standard Test Methods for Chemical Resistance and Physical Properties of Carbon Brick  ASTM C1148 - 92a(2014) Standard Test Method for Measuring the Drying Shrinkage of Masonry Mortar  ASTM C1180 - 10 Standard Terminology of Mortar and Grout for Unit Masonry  ASTM C1218 / C1218M - 15 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete  ASTM C1324 - 15 Standard Test Method for Examination and Analysis of Hardened Masonry Mortar  ASTM C1384 - 12a Standard Specification for Admixtures for Masonry Mortars  ASTM C1400 - 11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls  ASTM C1403 - 15 Standard Test Method for Rate of Water Absorption of Masonry Mortars  ASTM C1405-01b Standard Specification for Glazed Brick (Single Fired, Solid Brick Units)  Waterproofing  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  Plaster  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C1328 / C1328M - 12 Standard Specification for Plastic (Stucco) Cement  ASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based PlastersASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters  ASTM E96 / E96M - 15 Standard Test Methods for Water Vapor Transmission of Materials  ASTM C1506 - 16a Standard Test Method for Water Retention of Hydraulic Cement-Based Mortars and Plasters  ASTM C1063 - 16 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  ASTM C926 - 16 Standard Specification for Application of Portland Cement-Based Plaster  ASTM C897 - 15 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters  ASTM C847 - 14a Standard Specification for Metal Lath  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM F710 - 11 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring  ASTM E119 - 15 Standard Test Methods for Fire Tests of Building Construction and Materials  ASTM C932 - 06(2013) Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering  ASTM C40 / C40M - 11 Standard Test Method for Organic Impurities in Fine Aggregates for Concrete  ASTM D75 / D75M - 14 Standard Practice for Sampling Aggregates  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  Paints  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  D4541-95e1-Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Tester |
| AS | Brick  AS 1617.1-1993 Refractory bricks and shapes - Fireclay  AS 1617.1-1993/Amdt 1-1994 Refractory bricks and shapes - Fireclay  AS 1618-1993 Dimensions and preferred sizes for refractory bricks  DR 02455-02459 CP Refractory bricks and shapes  DR 02475 CP Dimensions and preferred sizes for refractory bricks  AS 4773.2-2010 Masonry in small buildings - Construction/ AS 4773.1-2010 Masonry in small buildings - Design/ AS 3700-2011 Masonry structures  Waterpoofing  AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas   AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings  Paints  AS/NZS 2310:2002 Glossary of paint and painting terms  AS/NZS 2311:2009 Guide to the painting of buildings  AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints  AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides  HB 73.1-2005 Handbook of Australian Paint Standards - General  HB 73.2-2005 Handbook of Australian Paint Standards - Test methods  AS/NZS 1580.101.1:1999 (R2013) Paints and related materials - Methods of test - - Conditions of test - Temperature, humidity and airflow control  AS/NZS 1580.107.2:1995 Paints and related materials - Methods of test - - Determination of wet film thickness from wet film mass  AS 1580.408.5-2006 Paints and related materials - Methods of test - Adhesion - Pull-off test  AS/NZS 1580.481.1.10:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS/NZS 1580.481.1.13:1998 (Reconfirmed 2013) Methods of test for paints and related materials - Exposed to weathering - Degree of fungal or algal growth  AS/NZS 1580.481.1.9:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | Brick  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  Plaster  CP 56 : 1991 Code of practice for internal plastering  SS EN 197 series - Cement  SS EN 12620 : 2008 Specification for aggregates for concrete  Paint  SS 542 : 2008 Code of practice for painting of buildings   SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes |
| ISO | Bricks  ISO 5019-1:1984 Refractory bricks -- Dimensions -- Part 1: Rectangular bricks  ISO 5019-2:1984 Refractory bricks -- Dimensions -- Part 2: Arch bricks  ISO 5019-3:1984 Refractory bricks -- Dimensions -- Part 3: Rectangular checker bricks for regenerative furnaces  ISO 5019-4:1988 Refractory bricks -- Dimensions -- Part 4: Dome bricks for electric arc furnace roofs  ISO 5019-5:1984 Refractory bricks -- Dimensions -- Part 5: Skewbacks  ISO 5019-6:1984 Refractory bricks -- Dimensions -- Part 6: Basic bricks for oxygen steel-making converters  ISO 5417:1986 Refractory bricks for use in rotary kilns -- Dimensions  ISO 9205:1988 Refractory bricks for use in rotary kilns -- Hot-face identification marking  ISO 12678-1:1996 Refractory products -- Measurement of dimensions and external defects of refractory bricks -- Part 1: Dimensions and conformity to drawings  Refractory products -- Measurement of dimensions and external defects of refractory bricks -- Part 2: Corner and edge defects and other surface imperfections  Paints  ISO 1513:2010 Paints and varnishes -- Examination and preparation of test samples  ISO 1514:2004 Paints and varnishes -- Standard panels for testing  ISO 1516:2002 Determination of flash/no flash -- Closed cup equilibrium method  ISO 9117-3:2010 Paints and varnishes -- Drying tests -- Part 3: Surface-drying test using ballotini  ISO 1518-1:2011 Paints and varnishes -- Determination of scratch resistance -- Part 1: Constant-loading method  ISO 1519:2011 Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520:2006 - Paints and varnishes -- Cupping test  ISO 1522:2006 Paints and varnishes -- Pendulum damping test  ISO 1523:2002 Determination of flash point -- Closed cup equilibrium method  ISO 1524:2013 Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409:2013 Paints and varnishes -- Cross-cut test  ISO 2431:2011 Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808:2007 Paints and varnishes -- Determination of film thickness  ISO 2810:2004 Paints and varnishes -- Natural weathering of coatings -- Exposure and assessment  ISO 2811-1:2016 Paints and varnishes -- Determination of density -- Part 1: Pycnometer method  ISO 2811-2:2011 Paints and varnishes -- Determination of density -- Part 2: Immersed body (plummet) method  ISO 2811-3:2011 Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4:2011 Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water  ISO 2812-2:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813:2014 Paints and varnishes -- Determination of gloss value at 20 degrees, 60 degrees and 85 degrees  BS EN ISO 2814:2006, BS 3900-D4:2006 Paints and varnishes. Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815:2003 Paints and varnishes -- Buchholz indentation test  ISO 2884-1:1999 Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear  ISO 3231: 1993 Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233-1:2013 Paints and varnishes -- Determination of the percentage volume of non-volatile matter -- Part 1: Method using a coated test panel to determine non-volatile matter and to determine dry film density by the Archimedes principle  ISO 3248: 1998 Paints and varnishes -- Determination of the effect of heat  ISO 3251:2008 Paints, varnishes and plastics -- Determination of non-volatile-matter content  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 1: General introduction and designation system  ISO 4628-2:2003 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering  ISO 4628-3:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 3: Assessment of degree of rusting  ISO 4628-4:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 4: Assessment of degree of cracking  ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking  ISO 4628-6:2011 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 6: Assessment of degree of chalking by tape method  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272-1:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 1: Falling-weight test, large-area indenter/ ISO 6272-2:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 2: Falling-weight test, small-area indenter  ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3:2006 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio of light-coloured paints at a fixed spreading rate  ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860:2006 Paints and varnishes -- Bend test (conical mandrel)  ISO 7142:2007 Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143:2007 Binders for paints and varnishes -- Methods of test for characterizing water-based binders  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method  ISO 7784-1:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Method with abrasive-paper covered wheels and rotating test specimen  ISO 7784-2:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Method with abrasive rubber wheels and rotating test specimen  ISO 7784-3:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen  ISO 8501-1:2007 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall  ISO 9514:2005 Paints and varnishes -- Determination of the pot life of multicomponent coating systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 16474-1:2013 Paints and varnishes -- Methods of exposure to laboratory light sources -- Part 1: General guidance  ISO 11668:1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1:2007 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2:2013 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909:2007 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1:2005 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2:2013 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137:2011 Paints and varnishes -- Determination of mar resistance  ISO 1518-2:2011 Paints and varnishes -- Determination of scratch resistance -- Part 2: Variable-loading method  ISO 14680-1:2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184:2012 Paints and varnishes -- Determination of film hardness by pencil test |

## Crazing

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| BS | Plaster    BS 1191: Part 1: 1973-Gysum building plasters. Excluding premixed lightweight plasters    BS 1191: Part 2: 1973-Gypsum building plasters. Premixed lightweight plasters    BS 4049:1966- Glossary of terms applicable to internal plastering, external rendering and floor screeding    BS 4551: 1980-Methods of testing mortars, screeds and plasters    BS 5492: 1977-Code of practice for internal plastering    BS 5262: 1991- Code of practice for external renderings    BS 6452: Part 1: 1984-BEads for internal plastering and dry lining. Galvanized steel beads    BS 6100-6.2:1986-Glossary of building and civil engineering terms. Concrete and plaster. Concrete    BS 6100-6.3:1984-Glossary of building and civil engineering terms. Concrete and plaster. Aggregates    BS 6100-6.1:1984-Glossary of building and civil engineering terms. Concrete and plaster. Binders    BS 6100-6.4:1986-Glossary of building and civil engineering terms. Concrete and plaster. Admixtures    BS 6100-6.6.1:1992-Glossary of building and civil engineering terms. Concrete and plaster. Products, applications and operations. Concrete and mortar    BS 6100-6.6.2:1990-Glossary of building and civil engineering terms. Concrete and plaster. Products, applications and operations. Plaster    BS 8000-10:1995-Workmanship on building sites. Code of practice for plastering and rendering    Paints    BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation    BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions    BS 6150:2006+A1:2014 Painting of buildings. Code of practice    BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)    BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water    BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour    BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding    BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials    BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)    BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test    BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings    BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering    BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking    BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water    BS 7664:2000-Specification for undercoat and finishing paints    BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles    BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation    BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions    BS 6150:2006+A1:2014 Painting of buildings. Code of practice    BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)    BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water    BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour    BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding    BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials    BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)    BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test    BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings    BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering    BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking    BS 4800:2011 Schedule of paint colours for building purposes    BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water    BS 7664:2000-Specification for undercoat and finishing paints |
| ASTM | Plaster    C28/C28M: 2000-Standard Specification for Gypsum Plasters    C778: 2000-Standard Specification for Standard Sand    C926-98a-Standard Specification for Application of Portland Cement-Based Plaster    C897-00-Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters    C932-98a-Standard Specification for Surface-Applied Bonding Agents for Exterior Plastering    Paints    ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints    ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating    ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings    ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments    ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms    ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings    ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings    ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)    ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates) |
| AS | Plaster    AS CA27-1959-Code of recommended practice for internal plastering on solid backgrounds    AS 2592-1983 Gypsum plaster for building purposes (Withdrawn 24 Aug 2006)    AS 2753-1985 Adhesives - Mastic - For bonding gypsum plaster linings to wood and metal framing members (Withdrawn 31 Jul 2006)    DR 99462 - Fibre reinforced gypsum plaster    AS/NZS 2589:2007 Gypsum linings - Application and finishing    Paints    S/NZS 2310:1995-Glossary of paint and painting terms    AS/NZS 2311:2009 Guide to the painting of buildings    AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints    AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides    HB 73.1-2005 Handbook of Australian Paint Standards - General    HB 73.2-2005 Handbook of Australian Paint Standards - Test methods    AS/NZS 1580.101.1:1999 (R2013) Paints and related materials - Methods of test - - Conditions of test - Temperature, humidity and airflow control    AS/NZS 1580.107.2:1995 Paints and related materials - Methods of test - - Determination of wet film thickness from wet film mass    AS 1580.408.5-2006 Paints and related materials - Methods of test - Adhesion - Pull-off test    AS/NZS 1580.481.1.10:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling    AS/NZS 1580.481.1.13:1998 (Reconfirmed 2013) Methods of test for paints and related materials - Exposed to weathering - Degree of fungal or algal growth    AS/NZS 1580.481.1.9:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | Plaster    CP 56 : 1991 Code of practice for internal plastering    Paints    SS 542 : 2008 Code of practice for painting of buildings    SS 5 Series - Methods of test for paints, varnishes and related materials    SS 7 : 1998 Paint - Finishing, gloss enamel    SS 34 : 1998 Undercoat paint for gloss enamel    SS 150 : 1998 Emulsion paints for decorative purposes    CP 82 : 1999 Code of practice for waterproofing of reinforced concrete buildings    SS 345: 1990 Algae resistant emulsion paint for decorative purposes |
| ISO | Plaster    ISO 3048:1974 - Gypsum plasters; General test conditions    ISO 3049:1974 - Gypsum plasters; Determination of physical properties of powder    ISO 3051:1974 - Gypsum plasters; Determination of mechanical properties    ISO 3052:1974 - Gypsum plasters; Determination of water of crystallization content    Paints    ISO 1513:2010 Paints and varnishes -- Examination and preparation of test samples    ISO 1514:2004 Paints and varnishes -- Standard panels for testing    ISO 1516:2002 Determination of flash/no flash -- Closed cup equilibrium method    ISO 9117-3:2010 Paints and varnishes -- Drying tests -- Part 3: Surface-drying test using ballotini    ISO 1518-1:2011 Paints and varnishes -- Determination of scratch resistance -- Part 1: Constant-loading method    ISO 1519:2011 Paints and varnishes -- Bend test (cylindrical mandrel)    ISO 1520:2006 - Paints and varnishes -- Cupping test    ISO 1522:2006 Paints and varnishes -- Pendulum damping test    ISO 1523:2002 Determination of flash point -- Closed cup equilibrium method    ISO 1524:2013 Paints, varnishes and printing inks -- Determination of fineness of grind    ISO 2409:2013 Paints and varnishes -- Cross-cut test    ISO 2431:2011 Paints and varnishes -- Determination of flow time by use of flow cups    ISO 2808:2007 Paints and varnishes -- Determination of film thickness    ISO 2810:2004 Paints and varnishes -- Natural weathering of coatings -- Exposure and assessment    ISO 2811-1:2016 Paints and varnishes -- Determination of density -- Part 1: Pycnometer method    ISO 2811-2:2011 Paints and varnishes -- Determination of density -- Part 2: Immersed body (plummet) method    ISO 2811-3:2011 Paints and varnishes -- Determination of density -- Part 3: Oscillation method    ISO 2811-4:2011 Paints and varnishes -- Determination of density -- Part 4: Pressure cup method    ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water    ISO 2812-2:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method    ISO 2813:2014 Paints and varnishes -- Determination of gloss value at 20 degrees, 60 degrees and 85 degrees    BS EN ISO 2814:2006, BS 3900-D4:2006 Paints and varnishes. Comparison of contrast ratio (hiding power) of paints of the same type and colour    ISO 2815:2003 Paints and varnishes -- Buchholz indentation test    ISO 2884-1:1999 Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear    ISO 3231: 1993 Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide    ISO 3233-1:2013 Paints and varnishes -- Determination of the percentage volume of non-volatile matter -- Part 1: Method using a coated test panel to determine non-volatile matter and to determine dry film density by the Archimedes principle    ISO 3248: 1998 Paints and varnishes -- Determination of the effect of heat    ISO 3251:2008 Paints, varnishes and plastics -- Determination of non-volatile-matter content    ISO 4618:2014 Paints and varnishes -- Terms and definitions    ISO 4618:2014 Paints and varnishes -- Terms and definitions      ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion    ISO 4628-1:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 1: General introduction and designation system    ISO 4628-2:2003 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering    ISO 4628-3:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 3: Assessment of degree of rusting    ISO 4628-4:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 4: Assessment of degree of cracking    ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking    ISO 4628-6:2011 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 6: Assessment of degree of chalking by tape method    ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation    ISO 6272-1:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 1: Falling-weight test, large-area indenter/ ISO 6272-2:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 2: Falling-weight test, small-area indenter          ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method    ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints    ISO 6504-3:2006 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio of light-coloured paints at a fixed spreading rate    ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form    ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test    ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content    ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content    ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content    ISO 6860:2006 Paints and varnishes -- Bend test (conical mandrel)    ISO 7142:2007 Binders for paints and varnishes -- Epoxy resins -- General methods of test    ISO 7143:2007 Binders for paints and varnishes -- Methods of test for characterizing water-based binders            ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method      ISO 7784-1:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Method with abrasive-paper covered wheels and rotating test specimen    ISO 7784-2:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Method with abrasive rubber wheels and rotating test specimen    ISO 7784-3:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen    ISO 8501-1:2007 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall    ISO 9514:2005 Paints and varnishes -- Determination of the pot life of multicomponent coating systems -- Preparation and conditioning of samples and guidelines for testing    ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)    ISO 16474-1:2013 Paints and varnishes -- Methods of exposure to laboratory light sources -- Part 1: General guidance    ISO 11668:1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test    ISO 11890-1:2007 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method    ISO 11890-2:2013 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method    ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test    ISO 11909:2007 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test    ISO 11997-1:2005 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity    ISO 11997-2:2013 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light    ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings    ISO 12137:2011 Paints and varnishes -- Determination of mar resistance    ISO 1518-2:2011 Paints and varnishes -- Determination of scratch resistance -- Part 2: Variable-loading method    ISO 14680-1:2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method    ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method    ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method    ISO 15184:2012 Paints and varnishes -- Determination of film hardness by pencil test |

## Ceiling Board Defects - Biological Attack - Algae Growth- False ceiling

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| BS | Plumbing  BS 5572:1978 - Code of practice for sanitary pipework  BS 6087:1981 - Specification for flexible joints for cast iron drainpipes and fittings (BS 437) and for cast iron soil, waste and ventilating pipes and fittings (BS 416)  BS 6465 Part1:1994 - Sanitary installations. Code of practice for scale of provision, selection and installation of sanitary appliances  BS 6465 Part2:1996- Sanitary installations. Code of practice for space requirements for sanitary appliances  BS 7543:1992 Guide to durability of buildings and building elements, products and components  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8000-15:1990-Workmanship on building sites. Code of practice for hot and cold water services (domestic scale)  Celing finishes  BS 8290-2:1991 Suspended ceilings. Specification for performance of components and assemblies  BS 1230-1:1985 Gypsum plasterboard. Specification for plasterboard excluding materials submitted to secondary operations |
| ASTM | Plumbing  D4396-99a- Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds for Plastic Pipe and Fittings Used in Nonpressure Applications  D3309-96a- Standard Specification for Polybutylene (PB) Plastic Hot- and Cold-Water Distribution Systems  A888-98e1- Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications  Ceiling Finishes  C842-99 Standard Specification for Application of Interior Gypsum Plaster  C1395/C1395M-01 Specification for Gypsum CEILING BOARD  C1396/C1396M-02 Standard Specification for Gypsum BOARD  C840-02 Standard Specification for Application and Finishing of Gypsum BOARD |
| AS | Plumbing  AS 3500 - National Plumbing Code sets   AS2032:1977 - Code of practice for installation of UPVC pipe systems  Ceiling Finshes  AS/NZS 2588:1998 Gypsum plasterboard  AS/NZS 2589.1:1997 - Gypsum linings in residential and light commercial construction - Application and finishing - Gypsum plasterboard  AS/NZS 2589:2007 Gypsum linings - Application and finishing  AS 2590-1983 Glass fibre reinforced gypsum plasterboard (Withdrawn 24 Aug 2006)  AS 2592-1983 Gypsum plaster for building purposes (Withdrawn 24 Aug 2006)  AS 2753-1985 Adhesives - Mastic - For bonding gypsum plaster linings to wood and metal framing members (Withdrawn 31 Jul 2006) |
| SS | Plumbing  SS213-1998 Unplasticized PVC pipes and fittings for soil, waste and vent applications  SS141-1996 Unplasticised PVC pipe for cold water services and industrial uses |
| ISO | Plumbing  ISO 3474:1976 Unplasticized polyvinyl chloride (PVC) pipes -- Specification and measurement of opacity  ISO 3114:1977 Unplasticized polyvinyl chloride (PVC) pipes for potable water supply -- Extractability of lead and tin -- Test method  ISO 3603:1977 Fittings for unplasticized polyvinyl chloride (PVC) pressure pipes with elastic sealing ring type joints -- Pressure test for leakproofness  ISO 3633:1991 Unplasticized poly(vinyl chloride) (PVC-U) pipes and fittings for soil and waste discharge (low and high temperature) systems inside buildings – Specifications  ISO/TR 4191:1989 Unplasticized polyvinyl chloride (PVC-U) pipes for water supply -- Recommended practice for laying  ISO 4422-1:1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 1: General   ISO 4422-2:1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 2: Pipes (with or without integral sockets)  ISO 4422-3:1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 3: Fittings and joints  ISO 4422-4:1997 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 4: Valves and ancillary equipment  ISO 4422-5:1997 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 5: Fitness for purpose of the system  ISO 4439:1979 Unplasticized polyvinyl chloride (PVC) pipes and fittings -- Determination and specification of density  ISO 6455:1983 Unplasticized polyvinyl chloride (PVC) fittings with elastic sealing ring type joints for pipes under pressure -- Dimensions of laying lengths -- Metric series  ISO 6594:1983 Cast iron drainage pipes and fittings -- Spigot series  ISO 6992:1986 Unplasticized polyvinyl chloride (PVC-U) pipes for drinking water supply -- Extractability of cadmium and mercury occurring as impurities  ISO 8283-1:1991 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U) and chlorinated poly (vinyl chloride) (PVC-C)  ISO 8283-2:1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 2: Polyethylene (PE)  ISO 8283-3:1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 3: Polypropylene (PP)  ISO 8283-4:1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 4: Acrylonitrile/butadiene/styrene (ABS)  ISO 13844:2000 Plastics piping systems -- Elastomeric-sealing-ring-type socket joints of unplasticized poly(vinyl chloride) (PVC-U) for use with PVC-U pipes -- Test method for leaktightness under negative pressure  ISO 13845:2015 Plastics piping systems -- Elastomeric-sealing-ring-type socket joints for use with thermoplastic pressure pipes -- Test method for leaktightness under internal pressure and with angular deflection  ISO 265-1:1988 Pipes and fittings of plastics materials -- Fittings for domestic and industrial waste pipes -- Basic dimensions : Metric series -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U)  Ceiling Finishes  ISO 768:1972 Fibre building boards -- Determination of bending strength  ISO 769:1972 Fibre building boards -- Hard and medium boards -- Determination of water absorption and of swelling in thickness after immersion in water  ISO 818:1975 Fibre building boards -- Definition -- Classification  ISO 820:1975 Particle boards -- Definition and classification  ISO 2695:1976 Fibre building boards -- Hard and medium boards for general purposes -- Quality specifications -- Appearance, shape and dimensional tolerances   ISO 2696:1976 Fibre building boards -- Hard and medium boards for general purposes -- Quality specifications -- Water absorption and swelling in thickness  ISO 3340:1976 Fibre building boards -- Determination of sand content  ISO 3546:1976 Fibre building boards -- Determination of surface finish (roughness)  ISO 3729:1976 Fibre building boards -- Determination of surface stability  ISO 6308:1980 Gypsum plasterboard -- Specifications |

## Ceiling Board Defects - Biological Attack - Fungi Growth - Pipe leakage

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| BS | Plumbing  BS 534:1990-Specification for steel pipes, joints and specials for water and sewage   BS 437:1978-Specification for cast iron spigot and socket drain pipes and fittings  BS EN 598:1995-Ductile iron pipes, fittings, accessories and their joints for sewerage applications. Requirements and test methods  BS 2782-11:Method 1110:1989-Methods of testing plastics. Thermoplastics pipes, fittings and valves. Tensile properties of dumb-bell specimens from PVC gutter profiles of pipes for non-pressure applications  BS EN 1329-1:2000-Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure. Unplasticized poly(vinyl chloride) (PVC-U). Specifications for pipes, fittings and the system  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  Ceiling finishes  BS 1230-1: 1985-Gypsum plasterboard. Specification for plasterboard excluding materials submitted to secondary operations  BS 8290-1:1991 Suspended ceilings. Code of practice for design  BS 8290-2:1991 Suspended ceilings. Specification for performance of components and assemblies  BS 8290-3:1991 Suspended ceilings. Code of practice for installation and maintenance |
| ASTM | |  | | --- | | Plumbing  A74-98-Standard Specification for Cast Iron Soil Pipe and Fittings  Ceiling finishes  C840-02 Standard Specification for Application and Finishing of gypsum board  C1396/C1396M-02 Standard Specification for gypsum board  C960/C960M-01 Standard Specification for predecorated gypsum board  C442/C442M-01 Standard Specification for gypsum backing board, gypsum coreboard, and gypsum shaftliner board  C475-01 Standard Specification for Joint Compound and Joint Tape for Finishing gypsum board | |  | |
| AS | Plumbing  AS/NZS 1260:1999-PVC pipes and fittings for drain, waste and vent applications  Ceiling finishes  AS/NZS 2588:1998 Gypsum plasterboard  AS/NZS 2589.1:1997 Gypsum linings in residential and light commercial construction - Application and finishing - Gypsum plasterboard  AS 2590-1983 Glass fibre reinforced gypsum plasterboard |
| SS | Plumbing  SS 33-1975 Cast iron spigot and socket soil, waste an ventilating pipes (sand cast and spun) and fitting.  SS 213-1998 Unplasticized PVC pipes and fittings for soil, waste and vent applications |
| ISO | Plumbing  ISO 3474:1976 Unplasticized polyvinyl chloride (PVC) pipes -- Specification and measurement of opacity  ISO 3114:1977 Unplasticized polyvinyl chloride (PVC) pipes for potable water supply -- Extractability of lead and tin -- Test method  ISO 3603:1977 Fittings for unplasticized polyvinyl chloride (PVC) pressure pipes with elastic sealing ring type joints -- Pressure test for leakproofness  ISO 3633:1991 Unplasticized poly(vinyl chloride) (PVC-U) pipes and fittings for soil and waste discharge (low and high temperature) systems inside buildings – Specifications  ISO/TR 4191:1989 Unplasticized polyvinyl chloride (PVC-U) pipes for water supply -- Recommended practice for laying  ISO 4422-1:1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 1: General  ISO 4422-2:1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 2: Pipes (with or without integral sockets)  ISO 4422-3:1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 3: Fittings and joints  ISO 4422-4:1997 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 4: Valves and ancillary equipment  ISO 4422-5:1997 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 5: Fitness for purpose of the system  ISO 4439:1979 Unplasticized polyvinyl chloride (PVC) pipes and fittings -- Determination and specification of density  ISO 6455:1983 Unplasticized polyvinyl chloride (PVC) fittings with elastic sealing ring type joints for pipes under pressure -- Dimensions of laying lengths -- Metric series  ISO 6594:1983 Cast iron drainage pipes and fittings -- Spigot series  ISO 6992:1986 Unplasticized polyvinyl chloride (PVC-U) pipes for drinking water supply -- Extractability of cadmium and mercury occurring as impurities  ISO 8283-1:1991 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U) and chlorinated poly (vinyl chloride) (PVC-C)  ISO 8283-2:1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 2: Polyethylene (PE)  ISO 8283-3:1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 3: Polypropylene (PP)  ISO 8283-4:1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 4: Acrylonitrile/butadiene/styrene (ABS)  ISO 13844:2000 Plastics piping systems -- Elastomeric-sealing-ring-type socket joints of unplasticized poly(vinyl chloride) (PVC-U) for use with PVC-U pipes -- Test method for leaktightness under negative pressure  ISO 13845:2015 Plastics piping systems -- Elastomeric-sealing-ring-type socket joints for use with thermoplastic pressure pipes -- Test method for leaktightness under internal pressure and with angular deflection  ISO 265-1:1988 Pipes and fittings of plastics materials -- Fittings for domestic and industrial waste pipes -- Basic dimensions : Metric series -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U)  Ceiling Finishes  ISO 768:1972 Fibre building boards -- Determination of bending strength  ISO 769:1972 Fibre building boards -- Hard and medium boards -- Determination of water absorption and of swelling in thickness after immersion in water  ISO 818:1975 Fibre building boards -- Definition -- Classification  ISO 820:1975 Particle boards -- Definition and classification  ISO 2695:1976 Fibre building boards -- Hard and medium boards for general purposes -- Quality specifications -- Appearance, shape and dimensional tolerances   ISO 2696:1976 Fibre building boards -- Hard and medium boards for general purposes -- Quality specifications -- Water absorption and swelling in thickness  ISO 3340:1976 Fibre building boards -- Determination of sand content  ISO 3546:1976 Fibre building boards -- Determination of surface finish (roughness)  ISO 3729:1976 Fibre building boards -- Determination of surface stability |

