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| Version | Date | Description of Revisions |
| 1 | August 30, 2006 | Approved final document. |
| 2 | November 13, 2009 | Modified ‘Related Section’ |
| 3 | June 25 2012 | Addition of References and Replacement Parts sections on this page |
| 4 | July 9, 2012 | Reformatted to Reduce White Space |
| 5 | April 23, 2015 | General formatting |
| 6 | September 30. 2015 | First draft review Phase 1 update. AV |
| **7** | **December 14, 2015** | **Updated, Finalized Specification – Legal Reference eDOCS #6324300 v3 (AV)** |

NOTE:

This is a CONTROLLED Document. Any documents appearing in paper form are not controlled and should be checked against the on-line file version prior to use.

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**The on-line copy is the current version of the document.**

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## Related Sections

### *[Under "Related Sections", identify other Sections that are related to, and/or dependent on, the work results or information specified elsewhere. The list should be limited to Sections with specific information that the reader might expect to find in this Section, but is specified elsewhere. For example, if hardware for aluminum entrances is specified in the aluminum entrance Section, a cross-reference would be appropriate in the finish hardware Section. The purpose of this cross-referencing is for information only, to aid in finding those other requirements—not to define the scope of the Section.*

### *Cross-referencing here may also be used to coordinate assemblies or systems whose components may span multiple Sections and which must meet certain performance requirements as an assembly or system.*

### *Contractor is responsible for coordination of the Work.*

### *This Section is to be completed/updated during the design development by the Consultant. If it is not applicable to the section for the specific project it may be deleted.]*

### *[List Sections specifying installation of products supplied but not installed under this Section and indicate specific items.]*

### Section [\_\_\_\_\_\_ – \_\_\_\_\_\_\_\_\_\_\_\_]: Execution requirements for ...[item]... specified under this Section.

### *[List Sections specifying products installed but not supplied under this Section and indicate specific items.]*

### Section [\_\_\_\_\_\_ – \_\_\_\_\_\_\_\_\_\_\_\_]: Product requirements for ...[item]... for installation under this Section.

### *[List Sections specifying related requirements.]*

### Section [\_\_\_\_\_\_ – \_\_\_\_\_\_\_\_\_\_\_\_]: [Optional short phrase indicating relationship].

## References

*[Delete .1 if Section 01060 – Regulatory Requirements is included in Contract Documents.]*

### Comply with the latest edition of the following statutes, codes, standards, and all amendments thereto:

#### American National Standards Institute (ANSI)/Ceramic Tile Institute (CTI)

##### ANSI A108/A118/A136.1:2013 American National Specifications for the Installation of Ceramic Tile – Version 2013.1

#### American Society for Testing and Materials (ASTM International) International

##### ASTM C144-11, Standard Specification for Aggregate for Masonry Mortar.

##### ASTM C207-06(2011), Standard Specification for Hydrated Lime for Masonry Purposes.

##### ASTM C847-14a, Standard Specification for Metal Lath.

##### ASTM C979/C979M-10, Standard Specification for Pigments for Integrally Colored Concrete.

#### Canadian General Standards Board (CGSB)

##### CAN/CGSB 51.34-M86, Vapour Barrier, Polyethylene Sheet for Use in Building Construction.

##### CGSB 71-GP-22M, Adhesive, Organic, for Installation of Ceramic Wall Tile.

##### CAN/CGSB 25.20-95, Surface Sealer for Floors.

#### Canadian Standards Association (CSA International)

##### CAN/CSA-A3000-13, Cementitious Materials Compendium

##### CSA A123.3-05 (R2015), Asphalt Saturated Organic Roofing Felt.

#### Terrazzo Tile and Marble Association of Canada (TTMAC)

##### 2012/2014 Specification Guide 09 30 00 Tile Installation Manual.

##### Hard Surface Maintenance Guide.

## Submittals

### Product Data:

#### Submit product data in accordance with Section 01300 - Submittals.

#### Include manufacturer's information on:

##### Ceramic tile, marked to show each type, size, and shape required.

##### Chemical resistant mortar and grout (Epoxy and Furan).

##### Cementitious backer unit.

##### Dry set Portland cement mortar and grout.

##### Divider strip.

##### Elastomeric membrane and bond coat.

##### Reinforcing tape.

##### Leveling compound.

##### Latex Portland cement mortar and grout.

##### Commercial Portland cement grout.

##### Organic adhesive.

##### Slip resistant tile.

##### Waterproofing isolation membrane.

##### Fasteners.

### Samples:

#### Submit samples in accordance with Section 01300 - Submittals.

#### Base tile: submit [duplicate] [300 x 300] mm sample panels of each colour, texture, size, and pattern of tile.

#### Floor tile: submit [duplicate] [300 x 300] mm sample panels of each colour, texture, size, and pattern of tile.

#### Trim shapes, bullnose cap and cove including bullnose cap and base pieces at internal and external corners of vertical surfaces, each type, colour, and size.