## Ceiling Board Defects - Biological Attack - Fungi Growth - air-conditioning

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| BS | Ceiling Finishes  BS 8212:1995-Code of practice for dry lining and partitioning using gypsum plasterboard  BS 8000-8:1994-Workmanship on building sites. Code of practice for plasterboard partitions and dry linings  BS 1230-1:1985-Gypsum plasterboard. Specification for plasterboard excluding materials submitted to secondary operations  00/105211 DC-prEN 13950 Gypsum plasterboard thermal/acoustic insulation composite panels. Definitions, requirements and test methods  00/107014 DC-prEN 520. Gypsum plasterboards. Definitions, requirements and test methods |
| ASTM | Ceiling Finishes  C840-01-Standard Specification for Application and Finishing of Gypsum Board  C1395/C1395M-98- Specification for Gypsum Ceiling Board  C473-00-Standard Test Methods for Physical Testing of Gypsum Panel Products |
| AS | Ceiling Finishes  AS/NZS 2588:1998- Gypsum plasterboard   AS/NZS 2589.1:1997-Gypsum linings in residential and light commercial construction - Application and finishing - Gypsum plasterboard  AS/NZS 2785:2000- Suspended ceilings - Design and installation  AS/NZS 2589:2007 Gypsum linings - Application and finishing  AS 2590-1983 Glass fibre reinforced gypsum plasterboard (Withdrawn 24 Aug 2006) |
| SS |  |
| ISO | Ceiling Finishes  ISO 6308:1980-Gypsum plasterboard; Specification   ISO 768:1972 Fibre building boards -- Determination of bending strength  ISO 769:1972 Fibre building boards -- Hard and medium boards -- Determination of water absorption and of swelling in thickness after immersion in water  ISO 818:1975 Fibre building boards -- Definition -- Classification  ISO 820:1975 Particle boards -- Definition and classification  ISO 2695:1976 Fibre building boards -- Hard and medium boards for general purposes -- Quality specifications -- Appearance, shape and dimensional tolerances   ISO 2696:1976 Fibre building boards -- Hard and medium boards for general purposes -- Quality specifications -- Water absorption and swelling in thickness  ISO 3340:1976 Fibre building boards -- Determination of sand content  ISO 3546:1976 Fibre building boards -- Determination of surface finish (roughness)  ISO 3729:1976 Fibre building boards -- Determination of surface stability |

# Plumbing & sanitary

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| Water Leakage of Pipes -  Corrosion of Drainage Pipes | BS | BS 437:1978-Specification for cast iron spigot and socket drain pipes and fittings    BS EN 877:1999-Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings. Requirements, test methods and quality assurance    BS EN ISO 11124-1:1997Preparation of steel substrates before application of paints and related products. Specifications for metallic blast-cleaning abrasives. General introduction and classification    BS 5493:1977 - Code of practice for protective coating of iron and steel structures against corrosion    BS 6150:2006+A1:2014 Painting of buildings. Code of practice    BS 7773:1995-Code of practice for cleaning and preparation of metal surfaces |  |
|  | ASTM | A74-1998-Standard Specification for Cast Iron Soil Pipe and Fittings    C564-1997-Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings |  |
|  | AS | AS/NZS 3500.5:2000-National Plumbing and Drainage - Domestic installations |  |
|  | SS | SS 33 : 1975 Cast iron spigot and socket soil, waste and ventilating pipes (sand cast and spun) and fitting    SS 142 : 1976- Steel pipes, fittings and specials for water, gas and sewage |  |
|  | ISO | ISO 3651-1: 1998 Determination of resistance to intergranular corrosion of stainless steels -- Part 1: Austenitic and ferritic-austenitic (duplex) stainless steels -- Corrosion test in nitric acid medium by measurement of loss in mass (Huey test)    ISO 437: 1982 Steel and cast iron -- Determination of total carbon content -- Combustion gravimetric method    ISO 629: 1982 Steel and cast iron -- Determination of manganese content -- Spectrophotometric method    ISO 671: 1982 Steel and cast iron -- Determination of sulphur content -- Combustion titrimetric method    ISO 3651-2: 1998 Determination of resistance to intergranular corrosion of stainless steels -- Part 2: Ferritic,austenitic and ferritic-austenitic (duplex) stainless steels -- Corrosion test in media containing sulfuric acid    ISO 4829-1: 1986 Steel and cast iron -- Determination of total silicon content -- Reduced molybdosilicate spectrophotometric method -- Part 1: Silicon contents between 0,05 and 1,0 %    ISO 4934: 1980 Steel and cast iron -- Determination of sulfur content -- Gravimetric method    ISO 4939: 1984 Steel and cast iron -- Determination of nickel content -- Dimethylglyoxime spectrophotometric method    ISO 4940: 1985 Steel and cast iron -- Determination of nickel content -- Flame atomic absorption spectrometric method    ISO 4943: 1985 Steel and cast iron -- Determination of copper content -- Flame atomic absorption spectrometric method    ISO 4946: 1984 Steel and cast iron -- Determination of copper content -- 2,2'-Diquinolyl spectrophotometric method    ISO 4947: 1986 Steel and cast iron -- Determination of vanadium content -- Potentiometric titration method |  |
| Pipe Leakage | BS | BS 5572:1978 - Code of practice for sanitary pipework  BS 6087:1981 - Specification for flexible joints for cast iron drainpipes and fittings (BS 437) and for cast iron soil, waste and ventilating pipes and fittings (BS 416)  BS 6465 Part1:1994 - Sanitary installations. Code of practice for scale of provision, selection and installation of sanitary appliances  BS 6465 Part2:1996- Sanitary installations. Code of practice for space requirements for sanitary appliances  BS 7543:1992Guide to durability of buildings and building elements, products and components  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8000-15:1990-Workmanship on building sites. Code of practice for hot and cold water services (domestic scale) |  |
|  | ASTM | A888-98e1- Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications  D3309-96a- Standard Specification for Polybutylene (PB) Plastic Hot- and Cold-Water Distribution Systems  D4396-99a- Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds for Plastic Pipe and Fittings Used in Nonpressure Applications |  |
|  | AS | AS/NZS 2032:2006 Installation of PVC pipe systems  AS/NZS 3500.5:2000-National Plumbing and Drainage - Domestic installations |  |
|  | SS | SS 141-1996 Unplasticised PVC pipe for cold water services and industrial uses  SS 213-1998 Unplasticized PVC pipes and fittings for soil, waste and vent applications |  |
|  | ISO | ISO 265-1:1988 Pipes and fittings of plastics materials -- Fittings for domestic and industrial waste pipes -- Basic dimensions : Metric series -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U)  ISO 3114:1977 Unplasticized polyvinyl chloride (PVC) pipes for potable water supply -- Extractability of lead and tin -- Test method  ISO 3474:1976 Unplasticized polyvinyl chloride (PVC) pipes -- Specification and measurement of opacity  ISO 3603:1977 Fittings for unplasticized polyvinyl chloride (PVC) pressure pipes with elastic sealing ring type joints -- Pressure test for leakproofness  ISO 3633:1991 Unplasticized poly(vinyl chloride) (PVC-U) pipes and fittings for soil and waste discharge (low and high temperature) systems inside buildings – Specifications  ISO/TR 4191:1989 Unplasticized polyvinyl chloride (PVC-U) pipes for water supply -- Recommended practice for laying  ISO 4422-1:1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 1: General    ISO 4422-2:1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 2: Pipes (with or without integral sockets)  ISO 4422-3:1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 3: Fittings and joints  ISO 4422-4:1997 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 4: Valves and ancillary equipment  ISO 4422-5:1997 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 5: Fitness for purpose of the system  ISO 4439:1979 Unplasticized polyvinyl chloride (PVC) pipes and fittings -- Determination and specification of density  ISO 6455:1983 Unplasticized polyvinyl chloride (PVC) fittings with elastic sealing ring type joints for pipes under pressure -- Dimensions of laying lengths -- Metric series  ISO 6594:1983 Cast iron drainage pipes and fittings -- Spigot series  ISO 6992:1986 Unplasticized polyvinyl chloride (PVC-U) pipes for drinking water supply -- Extractability of cadmium and mercury occurring as impurities  ISO 8283-1:1991 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U) and chlorinated poly (vinyl chloride) (PVC-C)  ISO 8283-2:1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 2: Polyethylene (PE)  ISO 8283-3:1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 3: Polypropylene (PP)  ISO 8283-4:1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 4: Acrylonitrile/butadiene/styrene (ABS)  ISO 13844:2000 Plastics piping systems -- Elastomeric-sealing-ring-type socket joints of unplasticized poly(vinyl chloride) (PVC-U) for use with PVC-U pipes -- Test method for leaktightness under negative pressure  ISO 13845:2015 Plastics piping systems -- Elastomeric-sealing-ring-type socket joints for use with thermoplastic pressure pipes -- Test method for leaktightness under internal pressure and with angular deflection |  |
| Water Leakage Underneath Bathtub | BS | **Sanitary**  BS 6340:1983 Shower units. Guide on choice of shower units and their components for use in private dwellings  BS 3402: 1969: Specification for quality of viterous china sanitary appliances.  BS 5503-3:1990 Vitreous china washdown WC pans with horizontal outlet. Specification for WC pans with horizontal outlet for use with 7.5 L maximum flush capacity cisterns  BS 5503:Part 1:1977 Vitreous china washdown WC pans with horizontal outlet. Connecting dimensions  BS 5503-2:1977 Vitreous china washdown WC pans with horizontal outlet. Materials, quality, performance and dimensions other than connecting dimensions  BS 5572: 1978 - Code of practice for sanitary fittings  BS 6465-1:1994-Sanitary installations. Code of practice for scale of provision, selection and installation of sanitary appliances  BS 6465-2:1996 - Sanitary installations. Code of practice for space requirements for sanitary appliances |  |
|  | ASTM | **Sanitary fittings**  C448-88(1999) Standard Test Methods for Abrasion Resistance of Porcelain ENAMELS  C1203-91(2002) Standard Test Method for Quantitative Determination of Alkali Resistance of a Ceramic-Glass Enamel  C614-74(1999) Standard Test Method for Alkali Resistance of Porcelain ENAMELS  C756-93-(1999) Standard Test Method for Cleanability of Surface Finishes  C286-99 Standard Terminology Relating to PORCELAIN Enamel and Ceramic-Metal Systems  C839-82(1999) Standard Test Method for Compressive Stress of PORCELAIN Enamels by Loaded-Beam Method  C282-99 Standard Test Method for Acid Resistance of PORCELAIN Enamels (Citric Acid Spot Test)  C810-90(2000) Standard Test Method for Nickel on Steel for PORCELAIN Enameling by X-Ray Emission Spectrometry  C715-90(2000) Standard Test Method for Nickel on Steel for PORCELAIN Enameling by Photometric Analysis |  |
|  | AS | **Sanitary fittings**  AS 1976-1992 Vitreous china used in sanitary appliances  AS 3500.2.1-1996 National Plumbing and Drainage - Sanitary plumbing and drainage - Performance requirements  AS/NZS 3500.2.2:1996 National Plumbing and Drainage - Sanitary plumbing and drainage - Acceptable solutions  AS/NZS 3500.2.2-1996/Amdt 1-1999 National Plumbing and Drainage - Sanitary plumbing and drainage-Acceptable solutions  AS 1976-1992 Vitreous china used in sanitary appliances  AS 4023-1992 Non-vitreous china used in sanitary appliances |  |
|  | SS | **Sanitary**  SS 205 : 1978: Vitreous china washdown WC pans - Dimensions and functional requirements  SS 379 : 1996: Vitreous china WC pans for use with low capacity WC flushing cisterns up to 4.5L maximum  SS 396 : 1997: Vitreous china WC pans for use with 6 L flush valves |  |
|  | ISO | **Sanitary**  ISO 1772:1975 Laboratory crucibles in porcelain and silica  ISO 1775:1975 Porcelain laboratory apparatus -- Requirements and methods of test  ISO 2722:1997 Vitreous and porcelain enamels -- Determination of resistance to citric acid at room temperature  ISO 2723:1995 Vitreous and porcelain enamels for sheet steel -- Production of specimens for testing  ISO 2724:1973 Vitreous and porcelain enamels for cast iron -- Production of specimens for testing  ISO 2733:1983 Vitreous and porcelain enamels -- Apparatus for testing with acid and neutral liquids and their vapours  ISO 2734:1997 Vitreous and porcelain enamels -- Apparatus for testing with alkaline liquids  ISO 2742:1998 Vitreous and porcelain enamels -- Determination of resistance to boiling citric acid  ISO 2743:1986 Vitreous and porcelain enamels -- Determination of resistance to condensing hydrochloric acid vapour  ISO 2744:1998 Vitreous and porcelain enamels -- Determination of resistance to boiling water and water vapour  ISO 2745:1998 Vitreous and porcelain enamels -- Determination of resistance to hot sodium hydroxide  ISO 2746:1998 Vitreous and porcelain enamels -- Enamelled articles for service under highly corrosive conditions -- High voltage test  ISO 2747:1998 Vitreous and porcelain enamels -- Enamelled cooking utensils -- Determination of resistance to thermal shock  ISO 4528:2000 Vitreous and porcelain enamel finishes -- Selection of test methods for vitreous and porcelain enamelled areas of articles  ISO 4530:1983 Vitreous and porcelain enamelled manufactured articles -- Determination of resistance to heat  ISO 4531-1:1998 Vitreous and porcelain enamels -- Release of lead and cadmium from enamelled ware in contact with food -- Part 1: Method of test  ISO 4531-2:1998 Vitreous and porcelain enamels -- Release of lead and cadmium from enamelled ware in contact with food -- Part 2: Permissible limits  ISO 4532:1991 Vitreous and porcelain enamels -- Determination of the resistance of enamelled articles to impact -- Pistol test  ISO 4533:1983 Vitreous and porcelain enamels -- Determination of resistance to hot detergent solutions used for washing textiles  ISO 4534:1980 Vitreous and porcelain enamels -- Determination of fluidity behaviour -- Fusion flow test  ISO 4535:1983 Vitreous and porcelain enamels -- Apparatus for determination of resistance to hot detergent solutions used for washing textiles  ISO 4791-1:1985 Laboratory apparatus -- Vocabulary relating to apparatus made essentially from glass, porcelain or vitreous silica -- Part 1: Names for items of apparatus  ISO 6370-1:1991 Vitreous and porcelain enamels -- Determination of the resistance to abrasion -- Part 1: Abrasion testing apparatus  ISO 6370-2:1991 Vitreous and porcelain enamels -- Determination of the resistance to abrasion -- Part 2: Loss in mass after sub-surface abrasion  ISO 8289:2000 Vitreous and porcelain enamels -- Low voltage test for detecting and locating defects  ISO 8290:1998 Vitreous and porcelain enamels -- Determination of resistance to sulfuric acid at room temperature  ISO 8291:1986 Vitreous and porcelain enamels -- Method of test of self-cleaning properties  ISO 13804:1999 Vitreous and porcelain enamels for aluminium -- Production of specimens for testing  ISO 13805:1999 Vitreous and porcelain enamels for aluminium -- Determination of the adhesion of enamels onaluminium under the action of electrolytic solution (spall test)  ISO 13806:1999 Vitreous and porcelain enamels -- Corrosion tests in closed systems  ISO 13807:1999 Vitreous and porcelain enamels -- Determination of crack formation temperature in the thermal shock testing of enamels for the chemical industry  ISO 15695:2000 Vitreous and porcelain enamels -- Determination of scratch resistance of enamel finishes |  |
| Corrosion of Pipes -Water leaks | BS | BS 437:1978-Specification for cast iron spigot and socket drain pipes and fittings    BS EN 877:1999-Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings. Requirements, test methods and quality assurance    BS 7773:1995-Code of practice for cleaning and preparation of metal surfaces    BS EN ISO 11124-1:1997-Preparation of steel substrates before application of paints and related products. Specifications for metallic blast-cleaning abrasives. General introduction and classification. |  |
|  | ASTM | A74-98-Standard Specification for Cast Iron Soil Pipe and Fittings    C564-97-Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings |  |
|  | AS | AS/NZS 3500.5:2000-National Plumbing and Drainage - Domestic installations |  |
|  | SS | SS 142 : 1976- Steel pipes, fittings and specials for water, gas and sewage |  |
|  | ISO | ISO 437: 1982 Steel and cast iron -- Determination of total carbon content -- Combustion gravimetric method  ISO 629: 1982 Steel and cast iron -- Determination of manganese content -- Spectrophotometric method    ISO 671: 1982 Steel and cast iron -- Determination of sulphur content -- Combustion titrimetric method    ISO 3651-1: 1998 Determination of resistance to intergranular corrosion of stainless steels -- Part 1: Austenitic and ferritic-austenitic (duplex) stainless steels -- Corrosion test in nitric acid medium by measurement of loss in mass (Huey test)    ISO 3651-2: 1998 Determination of resistance to intergranular corrosion of stainless steels -- Part 2: Ferritic,austenitic and ferritic-austenitic (duplex) stainless steels -- Corrosion test in media containing sulfuric acid    ISO 4829-1: 1986 Steel and cast iron -- Determination of total silicon content -- Reduced molybdosilicate spectrophotometric method -- Part 1: Silicon contents between 0,05 and 1,0 %    ISO 4934: 1980 Steel and cast iron -- Determination of sulfur content -- Gravimetric method    ISO 4939: 1984 Steel and cast iron -- Determination of nickel content -- Dimethylglyoxime spectrophotometric method    ISO 4940: 1985 Steel and cast iron -- Determination of nickel content -- Flame atomic absorption spectrometric method    ISO 4943: 1985 Steel and cast iron -- Determination of copper content -- Flame atomic absorption spectrometric method    ISO 4946: 1984 Steel and cast iron -- Determination of copper content -- 2,2'-Diquinolyl spectrophotometric method  S  ISO 4947: 1986 Steel and cast iron -- Determination of vanadium content -- Potentiometric titration method |  |
| Corrosion of Drainage Pipes | BS | BS 437:1978-Specification for cast iron spigot and socket drain pipes and fittings    BS EN 877:1999-Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings. Requirements, test methods and quality assurance    BS EN ISO 11124-1:1997Preparation of steel substrates before application of paints and related products. Specifications for metallic blast-cleaning abrasives. General introduction and classification    BS 5493:1977 - Code of practice for protective coating of iron and steel structures against corrosion    BS 6150:2006+A1:2014 Painting of buildings. Code of practice    BS 7773:1995-Code of practice for cleaning and preparation of metal surfaces |  |
|  | ASTM | A74-1998-Standard Specification for Cast Iron Soil Pipe and Fittings    C564-1997-Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings |  |
|  | AS | AS/NZS 3500.5:2000-National Plumbing and Drainage - Domestic installations |  |
|  | SS | SS 33 : 1975 Cast iron spigot and socket soil, waste and ventilating pipes (sand cast and spun) and fitting  SS 142 : 1976- Steel pipes, fittings and specials for water, gas and sewage |  |
|  | ISO | ISO 3651-1: 1998 Determination of resistance to intergranular corrosion of stainless steels -- Part 1: Austenitic and ferritic-austenitic (duplex) stainless steels -- Corrosion test in nitric acid medium by measurement of loss in mass (Huey test)  ISO 437: 1982 Steel and cast iron -- Determination of total carbon content -- Combustion gravimetric method  ISO 629: 1982 Steel and cast iron -- Determination of manganese content -- Spectrophotometric method  ISO 671: 1982 Steel and cast iron -- Determination of sulphur content -- Combustion titrimetric method  ISO 3651-2: 1998 Determination of resistance to intergranular corrosion of stainless steels -- Part 2: Ferritic,austenitic and ferritic-austenitic (duplex) stainless steels -- Corrosion test in media containing sulfuric acid  ISO 4829-1: 1986 Steel and cast iron -- Determination of total silicon content -- Reduced molybdosilicate spectrophotometric method -- Part 1: Silicon contents between 0,05 and 1,0 %  ISO 4934: 1980 Steel and cast iron -- Determination of sulfur content -- Gravimetric method  ISO 4939: 1984 Steel and cast iron -- Determination of nickel content -- Dimethylglyoxime spectrophotometric method    ISO 4940: 1985 Steel and cast iron -- Determination of nickel content -- Flame atomic absorption spectrometric method  ISO 4943: 1985 Steel and cast iron -- Determination of copper content -- Flame atomic absorption spectrometric method  ISO 4946: 1984 Steel and cast iron -- Determination of copper content -- 2,2'-Diquinolyl spectrophotometric method    ISO 4947: 1986 Steel and cast iron -- Determination of vanadium content -- Potentiometric titration method |  |
| Pitting corrosion | BS | Paints    BS EN 12329:2000 Corrosion protection of metals. Electrodeposited coatings of zinc with supplementary treatment on iron or steel    Plumbing    BS 41:1973 Specification for cast iron spigot and socket flue or smoke pipes and fittings    BS 78-2:1965 Specification for cast iron spigot and socket pipes (vertically cast) and spigot and socket fittings. Fittings    BS 143 and 1256:2000 Threaded pipe fittings in malleable cast iron and cast copper alloy    BS 2035:1966 Specification for cast iron flanged pipes and flanged fittings    BS EN 545 : 1995 Ductile iron pipes, fittings, accessories and their joints for water pipelines. Requirements and test methods    BS 4772:1980 Specification for ductile iron pipes and fittings |  |
|  | ASTM | Paints    A926-97 Standard Test Method for Comparing the Abrasion Resistance of Coating Materials for Corrugated METAL Pipe    ASTM D610 - 08(2012) Standard Practice for Evaluating Degree of Rusting on Painted Steel Surfaces    ASTM D1654 - 08 Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments    ASTM D2247 - 15 Standard Practice for Testing Water Resistance of Coatings in 100 % Relative HumidityASTM D2244 - 15a Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates    ASTM D2247 - 15 Standard Practice for Testing Water Resistance of Coatings in 100 % Relative Humidity    Plumbing    A888-98e1 Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications    C1277-97 Standard Specification for Shielded Couplings Joining Hubless Cast Iron Soil Pipe and Fittings    C564-97 Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings    A438-80(1997) Standard Test Method for Transverse Testing of Gray Cast Iron    A74-98 Standard Specification for Cast Iron Soil Pipe and Fittings    A999/A999M-01 Standard Specification for General Requirements for Alloy and Stainless Steel Pipe    A790/A790M-02a Standard Specification for Seamless and Welded Ferritic/Austenitic Stainless Steel Pipe    A377-99 Standard Index of Specifications for Ductile-Iron Pressure Pipe    A674-00 Standard Practice for Polyethylene Encasement for Ductile Iron Pipe for Water or Other Liquids |  |
|  | AS | Paints    AS 3730.21-1993 Guide to the properties of paints for buildings - Primer - Solvent-borne - For ferrous metallic surfaces    Plumbing    AS 1631-1994 Cast grey and ductile iron non-pressure pipes and fittings |  |
|  | SS | Paints    SS 542 : 2008 Code of practice for painting of buildings    SS 5 Series - Methods of test for paints, varnishes and related materials    SS 7 : 1998 Paint - Finishing, gloss enamel    SS 34 : 1998 Undercoat paint for gloss enamel    SS 150 : 1998 Emulsion paints for decorative purposes    Plumbing    SS 33 : 1975 Cast iron spigot and socket soil, waste and ventilating pipes (sand cast and spun) and fitting |  |
|  | ISO | Paints    ISO 11997-1:1998 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity    ISO 11997-2:2000 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light    ISO 11998:1998 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings    ISO 7784-1:1997 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Rotating abrasive-paper-covered wheel method    ISO 7784-2:1997 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Rotating abrasive rubber wheel method    ISO 7784-3:2000 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Reciprocating test panel method    ISO 8501-1:1988 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings    Plumbing    ISO 13:1978 Grey iron pipes, special castings and grey iron parts for pressure main lines    ISO 2531:1998 Ductile iron pipes, fittings, accessories and their joints for water or gas applications    ISO 4179:1985 Ductile iron pipes for pressure and non-pressure pipelines -- Centrifugal cement mortar lining -- General requirements    ISO 6594:1983 Cast iron drainage pipes and fittings -- Spigot series    ISO 8179-1:1995 Ductile iron pipes -- External zinc coating -- Part 1: Metallic zinc with finishing layer    ISO 8179-2:1995 Ductile iron pipes -- External zinc coating -- Part 2: Zinc rich paint with finishing layer    ISO 8180:1985 Ductile iron pipes -- Polyethylene sleeving    ISO 10803:1999 Design method for ductile iron pipes |  |
| Mastic Failure - Corrosion of Drainage Pipes | BS | BS 437:1978-Specification for cast iron spigot and socket drain pipes and fittings    BS EN 877:1999-Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings. Requirements, test methods and quality assurance    BS EN ISO 11124-1:1997Preparation of steel substrates before application of paints and related products. Specifications for metallic blast-cleaning abrasives. General introduction and classification    BS 5493:1977 - Code of practice for protective coating of iron and steel structures against corrosion    BS 6150:2006+A1:2014 Painting of buildings. Code of practice    BS 7773:1995-Code of practice for cleaning and preparation of metal surfaces |  |
|  | ASTM | A74-1998-Standard Specification for Cast Iron Soil Pipe and Fittings    C564-1997-Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings |  |
|  | AS | AS/NZS 3500.5:2000-National Plumbing and Drainage - Domestic installations |  |
|  | SS | SS 33 : 1975 Cast iron spigot and socket soil, waste and ventilating pipes (sand cast and spun) and fitting    SS 142 : 1976- Steel pipes, fittings and specials for water, gas and sewage |  |
|  | ISO | ISO 3651-1: 1998 Determination of resistance to intergranular corrosion of stainless steels -- Part 1: Austenitic and ferritic-austenitic (duplex) stainless steels -- Corrosion test in nitric acid medium by measurement of loss in mass (Huey test)    ISO 437: 1982 Steel and cast iron -- Determination of total carbon content -- Combustion gravimetric method    ISO 629: 1982 Steel and cast iron -- Determination of manganese content -- Spectrophotometric method    ISO 671: 1982 Steel and cast iron -- Determination of sulphur content -- Combustion titrimetric method    ISO 3651-2: 1998 Determination of resistance to intergranular corrosion of stainless steels -- Part 2: Ferritic,austenitic and ferritic-austenitic (duplex) stainless steels -- Corrosion test in media containing sulfuric acid    ISO 4829-1: 1986 Steel and cast iron -- Determination of total silicon content -- Reduced molybdosilicate spectrophotometric method -- Part 1: Silicon contents between 0,05 and 1,0 %    ISO 4934: 1980 Steel and cast iron -- Determination of sulfur content -- Gravimetric method    ISO 4939: 1984 Steel and cast iron -- Determination of nickel content -- Dimethylglyoxime spectrophotometric method    ISO 4940: 1985 Steel and cast iron -- Determination of nickel content -- Flame atomic absorption spectrometric method    ISO 4943: 1985 Steel and cast iron -- Determination of copper content -- Flame atomic absorption spectrometric method    ISO 4946: 1984 Steel and cast iron -- Determination of copper content -- 2,2'-Diquinolyl spectrophotometric method    ISO 4947: 1986 Steel and cast iron -- Determination of vanadium content -- Potentiometric titration method |  |
| Pipe Leakage | BS | BS 5572:1978 - Code of practice for sanitary pipework    BS 6087:1981 - Specification for flexible joints for cast iron drainpipes and fittings (BS 437) and for cast iron soil, waste and ventilating pipes and fittings (BS 416)    BS 6465 Part1:1994 - Sanitary installations. Code of practice for scale of provision, selection and installation of sanitary appliances    BS 6465 Part2:1996- Sanitary installations. Code of practice for space requirements for sanitary appliances    BS 7543:1992Guide to durability of buildings and building elements, products and components    BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles    BS 8000-15:1990-Workmanship on building sites. Code of practice for hot and cold water services (domestic scale) |  |
|  | ASTM | A888-98e1- Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications    D3309-96a- Standard Specification for Polybutylene (PB) Plastic Hot- and Cold-Water Distribution Systems    D4396-99a- Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds for Plastic Pipe and Fittings Used in Nonpressure Applications |  |
|  | AS | AS/NZS 2032:2006 Installation of PVC pipe systems    AS/NZS 3500.5:2000-National Plumbing and Drainage - Domestic installations |  |
|  | SS | SS 141-1996 Unplasticised PVC pipe for cold water services and industrial uses    SS 213-1998 Unplasticized PVC pipes and fittings for soil, waste and vent applications |  |
|  | ISO | ISO 265-1:1988 Pipes and fittings of plastics materials -- Fittings for domestic and industrial waste pipes -- Basic dimensions : Metric series -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U)    ISO 3114:1977 Unplasticized polyvinyl chloride (PVC) pipes for potable water supply -- Extractability of lead and tin -- Test method    ISO 3474:1976 Unplasticized polyvinyl chloride (PVC) pipes -- Specification and measurement of opacity    ISO 3603:1977 Fittings for unplasticized polyvinyl chloride (PVC) pressure pipes with elastic sealing ring type joints -- Pressure test for leakproofness    ISO 3633:1991 Unplasticized poly(vinyl chloride) (PVC-U) pipes and fittings for soil and waste discharge (low and high temperature) systems inside buildings – Specifications    ISO/TR 4191:1989 Unplasticized polyvinyl chloride (PVC-U) pipes for water supply -- Recommended practice for laying    ISO 4422-1:1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 1: General    ISO 4422-2:1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 2: Pipes (with or without integral sockets)    ISO 4422-3:1996 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 3: Fittings and joints    ISO 4422-4:1997 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 4: Valves and ancillary equipment    ISO 4422-5:1997 Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 5: Fitness for purpose of the system    ISO 4439:1979 Unplasticized polyvinyl chloride (PVC) pipes and fittings -- Determination and specification of density    ISO 6455:1983 Unplasticized polyvinyl chloride (PVC) fittings with elastic sealing ring type joints for pipes under pressure -- Dimensions of laying lengths -- Metric series    ISO 6594:1983 Cast iron drainage pipes and fittings -- Spigot series    ISO 6992:1986 Unplasticized polyvinyl chloride (PVC-U) pipes for drinking water supply -- Extractability of cadmium and mercury occurring as impurities    ISO 8283-1:1991 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U) and chlorinated poly (vinyl chloride) (PVC-C)    ISO 8283-2:1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 2: Polyethylene (PE)    ISO 8283-3:1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 3: Polypropylene (PP)    ISO 8283-4:1992 Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 4: Acrylonitrile/butadiene/styrene (ABS)    ISO 13844:2000 Plastics piping systems -- Elastomeric-sealing-ring-type socket joints of unplasticized poly(vinyl chloride) (PVC-U) for use with PVC-U pipes -- Test method for leaktightness under negative pressure    ISO 13845:2015 Plastics piping systems -- Elastomeric-sealing-ring-type socket joints for use with thermoplastic pressure pipes -- Test method for leaktightness under internal pressure and with angular deflection |  |
| Staining- Fittings | BS | Fittings    BS 1125:1987-Specification for WC flushing cisterns (including dual flush cisterns and flush pipes)    BS 1212-4:1991-Float operated valves. Specification for compact type float operated valves for WC flushing cisterns (including floats)    BS 1254:1981-Specification for WC seats (plastics)    BS 3402:1969-Specification for quality of vitreous china sanitary appliances    BS 5503-3:1990-Vitreous china washdown WC pans with horizontal outlet. Specification for WC pans with horizontal outlet for use with 7.5 L maximum flush capacity cisterns    BS 5504-1:1977, EN 34:1992-Wall hung WC pan. Wall hung WC pan with close coupled cistern. Connecting dimensions    BS 5504-4:1990-Wall hung WC pan. Specification for wall hung WC pans for use with 7.5 L maximum flush capacity cisterns    BS 5627:1984-Specification for plastics connectors for use with horizontal outlet vitreous china WC pans    BS 6465-1:1994-Sanitary installations. Code of practice for scale of provision, selection and installation of sanitary appliances    BS 6465-2:1996-Sanitary installations. Code of practice for space requirements for sanitary appliances |  |
|  | ASTM | Fittings    C242-01 Standard Terminology of Ceramic Whitewares and Related Products    C322-82(1997)e1 Standard Practice for Sampling Ceramic Whiteware Clays    C323-56(1999) Standard Test Methods for Chemical Analysis of Ceramic Whiteware Clays    C324-01 Standard Test Method for Free Moisture in Ceramic Whiteware Clays    C325-81(1997)e1 Standard Test Method for Wet Sieve Analysis of Ceramic Whiteware Clays    C326-82(1997)e1 Standard Test Method for Drying and Firing Shrinkages of Ceramic Whiteware Clays    C329-88(1999) Standard Test Method for Specific Gravity of Fired Ceramic Whiteware Materials    C370-88(1999) Standard Test Method for Moisture Expansion of Fired Whiteware Products    C371-89(1999) Standard Test Method for Wire-Cloth Sieve Analysis of Nonplastic Ceramic Powders    C372-94(2001) Standard Test Method for Linear Thermal Expansion of Porcelain Enamel and Glaze Frits and Fired Ceramic Whiteware Products by the Dilatometer Method    C373-88(1999) Standard Test Method for Water Absorption, Bulk Density, Apparent Porosity, and Apparent Specific Gravity of Fired Whiteware Products    C408-88(1999) Standard Test Method for Thermal Conductivity of Whiteware Ceramics    C448-88(1999) Standard Test Methods for Abrasion Resistance of Porcelain Enamels    C614-74(1999) Standard Test Method for Alkali Resistance of Porcelain Enamels |  |
|  | AS | Fittings    AS 1172.2-1999-Water closet (WC) pans of 6/3 L capacity or proven equivalent - Cisterns    AS 1172.1-1993-Water closets of 6/3 L capacity - Pans    AS 1976-1992 Vitreous china used in sanitary appliances |  |
|  | SS | Fittings    SS 42 : 1971- Quality of vitreous china sanitary appliances    SS 378: 1996 Low capacity WC flushing cisterns up to 4.5 L maximum    SS 379: 1996 Vitreous china WC pans for use with low capacity flushing cisterns up to 4.5 L maximum    SS 396: 1997 Vitreous china WC pans for use with 6 litre flush valves |  |
|  | ISO | Fittings    ISO 1772:1975 Laboratory crucibles in porcelain and silica    ISO 1775: 1975 Porcelain laboratory apparatus -- Requirements and methods of test    ISO 2722: 1997 Vitreous and porcelain enamels -- Determination of resistance to citric acid at room temperature    ISO 2723: 1995 Vitreous and porcelain enamels for sheet steel -- Production of specimens for testing    ISO 2724: 1973 Vitreous and porcelain enamels for cast iron -- Production of specimens for testing    ISO 2733: 1983 Vitreous and porcelain enamels -- Apparatus for testing with acid and neutral liquids and their vapours    ISO 2734: 1997 Vitreous and porcelain enamels -- Apparatus for testing with alkaline liquids    ISO 2742: 1998 Vitreous and porcelain enamels -- Determination of resistance to boiling citric acid    ISO 2743: 1986 Vitreous and porcelain enamels -- Determination of resistance to condensing hydrochloric acid vapour    ISO 2744: 1998 Vitreous and porcelain enamels -- Determination of resistance to boiling water and water vapour    ISO 2745: 1998 Vitreous and porcelain enamels -- Determination of resistance to hot sodium hydroxide    ISO 4531-1: 1998 Vitreous and porcelain enamels -- Release of lead and cadmium from enamelled ware in contact with food -- Part 1: Method of test    ISO 4531-2: 1998 Vitreous and porcelain enamels -- Release of lead and cadmium from enamelled ware in contact with food -- Part 2: Permissible limits    ISO 4532: 1991 Vitreous and porcelain enamels -- Determination of the resistance of enamelled articles to impact -- Pistol test    ISO 4533: 1983 Vitreous and porcelain enamels -- Determination of resistance to hot detergent solutions used for washing textiles    ISO 4534: 1980 Vitreous and porcelain enamels -- Determination of fluidity behaviour -- Fusion flow test    ISO 4535: 1983 Vitreous and porcelain enamels -- Apparatus for determination of resistance to hot detergent solutions used for washing textiles    ISO 4791-1:1985 Laboratory apparatus -- Vocabulary relating to apparatus made essentially from glass, porcelain or vitreous silica -- Part 1: Names for items of apparatus    ISO 6370-1: 1991 Vitreous and porcelain enamels -- Determination of the resistance to abrasion -- Part 1: Abrasion testing apparatus    ISO 6370-2: 1991 Vitreous and porcelain enamels -- Determination of the resistance to abrasion -- Part 2: Loss in mass after sub-surface abrasion    ISO 8289: 2000 Vitreous and porcelain enamels -- Low voltage test for detecting and locating defects    ISO 8290: 1998 Vitreous and porcelain enamels -- Determination of resistance to sulfuric acid at room temperature    ISO 8291: 1986 Vitreous and porcelain enamels -- Method of test of self-cleaning properties    ISO 13806: 1999 Vitreous and porcelain enamels -- Corrosion tests in closed systems    ISO 15695: 2000 Vitreous and porcelain enamels -- Determination of scratch resistance of enamel finishes |  |
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# BASEMENT

# Structural floor/wall

## Water Leak Through Cracks

## Water Leak Through Joints

## Water Leak Through Porous Structures

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| BS | Concrete  BS 12-Specification for Portland Cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 882-Specification for aggregates from natural sources for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS 4551-Methods of testing mortars, screeds and plasters  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS 6319-3:1990-Testing of resin and polymer/cement compositions for use in construction. Methods for measurement ofmodulus of elasticity in flexure and flexural strength  BS 6319-12:1992-Testing of resin and polymer/cement compositions for use in construction. Methods for measurement ofunrestrained linear shrinkage and coefficient of thermal expansion  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:1999-Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics inhardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2001-Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity,marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floortoppings  Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles |
| ASTM | Concrete  C33: 2001a-Standard Specification for Concrete Aggregates  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C136-01- Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  C150: 2000-Standard Specification for Portland Cement  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of PrismsBroken in Flexure)  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste,Mortar, and Concrete  C494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  C778: 2000-Standard Specification for Standard Sand  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  Waterproofing  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014) |
| AS | Concrete  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete   AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)   AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance   concreteAS 1379-2007/Amdt 1-2009 Specification and supply of concrete - AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  AS 2550.15-1994 Cranes - Safe use - Concrete placing equipment  AS 3600-2009 Concrete structures  AS 3648-1993 : Specification and methods of test for packaged concrete mixes |
| SS | Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1   SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings |
| ISO | |  | | --- | | Concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 4103:1979 Concrete -- Classification of consistency  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  **Reinforcement**  ISO 6934-1: 1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2: 1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3: 1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4: 1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5: 1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1: 1991 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2: 1991 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabric | |  | |  | |  | |

## Water Leak Through Pipe Penetrations - Efflorescence

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| BS | Concrete  BS 12-Specification for Portland Cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 882-Specification for aggregates from natural sources for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS 4551-Methods of testing mortars, screeds and plasters  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS 6319-3:1990-Testing of resin and polymer/cement compositions for use in construction. Methods for measurement ofmodulus of elasticity in flexure and flexural strength  BS 6319-12:1992-Testing of resin and polymer/cement compositions for use in construction. Methods for measurement ofunrestrained linear shrinkage and coefficient of thermal expansion  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:1999-Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics inhardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2001-Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity,marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floortoppings  Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles |
| ASTM | Concrete  C33: 2001a-Standard Specification for Concrete Aggregates  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C136-01- Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  C150: 2000-Standard Specification for Portland Cement  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of PrismsBroken in Flexure)  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste,Mortar, and Concrete  C494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  C778: 2000-Standard Specification for Standard Sand  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  Waterproofing  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014) |
| AS | Concrete  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete   AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)   AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance   concreteAS 1379-2007/Amdt 1-2009 Specification and supply of concrete - AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  AS 2550.15-1994 Cranes - Safe use - Concrete placing equipment  AS 3600-2009 Concrete structures  AS 3648-1993 : Specification and methods of test for packaged concrete mixes |
| SS | Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1   SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings |
| ISO | Concrete  ISO 1920: 1976   Concrete tests -- Dimensions, tolerances and applicability of test specimens  ISO 2736-1: 1986  Concrete tests -- Test specimens -- Part 1: Sampling of fresh concrete  ISO 2736-2: 1986  Concrete tests -- Test specimens -- Part 2: Making and curing of test specimens for strength tests  ISO 3766: 1995   Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893: 1977   Concrete -- Classification by compressive strength  ISO 4012: 1978  Concrete -- Determination of compressive strength of test specimens  ISO 4013: 1978  Concrete -- Determination of flexural strength of test specimens  ISO 4103: 1979   Concrete -- Classification of consistency  ISO 4108: 1980   Concrete -- Determination of tensile splitting strength of test specimens  ISO 4109: 1980  Fresh concrete -- Determination of the consistency -- Slump test  ISO 4110: 1979  Fresh concrete -- Determination of the consistency -- Vebe test  ISO 4111: 1979   Fresh concrete -- Determination of consistency -- Degree of compactibility (Compaction index)  ISO 4635: 1982   Rubber, vulcanized -- Preformed compression seals for use between concrete motorway paving sections -- Specification for material  ISO 4848: 1980   Concrete -- Determination of air content of freshly mixed concrete -- Pressure method  ISO 6274: 1982   Concrete -- Sieve analysis of aggregates  ISO 6275: 1982   Concrete, hardened -- Determination of density  ISO 6276: 1982   Concrete, compacted fresh -- Determination of density  ISO 6782: 1982   Aggregates for concrete -- Determination of bulk density  ISO 6783: 1982   Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 6784: 1982   Concrete -- Determination of static modulus of elasticity in compression  ISO 7033: 1987   Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method    Piping  ISO 265-1:1988   Pipes and fittings of plastics materials -- Fittings for domestic and industrial waste pipes -- Basic dimensions : Metric series -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U)  ISO 768:1972   Fibre building boards -- Determination of bending strength  ISO 769:1972   Fibre building boards -- Hard and medium boards -- Determination of water absorption and of swelling in thickness after immersion in water  ISO 818:1975   Fibre building boards -- Definition -- Classification  ISO 820:1975   Particle boards -- Definition and classification  ISO 2695:1976   Fibre building boards -- Hard and medium boards for general purposes -- Quality specifications -- Appearance, shape and dimensional tolerances  ISO 2696:1976   Fibre building boards -- Hard and medium boards for general purposes -- Quality specifications -- Water absorption and swelling in thickness  ISO 3114:1977   Unplasticized polyvinyl chloride (PVC) pipes for potable water supply -- Extractability of lead and tin -- Test method  ISO 3340:1976   Fibre building boards -- Determination of sand content  ISO 3474:1976   Unplasticized polyvinyl chloride (PVC) pipes -- Specification and measurement of opacityISO 3546:1976   Fibre building boards -- Determination of surface finish (roughness)  ISO 3603:1977   Fittings for unplasticized polyvinyl chloride (PVC) pressure pipes with elastic sealing ring type joints -- Pressure test for leakproofness  ISO 3633:1991   Unplasticized poly(vinyl chloride) (PVC-U) pipes and fittings for soil and waste discharge (low and high temperature) systems inside buildings – Specifications  ISO 3729:1976   Fibre building boards -- Determination of surface stability  ISO/TR 4191:1989   Unplasticized polyvinyl chloride (PVC-U) pipes for water supply -- Recommended practice for laying  ISO 4422-1:1996   Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 1: General  ISO 4422-2:1996   Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 2: Pipes (with or without integral sockets)  ISO 4422-3:1996   Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 3: Fittings and joints  ISO 4422-4:1997   Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 4: Valves and ancillary equipment  ISO 4422-5:1997   Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 5: Fitness for purpose of the system  ISO 4439:1979   Unplasticized polyvinyl chloride (PVC) pipes and fittings -- Determination and specification of density  ISO 6308:1980  - Gypsum plasterboard; Specification  ISO 6455:1983   Unplasticized polyvinyl chloride (PVC) fittings with elastic sealing ring type joints for pipes under pressure -- Dimensions of laying lengths -- Metric series  ISO 6594:1983   Cast iron drainage pipes and fittings -- Spigot series  ISO 6992:1986   Unplasticized polyvinyl chloride (PVC-U) pipes for drinking water supply -- Extractability of cadmium and mercury occurring as impurities  ISO 8283-1:1991   Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U) and chlorinated poly (vinyl chloride) (PVC-C)  ISO 8283-2:1992   Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 2: Polyethylene (PE)  ISO 8283-3:1992   Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 3: Polypropylene (PP)  ISO 8283-4:1992   Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 4: Acrylonitrile/butadiene/styrene (ABS)  ISO 13844:2000   Plastics piping systems -- Elastomeric-sealing-ring-type socket joints of unplasticized poly(vinyl chloride) (PVC-U) for use with PVC-U pipes -- Test method for leaktightness under negative pressure  ISO 13845:2000   Plastics piping systems -- Elastomeric-sealing-ring-type socket joints for use with unplasticized poly(vinyl chloride) (PVC-U) pipes -- Test method for leaktightness under internal pressure and with angular deflection |

## Water Leak Through Pipe Penetrations - waterproofing

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| BS | Concrete  BS 12-Specification for Portland Cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 882-Specification for aggregates from natural sources for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS 4551-Methods of testing mortars, screeds and plasters  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS 6319-3:1990-Testing of resin and polymer/cement compositions for use in construction. Methods for measurement ofmodulus of elasticity in flexure and flexural strength  BS 6319-12:1992-Testing of resin and polymer/cement compositions for use in construction. Methods for measurement ofunrestrained linear shrinkage and coefficient of thermal expansion  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:1999-Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics inhardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2001-Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity,marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floortoppings  Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles |
| ASTM | Concrete  C33: 2001a-Standard Specification for Concrete Aggregates  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C136-01- Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  C150: 2000-Standard Specification for Portland Cement  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of PrismsBroken in Flexure)  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste,Mortar, and Concrete  C494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  C778: 2000-Standard Specification for Standard Sand  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  Waterproofing  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014) |
| AS | Concrete  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete   AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)   AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance   concreteAS 1379-2007/Amdt 1-2009 Specification and supply of concrete - AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  AS 2550.15-1994 Cranes - Safe use - Concrete placing equipment  AS 3600-2009 Concrete structures  AS 3648-1993 : Specification and methods of test for packaged concrete mixes |
| SS | Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1   SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings |
| ISO | Concrete  ISO 1920: 1976   Concrete tests -- Dimensions, tolerances and applicability of test specimens  ISO 2736-1: 1986  Concrete tests -- Test specimens -- Part 1: Sampling of fresh concrete  ISO 2736-2: 1986  Concrete tests -- Test specimens -- Part 2: Making and curing of test specimens for strength tests  ISO 3766: 1995   Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893: 1977   Concrete -- Classification by compressive strength  ISO 4012: 1978  Concrete -- Determination of compressive strength of test specimens  ISO 4013: 1978  Concrete -- Determination of flexural strength of test specimens  ISO 4103: 1979   Concrete -- Classification of consistency  ISO 4108: 1980   Concrete -- Determination of tensile splitting strength of test specimens  ISO 4109: 1980  Fresh concrete -- Determination of the consistency -- Slump test  ISO 4110: 1979  Fresh concrete -- Determination of the consistency -- Vebe test  ISO 4111: 1979   Fresh concrete -- Determination of consistency -- Degree of compactibility (Compaction index)  ISO 4635: 1982   Rubber, vulcanized -- Preformed compression seals for use between concrete motorway paving sections -- Specification for material  ISO 4848: 1980   Concrete -- Determination of air content of freshly mixed concrete -- Pressure method  ISO 6274: 1982   Concrete -- Sieve analysis of aggregates  ISO 6275: 1982   Concrete, hardened -- Determination of density  ISO 6276: 1982   Concrete, compacted fresh -- Determination of density  ISO 6782: 1982   Aggregates for concrete -- Determination of bulk density  ISO 6783: 1982   Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  SO 6784: 1982   Concrete -- Determination of static modulus of elasticity in compression  ISO 7033: 1987   Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method   Steel  ISO 6934-1: 1991  Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2: 1991   Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3: 1991   Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4: 1991  Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5: 1991   Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1: 1991   Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2: 1991   Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabricISO 14654:1999 Epoxy-coated steel for the reinforcement of concreteISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete  Sealant  ISO 6927:1981   Building construction -- Jointing products -- Sealants -- Vocabulary  ISO 8339:1984   Building construction -- Jointing products -- Sealants -- Determination of tensile properties  ISO 8340:1984   Building construction -- Jointing products -- Sealants -- Determination of tensile properties at maintained extension  ISO 8394:1988   Building construction -- Jointing products -- Determination of extrudability of one-component sealants  ISO 9046:1987   Building construction -- Sealants -- Determination of adhesion/cohesion properties at constant temperature  ISO 9047:2001   Building construction -- Jointing products -- Determination of adhesion/cohesion properties of sealants at variable temperatures (available in English only)  ISO 9048:1987   Building construction -- Jointing products -- Determination of extrudability of sealants using standardized apparatus  ISO 10563:1991   Building construction -- Sealants for joints -- Determination of change in mass and volume  ISO 10590:1991   Building construction -- Sealants -- Determination of adhesion/cohesion properties at maintained extension after immersion in water  ISO 10591:1991   Building construction -- Sealants -- Determination of adhesion/cohesion properties after immersion in water  ISO 11431:1993   Building construction -- Sealants -- Determination of adhesion/cohesion properties after exposure to artificial light through glass  ISO 11432:1993   Building construction -- Sealants -- Determination of resistance to compression  ISO 11600:1993   Building construction -- Sealants -- Classification and requirements  ISO 13638:1996   Building construction -- Sealants -- Determination of resistance to prolonged exposure to water  Tiling  ISO 10545-1:1995- Ceramic tiles -- Part 1: Sampling and basis for acceptance  ISO 10545-3:1995- Ceramic tiles -- Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density  ISO 10545-4:1994- Ceramic tiles -- Part 4: Determination of modulus of rupture and breaking strength  ISO 10545-5:1996- Ceramic tiles -- Part 5: Determination of impact resistance by measurement of coefficient of restitution  ISO 10545-6:1995- Ceramic tiles -- Part 6: Determination of resistance to deep abrasion for unglazed tiles  ISO 10545-10:1995- Ceramic tiles -- Part 10: Determination of moisture expansion  ISO 10545-13:1995- Ceramic tiles -- Part 13: Determination of chemical resistance  ISO 10545-14:1995- Ceramic tiles -- Part 14: Determination of resistance to stains  ISO 10545-16:1999- Ceramic tiles -- Part 16: Determination of small colour differences  ISO 13006:1998- Ceramic tiles -- Definitions, classification, characteristics and marking  Paint  ISO 1513: 1992   Paints and varnishes -- Examination and preparation of samples for testing  ISO 1514: 1993  Paints and varnishes -- Standard panels for testing  ISO 1516: 1981  Paints, varnishes, petroleum and related products -- Flash/no flash test -- Closed cup equilibrium method  ISO 1517: 1973  Paints and varnishes -- Surface-drying test -- Ballotini method  ISO 1518: 1992   Paints and varnishes -- Scratch test  ISO 1519: 1973   Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520: 1999   Paints and varnishes -- Cupping test (available in English only)  ISO 1522: 1998   Paints and varnishes -- Pendulum damping test  ISO 1523: 1983   Paints, varnishes, petroleum and related products -- Determination of flashpoint -- Closed cup equilibrium method  ISO 1524: 2000   Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409: 1992   Paints and varnishes -- Cross-cut test  ISO 2431: 1993   Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808: 1997   Paints and varnishes -- Determination of film thickness  ISO 2810: 1974   Paints and varnishes -- Notes for guidance on the conduct of natural weathering tests  ISO 2811-1: 1997   Paints and varnishes -- Determination of density -- Part 1: Pyknometer methodISO 2811-2: 1997   Paints and varnishes -- Determination of density -- Part 2:Immersed body (plummet) method  ISO 2811-3: 1997   Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4: 1997   Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1: 1993   Paints and varnishes -- Determination of resistance to liquids -- Part 1: General methods  ISO 2812-2: 1993   Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813: 1994   Paints and varnishes -- Determination of specular gloss of non-metallic paint films at 20 degrees, 60 degrees and 85 degrees  ISO 2814: 1973  Paints and varnishes -- Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815: 1973  Paints and varnishes -- Buchholz indentation test  ISO 2884-1: 1999  Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear  ISO 3231: 1993   Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233: 1998   Paints and varnishes -- Determination of percentage volume of non-volatile matter by measuring the density of a dried coating  ISO 3248: 1998  Paints and varnishes -- Determination of the effect of heat  ISO 3251: 1993   Paints and varnishes -- Determination of non-volatile matter of paints, varnishes and binders for paints and varnishes  ISO 4618-1: 1998   Paints and varnishes -- Terms and definitions for coating materials -- Part 1: General terms  ISO 4618-2: 1999   Paints and varnishes -- Terms and definitions for coating materials -- Part 2: Special terms relating to paint characteristics and properties  ISO 4618-3: 1999   Paints and varnishes -- Terms and definitions for coating materials -- Part 3: Surface preparation and methods of application  ISO 4624: 1978   Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 1: General principles and rating schemes  ISO 4628-2: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 2: Designation of degree of blistering  ISO 4628-3: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 3: Designation of degree of rusting  ISO 4628-4: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 4: Designation of degree of cracking  ISO 4628-5: 1982  Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 5: Designation of degree of flaking  ISO 4628-6: 1990   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 6: Rating of degree of chalking by tape method  ISO 6270-1: 1998   Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272: 1993   Paints and varnishes -- Falling-weight test  ISO 6441: 1984   Paints and varnishes -- Indentation test (spherical or pyramidal)  ISO 6441-1: 1999  Paints and varnishes -- Determination of micro-indentation hardness -- Part 1: Knoop hardness by measurement of indentation length  ISO 6441-2: 1999   Paints and varnishes -- Determination of micro-indentation hardness -- Part 2: Knoop hardness by measurement of indentation depth under load  ISO 6503: 1984   Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983   Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3: 1998   Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio (opacity) of light-coloured paints at a fixed spreading rate  ISO 6713: 1984   Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860: 1984   Paints and varnishes -- Bend test (conical mandrel)  ISO 7142: 1984   Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143: 2000  Paints, varnishes and binders -- Methods of test for characterizing water-based coating materials and binders (available in English only)  ISO 7253: 1996  Paints and varnishes -- Determination of resistance to neutral salt spray (fog)  ISO 7724-1: 1984   Paints and varnishes -- Colorimetry -- Part 1: Principles  ISO 7724-2: 1984   Paints and varnishes -- Colorimetry -- Part 2: Colour measurement  ISO 7724-3: 1984   Paints and varnishes -- Colorimetry -- Part 3: Calculation of colour differences  ISO 7783-1: 1996   Paints and varnishes -- Determination of water-vapour transmission rate -- Part 1: Dish method for free films  ISO 7783-2: 1999   Paints and varnishes -- Coating materials and coating systems for exterior masonry and concrete -- Part 2: Determination and classification of water-vapour transmission rate (permeability)  ISO 7784-1: 1997   Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Rotating abrasive-paper-covered wheel method  ISO 7784-2: 1997   Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Rotating abrasive rubber wheel method  ISO 7784-3: 2000   Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Reciprocating test panel method  ISO 8501-1: 1988   Preparation  ISO 9514: 1992  Paints and varnishes -- Determination of the pot-life of liquid systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503: 1995  Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 11507: 1997  Paints and varnishes -- Exposure of coatings to artificial weathering -- Exposure to fluorescent UV and water  ISO 11668: 1997   Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1: 2000   Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2: 2000   Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996   Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909: 1996   Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1: 1998   Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2: 2000   Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998: 1998   Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137-1: 1997   Paints and varnishes -- Determination of mar resistance -- Part 1: Method using a curved stylus  ISO 12137-2: 1997  Paints and varnishes -- Determination of mar resistance -- Part 2: Method using a pointed stylus  ISO 14680-1: 2000   Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000   Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184: 1998  Paints and varnishes -- Determination of film hardness by pencil test   Piping  ISO 265-1:1988   Pipes and fittings of plastics materials -- Fittings for domestic and industrial waste pipes -- Basic dimensions : Metric series -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U)  ISO 768:1972   Fibre building boards -- Determination of bending strength  ISO 769:1972   Fibre building boards -- Hard and medium boards -- Determination of water absorption and of swelling in thickness after immersion in waterISO 818:1975   Fibre building boards -- Definition -- Classification  ISO 820:1975   Particle boards -- Definition and classification  ISO 2695:1976   Fibre building boards -- Hard and medium boards for general purposes -- Quality specifications -- Appearance, shape and dimensional tolerances  ISO 2696:1976   Fibre building boards -- Hard and medium boards for general purposes -- Quality specifications -- Water absorption and swelling in thickness  ISO 3114:1977   Unplasticized polyvinyl chloride (PVC) pipes for potable water supply -- Extractability of lead and tin -- Test method  ISO 3340:1976   Fibre building boards -- Determination of sand content  ISO 3474:1976   Unplasticized polyvinyl chloride (PVC) pipes -- Specification and measurement of opacity  ISO 3546:1976   Fibre building boards -- Determination of surface finish (roughness)  ISO 3603:1977   Fittings for unplasticized polyvinyl chloride (PVC) pressure pipes with elastic sealing ring type joints -- Pressure test for leakproofness  ISO 3633:1991   Unplasticized poly(vinyl chloride) (PVC-U) pipes and fittings for soil and waste discharge (low and high temperature) systems inside buildings – Specifications  ISO 3729:1976   Fibre building boards -- Determination of surface stability  ISO/TR 4191:1989   Unplasticized polyvinyl chloride (PVC-U) pipes for water supply -- Recommended practice for laying  ISO 4422-1:1996   Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 1: General  ISO 4422-2:1996   Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 2: Pipes (with or without integral sockets)  ISO 4422-3:1996   Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 3: Fittings and joints  ISO 4422-4:1997   Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 4: Valves and ancillary equipment  ISO 4422-5:1997   Pipes and fittings made of unplasticized poly(vinyl chloride) (PVC-U) for water supply -- Specifications -- Part 5: Fitness for purpose of the system  ISO 4439:1979   Unplasticized polyvinyl chloride (PVC) pipes and fittings -- Determination and specification of density  ISO 6308:1980  - Gypsum plasterboard; Specification  ISO 6455:1983   Unplasticized polyvinyl chloride (PVC) fittings with elastic sealing ring type joints for pipes under pressure -- Dimensions of laying lengths -- Metric series  ISO 6594:1983   Cast iron drainage pipes and fittings -- Spigot series  ISO 6992:1986   Unplasticized polyvinyl chloride (PVC-U) pipes for drinking water supply -- Extractability of cadmium and mercury occurring as impurities  ISO 8283-1:1991   Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U) and chlorinated poly (vinyl chloride) (PVC-C)  ISO 8283-2:1992   Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 2: Polyethylene (PE)  ISO 8283-3:1992   Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 3: Polypropylene (PP)  ISO 8283-4:1992   Plastics pipes and fittings -- Dimensions of sockets and spigots for discharge systems inside buildings -- Part 4: Acrylonitrile/butadiene/styrene (ABS)  ISO 13844:2000   Plastics piping systems -- Elastomeric-sealing-ring-type socket joints of unplasticized poly(vinyl chloride) (PVC-U) for use with PVC-U pipes -- Test method for leaktightness under negative pressure  ISO 13845:2000   Plastics piping systems -- Elastomeric-sealing-ring-type socket joints for use with unplasticized poly(vinyl chloride) (PVC-U) pipes -- Test method for leaktightness under internal pressure and with angular deflection |