#### Adhere tile samples to [11] mm thick plywood and grout joints to represent project installation.

## Delivery, Storage and Handling

### Deliver materials in containers with labels legible and intact and grade seals unbroken.

### Store material so as to prevent damage or contamination.

### Store materials in a dry area, protected from freezing, staining and damage.

### Store cementitious materials on a dry surface.

## Environmental Conditions

### Maintain air temperature and structural base temperature at ceramic tile installation area above [12]ºC for [48] h before, during, and [48] h after, installation.

### Do not install tiles at temperatures less than [12]ºC or above [38]ºC.

### Do not apply epoxy mortar and grouts at temperatures below [15]ºC or above [25]ºC.

## Extra Material

### Provide minimum [2%] of each type and colour of tile required for project for maintenance use. Store where directed.

### Maintenance material to be of same production run as installed material.

## Measurement and Payment

*[Choose one of the following payment language provisions that best suits the individual project.*

*If this Section is not specifically referenced by an item in the Bid Form, please use the following language:*

### The work of this Section will not be measured separately for payment. All costs associated with the work of this Section shall be included in the Contract Price.

*OR If this Section is specifically referenced in the Bid Form, use the following language and identify the relevant item in the Bid Form:*

### All costs associated with the work of this Section shall be included in the price(s) for Item No(s). \_\_\_ in the Bid Form.

*If the work of this Section is to be measured and paid for by several different methods, please amend the standard wording given above to reflect the different methods of measurement and payment.*]

# PRODUCTS

## Floor Tile

### Ceramic tile: to *[Consultant to replace withdrawn standard with acceptable alternative]*, Type [7], Class MR [\_\_\_], [\_\_\_] x [\_\_\_] x [\_\_\_] mm size, [\_\_\_] edges, [smooth] [slip resistant] surface, [\_\_\_] pattern, [\_\_\_] colour [as selected by [Consultant]]. [Matching [coved] [square] base, [\_\_\_] x [\_\_\_] mm high].

### Ceramic mosaic tile: to , *[Consultant to replace withdrawn standard with acceptable alternative]*, Type [1] [2], Class MR [\_\_\_], [\_\_\_] x [\_\_\_] x [\_\_\_] mm size, [\_\_\_] edges, [smooth] [slip resistant] surface, [\_\_\_] pattern, [\_\_\_] colour [as selected by [the Consultant]]. [Matching [coved] [square] base, [\_\_\_] x [\_\_\_] mm high].

### Porcelain tile: to *[Consultant to replace withdrawn standard with acceptable alternative]*, [ANSI A108/A118/A136.1:2013], Type [\_\_\_], Class MR (02 3.0%), [\_\_\_] x [\_\_\_] x [\_\_\_] mm size, edges, [smooth] [slip resistant] surface, [\_\_\_] pattern, [\_\_\_] colour [as selected by [the Consultant]]. [Matching [coved] [square] base, [\_\_\_] x [\_\_\_] mm high].

## Wall [and Ceiling] Tile

### Ceramic tile: to *[Consultant to replace withdrawn standard with acceptable alternative]*, Type [3] [5], Class MR [\_\_\_], [\_\_\_] x [\_\_\_] x [\_\_\_] mm size, [\_\_\_] edges, [glazed] [matt glazed] [unglazed] surface, [\_\_\_] pattern, [\_\_\_] colour [as selected by [the Consultant]]. Matching [cushion] [bullnose] [square] edge trim to suit application.

### Ceramic mosaic tile: to *[Consultant to replace withdrawn standard with acceptable alternative]*, Type [1] [2], Class MR [\_\_\_], [\_\_\_] x [\_\_\_] x [\_\_\_] mm size, [\_\_\_] edges, [\_\_\_] pattern, [\_\_\_] colour [as selected by [the Consultant]].

## Base Tile

### Base: coved; type, size, colour and texture to match adjacent flooring material.

## Stair Treads

### Stair Treads: bull nosed edge, [non-slip surface], matching floor tile, sized to suit stair tread configuration.

## Trim Shapes

### Conform to applicable requirements of adjoining floor and wall tile.

### Use slip resistant trim shapes for horizontal surfaces of showers, overflow ledges, recessed steps, shower curbs, drying area curbs, and stools.