## Cracks and Spalling of Concrete - Structural Cracks

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| BS | Concrete  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete   AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)   AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance   concreteAS 1379-2007/Amdt 1-2009 Specification and supply of concrete - AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  AS 2550.15-1994 Cranes - Safe use - Concrete placing equipment  AS 3600-2009 Concrete structures  AS 3648-1993 : Specification and methods of test for packaged concrete mixes |
| ASTM | Concrete  C33: 2001a-Standard Specification for Concrete Aggregates  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C136-01- Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  C150: 2000-Standard Specification for Portland Cement  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of PrismsBroken in Flexure)  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste,Mortar, and Concrete  C494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  C778: 2000-Standard Specification for Standard Sand  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water |
| AS | Concrete  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete   AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)   AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance   concreteAS 1379-2007/Amdt 1-2009 Specification and supply of concrete - AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  AS 2550.15-1994 Cranes - Safe use - Concrete placing equipment  AS 3600-2009 Concrete structures  AS 3648-1993 : Specification and methods of test for packaged concrete mixes |
| SS | Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1   SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity |
| ISO | Concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 4103:1979 Concrete -- Classification of consistency  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  Paint  ISO 1513:2010 Paints and varnishes -- Examination and preparation of test samples  ISO 1514:2004 Paints and varnishes -- Standard panels for testing  ISO 9117-3:2010 Paints and varnishes -- Drying tests -- Part 3: Surface-drying test using ballotini  ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water  ISO 2812-2:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 4618:2014 Paints and varnishes -- Terms and definitions    ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 1: General introduction and designation system  ISO 4628-2:2003 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering  ISO 4628-4:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 4: Assessment of degree of cracking  ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking  ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 16474-1:2013 Paints and varnishes -- Methods of exposure to laboratory light sources -- Part 1: General guidance  ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings |

## Cracks and Spalling of Concrete - Concrete Spalling

|  |  |
| --- | --- |
| BS | \*same as above\* |
| ASTM | \*same as above\* |
| AS | \*same as above\* |
| SS | \*same as above\* |
| ISO | Concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 4103:1979 Concrete -- Classification of consistency  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  Reinforcement  ISO 6934-1: 1991 Steel for the prestressing of concrete -- Part 1: General requirements  ISO 6934-2: 1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wire  ISO 6934-3: 1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wire  ISO 6934-4: 1991 Steel for the prestressing of concrete -- Part 4: Strand  ISO 6934-5: 1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processing  ISO 6935-1: 1991 Steel for the reinforcement of concrete -- Part 1: Plain bars  ISO 6935-2: 1991 Steel for the reinforcement of concrete -- Part 2: Ribbed bars  ISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabricISO 14654:1999 Epoxy-coated steel for the reinforcement of concrete  ISO 14656:1999 Epoxy powder and sealing material for the coating of steel for the reinforcement of concrete |

## Waterponding

|  |  |
| --- | --- |
| BS |  |
| ASTM |  |
| AS |  |
| SS |  |
| ISO |  |

# Architectural Finishes

## PAINT DEFECTS

## Paint Peeling at Joint between Basement Floor and Column

|  |  |
| --- | --- |
| BS | CEMENT, CONCRETE, MORTAR  BS 12-Specification for Portland Cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 882-Specification for aggregates from natural sources for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS EN 13139:2002 Aggregates for mortar  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS 4551-Methods of testing mortars, screeds and plasters  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity   COATINGS, PLASTERING, WATERPROOFINGS, SCREEDINGS  BS 5492:1990- Code of practice for internal plastering  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7015:1989- Specification for cast acrylic sheet for baths and shower trays for domestic purposes  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  BS 8204:various dates- Screeds, bases and in-situ floorings  PAINTS  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS 3900-F9:1982, BS EN ISO 6270:1995 - Paints and varnishes. Determination of resistance to humidity (continuous condensation)  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints |
| ASTM | CEMENT, SAND, MORTAR  C33: 2001a-Standard Specification for Concrete Aggregates  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C136-01- Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  C150: 2000-Standard Specification for Portland Cement  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of Prisms Broken in Flexure)  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete  C494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  C778: 2000-Standard Specification for Standard Sand  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  WATER  D1067: 1992(1996)-Standard Test Methods for Acidity or Alkalinity of Water  D1129: 2001-Standard Terminology Relating to Water  D1193: 1999e1-Standard Specification for Reagent Water  D1293: 1999-Standard Test Methods for pH of Water  COATINGS, WATERPROOFINGS, SCREEDINGS  ASTM C1063 - 16a Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  PAINTS  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008) |
| AS | CONCRETE, MORTAR, CEMENT  DR 01033 : Chemical admixtures for concrete, mortar and grout Methods of sampling and testing admixtures for mortar and grout  AS 1012.1 to 21 : Methods of testing concrete  AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)  AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1379-1997/Amdt 1-2000 : Specification and supply of concrete  AS 1478.1-2000 : Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  AS 2550.15-1994 : Cranes - Safe use - Concrete placing equipment  AS 3600-2001 : Concrete structures  AS 3648-1993 : Specification and methods of test for packaged concrete mixes  PAINTINGS, VARNISHES  AS/NZS 2310:2002 Glossary of paint and painting terms  AS/NZS 2311:2009 Guide to the painting of buildings  AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints  AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides  HB 73.1-2005 Handbook of Australian Paint Standards - General  HB 73.2-2005 Handbook of Australian Paint Standards - Test methods  AS/NZS 1580.101.1:1999 (R2013) Paints and related materials - Methods of test - - Conditions of test - Temperature, humidity and airflow control  AS/NZS 1580.107.2:1995 Paints and related materials - Methods of test - - Determination of wet film thickness from wet film mass  AS 1580.408.5-2006 Paints and related materials - Methods of test - Adhesion - Pull-off test  AS/NZS 1580.481.1.10:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS/NZS 1580.481.1.13:1998 (Reconfirmed 2013) Methods of test for paints and related materials - Exposed to weathering - Degree of fungal or algal growth  AS/NZS 1580.481.1.9:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | CEMENT, CONCRETE  SS 26: 1997 Portland cement (ordinary and hardening)  SS 31: 1998 Coarse and fine aggregates from natural sources of concrete  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  SS 397 :  Methods of testing cement  COATINGS, WATERPROOFING  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  PAINTS  SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 542 : 2008 Code of practice for painting of buildings  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes |
| ISO | CONCRETE  ISO 1920: 1976 Concrete tests -- Dimensions, tolerances and applicability of test specimens  ISO 2736-1: 1986 Concrete tests -- Test specimens -- Part 1: Sampling of fresh concrete  ISO 2736-2: 1986 Concrete tests -- Test specimens -- Part 2: Making and curing of test specimens for strength tests  ISO 3766: 1995 Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893: 1977 Concrete -- Classification by compressive strength  ISO 4012: 1978 Concrete -- Determination of compressive strength of test specimens  ISO 4013: 1978 Concrete -- Determination of flexural strength of test specimens  ISO 4103: 1979 Concrete -- Classification of consistency  ISO 4108: 1980 Concrete -- Determination of tensile splitting strength of test specimens  ISO 4109: 1980 Fresh concrete -- Determination of the consistency -- Slump test  ISO 4110: 1979 Fresh concrete -- Determination of the consistency -- Vebe test  ISO 4111: 1979 Fresh concrete -- Determination of consistency -- Degree of compactibility (Compaction index)  ISO 4635: 1982 Rubber, vulcanized -- Preformed compression seals for use between concrete motorway paving sections -- Specification for material  ISO 4848: 1980 Concrete -- Determination of air content of freshly mixed concrete -- Pressure method  ISO 6274: 1982 Concrete -- Sieve analysis of aggregates  ISO 6275: 1982 Concrete, hardened -- Determination of density  ISO 6276: 1982 Concrete, compacted fresh -- Determination of density  ISO 6782: 1982 Aggregates for concrete -- Determination of bulk density  ISO 6783: 1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 6784: 1982 Concrete -- Determination of static modulus of elasticity in compression  ISO 7033: 1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  PAINTS , VARNISHES  ISO 1513: 1992 Paints and varnishes -- Examination and preparation of samples for testing  ISO 1514: 1993 Paints and varnishes -- Standard panels for testing  ISO 1516: 1981 Paints, varnishes, petroleum and related products -- Flash/no flash test -- Closed cup equilibrium method  ISO 1517: 1973 Paints and varnishes -- Surface-drying test -- Ballotini method  ISO 1518: 1992 Paints and varnishes -- Scratch test  ISO 1519: 1973 Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520: 1999 Paints and varnishes -- Cupping test (available in English only)  ISO 1522: 1998 Paints and varnishes -- Pendulum damping test  ISO 1523: 1983 Paints, varnishes, petroleum and related products -- Determination of flashpoint -- Closed cup equilibrium method  ISO 1524: 2000 Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409: 1992 Paints and varnishes -- Cross-cut test  ISO 2431: 1993 Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808: 1997 Paints and varnishes -- Determination of film thickness  ISO 2810: 1974 Paints and varnishes -- Notes for guidance on the conduct of natural weathering tests  ISO 2811-1: 1997 Paints and varnishes -- Determination of density -- Part 1: Pyknometer method  ISO 2811-2: 1997 Paints and varnishes -- Determination of density -- Part 2:Immersed body (plummet) method  ISO 2811-3: 1997 Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4: 1997 Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1: 1993 Paints and varnishes -- Determination of resistance to liquids -- Part 1: General methods  ISO 2812-2: 1993 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813: 1994 Paints and varnishes -- Determination of specular gloss of non-metallic paint films at 20 degrees, 60 degrees and 85 degrees  ISO 2814: 1973 Paints and varnishes -- Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815: 1973 Paints and varnishes -- Buchholz indentation test  ISO 2884-1: 1999 Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear  ISO 3231: 1993 Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233: 1998 Paints and varnishes -- Determination of percentage volume of non-volatile matter by measuring the density of a dried coating  ISO 3248: 1998 Paints and varnishes -- Determination of the effect of heat  ISO 3251: 1993 Paints and varnishes -- Determination of non-volatile matter of paints, varnishes and binders for paints and varnishes  ISO 4618-1: 1998 Paints and varnishes -- Terms and definitions for coating materials -- Part 1: General terms  ISO 4618-2: 1999 Paints and varnishes -- Terms and definitions for coating materials -- Part 2: Special terms relating to paint characteristics and properties  ISO 4618-3: 1999 Paints and varnishes -- Terms and definitions for coating materials -- Part 3: Surface preparation and methods of application  ISO 4624: 1978 Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1: 1982 Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 1: General principles and rating schemes  ISO 4628-2: 1982 Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 2: Designation of degree of blistering  ISO 4628-3: 1982 Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 3: Designation of degree of rusting  ISO 4628-4: 1982 Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 4: Designation of degree of cracking  ISO 4628-5: 1982 Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 5: Designation of degree of flaking  ISO 4628-6: 1990 Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 6: Rating of degree of chalking by tape method  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272: 1993 Paints and varnishes -- Falling-weight test  ISO 6441: 1984 Paints and varnishes -- Indentation test (spherical or pyramidal)  ISO 6441-1: 1999 Paints and varnishes -- Determination of micro-indentation hardness -- Part 1: Knoop hardness by measurement of indentation length  ISO 6441-2: 1999 Paints and varnishes -- Determination of micro-indentation hardness -- Part 2: Knoop hardness by measurement of indentation depth under load  ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3: 1998 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio (opacity) of light-coloured paints at a fixed spreading rate  ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860: 1984 Paints and varnishes -- Bend test (conical mandrel)  ISO 7142: 1984 Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143: 2000 Paints, varnishes and binders -- Methods of test for characterizing water-based coating materials and binders (available in English only)  ISO 7253: 1996 Paints and varnishes -- Determination of resistance to neutral salt spray (fog)  ISO 7724-1: 1984 Paints and varnishes -- Colorimetry -- Part 1: Principles  ISO 7724-2: 1984 Paints and varnishes -- Colorimetry -- Part 2: Colour measurement  ISO 7724-3: 1984 Paints and varnishes -- Colorimetry -- Part 3: Calculation of colour differences  ISO 7783-1: 1996 Paints and varnishes -- Determination of water-vapour transmission rate -- Part 1: Dish method for free films  ISO 7783-2: 1999 Paints and varnishes -- Coating materials and coating systems for exterior masonry and concrete -- Part 2: Determination and classification of water-vapour transmission rate (permeability)  ISO 7784-1: 1997 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Rotating abrasive-paper-covered wheel method  ISO 7784-2: 1997 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Rotating abrasive rubber wheel method  ISO 7784-3: 2000 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Reciprocating test panel method  ISO 8501-1: 1988 Preparation  ISO 9514: 1992 Paints and varnishes -- Determination of the pot-life of liquid systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503: 1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 11507: 1997 Paints and varnishes -- Exposure of coatings to artificial weathering -- Exposure to fluorescent UV and water  ISO 11668: 1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1: 2000 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2: 2000 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909: 1996 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1: 1998 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2: 2000 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998: 1998 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137-1: 1997 Paints and varnishes -- Determination of mar resistance -- Part 1: Method using a curved stylus  ISO 12137-2: 1997 Paints and varnishes -- Determination of mar resistance -- Part 2: Method using a pointed stylus  ISO 14680-1: 2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184: 1998 Paints and varnishes -- Determination of film hardness by pencil test |

## Paint Peeling at Joint between Basement Wall and Floor

## Paint Peeling on Beam

## Blistering of Paint

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| BS | CEMENT, CONCRETE, MORTAR  BS 12-Specification for Portland Cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 882-Specification for aggregates from natural sources for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS EN 13139:2002 Aggregates for mortar  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS 4551-Methods of testing mortars, screeds and plasters  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity   COATINGS, PLASTERING, WATERPROOFINGS, SCREEDINGS  BS 5492:1990- Code of practice for internal plastering  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7015:1989- Specification for cast acrylic sheet for baths and shower trays for domestic purposes  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  BS 8204:various dates- Screeds, bases and in-situ floorings  PAINTS  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS 3900-F9:1982, BS EN ISO 6270:1995 - Paints and varnishes. Determination of resistance to humidity (continuous condensation)  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints |
| ASTM | CEMENT, SAND, MORTAR  C33: 2001a-Standard Specification for Concrete Aggregates  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C136-01- Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  C150: 2000-Standard Specification for Portland Cement  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of Prisms Broken in Flexure)  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete  C494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  C778: 2000-Standard Specification for Standard Sand  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  WATER  D1067: 1992(1996)-Standard Test Methods for Acidity or Alkalinity of Water  D1129: 2001-Standard Terminology Relating to Water  D1193: 1999e1-Standard Specification for Reagent Water  D1293: 1999-Standard Test Methods for pH of Water  COATINGS, WATERPROOFINGS, SCREEDINGS  ASTM C1063 - 16a Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  PAINTS  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008) |
| AS | CONCRETE, MORTAR, CEMENT  DR 01033  : Chemical admixtures for concrete, mortar and grout Methods of sampling and testing admixtures for mortar and grout  AS 1012.1 to 21  : Methods of testing concrete  AS 1012.10-2000  : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)  AS 1012.18-1996  : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1379-1997/Amdt 1-2000  : Specification and supply of concrete  AS 1478.1-2000  : Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977  : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977  : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995  : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995  : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997  : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996  : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  AS 2550.15-1994  : Cranes - Safe use - Concrete placing equipment  AS 3600-2001  : Concrete structures  AS 3648-1993  : Specification and methods of test for packaged concrete mixes  PAINTINGS, VARNISHES  AS/NZS 2310:2002 Glossary of paint and painting terms  AS/NZS 2311:2009 Guide to the painting of buildings  AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints  AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides  HB 73.1-2005 Handbook of Australian Paint Standards - General  HB 73.2-2005 Handbook of Australian Paint Standards - Test methods  AS/NZS 1580.101.1:1999 (R2013) Paints and related materials - Methods of test - - Conditions of test - Temperature, humidity and airflow control  AS/NZS 1580.107.2:1995 Paints and related materials - Methods of test - - Determination of wet film thickness from wet film mass  AS 1580.408.5-2006 Paints and related materials - Methods of test - Adhesion - Pull-off test  AS/NZS 1580.481.1.10:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS/NZS 1580.481.1.13:1998 (Reconfirmed 2013) Methods of test for paints and related materials - Exposed to weathering - Degree of fungal or algal growth  AS/NZS 1580.481.1.9:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | |  | | --- | | CEMENT, CONCRETE  SS 26: 1997 Portland cement (ordinary and hardening)  SS 31: 1998 Coarse and fine aggregates from natural sources of concrete  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  SS 397 :  Methods of testing cement  COATINGS, WATERPROOFING  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  PAINTS  SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 542 : 2008 Code of practice for painting of buildings  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes | |  | |  | |  | |
| ISO | CONCRETE  ISO 1920: 1976   Concrete tests -- Dimensions, tolerances and applicability of test specimens  ISO 2736-1: 1986  Concrete tests -- Test specimens -- Part 1: Sampling of fresh concrete  ISO 2736-2: 1986  Concrete tests -- Test specimens -- Part 2: Making and curing of test specimens for strength tests  ISO 3766: 1995   Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893: 1977   Concrete -- Classification by compressive strength  ISO 4012: 1978  Concrete -- Determination of compressive strength of test specimens  ISO 4013: 1978  Concrete -- Determination of flexural strength of test specimens  ISO 4103: 1979   Concrete -- Classification of consistency  ISO 4108: 1980   Concrete -- Determination of tensile splitting strength of test specimens  ISO 4109: 1980  Fresh concrete -- Determination of the consistency -- Slump test  ISO 4110: 1979  Fresh concrete -- Determination of the consistency -- Vebe test  ISO 4111: 1979   Fresh concrete -- Determination of consistency -- Degree of compactibility (Compaction index)  ISO 4635: 1982   Rubber, vulcanized -- Preformed compression seals for use between concrete motorway paving sections -- Specification for material  ISO 4848: 1980   Concrete -- Determination of air content of freshly mixed concrete -- Pressure method  ISO 6274: 1982   Concrete -- Sieve analysis of aggregates  ISO 6275: 1982   Concrete, hardened -- Determination of density  ISO 6276: 1982   Concrete, compacted fresh -- Determination of density  ISO 6782: 1982   Aggregates for concrete -- Determination of bulk density  ISO 6783: 1982   Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 6784: 1982   Concrete -- Determination of static modulus of elasticity in compression  ISO 7033: 1987   Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  PAINTS , VARNISHES  ISO 1513: 1992   Paints and varnishes -- Examination and preparation of samples for testing  ISO 1514: 1993  Paints and varnishes -- Standard panels for testing  ISO 1516: 1981  Paints, varnishes, petroleum and related products -- Flash/no flash test -- Closed cup equilibrium method  ISO 1517: 1973  Paints and varnishes -- Surface-drying test -- Ballotini method  ISO 1518: 1992   Paints and varnishes -- Scratch test  ISO 1519: 1973   Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520: 1999   Paints and varnishes -- Cupping test (available in English only)  ISO 1522: 1998   Paints and varnishes -- Pendulum damping test  ISO 1523: 1983   Paints, varnishes, petroleum and related products -- Determination of flashpoint -- Closed cup equilibrium method  ISO 1524: 2000   Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409: 1992   Paints and varnishes -- Cross-cut test  ISO 2431: 1993   Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808: 1997   Paints and varnishes -- Determination of film thickness  ISO 2810: 1974   Paints and varnishes -- Notes for guidance on the conduct of natural weathering tests  ISO 2811-1: 1997   Paints and varnishes -- Determination of density -- Part 1: Pyknometer method  ISO 2811-2: 1997   Paints and varnishes -- Determination of density -- Part 2:Immersed body (plummet) method  ISO 2811-3: 1997   Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4: 1997   Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1: 1993   Paints and varnishes -- Determination of resistance to liquids -- Part 1: General methods  ISO 2812-2: 1993   Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813: 1994   Paints and varnishes -- Determination of specular gloss of non-metallic paint films at 20 degrees, 60 degrees and 85 degrees  ISO 2814: 1973  Paints and varnishes -- Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815: 1973  Paints and varnishes -- Buchholz indentation test  ISO 2884-1: 1999  Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear  ISO 3231: 1993   Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233: 1998   Paints and varnishes -- Determination of percentage volume of non-volatile matter by measuring the density of a dried coating  ISO 3248: 1998  Paints and varnishes -- Determination of the effect of heat  ISO 3251: 1993   Paints and varnishes -- Determination of non-volatile matter of paints, varnishes and binders for paints and varnishes  ISO 4618-1: 1998   Paints and varnishes -- Terms and definitions for coating materials -- Part 1: General terms  ISO 4618-2: 1999   Paints and varnishes -- Terms and definitions for coating materials -- Part 2: Special terms relating to paint characteristics and properties  ISO 4618-3: 1999   Paints and varnishes -- Terms and definitions for coating materials -- Part 3: Surface preparation and methods of application  ISO 4624: 1978   Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 1: General principles and rating schemes  ISO 4628-2: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 2: Designation of degree of blistering  ISO 4628-3: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 3: Designation of degree of rusting  ISO 4628-4: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 4: Designation of degree of cracking  ISO 4628-5: 1982  Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 5: Designation of degree of flaking  ISO 4628-6: 1990   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 6: Rating of degree of chalking by tape method  ISO 6270-1: 1998   Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272: 1993   Paints and varnishes -- Falling-weight test  ISO 6441: 1984   Paints and varnishes -- Indentation test (spherical or pyramidal)  ISO 6441-1: 1999  Paints and varnishes -- Determination of micro-indentation hardness -- Part 1: Knoop hardness by measurement of indentation length  ISO 6441-2: 1999   Paints and varnishes -- Determination of micro-indentation hardness -- Part 2: Knoop hardness by measurement of indentation depth under load  ISO 6503: 1984   Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983   Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3: 1998   Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio (opacity) of light-coloured paints at a fixed spreading rate  ISO 6713: 1984   Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860: 1984   Paints and varnishes -- Bend test (conical mandrel)  ISO 7142: 1984   Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143: 2000  Paints, varnishes and binders -- Methods of test for characterizing water-based coating materials and binders (available in English only)  ISO 7253: 1996  Paints and varnishes -- Determination of resistance to neutral salt spray (fog)  ISO 7724-1: 1984   Paints and varnishes -- Colorimetry -- Part 1: Principles  ISO 7724-2: 1984   Paints and varnishes -- Colorimetry -- Part 2: Colour measurement  ISO 7724-3: 1984   Paints and varnishes -- Colorimetry -- Part 3: Calculation of colour differences  ISO 7783-1: 1996   Paints and varnishes -- Determination of water-vapour transmission rate -- Part 1: Dish method for free films  ISO 7783-2: 1999   Paints and varnishes -- Coating materials and coating systems for exterior masonry and concrete -- Part 2: Determination and classification of water-vapour transmission rate (permeability)  ISO 7784-1: 1997   Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Rotating abrasive-paper-covered wheel method  ISO 7784-2: 1997   Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Rotating abrasive rubber wheel method  ISO 7784-3: 2000   Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Reciprocating test panel method  ISO 8501-1: 1988   Preparation  ISO 9514: 1992  Paints and varnishes -- Determination of the pot-life of liquid systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503: 1995  Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 11507: 1997  Paints and varnishes -- Exposure of coatings to artificial weathering -- Exposure to fluorescent UV and water  ISO 11668: 1997   Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1: 2000   Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2: 2000   Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996   Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909: 1996   Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1: 1998   Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2: 2000   Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998: 1998   Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137-1: 1997   Paints and varnishes -- Determination of mar resistance -- Part 1: Method using a curved stylus  ISO 12137-2: 1997  Paints and varnishes -- Determination of mar resistance -- Part 2: Method using a pointed stylus  ISO 14680-1: 2000   Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000   Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184: 1998  Paints and varnishes -- Determination of film hardness by pencil test |

## Biological Attack - Fungi Growth on Basement Ceiling

## Biological Attack - Fungi Growth on Basement Wall

## Biological Attack - Fungi Growth caused by insufficient ventilation

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| BS |  |
| ASTM | CEMENT, SAND, MORTAR  C33: 2001a-Standard Specification for Concrete Aggregates  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C136-01- Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  C150: 2000-Standard Specification for Portland Cement  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of Prisms Broken in Flexure)  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete  C494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  C778: 2000-Standard Specification for Standard Sand  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  COATINGS, WATERPROOFINGS, SCREEDINGS  ASTM C1063 - 16a Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  PAINTS  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008) |
| AS | CONCRETE, MORTAR, CEMENT  DR 01033  : Chemical admixtures for concrete, mortar and grout Methods of sampling and testing admixtures for mortar and grout  AS 1012.1 to 21  : Methods of testing concrete  AS 1012.10-2000  : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)  AS 1012.18-1996  : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1379-1997/Amdt 1-2000  : Specification and supply of concrete  AS 1478.1-2000  : Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977  : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977  : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995  : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995  : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997  : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996  : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  AS 2550.15-1994  : Cranes - Safe use - Concrete placing equipment  AS 3600-2001  : Concrete structures  AS 3648-1993  : Specification and methods of test for packaged concrete mixes    WATERPROOFING, SCREEDING, COATINGS  AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas  AS 3740-Amdt 1:1995-  Waterproofing of wet areas within residential buildings   PAINTINGS, VARNISHES  AS/NZS 2310:2002 Glossary of paint and painting terms  AS/NZS 2311:2009 Guide to the painting of buildings  AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints  AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides  HB 73.1-2005 Handbook of Australian Paint Standards - General  HB 73.2-2005 Handbook of Australian Paint Standards - Test methods  AS/NZS 1580.101.1:1999 (R2013) Paints and related materials - Methods of test - - Conditions of test - Temperature, humidity and airflow control  AS/NZS 1580.107.2:1995 Paints and related materials - Methods of test - - Determination of wet film thickness from wet film mass  AS 1580.408.5-2006 Paints and related materials - Methods of test - Adhesion - Pull-off test  AS/NZS 1580.481.1.10:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS/NZS 1580.481.1.13:1998 (Reconfirmed 2013) Methods of test for paints and related materials - Exposed to weathering - Degree of fungal or algal growth  AS/NZS 1580.481.1.9:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | |  | | --- | | CEMENT, CONCRETE  SS 26: 1997 Portland cement (ordinary and hardening)  SS 31: 1998 Coarse and fine aggregates from natural sources of concrete  SS 117 : 1975 HOT DIP GALVANIZED COATINGS ON IRON AND STEEL ARTICLES (REFER TO ISO 1460 AND ISO 1461)  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  SS 397 :  Methods of testing cement  COATINGS, WATERPROOFING  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  PAINTS  SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 542 : 2008 Code of practice for painting of buildings  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes | |  | |  | |  | |
| ISO | CONCRETE  ISO 1920: 1976   Concrete tests -- Dimensions, tolerances and applicability of test specimens  ISO 2736-1: 1986  Concrete tests -- Test specimens -- Part 1: Sampling of fresh concrete  ISO 2736-2: 1986  Concrete tests -- Test specimens -- Part 2: Making and curing of test specimens for strength tests  ISO 3766: 1995   Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893: 1977   Concrete -- Classification by compressive strength  ISO 4012: 1978  Concrete -- Determination of compressive strength of test specimens  ISO 4013: 1978  Concrete -- Determination of flexural strength of test specimens  ISO 4103: 1979   Concrete -- Classification of consistency  ISO 4108: 1980   Concrete -- Determination of tensile splitting strength of test specimens  ISO 4109: 1980  Fresh concrete -- Determination of the consistency -- Slump test  ISO 4110: 1979  Fresh concrete -- Determination of the consistency -- Vebe test  ISO 4111: 1979   Fresh concrete -- Determination of consistency -- Degree of compactibility (Compaction index)  ISO 4635: 1982   Rubber, vulcanized -- Preformed compression seals for use between concrete motorway paving sections -- Specification for material  ISO 4848: 1980   Concrete -- Determination of air content of freshly mixed concrete -- Pressure method  ISO 6274: 1982   Concrete -- Sieve analysis of aggregates  ISO 6275: 1982   Concrete, hardened -- Determination of density  ISO 6276: 1982   Concrete, compacted fresh -- Determination of density  ISO 6782: 1982   Aggregates for concrete -- Determination of bulk density  ISO 6783: 1982   Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 6784: 1982   Concrete -- Determination of static modulus of elasticity in compression  ISO 7033: 1987   Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  PAINTS , VARNISHES  ISO 1513: 1992   Paints and varnishes -- Examination and preparation of samples for testing  ISO 1514: 1993  Paints and varnishes -- Standard panels for testing  ISO 1516: 1981  Paints, varnishes, petroleum and related products -- Flash/no flash test -- Closed cup equilibrium method  ISO 1517: 1973  Paints and varnishes -- Surface-drying test -- Ballotini method  ISO 1518: 1992   Paints and varnishes -- Scratch test  ISO 1519: 1973   Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520: 1999   Paints and varnishes -- Cupping test (available in English only)  ISO 1522: 1998   Paints and varnishes -- Pendulum damping test  ISO 1523: 1983   Paints, varnishes, petroleum and related products -- Determination of flashpoint -- Closed cup equilibrium method  ISO 1524: 2000   Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409: 1992   Paints and varnishes -- Cross-cut test  ISO 2431: 1993   Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808: 1997   Paints and varnishes -- Determination of film thickness  ISO 2810: 1974   Paints and varnishes -- Notes for guidance on the conduct of natural weathering tests  ISO 2811-1: 1997   Paints and varnishes -- Determination of density -- Part 1: Pyknometer method  ISO 2811-2: 1997   Paints and varnishes -- Determination of density -- Part 2:Immersed body (plummet) method  ISO 2811-3: 1997   Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4: 1997   Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1: 1993   Paints and varnishes -- Determination of resistance to liquids -- Part 1: General methods  ISO 2812-2: 1993   Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813: 1994   Paints and varnishes -- Determination of specular gloss of non-metallic paint films at 20 degrees, 60 degrees and 85 degrees  ISO 2814: 1973  Paints and varnishes -- Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815: 1973  Paints and varnishes -- Buchholz indentation test  ISO 2884-1: 1999  Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear  ISO 3231: 1993   Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233: 1998   Paints and varnishes -- Determination of percentage volume of non-volatile matter by measuring the density of a dried coating  ISO 3248: 1998  Paints and varnishes -- Determination of the effect of heat  ISO 3251: 1993   Paints and varnishes -- Determination of non-volatile matter of paints, varnishes and binders for paints and varnishes  ISO 4618-1: 1998   Paints and varnishes -- Terms and definitions for coating materials -- Part 1: General terms  ISO 4618-2: 1999   Paints and varnishes -- Terms and definitions for coating materials -- Part 2: Special terms relating to paint characteristics and properties  ISO 4618-3: 1999   Paints and varnishes -- Terms and definitions for coating materials -- Part 3: Surface preparation and methods of application  ISO 4624: 1978   Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 1: General principles and rating schemes  ISO 4628-2: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 2: Designation of degree of blistering  ISO 4628-3: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 3: Designation of degree of rusting  ISO 4628-4: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 4: Designation of degree of cracking  ISO 4628-5: 1982  Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 5: Designation of degree of flaking  ISO 4628-6: 1990   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 6: Rating of degree of chalking by tape method  ISO 6270-1: 1998   Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272: 1993   Paints and varnishes -- Falling-weight test  ISO 6441: 1984   Paints and varnishes -- Indentation test (spherical or pyramidal)  ISO 6441-1: 1999  Paints and varnishes -- Determination of micro-indentation hardness -- Part 1: Knoop hardness by measurement of indentation length  ISO 6441-2: 1999   Paints and varnishes -- Determination of micro-indentation hardness -- Part 2: Knoop hardness by measurement of indentation depth under load  ISO 6503: 1984   Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983   Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3: 1998   Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio (opacity) of light-coloured paints at a fixed spreading rate  ISO 6713: 1984   Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860: 1984   Paints and varnishes -- Bend test (conical mandrel)  ISO 7142: 1984   Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143: 2000  Paints, varnishes and binders -- Methods of test for characterizing water-based coating materials and binders (available in English only)  ISO 7253: 1996  Paints and varnishes -- Determination of resistance to neutral salt spray (fog)  ISO 7724-1: 1984   Paints and varnishes -- Colorimetry -- Part 1: Principles  ISO 7724-2: 1984   Paints and varnishes -- Colorimetry -- Part 2: Colour measurement  ISO 7724-3: 1984   Paints and varnishes -- Colorimetry -- Part 3: Calculation of colour differences  ISO 7783-1: 1996   Paints and varnishes -- Determination of water-vapour transmission rate -- Part 1: Dish method for free films  ISO 7783-2: 1999   Paints and varnishes -- Coating materials and coating systems for exterior masonry and concrete -- Part 2: Determination and classification of water-vapour transmission rate (permeability)  ISO 7784-1: 1997   Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Rotating abrasive-paper-covered wheel method  ISO 7784-2: 1997   Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Rotating abrasive rubber wheel method  ISO 7784-3: 2000   Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Reciprocating test panel method  ISO 8501-1: 1988   Preparation  ISO 9514: 1992  Paints and varnishes -- Determination of the pot-life of liquid systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503: 1995  Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 11507: 1997  Paints and varnishes -- Exposure of coatings to artificial weathering -- Exposure to fluorescent UV and water  ISO 11668: 1997   Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1: 2000   Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2: 2000   Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996   Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909: 1996   Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1: 1998   Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2: 2000   Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998: 1998   Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137-1: 1997   Paints and varnishes -- Determination of mar resistance -- Part 1: Method using a curved stylus  ISO 12137-2: 1997  Paints and varnishes -- Determination of mar resistance -- Part 2: Method using a pointed stylus  ISO 14680-1: 2000   Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000   Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184: 1998  Paints and varnishes -- Determination of film hardness by pencil test |

## Crazing (crazing of the paint coating on the basement wall)

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| BS | CEMENT, CONCRETE, MORTAR  BS 12-Specification for Portland Cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 882-Specification for aggregates from natural sources for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS EN 13139:2002 Aggregates for mortar  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS 4551-Methods of testing mortars, screeds and plasters  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity   COATINGS, PLASTERING, WATERPROOFINGS, SCREEDINGS  BS 5492:1990- Code of practice for internal plastering  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7015:1989- Specification for cast acrylic sheet for baths and shower trays for domestic purposes  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  BS 8204:various dates- Screeds, bases and in-situ floorings  PAINTS  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS 3900-F9:1982, BS EN ISO 6270:1995 - Paints and varnishes. Determination of resistance to humidity (continuous condensation)  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints |
| ASTM | CEMENT, SAND, MORTAR  C33: 2001a-Standard Specification for Concrete Aggregates  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C136-01- Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  C150: 2000-Standard Specification for Portland Cement  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of Prisms Broken in Flexure)  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete  C494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  C778: 2000-Standard Specification for Standard Sand  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  WATER  D1067: 1992(1996)-Standard Test Methods for Acidity or Alkalinity of Water  D1129: 2001-Standard Terminology Relating to Water  D1193: 1999e1-Standard Specification for Reagent Water  D1293: 1999-Standard Test Methods for pH of Water  COATINGS, WATERPROOFINGS, SCREEDINGS  ASTM C1063 - 16a Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  PAINTS  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008) |
| AS | CONCRETE, MORTAR, CEMENT  DR 01033 : Chemical admixtures for concrete, mortar and grout Methods of sampling and testing admixtures for mortar and grout  AS 1012.1 to 21 : Methods of testing concrete  AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)  AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1379-1997/Amdt 1-2000 : Specification and supply of concrete  AS 1478.1-2000 : Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  AS 2550.15-1994 : Cranes - Safe use - Concrete placing equipment  AS 3600-2001 : Concrete structures  AS 3648-1993 : Specification and methods of test for packaged concrete mixes    WATERPROOFING, SCREEDING, COATINGS  AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas  AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings    PAINTINGS, VARNISHES  AS/NZS 2310:2002 Glossary of paint and painting terms  AS/NZS 2311:2009 Guide to the painting of buildings  AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints  AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides  HB 73.1-2005 Handbook of Australian Paint Standards - General  HB 73.2-2005 Handbook of Australian Paint Standards - Test methods  AS/NZS 1580.101.1:1999 (R2013) Paints and related materials - Methods of test - - Conditions of test - Temperature, humidity and airflow control  AS/NZS 1580.107.2:1995 Paints and related materials - Methods of test - - Determination of wet film thickness from wet film mass  AS 1580.408.5-2006 Paints and related materials - Methods of test - Adhesion - Pull-off test  AS/NZS 1580.481.1.10:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS/NZS 1580.481.1.13:1998 (Reconfirmed 2013) Methods of test for paints and related materials - Exposed to weathering - Degree of fungal or algal growth  AS/NZS 1580.481.1.9:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | CEMENT, CONCRETE  SS 26: 1997 Portland cement (ordinary and hardening)  SS 31: 1998 Coarse and fine aggregates from natural sources of concrete  SS 117 : 1975 HOT DIP GALVANIZED COATINGS ON IRON AND STEEL ARTICLES (REFER TO ISO 1460 AND ISO 1461)  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  SS 397 : Methods of testing cement  COATINGS, WATERPROOFING  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  PAINTS  SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 542 : 2008 Code of practice for painting of buildings  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes |
| ISO | CONCRETE  ISO 1920: 1976   Concrete tests -- Dimensions, tolerances and applicability of test specimens  ISO 2736-1: 1986  Concrete tests -- Test specimens -- Part 1: Sampling of fresh concrete  ISO 2736-2: 1986  Concrete tests -- Test specimens -- Part 2: Making and curing of test specimens for strength tests  ISO 3766: 1995   Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893: 1977   Concrete -- Classification by compressive strength  ISO 4012: 1978  Concrete -- Determination of compressive strength of test specimens  ISO 4013: 1978  Concrete -- Determination of flexural strength of test specimens  ISO 4103: 1979   Concrete -- Classification of consistency  ISO 4108: 1980   Concrete -- Determination of tensile splitting strength of test specimens  ISO 4109: 1980  Fresh concrete -- Determination of the consistency -- Slump test  ISO 4110: 1979  Fresh concrete -- Determination of the consistency -- Vebe test  ISO 4111: 1979   Fresh concrete -- Determination of consistency -- Degree of compactibility (Compaction index)  ISO 4635: 1982   Rubber, vulcanized -- Preformed compression seals for use between concrete motorway paving sections -- Specification for material  ISO 4848: 1980   Concrete -- Determination of air content of freshly mixed concrete -- Pressure method  ISO 6274: 1982   Concrete -- Sieve analysis of aggregates  ISO 6275: 1982   Concrete, hardened -- Determination of density  ISO 6276: 1982   Concrete, compacted fresh -- Determination of density  ISO 6782: 1982   Aggregates for concrete -- Determination of bulk density  ISO 6783: 1982   Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 6784: 1982   Concrete -- Determination of static modulus of elasticity in compression  ISO 7033: 1987   Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  PAINTS , VARNISHES  ISO 1513: 1992   Paints and varnishes -- Examination and preparation of samples for testing  ISO 1514: 1993  Paints and varnishes -- Standard panels for testing  ISO 1516: 1981  Paints, varnishes, petroleum and related products -- Flash/no flash test -- Closed cup equilibrium method  ISO 1517: 1973  Paints and varnishes -- Surface-drying test -- Ballotini method  ISO 1518: 1992   Paints and varnishes -- Scratch test  ISO 1519: 1973   Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520: 1999   Paints and varnishes -- Cupping test (available in English only)  ISO 1522: 1998   Paints and varnishes -- Pendulum damping test  ISO 1523: 1983   Paints, varnishes, petroleum and related products -- Determination of flashpoint -- Closed cup equilibrium method  ISO 1524: 2000   Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409: 1992   Paints and varnishes -- Cross-cut test  ISO 2431: 1993   Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808: 1997   Paints and varnishes -- Determination of film thickness  ISO 2810: 1974   Paints and varnishes -- Notes for guidance on the conduct of natural weathering tests  ISO 2811-1: 1997   Paints and varnishes -- Determination of density -- Part 1: Pyknometer method  ISO 2811-2: 1997   Paints and varnishes -- Determination of density -- Part 2:Immersed body (plummet) method  ISO 2811-3: 1997   Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4: 1997   Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1: 1993   Paints and varnishes -- Determination of resistance to liquids -- Part 1: General methods  ISO 2812-2: 1993   Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813: 1994   Paints and varnishes -- Determination of specular gloss of non-metallic paint films at 20 degrees, 60 degrees and 85 degrees  ISO 2814: 1973  Paints and varnishes -- Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815: 1973  Paints and varnishes -- Buchholz indentation test  ISO 2884-1: 1999  Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear  ISO 3231: 1993   Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233: 1998   Paints and varnishes -- Determination of percentage volume of non-volatile matter by measuring the density of a dried coating  ISO 3248: 1998  Paints and varnishes -- Determination of the effect of heat  ISO 3251: 1993   Paints and varnishes -- Determination of non-volatile matter of paints, varnishes and binders for paints and varnishes  ISO 4618-1: 1998   Paints and varnishes -- Terms and definitions for coating materials -- Part 1: General terms  ISO 4618-2: 1999   Paints and varnishes -- Terms and definitions for coating materials -- Part 2: Special terms relating to paint characteristics and properties  ISO 4618-3: 1999   Paints and varnishes -- Terms and definitions for coating materials -- Part 3: Surface preparation and methods of application  ISO 4624: 1978   Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 1: General principles and rating schemes  ISO 4628-2: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 2: Designation of degree of blistering  ISO 4628-3: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 3: Designation of degree of rusting  ISO 4628-4: 1982   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 4: Designation of degree of cracking  ISO 4628-5: 1982  Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 5: Designation of degree of flaking  ISO 4628-6: 1990   Paints and varnishes -- Evaluation of degradation of paint coatings -- Designation of intensity, quantity and size of common types of defect -- Part 6: Rating of degree of chalking by tape method  ISO 6270-1: 1998   Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272: 1993   Paints and varnishes -- Falling-weight test  ISO 6441: 1984   Paints and varnishes -- Indentation test (spherical or pyramidal)  ISO 6441-1: 1999  Paints and varnishes -- Determination of micro-indentation hardness -- Part 1: Knoop hardness by measurement of indentation length  ISO 6441-2: 1999   Paints and varnishes -- Determination of micro-indentation hardness -- Part 2: Knoop hardness by measurement of indentation depth under load  ISO 6503: 1984   Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983   Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3: 1998   Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio (opacity) of light-coloured paints at a fixed spreading rate  ISO 6713: 1984   Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999   Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860: 1984   Paints and varnishes -- Bend test (conical mandrel)  ISO 7142: 1984   Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143: 2000  Paints, varnishes and binders -- Methods of test for characterizing water-based coating materials and binders (available in English only)  ISO 7253: 1996  Paints and varnishes -- Determination of resistance to neutral salt spray (fog)  ISO 7724-1: 1984   Paints and varnishes -- Colorimetry -- Part 1: Principles  ISO 7724-2: 1984   Paints and varnishes -- Colorimetry -- Part 2: Colour measurement  ISO 7724-3: 1984   Paints and varnishes -- Colorimetry -- Part 3: Calculation of colour differences  ISO 7783-1: 1996   Paints and varnishes -- Determination of water-vapour transmission rate -- Part 1: Dish method for free films  ISO 7783-2: 1999   Paints and varnishes -- Coating materials and coating systems for exterior masonry and concrete -- Part 2: Determination and classification of water-vapour transmission rate (permeability)  ISO 7784-1: 1997   Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Rotating abrasive-paper-covered wheel method  ISO 7784-2: 1997   Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Rotating abrasive rubber wheel method  ISO 7784-3: 2000   Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Reciprocating test panel method  ISO 8501-1: 1988   Preparation  ISO 9514: 1992  Paints and varnishes -- Determination of the pot-life of liquid systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503: 1995  Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 11507: 1997  Paints and varnishes -- Exposure of coatings to artificial weathering -- Exposure to fluorescent UV and water  ISO 11668: 1997   Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1: 2000   Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2: 2000   Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996   Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909: 1996   Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1: 1998   Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2: 2000   Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998: 1998   Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137-1: 1997   Paints and varnishes -- Determination of mar resistance -- Part 1: Method using a curved stylus  ISO 12137-2: 1997  Paints and varnishes -- Determination of mar resistance -- Part 2: Method using a pointed stylus  ISO 14680-1: 2000   Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000   Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184: 1998  Paints and varnishes -- Determination of film hardness by pencil test |

## Rust Staining

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| BS | Concrete  BS 12-Specification for Portland Cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 882-Specification for aggregates from natural sources for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS 4551-Methods of testing mortars, screeds and plasters  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS 6319-3:1990-Testing of resin and polymer/cement compositions for use in construction. Methods for measurement ofmodulus of elasticity in flexure and flexural strength  BS 6319-12:1992-Testing of resin and polymer/cement compositions for use in construction. Methods for measurement ofunrestrained linear shrinkage and coefficient of thermal expansion  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:1999-Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics inhardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2001-Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity,marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  Waterproofing  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floortoppings  Screed  BS 8204:various dates- Screeds, bases and in-situ floorings |
| ASTM | Concrete  C33: 2001a-Standard Specification for Concrete Aggregates  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C136-01- Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  C150: 2000-Standard Specification for Portland Cement  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of PrismsBroken in Flexure)  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste,Mortar, and Concrete  C494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  C778: 2000-Standard Specification for Standard Sand  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  Waterproofing  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014) |
| AS | Concrete  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  AS 1012.10-2000 : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)  AS 1012.18-1996 : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  concreteAS 1379-2007/Amdt 1-2009 Specification and supply of concrete - AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977 : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977 : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995 : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997 : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996 : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  AS 2550.15-1994 Cranes - Safe use - Concrete placing equipment  AS 3600-2009 Concrete structures  AS 3648-1993 : Specification and methods of test for packaged concrete mixes  Waterproofing  AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas  AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings |
| SS | Concrete  SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1   SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  Waterproofing  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  Reinforcement  SS 566 : 2011 Specification for steel for the reinforcement of concrete – Plain bars   SS 18 - 1 : 1999 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric - Steel grade 500  SS 580 : 2012 Code of practice for formwork  SS 32 Series - Welded steel fabric for the reinforcement of concrete |
| ISO | Concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 4103:1979 Concrete -- Classification of consistency  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method |

## TILE DEFECTS

## Damp Patches (granite wall/ ceiling joint)

## Damp patches (granite floor)

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| BS | CEMENT, CONCRETE, MORTAR  BS 12-Specification for Portland Cements  BS ISO 3310-2:2013 Test sieves. Technical requirements and testing. Test sieves of perforated metal plate/ BS 410-1:2000, ISO 3310-1:2000 Test sieves. Technical requirements and testing. Test sieves of metal wire cloth  BS 882-Specification for aggregates from natural sources for concrete  BS EN 12878:2014 Pigments for the colouring of building materials based on cement and/or lime. Specifications and methods of test  BS EN 13139:2002 Aggregates for mortar  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubess  BS 4551-Methods of testing mortars, screeds and plasters  BS EN 998-1:2003-Specification for mortar for masonry. Rendering and plastering mortar/ BS EN 998-2:2003-Specification for mortar for masonry. Masonry mortar  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling/  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete/  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity/BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete/BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures/BS EN 480-1:2006+A1:2011 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing/BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling/BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content/BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content/BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis/BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption/BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time/  BS EN 998-2:2010 Specification for mortar for masonry. Masonry mortar/ BS EN 998-1:2010 Specification for mortar for masonry. Rendering and plastering mortar  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of modulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout. Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity   COATINGS, PLASTERING, WATERPROOFINGS, SCREEDINGS  BS 5492:1990- Code of practice for internal plastering  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7015:1989- Specification for cast acrylic sheet for baths and shower trays for domestic purposes  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  BS 8204:various dates- Screeds, bases and in-situ floorings   Tilings  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  BS 5385-5:1994-Wall and floor tiling. Code of practice for the design and installation of terrazzo tile and slab, natural stone and composition block floorings  BS 5385-1:1995- Wall and floor tiling. Code of practice for the design and installation of internal ceramic and natural stone wall tiling and mosaics in normal conditions  BS 8000:Part 9: 1989- Workmanship on building sites- Code of practice for cement/ sand floor screeds and concrete floor toppings  BS 8000-11.2:1990- Workmanship on building sites. Code of practice for wall and floor tiling. Natural stone tiles  BS 8221-1:2000- Code of practice for cleaning and surface repair of buildings. Cleaning of natural stones, brick, terracotta and concrete  BS 8221-2:2000- Code of practice for cleaning and surface repair of buildings. Surface repair of natural stones, brick and terracotta  BS EN 14157 Natural stone test. Determination of abrasion resistance  BS 5980: 1980- Specification for adhesives for use with ceramic tiles and mosaic |
| ASTM | CEMENT, SAND, MORTAR  C33: 2001a-Standard Specification for Concrete Aggregates  C87: 1983(1995)e1-Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  C109/C109M: 2001-Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)  C115: 1996a-Standard Test Method for Fineness of Portland Cement by the Turbidimeter  C125: 2000ae1-Standard Terminology Relating to Concrete and Concrete Aggregates  C136-01- Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  C150: 2000-Standard Specification for Portland Cement  C295: 1998-Standard Guide for Petrographic Examination of Aggregates for Concrete  C305: 1999-Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  C348: 1997-Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars  C349: 1997-Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of Prisms Broken in Flexure)  C452: 1995-Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate  C490: 2000a-Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete  C494/ 494M: 2000-Specification for Chemical Admixtures for Concrete  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  C778: 2000-Standard Specification for Standard Sand  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  C1038: 2001-Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  WATER  D1067: 1992(1996)-Standard Test Methods for Acidity or Alkalinity of Water  D1129: 2001-Standard Terminology Relating to Water  D1193: 1999e1-Standard Specification for Reagent Water  D1293: 1999-Standard Test Methods for pH of Water  COATINGS, WATERPROOFINGS, SCREEDINGS  ASTM C1063 - 16a Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  Tilings  C503-99e1 Standard Specification for MARBLE Dimension Stone (Exterior)  C568-99 Standard Specification for Limestone Dimension Stone  F963-96ae2 Standard Consumer Safety Specification on Toy Safety  E1857-97 Standard Guide for Selection of Cleaning Techniques for Masonry, Concrete, and Stucco Surfaces  D5107-90(1997) Standard Practice for Preparatory Surface Cleaning of Architectural Sandstone |
| AS | CONCRETE, MORTAR, CEMENT  DR 01033  : Chemical admixtures for concrete, mortar and grout Methods of sampling and testing admixtures for mortar and grout  AS 1012.1 to 21  : Methods of testing concrete  AS 1012.10-2000  : Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (Brasil or splitting test)  AS 1012.18-1996  : Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1379-1997/Amdt 1-2000  : Specification and supply of concrete  AS 1478.1-2000  : Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 2072-1977  : Methods for the sampling of expanding admixtures for concrete, mortar and grout  AS 2073-1977  : Methods for the testing of expanding admixtures for concrete, mortar and grout  AS 2350.12-1995  : Methods of testing portland and blended cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995  : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.13-1995/Amdt 1-1997  : Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-1996  : Methods of testing portland and blended cements - Length change of portland and blended cement mortars exposed to a sulfate solution  AS 2550.15-1994  : Cranes - Safe use - Concrete placing equipment  AS 3600-2001  : Concrete structures  AS 3648-1993  : Specification and methods of test for packaged concrete mixes    WATERPROOFING, SCREEDING, COATINGS  AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas  AS 3740-Amdt 1:1995-  Waterproofing of wet areas within residential buildings |
| SS | CEMENT, CONCRETE  SS 26: 1997 Portland cement (ordinary and hardening)  SS 31: 1998 Coarse and fine aggregates from natural sources of concrete  SS 117 : 1975 HOT DIP GALVANIZED COATINGS ON IRON AND STEEL ARTICLES (REFER TO ISO 1460 AND ISO 1461)  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1  SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  SS 397 :  Methods of testing cement  COATINGS, WATERPROOFING  SS CP 82:1999- Code of practice- waterproofing of reinforced concrete buildings  Tilings  CP 67 Part 1: 1997- Code of practice for cleaning and surface repair of buildings: Natural stone, cast stone and clay brick masonry.  CP 68: 1997- Code of practice for ceramic wall and floor tiling  SS 301:1985- The use of cement sand cover for tiling |
| ISO | CONCRETE  ISO 1920: 1976   Concrete tests -- Dimensions, tolerances and applicability of test specimens  ISO 2736-1: 1986  Concrete tests -- Test specimens -- Part 1: Sampling of fresh concrete  ISO 2736-2: 1986  Concrete tests -- Test specimens -- Part 2: Making and curing of test specimens for strength tests  ISO 3766: 1995   Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893: 1977   Concrete -- Classification by compressive strength  ISO 4012: 1978  Concrete -- Determination of compressive strength of test specimens  ISO 4013: 1978  Concrete -- Determination of flexural strength of test specimens  ISO 4103: 1979   Concrete -- Classification of consistency  ISO 4108: 1980   Concrete -- Determination of tensile splitting strength of test specimens  ISO 4109: 1980  Fresh concrete -- Determination of the consistency -- Slump test  ISO 4110: 1979  Fresh concrete -- Determination of the consistency -- Vebe test  ISO 4111: 1979   Fresh concrete -- Determination of consistency -- Degree of compactibility (Compaction index)  ISO 4635: 1982   Rubber, vulcanized -- Preformed compression seals for use between concrete motorway paving sections -- Specification for material  ISO 4848: 1980   Concrete -- Determination of air content of freshly mixed concrete -- Pressure method  ISO 6274: 1982   Concrete -- Sieve analysis of aggregates  ISO 6275: 1982   Concrete, hardened -- Determination of density  ISO 6276: 1982   Concrete, compacted fresh -- Determination of density  ISO 6782: 1982   Aggregates for concrete -- Determination of bulk density  ISO 6783: 1982   Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 6784: 1982   Concrete -- Determination of static modulus of elasticity in compression  ISO 7033: 1987   Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  Tilings  ISO 3920:1976 Honing stones of square section; Designation and dimensions  ISO 603-10:1999 Bonded abrasive products - Dimensions - Part 10: Stones for honing and superfinishings - ISO 603-10:1999  ISO 603-10:1999/COR1:1999 Bonded abrasive products - Dimensions - Part 10: Stones for honing and superfinishings  ISO 8512-2:1990 Surface plates; part 2: granite |

## Plaster defects - Crazing of Plaster

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| BS | Plaster  BS 1191: Part 1: 1973-Gysum building plasters. Excluding premixed lightweight plasters  BS 1191: Part 2: 1973-Gypsum building plasters. Premixed lightweight plasters  BS 4049:1966- Glossary of terms applicable to internal plastering, external rendering and floor screeding  BS 4551: 1980-Methods of testing mortars, screeds and plasters  BS 5492: 1977-Code of practice for internal plastering  BS 5262: 1991- Code of practice for external renderings  BS 6452: Part 1: 1984-BEads for internal plastering and dry lining. Galvanized steel beads  BS 6100-6.2:1986-Glossary of building and civil engineering terms. Concrete and plaster. Concrete  BS 6100-6.3:1984-Glossary of building and civil engineering terms. Concrete and plaster. Aggregates  BS 6100-6.1:1984-Glossary of building and civil engineering terms. Concrete and plaster. Binders  BS 6100-6.4:1986-Glossary of building and civil engineering terms. Concrete and plaster. Admixtures  BS 6100-6.6.1:1992-Glossary of building and civil engineering terms. Concrete and plaster. Products, applications and operations. Concrete and mortar  BS 6100-6.6.2:1990-Glossary of building and civil engineering terms. Concrete and plaster. Products, applications and operations. Plaster  BS 8000-10:1995-Workmanship on building sites. Code of practice for plastering and rendering  Paints  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS EN ISO 6270-1:2001, BS 3900-F9:2001 Paints and varnishes. Determination of resistance to humidity. Continuous condensation  BS EN ISO 4618:2014 Paints and varnishes. Terms and definitions  BS 6150:2006+A1:2014 Painting of buildings. Code of practice  BS 2992:1970 Specification for painters’ and decorators’ brushes for local authorities and public institutions (excluding quality of fillings)  BS 3416:1991 Specification for bitumen-based coatings for cold application, suitable for use in contact with potable water  BS 3483-A1:1983, ISO 787/1-1982-Methods for testing pigments for paints. Comparison of colour  BS 3483-C7:1980, ISO 787/22-1980-Methods for testing pigments for paints. Comparison of resistance to bleeding  BS 3900-B4:1986, ISO 6503-1984-Methods of test for paints. Tests involving chemical examination of liquid paints and dried paint films. Determination of total lead in paints and similar materials  BS 3900-F2:1973-Methods of test for paint. Durability tests on paint films. Determination of resistance to humidity (cyclic condensation)  BS 3900-F6:1976-Methods of test for paint. Durability tests on paint films. Notes for guidance on the conduct of natural weathering test  BS EN ISO 11998:2006 Paints and varnishes. Determination of wet-scrub resistance and cleanability of coatings  BS EN ISO 4628-2:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of blistering  BS EN ISO 4628-5:2016 Paints and varnishes. Evaluation of degradation of coatings. Designation of quantity and size of defects, and of intensity of uniform changes in appearance. Assessment of degree of flaking  BS 4800:2011 Schedule of paint colours for building purposes  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7664:2000-Specification for undercoat and finishing paints |
| ASTM | Plaster  C28/C28M: 2000-Standard Specification for Gypsum Plasters  C778: 2000-Standard Specification for Standard Sand  C926-98a-Standard Specification for Application of Portland Cement-Based Plaster  C897-00-Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters  C932-98a-Standard Specification for Surface-Applied Bonding Agents for Exterior Plastering  Paints  ASTM D5098 - 16 Standard Specification for Artists’ Acrylic Dispersion Paints  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D279 - 02(2012) Standard Test Methods for Bleeding of Pigments  ASTM D2574 - 06(2012) Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates) |
| AS | Plaster  AS CA27-1959-Code of recommended practice for internal plastering on solid backgrounds  AS 2592-1983 Gypsum plaster for building purposes (Withdrawn 24 Aug 2006)  AS 2753-1985 Adhesives - Mastic - For bonding gypsum plaster linings to wood and metal framing members (Withdrawn 31 Jul 2006)  DR 99462 - Fibre reinforced gypsum plaster  AS/NZS 2589:2007 Gypsum linings - Application and finishing  Paints  S/NZS 2310:1995-Glossary of paint and painting terms  AS/NZS 2311:2009 Guide to the painting of buildings  AS 3730.0-2006 Guide to the properties of paints for buildings - General information on the specification, purchasing and testing of paints  AS 3730.100-2006 Guide to the properties of paints for buildings - Introduction and list of guides  HB 73.1-2005 Handbook of Australian Paint Standards - General  HB 73.2-2005 Handbook of Australian Paint Standards - Test methods  AS/NZS 1580.101.1:1999 (R2013) Paints and related materials - Methods of test - - Conditions of test - Temperature, humidity and airflow control  AS/NZS 1580.107.2:1995 Paints and related materials - Methods of test - - Determination of wet film thickness from wet film mass  AS 1580.408.5-2006 Paints and related materials - Methods of test - Adhesion - Pull-off test  AS/NZS 1580.481.1.10:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of flaking and peeling  AS/NZS 1580.481.1.13:1998 (Reconfirmed 2013) Methods of test for paints and related materials - Exposed to weathering - Degree of fungal or algal growth  AS/NZS 1580.481.1.9:1998 (R2013) Paints and related materials - Methods of test - Coatings - Exposed to weathering - Degree of blistering |
| SS | Plaster  CP 56 : 1991 Code of practice for internal plastering  Paints  SS 542 : 2008 Code of practice for painting of buildings  SS 5 Series - Methods of test for paints, varnishes and related materials  SS 7 : 1998 Paint - Finishing, gloss enamel  SS 34 : 1998 Undercoat paint for gloss enamel  SS 150 : 1998 Emulsion paints for decorative purposes  CP 82 : 1999 Code of practice for waterproofing of reinforced concrete buildings  SS 345: 1990 Algae resistant emulsion paint for decorative purposes |
| ISO | Plaster  ISO 3048:1974 - Gypsum plasters; General test conditions   ISO 3049:1974 - Gypsum plasters; Determination of physical properties of powder  ISO 3051:1974 - Gypsum plasters; Determination of mechanical properties  ISO 3052:1974 - Gypsum plasters; Determination of water of crystallization content  Paints  ISO 1513:2010 Paints and varnishes -- Examination and preparation of test samples  ISO 1514:2004 Paints and varnishes -- Standard panels for testing  ISO 1516:2002 Determination of flash/no flash -- Closed cup equilibrium method  ISO 9117-3:2010 Paints and varnishes -- Drying tests -- Part 3: Surface-drying test using ballotini  ISO 1518-1:2011 Paints and varnishes -- Determination of scratch resistance -- Part 1: Constant-loading method  ISO 1519:2011 Paints and varnishes -- Bend test (cylindrical mandrel)  ISO 1520:2006 - Paints and varnishes -- Cupping test  ISO 1522:2006 Paints and varnishes -- Pendulum damping test  ISO 1523:2002 Determination of flash point -- Closed cup equilibrium method  ISO 1524:2013 Paints, varnishes and printing inks -- Determination of fineness of grind  ISO 2409:2013 Paints and varnishes -- Cross-cut test  ISO 2431:2011 Paints and varnishes -- Determination of flow time by use of flow cups  ISO 2808:2007 Paints and varnishes -- Determination of film thickness  ISO 2810:2004 Paints and varnishes -- Natural weathering of coatings -- Exposure and assessment  ISO 2811-1:2016 Paints and varnishes -- Determination of density -- Part 1: Pycnometer method  ISO 2811-2:2011 Paints and varnishes -- Determination of density -- Part 2: Immersed body (plummet) method  ISO 2811-3:2011 Paints and varnishes -- Determination of density -- Part 3: Oscillation method  ISO 2811-4:2011 Paints and varnishes -- Determination of density -- Part 4: Pressure cup method  ISO 2812-1:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 1: Immersion in liquids other than water  ISO 2812-2:2007 Paints and varnishes -- Determination of resistance to liquids -- Part 2: Water immersion method  ISO 2813:2014 Paints and varnishes -- Determination of gloss value at 20 degrees, 60 degrees and 85 degrees  BS EN ISO 2814:2006, BS 3900-D4:2006 Paints and varnishes. Comparison of contrast ratio (hiding power) of paints of the same type and colour  ISO 2815:2003 Paints and varnishes -- Buchholz indentation test  ISO 2884-1:1999 Paints and varnishes -- Determination of viscosity using rotary viscometers -- Part 1: Cone-and-plate viscometer operated at a high rate of shear  ISO 3231: 1993 Paints and varnishes -- Determination of resistance to humid atmospheres containing sulfur dioxide  ISO 3233-1:2013 Paints and varnishes -- Determination of the percentage volume of non-volatile matter -- Part 1: Method using a coated test panel to determine non-volatile matter and to determine dry film density by the Archimedes principle  ISO 3248: 1998 Paints and varnishes -- Determination of the effect of heat  ISO 3251:2008 Paints, varnishes and plastics -- Determination of non-volatile-matter content  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4618:2014 Paints and varnishes -- Terms and definitions  ISO 4624:2016 Paints and varnishes -- Pull-off test for adhesion  ISO 4628-1:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 1: General introduction and designation system  ISO 4628-2:2003 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering  ISO 4628-3:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 3: Assessment of degree of rusting  ISO 4628-4:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 4: Assessment of degree of cracking  ISO 4628-5:2016 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 5: Assessment of degree of flaking  ISO 4628-6:2011 Paints and varnishes -- Evaluation of degradation of coatings -- Designation of quantity and size of defects, and of intensity of uniform changes in appearance -- Part 6: Assessment of degree of chalking by tape method  ISO 6270-1: 1998 Paints and varnishes -- Determination of resistance to humidity -- Part 1: Continuous condensation  ISO 6272-1:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 1: Falling-weight test, large-area indenter/ ISO 6272-2:2011 Paints and varnishes -- Rapid-deformation (impact resistance) tests -- Part 2: Falling-weight test, small-area indenter  ISO 6503: 1984 Paints and varnishes -- Determination of total lead -- Flame atomic absorption spectrometric method  ISO 6504-1: 1983 Paints and varnishes -- Determination of hiding power -- Part 1: Kubelka-Munk method for white and light-coloured paints  ISO 6504-3:2006 Paints and varnishes -- Determination of hiding power -- Part 3: Determination of contrast ratio of light-coloured paints at a fixed spreading rate  ISO 6713: 1984 Paints and varnishes -- Preparation of acid extracts from paints in liquid or powder form  ISO 6744-1: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 1: General methods of test  ISO 6744-2: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 2: Determination of phthalic anhydride content  ISO 6744-3: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 3: Determination of unsaponifiable matter content  ISO 6744-4: 1999 Binders for paints and varnishes -- Alkyd resins -- Part 4: Determination of fatty acid content  ISO 6860:2006 Paints and varnishes -- Bend test (conical mandrel)  ISO 7142:2007 Binders for paints and varnishes -- Epoxy resins -- General methods of test  ISO 7143:2007 Binders for paints and varnishes -- Methods of test for characterizing water-based binders  ISO 7783:2011 Paints and varnishes -- Determination of water-vapour transmission properties -- Cup method  ISO 7784-1:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 1: Method with abrasive-paper covered wheels and rotating test specimen  ISO 7784-2:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 2: Method with abrasive rubber wheels and rotating test specimen  ISO 7784-3:2016 Paints and varnishes -- Determination of resistance to abrasion -- Part 3: Method with abrasive-paper covered wheel and linearly reciprocating test specimen  ISO 8501-1:2007 Preparation of steel substrates before application of paints and related products -- Visual assessment of surface cleanliness -- Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall  ISO 9514:2005 Paints and varnishes -- Determination of the pot life of multicomponent coating systems -- Preparation and conditioning of samples and guidelines for testing  ISO 11503:1995 Paints and varnishes -- Determination of resistance to humidity (intermittent condensation)  ISO 16474-1:2013 Paints and varnishes -- Methods of exposure to laboratory light sources -- Part 1: General guidance  ISO 11668:1997 Binders for paints and varnishes -- Chlorinated polymerization resins -- General methods of test  ISO 11890-1:2007 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 1: Difference method  ISO 11890-2:2013 Paints and varnishes -- Determination of volatile organic compound (VOC) content -- Part 2: Gas-chromatographic method  ISO 11908: 1996 Binders for paints and varnishes -- Amino resins -- General methods of test  ISO 11909:2007 Binders for paints and varnishes -- Polyisocyanate resins -- General methods of test  ISO 11997-1:2005 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 1: Wet (salt fog)/dry/humidity  ISO 11997-2:2013 Paints and varnishes -- Determination of resistance to cyclic corrosion conditions -- Part 2: Wet (salt fog)/dry/humidity/UV light  ISO 11998:2006 Paints and varnishes -- Determination of wet-scrub resistance and cleanability of coatings  ISO 12137:2011 Paints and varnishes -- Determination of mar resistance  ISO 1518-2:2011 Paints and varnishes -- Determination of scratch resistance -- Part 2: Variable-loading method  ISO 14680-1:2000 Paints and varnishes -- Determination of pigment content -- Part 1: Centrifuge method  ISO 14680-2: 2000 Paints and varnishes -- Determination of pigment content -- Part 2: Ashing method  ISO 14680-3: 2000 Paints and varnishes -- Determination of pigment content -- Part 3: Filtration method  ISO 15184:2012 Paints and varnishes -- Determination of film hardness by pencil test |

# ROOF TOP

# Structural

## Cracks at roof drainage

## Cracking on Roof concrete panel

## Cracks at parapet wall – ??????????????????????????

## Water Leak through roof slab

## Deflection of Roof Slab

## Adhesive failure of sealant

## Biological Growth on Sealant

## Bulging Effect of Sealant

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| BS | BS 12 Specification for Portland Cements  BS 410 Specification for test sieves  BS 882 Specification for aggregates from natural sources for concrete  BS 1014 Specification for high alumina cement  BS 1199 Specification for building sands from natural sources  BS 4027 Specification for sulphate-resisting Portland cement  BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubes  BS 4721 Specification for ready-mixed building mortars  BS 4887-1:1986 Mortar admixtures. Specification for air-entraining (plasticizing) admixtures  BS 4887-2:1987 Mortar admixtures. Specification for set retarding admixtures  BS 5075 Concrete admixtures 1)  2)  3)  BS 5838-2:1980 Specification for dry packaged cementitious mixes. Prepacked mortar mixes  BS 6319-3:1990 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement ofmodulus of elasticity in flexure and flexural strength  BS 6319-12:1992 Testing of resin and polymer/cement compositions for use in construction. Methods for measurement of unrestrained linear shrinkage and coefficient of thermal expansion  DD 249:1990 Testing aggregates. Method for the assessment of alkali-silica reactivity. Potential accelerated mortar-bar method  PD 6678:2005 Guide to the specification of masonry mortar  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 480-2:2006 Admixtures for concrete, mortar and grout. Test methods. Determination of setting time  BS EN 480-4:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of bleeding of concrete  BS EN 480-5:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of capillary absorption  BS EN 480-6:2005 Admixtures for concrete, mortar and grout. Test methods. Infrared analysis  BS EN 480-8:2012 Admixtures for concrete, mortar and grout. Test methods. Determination of the conventional dry material content  BS EN 480-10:2009 Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content  BS EN 480-11:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of air void characteristics in hardened concrete  BS EN 480-12:2005 Admixtures for concrete, mortar and grout. Test methods. Determination of the alkali content of admixtures  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar / BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration) / BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars / BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis) / BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars / BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table) / BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar / BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar / BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar / BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  BS 8204-1:2003+A1:2009 Screeds, bases and in situ floorings. Concrete bases and cementitious levelling screeds to receive floorings. Code of practice |
| ASTM | ASTM C33 / C33M - 16 Standard Specification for Concrete AggregatesASTM C87 / C87M – 10 Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar ASTM C94 / C94M - 16 Standard Specification for Ready-Mixed ConcreteASTM C109 / C109M - 16a Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)ASTM C115 / C115M - 10e1 Standard Test Method for Fineness of Portland Cement by the TurbidimeterASTM C125-15a Standard Terminology Relating to Concrete and Concrete AggregatesASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse AggregatesASTM C150-07 Standard Specification for Portland Cement (Withdrawn 28 Jul 2009)ASTM C295 / C295M - 12 Standard Guide for Petrographic Examination of Aggregates for ConcreteASTM C305 - 14 Standard Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency  ASTM C348 - 14 Standard Test Method for Flexural Strength of Hydraulic-Cement MortarsASTM C349 - 14 Standard Test Method for Compressive Strength of Hydraulic-Cement Mortars (Using Portions of Prisms Broken in Flexure)ASTM C452 - 15 Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to SulfateASTM C490 / C490M - 11e1 Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and ConcreteASTM C494 / C494M - 15a Standard Specification for Chemical Admixtures for Concrete ASTM C597 - 09 Standard Test Method for Pulse Velocity Through ConcreteASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened ConcreteASTM C778 - 13 Standard Specification for Standard SandASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened ConcreteASTM C1038 / C1038M - 14b Standard Test Method for Expansion of Hydraulic Cement Mortar Bars Stored in Water  ASTM D1067-11 Standard Test Methods for Acidity or Alkalinity of WaterASTM D1129-13 Standard Terminology Relating to WaterASTM D1193 - 06(2011) Standard Specification for Reagent WaterASTM D1293 - 12 Standard Test Methods for pH of Water |
| AS | AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete / AS 1012.2:2014 Methods of testing concrete - Preparing concrete mixes in the laboratory / AS 1012.3.1:2014 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump test / AS 1012.3.2-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compacting factor test / AS 1012.3.3-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Vebe test / AS 1012.3.4-1998 (R2014) Methods of testing concrete - Determination of properties related to the consistency of concrete - Compactibility index / AS 1012.3.5:2015 Methods of testing concrete - Determination of properties related to the consistency of concrete - Slump flow, T500 and J-ring test / AS 1012.4.1:2014 Methods of testing concrete - Determination of air content of freshly mixed concrete - Measuring reduction in concrete volume with increased air pressure / AS 1012.4.2:2014 Methods of testing concrete - Determination of air content of freshly mixed concrete - Measuring reduction in air pressure in chamber above concrete / AS 1012.4.3:2014 Methods of testing concrete - Determination of air content of freshly mixed concrete - Measuring air volume when concrete is dispersed in water / AS 1012.5:2014 Methods of testing concrete - Determination of mass per unit volume of freshly mixed concrete / AS 1012.5:2014 Methods of testing concrete - Determination of mass per unit volume of freshly mixed concrete / AS 1012.6:2014 Methods of testing concrete - Determination of bleeding of concrete / AS 1012.8.1:2014 Methods of testing concrete - Method for making and curing concrete - Compression and indirect tensile test specimens / AS 1012.8.2:2014 Methods of testing concrete - Method for making and curing concrete - Flexure test specimens / AS 1012.13:2015 Methods of testing concrete - Determination of the drying shrinkage of concrete for samples prepared in the field or in the laboratory / AS 1012.14-1991 Methods of testing concrete - Method for securing and testing cores from hardened concrete for compressive strength / AS 1012.15-1979 Methods of testing concrete - Method for the estimation of portland cement content of hardened concrete / AS 1012.16-1996 (R2014) Methods of testing concrete - Determination of creep of concrete cylinders in compression / AS 1012.17-1997 (R2014) Methods of testing concrete - Determination of the static chord modulus of elasticity and Poisson's ratio of concrete specimens / AS 1012.18-1996 (R2014) Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance / AS 1012.19.1-2000 (R2014) Methods of testing concrete - Accelerated curing of concrete compression test specimens - Hot water method / AS 1012.19.2-2000 (R2014) Methods of testing concrete - Accelerated curing of concrete compression test specimens - Warm water method / AS 1012.20-1992 Methods of testing concrete - Determination of chloride and sulfate in hardened concrete and concrete aggregates / DR AS 1012.20.1:2015 Methods of testing concrete - Determination of chloride and sulfate in hardened concrete and aggregates - Nitric acid extraction method / DR2 AS 1012.20.2:2015 Methods of testing concrete - Determination of water-soluble chloride in aggregates and hardened concrete / DR2 AS 1012.20.2:2015 Methods of testing concrete - Determination of water-soluble chloride in aggregates and hardened concrete / AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete / Methods of testing concrete - Determination of the drying shrinkage of concrete for samples prepared in the field or in the laboratory  AS 1012.10-2000 (R2014) Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders ('Brasil' or splitting test)  AS 1012.18-1996 (R2014) Methods of testing concrete - Determination of setting time of fresh concrete, mortar and grout by penetration resistance  AS 1379-2007/Amdt 1-2009 Specification and supply of concrete - AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 2350.12-2006 Methods of testing portland, blended and masonry cements - Preparation of a standard mortar and moulding of specimens  AS 2350.13-1995  Methods of testing portland and blended cements - Determination of drying shrinkage of portland andblended cement mortars  AS 2350.13-1995/Amdt 1-1997  Methods of testing portland and blended cements - Determination of drying shrinkage of portland and blended cement mortars  AS 2350.14-2006 Methods of testing portland, blended and masonry cements - Length change of cement mortars exposed to sulfate solution  AS 2550.15-1994 Cranes - Safe use - Concrete placing equipment  AS 3600-2009/Amdt 1-2010 Concrete structures - AS 3600-2009/Amdt 2-2013 Concrete structures  AS 3648-1993 Specification and methods of test for packaged concrete mixes |
| SS | |  | | --- | | SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement /  SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620:2008 - Amendment No.1 Specification for aggregates for concrete  SS 78 - A25 : 1987 Testing concrete - Methods for mixing and sampling fresh concrete in the laboratory (Withdrawn - 11 Oct 2012) (Refer to BS 1881)SS 544 - 1 : 2014 Concrete – Complementary Singapore Standard to SS EN 206 – Part 1: Method of specifying and guidance for the specifier / SS 544 - 2 : 2014 Concrete – Complementary Singapore Standard to SS EN 206 – Part 2: Specification for constituent materials and concreteSS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements  SS 397 - 1 : 1997 Methods of testing cement - Determination of strength (Withdrawn - 24 Jun 2011) (Users can refer to parts of BS EN 196) SS 561 : 2010 Specification for steel fabric for the reinforcement of concrete  SS 18 - 1 : 1999 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric - Steel grade 500 /  SS 18 - 2 : 1970 Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric - Steel grade 485 /  SS 561 : 2010 Specification for steel fabric for the reinforcement of concrete  SS 580 : 2012 Code of practice for formwork  SS 32 - 1 : 1999 Welded steel fabric for the reinforcement of concrete - Steel grades 300 and 500 / SS 32 - 2 : 1986 Welded steel fabric for the reinforcement of concrete - Steel grade 485 | |  | |  | |  | |
| ISO | ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimensISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concreteISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimensISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcementISO 3893:1977 Concrete -- Classification by compressive strengthISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concreteISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concreteISO 4103:1979 Concrete -- Classification of consistencyISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concreteISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concreteISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concreteISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concreteISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- SpecificationISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concreteISO 6274:1982 Concrete -- Sieve analysis of aggregatesISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strengthISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concreteISO 6782:1982 Aggregates for concrete -- Determination of bulk densityISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance methodISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compressionISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer methodISO 6934-1:1991 Steel for the prestressing of concrete -- Part 1: General requirementsISO 6934-2:1991 Steel for the prestressing of concrete -- Part 2: Cold-drawn wireISO 6934-3:1991 Steel for the prestressing of concrete -- Part 3: Quenched and tempered wireISO 6934-4:1991 Steel for the prestressing of concrete -- Part 4: StrandISO 6934-5:1991 Steel for the prestressing of concrete -- Part 5: Hot-rolled steel bars with or without subsequent processingISO 6935-1:2007 Steel for the reinforcement of concrete -- Part 1: Plain barsISO 6935-2:2015 Steel for the reinforcement of concrete -- Part 2: Ribbed barsISO 6935-3:1992 Steel for the reinforcement of concrete -- Part 3: Welded fabricISO 14654:1999 Epoxy-coated steel for the reinforcement of concreteISO 14656:1999 EPOXY POWDER AND SEALING MATERIAL FOR THE COATING OF STEEL FOR THE REINFORCEMENT OF CONCRETE |

## Cracks on roof concrete panels

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| BS | BS EN 197-1:2011 Cement. Composition, specifications and conformity criteria for common cements  BS EN 480-1:2014 Admixtures for concrete, mortar and grout. Test methods. Reference concrete and reference mortar for testing  BS EN 934-2:2009+A1:2012 Admixtures for concrete, mortar and grout . Concrete admixtures. Definitions, requirements, conformity, marking and labelling  BS EN 934-6:2001 Admixtures for concrete, mortar and grout. Sampling, conformity control and evaluation of conformity  BS EN 1992-1-1:2004+A1:2014 Eurocode 2: Design of concrete structures. General rules and rules for buildings  BS EN 13139:2002 Aggregates for mortar/ 15/30313572 DC. BS ISO 1920-2. Testing of concrete. Part 2. Properties of fresh concrete/ BS 1881-207:1992. Testing concrete. Recommendations for the assessment of concrete strength by near-to-surface tests/ BS 1881-124:2015. Testing concrete. Methods for analysis of hardened/ BS 1881-125:2013. Testing concrete. Methods for mixing and sampling fresh concrete in the laboratory/ BS 1881-130:2013. Testing concrete. Method for temperature-matched curing of concrete specimens/ BS 1881-113:2011. Testing concrete. Method for making and curing no-fines test cubes/ BS 1881-119:2011. Testing concrete. Method for determination of compressive strength using portions of beams broken in flexure (equivalent cube method)/ BS 1881-122:2011. Testing concrete. Method for determination of water absorption/ BS 1881-129:2011. Testing concrete. Method for determination of density of partially compacted semi-dry fresh concrete/ BS 1881-131:1998. Testing concrete. Methods for testing cement in a reference concrete/ BS 1881-208:1996. Testing concrete. Recommendations for the determination of the initial surface absorption of concrete/ BS 1881-209:1990. Testing concrete. Recommendations for the measurement of dynamic modulus of elasticity/ BS 1881-204:1988. Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986. Testing concrete. Recommendations for determination of strain in concrete/ BS 1881-121:1983. Testing concrete. Method for determination of static modulus of elasticity in compression/ BS EN 12504-2:2012. Testing concrete in structures. Non-destructive testing. Determination of rebound number/ BS 1881-204:1988 Testing concrete. Recommendations on the use of electromagnetic covermeters/ BS 1881-206:1986 Testing concrete. Recommendations for determination of strain in concrete.  BS 812-103.2:1989. Testing aggregates. Method for determination of particle size distribution. Sedimentation testBS 812-121:1989. Testing aggregates. Method for determination of soundness/ BS 812-119:1985. Testing aggregates. Method for determination of acid-soluble material in fine aggregate/ BS 812-112:1990. Testing aggregates. Method for determination of aggregate impact value (AIV)/ BS 812-114:1989. Testing aggregates. Method for determination of the polished-stone value/ BS 812-110:1990. Testing aggregates. Methods for determination of aggregate crushing value (ACV)/ BS 812-111:1990. Testing aggregates. Methods for determination of ten per cent fines value (TFV)/ BS 812-109:1990. Testing aggregates. Methods for determination of moisture content/ BS 812-104:1994. Testing aggregates. Method for qualitative and quantitative petrographic examination of aggregates/ BS 812-123:1999. Testing aggregates. Method for determination of alkali-silica reactivity. Concrete prism method/ BS 812-2:1995. Testing aggregates. Methods for determination of density/BS EN 932-5:2012 Tests for general properties of aggregates. Common equipment and calibration/ BS 812-124:2009. Testing aggregates. Method for determination of frost heave/ .  BS EN 12620:2002+A1:2008 Aggregates for concrete  BS 4550-0:1978 Methods of testing cement. General introduction / BS EN 196-7:2007 Methods of testing cement. Methods of taking and preparing samples of cement / BS EN 196-2:2013 Method of testing cement. Chemical analysis of cement / BS EN 196-5:2011 Methods of testing cement. Pozzolanicity test for pozzolanic cement / BS EN 196-2:2013 Method of testing cement. Chemical analysis of cement / BS EN 4550-3:2003 Aerospace series. Pipe coupling 37°. Design configuration. Inch series. Port connections / BS 4550-3.1:1978 Methods of testing cement. Physical tests. Introduction / BS EN 196-6:2010 Methods of testing cement. Determination of fineness / BS EN 196-1:2016 Methods of testing cement. Determination of strength / BS 1881-131:1998 Testing concrete. Methods for testing cement in a reference concrete BS EN 196-3:2005+A1:2008 Methods of testing cement. Determination of setting times and soundness/ BS 4550-3.8:1978 Methods of testing cement. Physical tests. Test for heat of hydration / BS 1881-131:1998 Testing concrete. Methods for testing cement in a reference concrete / BS 1881-131:1998 Testing concrete. Methods for testing cement in a reference concrete / BS 4550-6:1978 Methods of testing cement. Standard sand for mortar cubes  BS EN 1015-7:1999 Methods of test for mortar for masonry. Determination of air content of fresh mortar / BS EN 1015-4:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by plunger penetration) / BS EN 1015-19:1999 Methods of test for mortar for masonry. Determination of water vapour permeability of hardened rendering and plastering mortars / BS EN 1015-1:1999 Methods of test for mortar for masonry. Determination of particle size distribution (by sieve analysis) / BS EN 1015-2:1999 Methods of test for mortar for masonry. Bulk sampling of mortars and preparation of test mortars / BS EN 1015-3:1999 Methods of test for mortar for masonry. Determination of consistence of fresh mortar (by flow table) / BS EN 1015-6:1999 Methods of test for mortar for masonry. Determination of bulk density of fresh mortar / BS EN 1015-9:1999 Methods of test for mortar for masonry. Determination of workable life and correction time of fresh mortar / BS EN 1015-10:1999 Methods of test for mortar for masonry. Determination of dry bulk density of hardened mortar / BS 4551:2005+A2:2013 Mortar. Methods of test for mortar and screed. Chemical analysis and physical testing  BS EN 934-3:2009+A1:2012 Admixtures for concrete, mortar and grout. Admixtures for masonry mortar. Definitions, requirements, conformity and marking and labelling  BS 4887-2:1986: Mortar admixtures. Specification for set retarding admixtures  BS 5075-1-3: Concrete admixtures. Specifications for admixtures  BS EN 206:2013 Concrete. Specification, performance, production and conformity  BS EN 998-2:2010 Specification for mortar for masonry . Masonry mortar  BS EN 13791:2007 Assessment of in-situ compressive strength in structures and pre-cast concrete components/ BS 6089:2010 Assessment of in-situ compressive strength in structures and precast concrete components. Complementary guidance to that given in BS EN 13791/  BS 6949:1991- Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 7543:2015 Guide to durability of buildings and building elements, products and components/BS ISO 15686-1:2011 Buildings and constructed assets. Service life planning. General principles and frameworkBS ISO 15686-3:2002 Buildings and constructed assets. Service life planning. Performance audits and reviewsBS ISO 15686-2:2012 Buildings and constructed assets. Service life planning. Service life prediction procedures  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 6949:1991-Specification for bitumen-based coatings for cold application excluding use in contact with potable water  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS 8221-1:2012 Code of practice for cleaning and surface repair of buildings. Cleaning of natural stone, brick, terracotta and concrete  BS EN 12056-2:2000 Gravity drainage systems inside buildings. Sanitary pipework, layout and calculation  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles |
| ASTM | ASTM C33 / C33M - 16 Standard Specification for Concrete Aggregates  ASTM C94 / C94M - 15b Standard Specification for Ready-Mixed Concrete  ASTM C150 / C150M - 15 Standard Specification for Portland Cement  ASTM C597 - 09 Standard Test Method for Pulse Velocity Through Concrete  ASTM C136 / C136M - 14 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates  ASTM C642 - 13 Standard Test Method for Density, Absorption, and Voids in Hardened Concrete  ASTM C805 / C805M - 13a Standard Test Method for Rebound Number of Hardened Concrete  ASTM D4258 - 05(2012) Standard Practice for Surface Cleaning Concrete for Coating  ASTM D1640 / D1640M - 14 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings  ASTM D5324 - 10 Standard Guide for Testing Water-Borne Architectural Coatings  ASTM D5146 - 10 Standard Guide to Testing Solvent-Borne Architectural Coatings  ASTM E1907-06a Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings (Withdrawn 2008)  ASTM D6237 - 09(2015) Standard Guide for Painting Inspectors (Concrete and Masonry Substrates)  ASTM C1063 - 16a Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5683 / D5683M - 95(2011)e1 Standard Test Method for Flexibility of Roofing and Waterproofing Materials and Membranes  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)  ASTM D1784 - 11 Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds |
| AS | AS 1012.10-2000 (R2014) Methods of testing concrete - Determination of indirect tensile strength of concrete cylinders (‘Brasil’ or splitting test)  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 1012.1:2014 Methods of testing concrete - Sampling of concrete  concreteAS 1379-2007/Amdt 1-2009 Specification and supply of concrete - AS 1379-2007/Amdt 2-2015 Specification and supply of concrete  AS 1478.1-2000 Chemical admixtures for concrete, mortar and grout - Admixtures for concrete  AS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and grout  AS 2550.15-1994 Cranes - Safe use - Concrete placing equipment  AS 3600-2009 Concrete structures  AS 3648-1993 : Specification and methods of test for packaged concrete mixes  AS 3740-2010 Waterproofing of domestic wet areas / AS 3740-2010/Amdt 1-2012 Waterproofing of domestic wet areas  AS 3740-Amdt 1:1995- Waterproofing of wet areas within residential buildings  AS/NZS 2032:2006 Installation of PVC pipe systems  AS/NZS 2588:1998 Gypsum plasterboard  AS/NZS 2589:2007 Gypsum linings - Application and finishing  AS 2590-1983 Glass fibre reinforced gypsum plasterboard (Withdrawn 24 Aug 2006)  AS 2592-1983 Gypsum plaster for building purposes (Withdrawn 24 Aug 2006)  AS 2753-1985 Adhesives - Mastic - For bonding gypsum plaster linings to wood and metal framing members (Withdrawn 31 Jul 2006) |
| SS | SS EN 197 - 1 : 2014 Cement - Part 1 : Composition, specifications and conformity criteria for common cement/ SS EN 197 - 2 : 2014 Cement - Part 2 : Conformity evaluation  SS EN 12620 : 2008 Specification for aggregates for concrete  SS 117 : 1975 HOT DIP GALVANIZED COATINGS ON IRON AND STEEL ARTICLES (REFER TO ISO 1460 AND ISO 1461)  SS EN 206 : 2014 Concrete. Specification, performance, production and conformity/ SS 544 series - Concrete - Complementary Singapore Standard to SS EN 206-1   SS EN 934 - 1 : 2008 (2015) Admixtures for concrete, mortar and grout - Common requirements/ SS EN 934 - 2 : 2015 Admixtures for concrete, mortar and grout - Part 2 : Definitions, requirements – Concrete admixtures – Definitions, requirements, conformity, marking and labelling/ SS EN 934 - 6 : 2008 (2015) Admixtures for concrete, mortar and grout - Sampling, conformity control and evaluation of conformity  CP 82 : 1999 Code of practice for waterproofing of reinforced concrete buildings |
| ISO | ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 1920-1:2004 Testing of concrete -- Part 1: Sampling of fresh concrete  ISO 1920-3:2004 Testing of concrete -- Part 3: Making and curing test specimens  ISO 3766:2003 Construction drawings -- Simplified representation of concrete reinforcement  ISO 3893:1977 Concrete -- Classification by compressive strength  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 4103:1979 Concrete -- Classification of consistency  ISO 1920-4:2005 Testing of concrete -- Part 4: Strength of hardened concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 4635:2011 Rubber, vulcanized -- Preformed joint seals for use between concrete paving sections of highways -- Specification  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6274:1982 Concrete -- Sieve analysis of aggregates  ISO 1920-5:2004 Testing of concrete -- Part 5: Properties of hardened concrete other than strength  ISO 1920-2:2005 Testing of concrete -- Part 2: Properties of fresh concrete  ISO 6782:1982 Aggregates for concrete -- Determination of bulk density  ISO 6783:1982 Coarse aggregates for concrete -- Determination of particle density and water absorption -- Hydrostatic balance method  ISO 1920-10:2010 Testing of concrete -- Part 10: Determination of static modulus of elasticity in compression  ISO 7033:1987 Fine and coarse aggregates for concrete -- Determination of the particle mass-per-volume and water absorption -- Pycnometer method  ISO 265-1:1988 Pipes and fittings of plastics materials -- Fittings for domestic and industrial waste pipes -- Basic dimensions: Metric series -- Part 1: Unplasticized poly(vinyl chloride) (PVC-U)  ISO 768:1972 Fibre building boards -- Determination of bending strength  ISO 769:1972 Fibre building boards -- Hard and medium boards -- Determination of water absorption and of swelling in thickness after immersion in water  ISO 818:1975 Fibre building boards -- Definition -- Classification  ISO 820:1975 Particle boards -- Definition and classification  ISO 2696:1976 Fibre building boards -- Hard and medium boards for general purposes -- Quality specifications -- Water absorption and swelling in thickness  ISO 3546:1976 Fibre building boards -- Determination of surface finish (roughness)  Fittings for unplasticized polyvinyl chloride (PVC) pressure pipes with elastic sealing ring type joints -- Pressure test for leakproofness  ISO 3633:2002 Plastics piping systems for soil and waste discharge (low and high temperature) inside buildings -- Unplasticized poly(vinyl chloride) (PVC-U)  ISO/TR 4191:2014 Plastics piping systems for water supply -- Unplasticized poly(vinyl chloride)(PVC-U) and oriented PVC-U (PVC-O) -- Guidance for installation  ISO 6308:1980 Gypsum plasterboard -- Specification  ISO 13844:2015 Plastics piping systems -- Elastomeric-sealing-ring-type socket joints for use with plastic pressure pipes -- Test method for leaktightness under negative pressure, angular deflection and deformation  ISO 13845:2015 Plastics piping systems -- Elastomeric-sealing-ring-type socket joints for use with thermoplastic pressure pipes -- Test method for leaktightness under internal pressure and with angular deflection |

# Architectural

## Blistering of Waterproofing Membrane

## PRE-MATURE MEMBRANE FAILURE - Alligatoring of Membrane

## PRE-MATURE MEMBRANE FAILURE - Delamination of Membrane

## PRE-MATURE MEMBRANE FAILURE - Adhesive Failure of Membrane

## PRE-MATURE MEMBRANE FAILURE - Tearing of Membrane

## PRE-MATURE MEMBRANE FAILURE - Ridging of Membrane

## PRE-MATURE MEMBRANE FAILURE - Splitting of Membrane

## PRE-MATURE MEMBRANE FAILURE - Adhesive Failure of Membrane

## MICROBIAL GROWTH -Algae Growth

## Water Leak Through Tile Popping

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| BS | BS 476-3:2004 Fire tests on building materials and structures. Classification and method of test for external fire exposure to roofs  BS 648:1964 Schedule of weights of building materials (Withdrawn)  BS EN 12326-1:2014 Slate and stone for discontinuous roofing and external cladding. Specifications for slate and carbonate slate  BS 690-6:1976 Asbestos-cement slates and sheets. Fittings for use with corrugated sheets (Witthdrawn)  BS EN 13707:2013 Flexible sheets for waterproofing. Reinforced bitumen sheets for roof waterproofing. Definitions and characteristics  BS EN ISO 8990:1996 Thermal insulation. Determination of steady-state thermal transmission properties. Calibrated and guarded hot box  BS EN 13168:2012+A1:2015 Thermal insulation products for buildings. Factory made wood wool (WW) products. Specification  BS 1202-2:1974 Specification for nails. Copper nails  BS 1202-3:1974 Specification for nails. Aluminium nails  BS 1494-1:1964 Specification for fixing accessories for building purposes. Fixings for sheet, roof and wall coverings (Withdrawn)  BS 1521:1972 Specification for waterproof building papers  BS 1521:1972 Specification for waterproof building papersBS EN 14015:2004 Specification for the design and manufacture of site built, vertical, cylindrical, flat-bottomed, above ground, welded, steel tanks for the storage of liquids at ambient temperature and above  BS 2830:1994 Specification for suspended access equipment (suspended chairs, traditional steeplejack’s seats, work cages, cradles and platforms) for use in the building, engineering construction, steeplejack and cleaning industries (Withdraw)  BS 4841-3:2006 Rigid polyisocyanurate (PIR) and polyurethane (PUR) products for building end-use applications. Specification for laminated boards (roofboards) with auto-adhesively or separately bonded facings for use as roofboard thermal insulation under built up bituminous roofing membranes   BS 4868:1972 Specification for profiled aluminium sheet for building  Eurocode 5: Design of timber structures. General. Common rules and rules for buildings  BS EN 1995-1-1:2004+A2:2014 Eurocode 5: Design of timber structures. General. Common rules and rules for buildings  BS EN 1995-1-1:2004+A2:2014 Eurocode 5: Design of timber structures. General. Common rules and rules for buildings  BS EN 1995-1-1:2004+A2:2014 Eurocode 5: Design of timber structures. General. Common rules and rules for buildings  BS EN 1995-1-1:2004+A2:2014 Eurocode 5: Design of timber structures. General. Common rules and rules for buildings  BS EN 1995-1-1:2004+A2:2014 Eurocode 5: Design of timber structures. General. Common rules and rules for buildings  BS 5427:2016 Code of practice for the use of profiled sheet for roof and wall cladding on buildings  BS 5534:2014+A1:2015 Slating and tiling for pitched roofs and vertical cladding. Code of practice  BS EN 13162:2012+A1:2015 Thermal insulation products for buildings. Factory made mineral wool (MW) products. Specification  BS 5803-2:1985 Thermal insulation for use in pitched roof spaces in dwellings. Specification for man-made mineral fibre thermal insulation in pelleted or granular form for application by blowing  BS 5803-3:1985 Thermal insulation for use in pitched roof spaces in dwellings. Specification for cellulose fibre thermal insulation for application by blowing  BS 5803-4:1985 Thermal insulation for use in pitched roof spaces in dwellings. Methods for determining flammability and resistance to smouldering  BS 5803-5:1985 Thermal insulation for use in pitched roof spaces in dwellings. Specification for installation of man-made mineral fibre and cellulose fibre insulation  BS 5918:2015 Solar heating systems for domestic hot water. Code of practice for design and installation  BS EN 1993-1-3:2006 Eurocode 3. Design of steel structures. General rules. Supplementary rules for cold-formed members and sheeting  BS 5950-7:1992 Structural use of steelwork in building. Specification for materials and workmanship: cold formed sections (Withdrawn)  BS 6100-6:2008 Building and civil engineering. Vocabulary. Construction parts  BS 6100-11:2007 Building and civil engineering. Vocabulary. Performance characteristics, measurement and joints  BS 6229:2003 Flat roofs with continuously supported coverings. Code of practice  BS EN 1991-1-3:2003+A1:2015 Eurocode 1. Actions on structures. General actions. Snow loads  BS 6915:2001+A1:2014 Design and construction of fully supported lead sheet roof and wall coverings. Code of practice  BS 6925:1988 Specification for mastic asphalt for building and civil engineering (limestone aggregate)  BS 7021:1989 Code of practice for thermal insulation of roofs externally by means of sprayed rigid polyurethane (PUR) or polyisocyanurate (PIR) foam  BS EN 14975:2006+A1:2010 Loft ladders. Requirements, marking and testing  BS 7916:1998 Code of practice for the selection and application of particleboard, oriented strand board (OSB), cement bonded particleboard and wood fibreboards for specific purposes (WIthdrawn)  BS 8000-4:1989 Workmanship on building sites. Code of practice for waterproofing / BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8000-7:1990 Workmanship on building sites. Code of practice for glazing / BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles  BS 8103-3:2009 Structural design of low-rise buildings. Code of practice for timber floors and roofs for housing  BS 8200:1985 Code of practice for design of non-loadbearing external vertical enclosures of buildings (Withdrawn)  BS 8217:2005 Reinforced bitumen membranes for roofing. Code of practice  BS 8218:1998 Code of practice for mastic asphalt roofing  BS 8219:2001+A1:2013 Installation of sheet roof and wall coverings. Profiled fibre cement. Code of practice  DD ISO/PAS 11154:2006 Road vehicles. Roof load carriers  CP 143-1:1958 Code of practice for sheet roof and wall coverings. Aluminium, corrugated and troughed  CP 143-5:1964 Code of practice for sheet roof and wall coverings. Code of practice for sheet roof and wall coverings. Zinc  CP 143-10:1973 Code of practice for sheet roof and wall coverings. Code of practice for sheet roof and wall coverings. Galvanized corrugated steel. Metric units  CP 143-12:1970 Code of practice for sheet roof and wall coverings. Code of practice for sheet roof and wall coverings. Copper. Metric units  CP 143-15:1973 Code of practice for sheet roof and wall coverings. Code of practice for sheet roof and wall coverings. Aluminium. Metric units  CP 143-16:1974 Code of practice for sheet roof and wall coverings. Code of practice for sheet roof and wall coverings. Semi-rigid asbestos bitumen sheet. Metric units  BS EN 490:2011 Concrete roofing tiles and fittings for roof covering and wall cladding. Product specifications  BS EN 491:2011 Concrete roofing tiles and fittings for roof covering and wall cladding. Test methods  BS EN 492:2012 Fibre-cement slates and fittings. Product specification and test methods  BS EN 494:2012+A1:2015 Fibre-cement profiled sheets and fittings. Product specification and test methods  BS EN 495-5:2013 Flexible sheets for waterproofing. Determination of foldability at low temperature. Plastic and rubber sheets for roof waterproofing  BS EN 501:1994 Roofing products from metal sheet. Specifications for fully supported roofing products of zinc sheet  BS EN 502:2013 Roofing products from metal sheet. Specification for fully supported roofing products of stainless steel sheet  BS EN 504:2000 Roofing products from metal sheet. Specification for fully supported roofing products of copper sheet  BS EN 505:2013 Roofing products from metal sheet. Specification for fully supported roofing products of steel sheet  BS EN 506:2008 Roofing products of metal sheet. Specification for self-supporting products of copper or zinc sheet  BS EN 507:2000 Roofing products from metal sheet. Specification for fully supported roofing products of aluminium sheet  BS EN 508-1:2014 Roofing and cladding products from metal sheet. Specification for self-supporting of steel, aluminium or stainless steel sheet. Steel  BS EN 508-2:2008 BS EN 508-2:2000 Roofing products from metal sheet. Specification for self-supporting products of steel, aluminium or stainless steel sheet. Aluminium  BS EN 508-3:2008 Roofing products from metal sheet. Specification for self-supporting products of steel, aluminium or stainless steel sheet. Stainless steel  BS EN 516:2006 Prefabricated accessories for roofing. Installations for roof access. Walkways, treads and steps  BS EN 517:2006 Prefabricated accessories for roofing. Roof safety hooks  BS EN 534:2006+A1:2010 Corrugated bitumen sheets. Product specification and test methods  BS EN 538:1994 Clay roofing tiles for discontinuous laying. Flexural strength test  BS EN 539-1:2005 Clay roofing tiles for discontinuous laying. Determination of physical characteristics. Impermeability test  BS EN 539-2:2013 Clay roofing tiles for discontinuous laying. Determination of physicalcharacteristics. Test for frost resistance  BS EN 544:2011 Bitumen shingles with mineral and/or synthetic reinforcements. Product specification and test methods  BS EN 595:1995 Timber structures. Test methods. Test of trusses for the determination of strength and deformation behaviour  BS EN 988:1997 Zinc and zinc alloys. Specification for rolled flat products for building  BS EN 1013:2012+A1:2014 Light transmitting single skin profiled plastics sheets for internal and external roofs, walls and ceilings. Requirements and test methods  BS EN 1013:2012+A1:2014 Light transmitting single skin profiled plastics sheets for internal and external roofs, walls and ceilings. Requirements and test methods  BS EN 1013:2012+A1:2014 Light transmitting single skin profiled plastics sheets for internal and external roofs, walls and ceilings. Requirements and test methods  BS EN 1013:2012+A1:2014 Light transmitting single skin profiled plastics sheets for internal and external roofs, walls and ceilings. Requirements and test methods  BS EN 1013:2012+A1:2014 Light transmitting single skin profiled plastics sheets for internal and external roofs, walls and ceilings. Requirements and test methods  BS EN 1024:2012 Clay roofing tiles for discontinuous laying. Determination of geometric characteristics  BS EN 1107-1:2000 Flexible sheets for waterproofing. Determination of dimensional stability. Bitumen sheets for roof waterproofing  BS EN 1107-2:2001 Flexible sheets for waterproofing. Determination of dimensional stability. Plastic and rubber sheets for roof waterproofing  BS EN 1108:2000 Flexible sheets for waterproofing. Bitumen sheets for roof waterproofing. Determination of form stability under cyclical temperature changes  BS EN 1109:2013 Flexible sheets for waterproofing. Bitumen sheets for roof waterproofing. Determination of flexibility at low temperature  BS EN 1110:2010 Flexible sheets for waterproofing. Bitumen sheets for roof waterproofing. Determination of flow resistance at elevated temperature  BS EN 1172:2011 Copper and copper alloys. Sheet and strip for building purposes  DD CEN/TS 1187:2012 Test methods for external fire exposure to roofs  BS EN 1296:2001 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roofing. Method of artificial ageing by long term exposure to elevated temperature  BS EN 1304:2013 Clay roofing tiles and fittings. Product definitions and specifications  BS EN 1804-1:2001+A1:2010 Machines for underground mines. Safety requirements for hydraulic powered roof supports. Support units and general requirements  BS EN 1804-2:2001+A1:2010 Machines for underground mines. Safety requirements for hydraulic powered roof supports. Power set legs and rams  BS EN 1844:2013 Flexible sheets for waterproofing. Determination of resistance to ozone. Plastic and rubber sheets for roof waterproofing  BS EN 1847:2009 Flexible sheets for waterproofing. Plastics and rubber sheets for roof waterproofing. Methods for exposure to liquid chemicals, including water  BS EN 1848-1:2000 Flexible sheets for waterproofing. Determination of length, width and straightness. Bitumen sheets for roof waterproofing  BS EN 1848-2:2001 Flexible sheets for waterproofing. Determination of length, width and straightness. Plastic and rubber sheets for roof waterproofing  BS EN 1849-1:2000 Flexible sheets for waterproofing. Determination of thickness and mass per unit area. Bitumen sheets for roof waterproofing  BS EN 1849-2:2009 Flexible sheets for waterproofing. Determination of thickness and mass per unit area. Plastic and rubber sheets  BS EN 1850-1:2000 Flexible sheets for waterproofing. Determination of visible defects. Bitumen sheets for roof waterproofing  BS EN 1850-2:2001 Flexible sheets for waterproofing. Determination of visible defects. Plastic and rubber sheets for roof waterproofingBS EN 1928:2000 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of watertightness  BS EN 1928:2000 FLEXIBLE SHEETS FOR WATERPROOFING. BITUMEN, PLASTIC AND RUBBER SHEETS FOR ROOF WATERPROOFING. DETERMINATION OF WATERTIGHTNESS   BS EN 1931:2000 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of water vapour transmission properties  BS EN 10169:2010+A1:2012 Continuously organic coated (coil coated) steel flat products. Technical delivery conditionsContinuously organic coated (coil coated) steel flat products. Technical delivery conditions  BS EN 12039:2000 Flexible sheets for waterproofing. Bitumen sheets for roof waterproofing. Determination of adhesion of granules  BS EN 12056-3:2000 Gravity drainage systems inside buildings. Roof drainage, layout and calculation  BS EN 12310-1:2000 Flexible sheets for waterproofing. Determination of resistance to tearing (nail shank). Bitumen sheets for roof waterproofing  BS EN 12310-2:2000 Flexible sheets for waterproofing. Determination of resistance to tearing (nail shank). Plastic and rubber sheets for roof waterproofing  BS EN 12311-1:2000 Flexible sheets for waterproofing. Determination of tensile properties. Bitumen sheets for roof waterproofing  BS EN 12311-2:2013 Flexible sheets for waterproofing. Determination of tensile properties. Plastic and rubber sheets for roof waterproofing  BS EN 12316-1:2000 Flexible sheets for waterproofing. Determination of peel resistance of joints. Bitumen sheets for roof waterproofing  BS EN 12316-2:2013 Flexible sheets for waterproofing. Determination of peel resistance of joints. Plastic and rubber sheets for roof waterproofingBS EN 12316-2:2013 Flexible sheets for waterproofing. Determination of peel resistance of joints. Plastic and rubber sheets for roof waterproofing  BS EN 12317-1:2000 Flexible sheets for waterproofing. Bitumen sheets for roof waterproofing. Determination of shear resistance of joints  BS EN 12317-2:2010 Flexible sheets for waterproofing. Determination of shear resistance of joints. Plastic and rubber sheets for roof waterproofing  BS EN 12326-2:2011 Slate and stone for discontinuous roofing and external cladding. Methods of test for slate and carbonate slate  BS EN 12467:2012 Fibre-cement flat sheets. Product specification and test methods  BS EN 12588:2006 Lead and lead alloys. Rolled lead sheet for building purposes  BS EN 12691:2006 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of resistance to impact   BS EN 12730:2015 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of resistance to static loading  BS EN 12871:2013 Wood-based panels. Determination of performance characteristics for load bearing panels for use in floors, roofs and walls  BS EN 13111:2010 Flexible sheets for waterproofing. Underlays for discontinuous roofing and walls. Determination of resistance to water penetration  BS EN 13416:2001 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Rules for sampling  BS EN 13583:2012 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of hail resistance  91/13906 DC Thermoplastic roofing and sealing sheets. Determination of tear resistance. Trapezoidal test specimen method (prEN 495-2)  91/13907 DC Thermoplastic and elastomeric roofing and sealing sheets. Determination of split pressure resistance (prEN 495-3)  91/13908 DC Thermoplastic and elastomeric roofing and sealing sheets. Determination of water vapour transmission properties (prEN 495-4)  91/38881 DC Rubber, vulcanized. EPDM and blends of EPDM-butyl non-reinforced, non-backed roofing sheet. Specification (ISO/DIS 4634)  BS 4841-2:2006 Rigid polyisocyanurate (PIR) and polyurethane (PUR) products for building end-use applications. Specification for laminated boards with auto-adhesively bonded facings for use as thermal insulation for internal wall linings and ceilings  BS EN 1297:2004 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Method of artificial ageing by long term exposure to the combination of UV radiation, elevated temperature and water  96/104019 DC prEN 503. Roofing products from metal sheet. Specification for fully supported roofing products of lead sheet  97/103069 DC prEN 12871-1. Wood-based panels. Structural roof decking on joists. Part 1. Performance specifications  97/103070 DC Pren 12871-2 - Wood-based Panels - Structural Roof Decking On Joists - Part 2: Performance Requirements  NEN NPR CEN/TS 12872:2007 Wood-based Panels - Guidance On The Use Of Load-bearing Boards In Floors, Walls And Roofs  BS EN 12951:2004 Prefabricated accessories for roofing. Permanently fixed roof ladders. Product specification and test methods  97/704453 DC Road vehicles. Roof load carriers. Part 2. Accessories and their attachments to roof bars for special  purpose applications (ISO/DIS 11154-2)  97/704454 DC Road vehicles. Roof load carriers. Part 3. Specific purpose roof devices (ISO/DIS 11154-3)  BS EN 13141-5:2004 Ventilation for buildings. Performance testing of components/products for residential ventilation. Cowls and roof outlet terminal devices  BS EN 13707:2013 Flexible sheets for waterproofing. Reinforced bitumen sheets for roof waterproofing. Definitions and characteristics  BS EN 13579:2002 Products and systems for the protection and repair of concrete structures. Test methods. Drying test for hydrophobic impregnation   BS EN 12326-1:2014 Slate and stone for discontinuous roofing and external cladding. Specifications for slate and carbonate slate  BS EN 13693:2004+A1:2009 Precast concrete products. Special roof elements  BS EN 13693:2004+A1:2009 Precast concrete products. Special roof elementsBS EN 12056-3:2000 Gravity drainage systems inside buildings. Roof drainage, layout and calculation  BS EN 1296:2001 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roofing. Method of artificial ageing by long term exposure to elevated temperature  BS EN 13859-1:2014 Flexible sheets for waterproofing. Definitions and characteristics of underlays. Underlays for discontinuous roofing  BS EN 13956:2012 Flexible sheets for waterproofing. Plastic and rubber sheets for roof waterproofing. Definitions and characteristics  BS 6229:2003 Flat roofs with continuously supported coverings. Code of practice  BS EN 13948:2007 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of resistance to root penetration  BS EN 14064-1:2010 Thermal insulation products for buildings. In-situ formed loose-fill mineral wool (MW) products. Specification for the loose-fill products before installation  BS EN 1804-3:2006+A1:2010 Machines for underground mines. Safety requirements for hydraulic powered roof supports. Hydraulic control systems  BS EN ISO 12567-2:2005 Thermal performance of windows and doors. Determination of thermal transmittance by hot box method. Roof windows and other projecting windows  EN 14209:2005 Preformed Plasterboard Cornices - Definitions, Requirements And Test Methods  ISO/PAS 11154:2006 Road vehicles - Roof load carriers  BS EN 14437:2004 Determination of the uplift resistance of clay or concrete tiles for roofing. Roof system test method  BS 5534:2014+A1:2015 Slating and tiling for pitched roofs and vertical cladding. Code of practice  BS EN 13501-5:2005+A1:2009 Fire classification of construction products and building elements. Classification using data from external fire exposure to roofs tests  BS EN 1304:2013 Clay roofing tiles and fittings. Product definitions and specifications  BS EN 1304:2013 Clay roofing tiles and fittings. Product definitions and specifications  BS 416-1:1990 Discharge and ventilating pipes and fittings, sand-cast or spun in cast iron. Specification for spigot and socket systems  BS EN 491:2011 Concrete roofing tiles and fittings for roof covering and wall cladding. 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15 Standard Test Method for Measurement of Asphalt Shingle Mechanical Uplift Resistance  ASTM D5081 / D5081M - 90(2011)e1 Standard Test Method for Aggregate Layer Hiding Power  ASTM D3409 / D3409M - 93(2016)e1 Standard Test Method for Adhesion of Asphalt-Roof Cement to Damp, Wet, or Underwater Surfaces  ASTM D727-96(2006) Standard Test Method for Kerosine Number of Roofing and Flooring Felt by the Vacuum Method (Withdrawn 2011)Method   ASTM C1340 / C1340M - 10(2015) Standard Practice for Estimation of Heat Gain or Loss Through Ceilings Under Attics Containing Radiant Barriers by Use of a Computer Program   ASTM C728 - 16 Standard Specification for Perlite Thermal Insulation Board  ASTM C629 / C629M - 15 Standard Specification for Slate Dimension Stone  ASTM C208 - 12 Standard Specification for Cellulosic Fiber Insulating Board  ASTM C1302 - 04(2011) Standard Guide for Selection and Use of Keywords for Thermal Insulation Test Methods and Standards  ASTM D5957 - 98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations  ASTM D4866 / D4866M - 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11 Standard Guide for the Selection of Test Methods for Prefabricated Bituminous Geomembranes (PBGM)  ASTM D6136 / D6136M - 15 Standard Test Method for Kerosine Number of Unsaturated (Dry) Felt by Vacuum Method  ASTM D4799 / D4799M - 08(2013)e1 Standard Practice for Accelerated Weathering Test Conditions and Procedures for Bituminous Materials (Fluorescent UV, Water Spray, and Condensation Method)  ASTM D4798 / D4798M - 11 Standard Practice for Accelerated Weathering Test Conditions and Procedures for Bituminous Materials (Xenon-Arc Method)  ASTM D4435 - 13e1 Standard Test Method for Rock Bolt Anchor Pull Test  ASTM D2939-03 Standard Test Methods for Emulsified Bitumens Used as Protective Coatings (Withdrawn 2012)  ASTM D529-04 Standard Practice for Enclosed Carbon-Arc Exposures of Bituminous Materials (Withdrawn 2013)  ASTM C1496 - 11 Standard Guide for Assessment and Maintenance of Exterior Dimension Stone Masonry Walls and Facades  ASTM C1186 - 08(2012) Standard Specification for Flat Fiber-Cement Sheets  ASTM C552 - 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11 Standard Specification for Air Barrier (AB) Material or System for Low-Rise Framed Building Walls  ASTM E1643 - 11 Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs  ASTM E1425 - 14 Standard Practice for Determining the Acoustical Performance of Windows, Doors, Skylight, and Glazed Wall Systems  ASTM E1399 / E1399M - 97(2013)e1 Standard Test Method for Cyclic Movement and Measuring the Minimum and Maximum Joint Widths of Architectural Joint Systems  ASTM E970 - 14 Standard Test Method for Critical Radiant Flux of Exposed Attic Floor Insulation Using a Radiant Heat Energy Source  ASTM E760 / E760M - 92(2015)e1 Standard Test Method for Effect of Impact on Bonding of Sprayed Fire-Resistive Material Applied to Structural Members  ASTM E575 - 05(2011) Standard Practice for Reporting Data from Structural Tests of Building Constructions, Elements, Connections, and Assemblies  ASTM E241 - 09(2014)e1 Standard Guide for Limiting Water-Induced Damage to Buildings  ASTM E119 - 16 Standard Test Methods for Fire Tests of Building Construction and Materials  ASTM E102 / E102M - 93(2009) Standard Test Method for Saybolt Furol Viscosity of Bituminous Materials at High Temperatures  ASTM E90 - 09 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements  ASTM E73 - 13 Standard Practice for Static Load Testing of Truss Assemblies  ASTM D6769 / D6769M - 02(2010)e1 Standard Guide for Application of Fully Adhered, Cold-Applied, Prefabricated Reinforced Modified Bituminous Membrane Waterproofing Systems   ASTM D6662 - 13 Standard Specification for Polyolefin-Based Plastic Lumber Decking Boards  ASTM D6451 / D6451M - 99(2014)e1 Standard Guide for Application of Asphalt Based Protection Board  ASTM D6153 - 15 Standard Specification for Materials for Bridge Deck Waterproofing Membrane Systems  ASTM D6135-05 Standard Practice for Application of Self-Adhering Modified Bituminous Waterproofing (Withdrawn 2014)   ASTM D6114 / D6114M - 09 Standard Specification for Asphalt-Rubber Binder  ASTM D5898 / D5898M - 96(2013) Standard Guide for Standard Details for Adhered Sheet Waterproofing  ASTM D5869 - 07a(2013) Standard Practice for Dark Oven Heat Exposure of Roofing and Waterproofing Materials  ASTM D5854 - 96(2015) Standard Practice for Mixing and Handling of Liquid Samples of Petroleum and Petroleum Products  ASTM D5843 / D5843M - 95(2014)e1 Standard Guide for Application of Fully Adhered Vulcanized Rubber Sheets Used in Waterproofing  ASTM D5516 - 09 Standard Test Method for Evaluating the Flexural Properties of Fire-Retardant Treated Softwood Plywood Exposed to Elevated Temperatures  ASTM D5385 / D5385M - 93(2014)e1 Standard Test Method for Hydrostatic Pressure Resistance of WaterAS 1478.2-2005 Chemical admixtures for concrete, mortar and grout - Methods of sampling and testing admixtures for concrete, mortar and groutproofing Membranes  ASTM D5385 / D5385M - 93(2014)e1 Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing MembranesASTM D5295 / D5295M - 14 Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems  ASTM D5192 - 09(2015) Standard Practice for Collection of Coal Samples from Core  ASTM D4096 - 91(2009) Standard Test Method for Determination of Total Suspended Particulate Matter in the Atmosphere (High-Volume Sampler Method)  ASTM D3791 / D3791M - 11 Standard Practice for Evaluating the Effects of Heat on Asphalts   ASTM D3161 / D3161M - 16 Standard Test Method for Wind-Resistance of Steep Slope Roofing Products (Fan-Induced Method))   ASTM D3141 / D3141M - 15 Standard Specification for Asphalt for Undersealing Portland-Cement Concrete Pavements  ASTM D2962 - 10 Standard Practice for Calculating Volume-Temperature Correction For Coal-Tar Pitches  D2898 - 10 Standard Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing  ASTM D2828-96(2003)Standard Specification for Nonbituminous Inserts for Contraction Joints in Portland Cement Concrete Airfield Pavements, Sawable Type (Withdrawn 2004)  ASTM D2643 / D2643M - 08(2013)e1 Standard Specification for Prefabricated Bituminous Geomembrane Used as Canal and Ditch Liner (Exposed Type)ASTM D2493 / D2493M - 09 Standard Viscosity-Temperature Chart for Asphalts  ASTM D2482-97(2007) Standard Test Method for Surface Strength of Paper (Wax Pick Method) (Withdrawn 2010)  ASTM D1968 - 15 Standard Terminology Relating to Paper and Paper Products  ASTM D1856 - 09(2015) Standard Test Method for Recovery of Asphalt From Solution by Abson Method  ASTM C1485 - 13 Standard Test Method for Critical Radiant Flux of Exposed Attic Floor Insulation Using an Electric Radiant Heat Energy Source ASTM C1483-04 Standard Specification for Exterior Solar Radiation Control Coatings on Buildings  ASTM C1452-00(2006) Standard Specification for Reinforced Autoclaved Aerated Concrete Elements (Withdrawn 2013)  ASTM C1289 - 16 Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board  ASTM C1288 - 14 Standard Specification for Discrete Non-Asbestos Fiber-Cement Interior Substrate Sheets  ASTM C1262 - 10 Standard Test Method for Evaluating the Freeze-Thaw Durability of Dry-Cast Segmental Retaining Wall Units and Related Concrete Units  ASTM C1242 - 15a Standard Guide for Selection, Design, and Installation of Dimension Stone Attachment Systems  ASTM C1155 - 95(2013) Standard Practice for Determining Thermal Resistance of Building Envelope Components from the In-Situ Data  ASTM C1154 - 06(2011) Standard Terminology for Non-Asbestos Fiber-Reinforced Cement Products  ASTM C1126 - 15 Standard Specification for Faced or Unfaced Rigid Cellular Phenolic Thermal Insulation  ASTM C1082 - 98(2014) Standard Specification for Asbestos-Cement Flat Sheet for Cooling Tower Fill  ASTM C1081 - 98(2014) Standard Specification for Asbestos-Cement Corrugated Fill For Use in Cooling Towers  ASTM C1080 - 98(2014) Standard Specification for Asbestos-Cement Products Other Than Fill For Cooling Towers  ASTM C1060 - 11a(2015) Standard Practice for Thermographic Inspection of Insulation Installations in Envelope Cavities of Frame Buildings  ASTM C1046 - 95(2013) Standard Practice for In-Situ Measurement of Heat Flux and Temperature on Building Envelope Components  ASTM C991 - 15 Standard Specification for Flexible Fibrous Glass Insulation for Metal Buildings  ASTM C717-14a Standard Terminology of Building Seals and Sealants  ASTM C636 / C636M - 13 Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels  ASTM C551/C551M-07(2011)e1 Standard Specification for Asbestos-Cement Fiberboard Insulating Panels  ASTM C459 / C459M - 97(2011)e1 Standard Test Methods for Asbestos-Cement Flat Products  ASTM C317 / C317M - 00(2015) Standard Specification for Gypsum Concrete  ASTM C240-08(2012) Standard Test Methods of Testing Cellular Glass Insulation Block  ASTM C221 - 98(2014) Standard Specification for Corrugated Asbestos-Cement Sheets  ASTM C120 / C120M - 15a Standard Test Methods for Flexure Testing of Structural and Roofing Slate  ASTM C67 - 14 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile  ASTM C56 - 13 Standard Specification for Structural Clay Nonloadbearing Tile  ASTM A755/A755M-15 Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products  ASTM A755/A755M-15 Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products  ASTM D226/D226M-09 Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing / ASTM D227/D227M-03(2011)e1 Standard Specification for Coal-Tar-Saturated Organic Felt Used in Roofing and Waterproofing  ASTM F432 - 13 Standard Specification for Roof and Rock Bolts and Accessories  ASTM D4897 / D4897M - 01(2009) Standard Specification for Asphalt-Coated Glass-Fiber Venting Base Sheet Used in Roofing  D3378 Specification for Asphalt-Saturated and Coated Asbestos Felt Base Sheet Used in ROOFing (Discontinued 1985), Replaced By No\_Replacement   D3158 Specification for Asphalt Saturated and Coated Organic Felt Used in ROOFing (Discontinued 1983), Replaced By No\_Replacement   D1866 Test Method for Translucency of Mineral Aggregate Used on Built-Up ROOFs (Discontinued 1989), Replaced By No\_Replacement   ASTM D2939-03 Standard Test Methods for Emulsified Bitumens Used as Protective Coatings (Withdrawn 2012)  D1001 Specification for Sieve Analysis of Granular Mineral Surfacing for Asphalt ROOFing and Shingles (Discontinued 1960), Replaced By No\_Replacement   D655 Specification for Asphalt-Saturated and Coated Asbestos Felts for Use in Constructing Built-Up ROOFs (Discontinued 1970), Replaced By No\_Replacement   D654 Specification for Coal-Tar Pitch for Steep Built-Up ROOFs (Discontinued 1957), Replaced By No\_Replacement   ASTM D6380 / D6380M - 03(2013)e1 Standard Specification for Asphalt Roll Roofing (Organic Felt)  D272 Methods of Analysis of ROOFing Felt for Fiber Composition (Discontinued 1940), Replaced By No\_Replacement   ASTM D450 / D450M - 07(2013)e1 Standard Specification for Coal-Tar Pitch Used in Roofing, Dampproofing, and Waterproofing     D250 Specification for Asphalt-Saturated Asbestos Felt Used in ROOFing and Waterproofing (Discontinued 1991), Replaced By No\_Replacement   ASTM D6380 / D6380M - 03(2013)e1 Standard Specification for Asphalt Roll Roofing (Organic Felt)  D248 Specification for Asphalt ROOFing Surfaced with Fine Mineral Granules (Discontinued 1942), Replaced By No\_Replacement   ASTM D6380 / D6380M - 03(2013)e1 Standard Specification for Asphalt Roll Roofing (Organic Felt)   C1050 Standard Specification for Rigid Cellular Polystyrene-Cellulosic Fiber Composite ROOF Insulation (Discontinued 1999), Replaced By No\_Replacement   C1013 Specification for Faced Rigid Cellular Polyisocyanurate ROOF Insulation (Discontinued 1997), Replaced By No\_Replacement   C984 Specification for Perlite Board and Rigid Cellular Polyisocyanurate Composite ROOF Insulation (Discontinued 1997), Replaced By No\_Replacement   C855 Thermal Resistance Factors for Preformed Above-Deck ROOF Insulation (Discontinued 1983), Replaced By No\_Replacement   C707 Specification for Gypsum Board Substrate for Floor or ROOF Assemblies (Discontinued 1981), Replaced By No\_Replacement   ASTM A361/A361M-94 Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process for Roofing and Siding (Withdrawn 01 Jul 1996) |
| AS | AS 1235-2000 Road vehicles - Roof load carriers - Roof bars  AS 1562.1-1992 Design and installation of sheet roof and wall cladding - Metal  AS 1562.1-1992/Amdt 1-1993 Design and installation of sheet roof and wall cladding - Metal  AS 1562.1-1992/Amdt 2-1995 Design and installation of sheet roof and wall cladding - Metal  AS/NZS 1562.2:1999 Design and installation of sheet roof and wall cladding - Corrugated fibre-reinforced cement  AS 1562.3-2006 Design and installation of sheet roof and wall cladding - Plastic  AS 2049-2002 (R2015) Roof tiles  AS 2050-2002 Installation of roof tiles  AS 2050-2002/Amdt 1-2005 Installation of roof tiles  AS 2050-2002/Amdt 2-2012 Installation of roof tiles  AS 2627.1-1993 Thermal insulation of dwellings - Thermal insulation of roof/ceilings and walls in dwellings (Withdrawn 13 Jan 2007)  AS 2627.1-1993/Amdt 1-1995 Thermal insulation of dwellings - Thermal insulation of roof/ceilings and walls in dwellings (Withdrawn 13 Jan 2007)  AS 3730.19-1993 Guide to the properties of paints for buildings - Solvent-borne - Roofing enamel  AS 3730.20-1993 Guide to the properties of paints for buildings - Latex - Roofing paint (Withdrawn 27 Nov 2003)  AS 4040.0-1992 Methods of testing sheet roof and wall cladding - Introduction, list of methods and general requirements AS 4040.1-1992 Methods of testing sheet roof and wall cladding - Resistance to concentrated loads  AS 4040.2-1992 Methods of testing sheet roof and wall cladding - Resistance to wind pressures for non-cyclone regions  AS 4040.3-1992 Methods of testing sheet roof and wall cladding - Resistance to wind pressures for cyclone regions  AS 4040.4-2006 Methods of testing sheet roof and wall cladding - Resistance to impact (sandbag) - Sheet roof materials  AS/NZS 4040.5:1996 Methods of testing sheet roof and wall cladding - Resistance to impact (sandbag) for wall boards  AS 4046.0-2002 Methods of testing roof tiles - Introduction and list of methods  AS 4046.1-2002 (R2015) Methods of testing roof tiles - Determination of distortion  AS 4046.2-2002 Methods of testing roof tiles - Determination of batten lugs and squareness  AS 4046.3-2002 (R2015) Methods of testing roof tiles - Determination of transverse strength  AS 4046.4-2002 (R2015) Methods of testing roof tiles - Determination of water absorption  AS 4046.5-2002 (R2015) Methods of testing roof tiles - Determination of permeability  AS 4046.6-1992 Methods of testing roof tiles - Determination of resistance to freeze/thaw  AS 4256.1-2006 Plastic roof and wall cladding materials - General requirements  AS 4256.2-2006 Plastic roof and wall cladding materials - Unplasticized polyvinyl chloride (uPVC) building sheets  AS 4256.3-2006 Plastic roof and wall cladding materials - Glass fibre reinforced polyester (GRP)  AS 4256.4-2006 Plastic roof and wall cladding materials - Unplasticized polyvinyl chloride (uPVC) wall cladding boards  AS 4256.5-2006 Plastic roof and wall cladding materials - Polycarbonate  AS/NZS 4257.0:1994 Plastic roof and wall cladding materials - Methods of test - General introduction and list of methods  AS/NZS 4257.1:1994 Plastic roof and wall cladding materials - Methods of test - Determination of dimensional properties  AS/NZS 4257.1:1994 A1Plastic roof and wall cladding materials - Methods of test - Determination of dimensional properties: Amendment 1   AS/NZS 4257.10:1997 Plastic roof and wall cladding materials - Methods of test - Determination of surface distortion (oil canning)  AS/NZS 4257.2:1994 Plastic roof and wall cladding materials - Methods of test - Determination of dimensional stability at 60 degrees Celsius  AS/NZS 4257.3:1994 Plastic roof and wall cladding materials - Methods of test - Determination of mass per unit area of sheet  AS/NZS 4257.4:1994 Plastic roof and wall cladding materials - Methods of test - Determination of diffuse light transmission  AS/NZS 4257.5:1994 Plastic roof and wall cladding materials - Methods of test - Determination of glass fibre content  AS/NZS 4257.6:1994 Plastic roof and wall cladding materials - Methods of test - Determination of impact resistance  AS/NZS 4257.6:1994/Amdt 1:1995 Plastic roof and wall cladding materials - Methods of test - Determination of impact resistance  AS/NZS 4257.7:1994 Plastic roof and wall cladding materials - Methods of test - Determination of colourfastness, light transmission and impact resistance following ultraviolet light exposure  AS/NZS 4257.8:1994 Plastic roof and wall cladding materials - Methods of test - Determination of residual styrene  AS/NZS 4257.9:1995 Plastic roof and wall cladding materials - Methods of test - Determination of transverse bending stiffness  AS 4597-1999 (R2015) Installation of roof slates and shingles (Non-interlocking type)  AS/NZS 60335.2.83:2002 Household and similar electrical appliances - Safety - Particular requirements for heated gullies for roof drainage (IEC 60335-2-83:2001, IDT)  AS A99-1959 Bituminous felt roofing. Type 1(c) coated organic fibre felt roofing (Withdrawn 26 Nov 2003)  AS 4654.1-2012 Waterproofing membranes for external above-ground use - Materials / AS 4654.2-2012 Waterproofing membranes for external above-ground use - Design and installation  SA HB 39:2015 Installation code for metal roof and wall cladding  HB 39 Supp 1-1997 (CD-ROM) Installation code for metal roof and wall cladding - Multimedia guide on CD-ROM (Supplement to SAA HB39-1997) (Withdrawn 15 Apr 2004)  HB 44 Supp 1-1995 A Guide to the Timber Framing Code - Standard fixing and tie-down requirements 28 m/s sheet roof - Tie-down check sheet 1st edition  HB 44 Supp 2-1995 A Guide to the Timber Framing Code - Standard fixing and tie-down requirements 28 m/s or 33 m/s tiled roof - Tie-down check sheet 1st edition  HB 44 Supp 3-1995 A Guide to the Timber Framing Code - Standard fixing and tie-down requirements 33 m/s sheet or 41 m/s tiled roof material - Tie-down check sheet 1st edition  HB 44 Supp 4-1995 A Guide to the Timber Framing Code - Standard fixing and tie-down requirements 41 m/s sheet roof - JD4 framing material - Tie-down check sheet 1st edition  DR 02001-02002 Roof edge protection equipment   AS 2049-2002 (R2015) Roof tiles / AS 2050-2002 InstALLATION OF ROOF TILES / AS 4046.0-2002 METHODS OF TESTING ROOF TILES - INTRODUCTION AND LIST OF METHODS / AS 4046.1-2002 (R2015) METH015) METHODS OF TESTING ROOF TILES - DETERMINATION OF DISTORTION / AS 4046.2-2002 OF TILES - DETERMINATION OF BATTEN LUGS AND SQUARENESS / AS 4046.3-2002 (R2015 METHODS OF TESTING ROOF TILES - DETERMINATION OF TRANSVERSE STRENGTH / AS 4046.4-2002 (R2015) METHODS OF TESTING ROOF TILES - DETERMINATION OF WATER ABSORPTION / AS 4046.5-2002 (R22 (R2015) METHODS OF TESTING ROOF TILES - DETERMINATION OF PERMEABILITY / AS 4046.6-2002 (R20115) METHODS OF TESTING ROOF TILES - DETERMINATION OF RESISTANCE TO FREEZE/THAW / AS 4046.7-2002 (R215) Methods of testing roof tiles - Determination of resistance to salt attack / AS 4046.8-2002 Methods of testing roof tiles - Adhesive mechanical fastener (flexible pointing) / AS 4046.9-2002 (R2015) Methods of testing roof tiles - Determination of dynamic weather resistance |
| SS | SS 525 : 2006 Code of practice for drainage of roofs   CP 43 : 1988 Code of practice for the installation of concrete interlocking roofing tiles (Withdrawn - 07 Jul 2011)  CP 82 : 1999 Code of practice for waterproofing of reinforced concrete buildings   SS 70 : 2001Clay roofing tiles and fittings  SS 133 : 1987 Bituminous emulsion for roof waterproofing  SS 310 : 1986 Concrete interlocking roofing tiles (Withdrawn - 07 Jul 2011)  SS 370 : 1994 Metal roofing  SS 374 : 1994 Preformed waterproofing membranes for concealed roof  CP 89 : 2001-Installation of clay roofing tiles  CP 94 : 2002 Code of practice for installation of clay roofing tile |
| ISO | ISO/PAS 11154:2006 Road vehicles -- Roof load carriers   ISO 393-1:1983 Asbestos-cement products -- Part 1: Corrugated sheets and fittings for roofing and cladding (Withdrawn  ISO 393-2:1986 Asbestos-cement products -- Part 2: Asbestos-cement-cellulose corrugated sheets and fittings for roofing and cladding (Withdrawn)   ISO 393-5:1987 Asbestos-cement products -- Part 5: Short corrugated and asymmetrical section sheets and ISO 393-4:1986 Asbestos-cement products -- Part 4: Trapezoidal section sheets for roofing and cladding (Withdrawn) fittings for roofing (Withdrawn)   ISO 393-5:1987 Asbestos-cement products -- Part 5: Short corrugated and asymmetrical section sheets and fittings for roofing (Withdrawn)   ISO 4355:2013 Bases for design of structures -- Determination of snow loads on roofs  ISO 5019-4:1988 Refractory bricks -- Dimensions -- Part 4: Dome bricks for electric arc furnace roofs   ISO 8108:1986 Directives for fixing asbestos-cement corrugated and asymmetrical section sheets and fittings for roofing  ISO 8144-1:1995 Thermal insulation -- Mineral wool mats for ventilated roof spaces -- Part 1: Specification for applications with restricted ventilation  ISO 8144-2:1995 Thermal insulation -- Mineral wool mats for ventilated roof spaces --Part 2: Specification for horizontal applications with unrestricted ventilatio  ISO 8145:1994 Thermal insulation -- Mineral wool board for overdeck insulation of roofs -- Specification  ISO 10904:2011 Fibre-cement corrugated sheets and fittings for roofing and cladding   ISO 10904:2011 Fibre-cement corrugated sheets and fittings for roofing and cladding  ISO 10904:2011 Fibre-cement corrugated sheets and fittings for roofing and cladding; |

# M&E Systems

## Water Leak at Pipe Penetration

## Under sizing of Pipe Outlet

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| BS | BS EN 612:2005 Eaves gutters with bead stiffened fronts and rainwater pipes with seamed joints made of metal sheet  BS EN 12056-3:2000 Gravity drainage systems inside buildings. Roof drainage, layout and calculation  BS EN 12056-3:2000 Gravity drainage systems inside buildings. Roof drainage, layout and calculation  BS EN 12056-3:2000 Gravity drainage systems inside buildings. Roof drainage, layout and calculation |
| ASTM | ASTM D2122 - 15 Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings  ASTM D1599 - 14e1 Standard Test Method for Resistance to Short-Time Hydraulic Pressure of Plastic Pipe, Tubing, and Fittings  ASTM E2128 - 12 Standard Guide for Evaluating Water Leakage of Building Walls |
| AS | AS 1012.12.2-1998 (R2014) Methods of testing concrete - Determination of mass per unit volume of hardened concrete - Water displacement method  AS 1012.19.1-2000 (R2014) Methods of testing concrete - Accelerated curing of concrete compression test specimens -Hot water method  AS 1012.19.2-2000 (R2014) Methods of testing concrete - Accelerated curing of concrete compression test specimens -Warm water method  AS 1012.21-1999 (R2014) Methods of testing concrete - Determination of water absorption and apparent volume of permeable voids in hardened concrete  AS 1012.4.3:2014 Methods of testing concrete - Determination of air content of freshly mixed concrete - Measuring air volume when concrete is dispersed in water  AS 1273-1991 Unplasticized PVC (UPVC) downpipe and fittings for rainwater  AS/NZS 2179.1:2014 Specifications for rainwater goods, accessories and fasteners - Metal shape or sheet rainwater goods, and metal accessories and fasteners  AS/NZS 2179.2(Int):1998 Specifications for rainwater goods, accessories and fasteners - PVC rainwater goods and accessories (Withdrawn)  AS 3500.3.1-1998 National plumbing and drainage -Stormwater drainage - Performance requirements / AS/NZS 3500.3:2015 Plumbing and drainage - Stormwater drainage |
| SS | SS 525 : 2006 Code of practice for drainage of roofs  SS 363 : 2014 Specification for steel gratings for roads, drains and walkways  SS 213 : 1998-Unplasticised PVC pipes and fittings for soil, waste and vent applications  SS EN 10224 : 2013 Non-alloy steel tubes and fittings for the conveyance of water and other aqueous liquids – Technical delivery conditions  SS 174 : 2014 Specification for joints and fittings for use with unplasticised PVC pressure pipes |
| ISO | ISO 4633:2015 Rubber seals -- Joint rings for water supply, drainage and sewerage pipelines -- Specification for materials  ISO 6412-3:1993 Technical drawings -- Simplified representation of pipelines -- Part 3: Terminal features of ventilation and drainage systems  ISO 6594:2006 Cast iron drainage pipes and fittings -- Spigot series  ISO/TS 7024:2005 Plastics piping systems for soil and waste discharge (low and high temperature) inside buildings -- Thermoplastics -- Recommended practice for installation  ISO/TR 7074:1986 Performance requirements for plastics pipes and fittings for use in underground drainage and sewage |

# Microbial Growth

## Fungus

**EPA**

Standards or Threshold Limit Values (TLVs) for airborne concentrations of mold, or mold spores, have not been set. Currently, there are no EPA regulations or standards for airborne mold contaminants.

http://www.epa.gov/iaq/molds/moldresources.html#Mold%20and%20Indoor%20Air%20Regulations

**ASTM**

ASTM D5791 - 95(2012)e1 Standard Guide for Using Probability Sampling Methods in Studies of Indoor Air Quality in Buildings

ASTM G21 - 15 Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi

ASTM E1971 - 05(2011) Standard Guide for Stewardship for the Cleaning of Commercial and Institutional Buildings

ASTM D2020-92(2003) Standard Test Methods for Mildew (Fungus) Resistance of Paper and Paperboard (Withdrawn 2009)

ASTM D3273 - 12e1 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber

ASTM D3456 - 86(2012) Standard Practice for Determining by Exterior Exposure Tests the Susceptibility of Paint Films to Microbiological Attack

**BS**

BS EN 60068-2-10:2005 Environmental testing. Tests. Test J and guidance: Mould growth

ISO 16017-2:2003 Indoor, ambient and workplace air -- Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography -- Part 2: Diffusive sampling

BS 1982-1:1990 Fungal resistance of panel products made of or containing materials of organic origin. Method for determination of resistance to wood-rotting Basidiomycetes

BS 1982-2:1990 Fungal resistance of panel products made of or containing materials of organic origin. Method for determination of resistance to cellulose-decomposing microfungi

BS 1982-3:1990 Fungal resistance of panel products made of or containing materials of organic origin. Methods for determination of resistance to mould or mildew

**AIHA**

**OSHA**

There are currently no specific OSHA Standards or Directives for molds and fungi. However, Indoor Air Quality (IAQ) hazards are addressed in specific standards for general and construction industries. This page provides links to those standards as well as references related to OSHA enforcement policy such as federal registers. In addition, this page links to standards from industry, such as the American National Standards Institute (ANSI). Note: Some states have OSHA-approved State Plans and have adopted their own standards and enforcement policies.

**OSHA Federal Registers**

Indoor Air Quality. OSHA Federal Register Entry 59:15968-16039 (1994, April 5). By this notice, the Occupational Safety and Health Administration (OSHA) proposes to adopt standards addressing indoor air quality in indoor work environments.

Respiratory Protection. OSHA Federal Register Entry 63:1152-1300 (1998, January 8). This final rule justifies the use of respirators to prevent the inhalation of harmful airborne contaminants that are alive or were released from a living organism. Respirators protect against bacterial infections resulting from inhalation of bacteria and their products that cause a range of diseases.

General Industry

1910.94, Ventilation.

Construction Industry

1926.57, Ventilation.

**ANSI**

Standard 62-2001, Ventilation for Acceptable Indoor Air Quality. American National Standards Institute/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ANSI/ASHRAE). This standard sets minimum ventilation rates and other requirements for commercial and institutional buildings.