### Use trim shapes sizes conforming to size of adjoining field wall tile, including existing spaces, unless specified otherwise.

### Internal and External Corners: Provide trim shapes as follows where indicated in the Contract Documents.

#### Bullnose shapes for external corners including edges.

#### Coved shapes for internal corners.

#### Special shapes for:

##### Base to floor internal corners to provide integral coved vertical and horizontal joint.

##### Base to floor external corners to provide bullnose vertical edge with integral coved horizontal joint. Use as stop at bottom of openings having bullnose return to wall.

##### Wall top edge internal corners to provide integral coved vertical joint with bullnose top edge.

##### Wall top edge external corners to provide bullnose vertical and horizontal joint edge.

##### Provide cove and bullnose shapes for [countertops] [stools] [\_\_\_], and where indicated and required to complete tile work.

## Mortar and Adhesive Materials

### Portland cement: to *[Consultant to insert appropriate standard]*, type [10].

### Sand: to ASTM C144-11, passing 16 mesh.

### Hydrated lime: to ASTM C207-06(2011), Type [N] [NA] [S] [SA].

### Latex additive: formulated for use in portland cement mortar and thin set bond coat.

### Water: potable and free of minerals and chemicals which are detrimental to mortar and grout mixes.

## Bond Coat

### Dry set Portland cement mortar: to ANSI A108/A118/A136.1:2013.

### Organic adhesive: to [CGSB 71 GP 22M, Type [1] [2]] [ANSI A136.1].

### Latex Portland Cement mortar: to ANSI A108.1, two component universal dry set mortar.

### Epoxy bond coat: Non- toxic, non-flammable, non-hazardous during storage, mixing, application, and when cured. Produce shock and chemical resistant mortars with the following physical characteristics:

#### Compressive Strength: 246 kg/cm2.

#### Bond Strength: 53 kg/cm2.

#### Water Absorption: 4.0% Max.

#### Ozone Resistance, 200 hours @ 200 ppm: No loss of strength.

#### Smoke Contribution Factor: 0.

#### Flame Contribution Factor: 0.

#### Finished mortar and grout shall be resistant to urine, dilute acid, dilute alkali, sugar, brine and food waste products, petroleum distillates, oil and aromatic solvents.

### Chemical Resistant Bond Coat:

#### Epoxy Resin Type: ANSI A108/A118/A136.1:2013.

#### Furan Resin Type: A108/A118/A136.1:2013

## Grout

### Colouring Pigments:

#### Pure mineral pigments, limeproof and nonfading, complying with ASTM C979/C979M-10.

#### Colouring pigments are to be added to grout by the manufacturer.

#### Job coloured grout are not acceptable.

#### Use in Commercial Portland Cement Grout, Dry Set Grout, and Latex Portland Cement Grout.

### Portland Cement Grout: to ANSI A108/A118/A136.1:2013.

#### Use one part white Portland cement to one part white sand passing a number 30 screen.

### Commercial Portland Cement Grout: to ANSI A108/A118/A136.1:2013.

### Dry Set Grout: to ANSI A108/A118/A136.1:2013.

### Latex Portland Cement Grout: to ANSI A108/A118/A136.1:2013, fast curing, high early strength, polymer modified, stain resistant, sanded mix for floors, unsanded mix for walls and floors with polished tiles commercial tile grout.

### Chemical Resistant Grout:

#### Epoxy grout: to ANSI A108/A118/A136.1:2013, having quality, colour and characteristics to match epoxy bond coat. Adhesive and grout by same manufacturer.

#### Furan grout: to ANSI A108/A118/A136.1:2013.

## Accessories

### Reinforcing mesh: 50 mm x 50 mm x 1.6 mm x 1.6 mm galvanized steel wire mesh, welded fabric design, in flat sheets.

### Divider strips:

#### Laminated strips, core 32 mm x 3 mm black neoprene, outsides (both sides) brass 32 mm x 1.29 mm complete with anchors, both sides spaced at 150 mm on centre.

#### [Zinc] [Brass]: [\_\_\_] x [\_\_\_] mm, complete with anchors, both sides spaced at 150 mm on centre.

#### Plastic [\_\_\_] colour [\_\_\_] x [\_\_\_] mm, complete with anchors, both sides spaced at 150 mm on centre

### Cleavage plane: [polyethylene film to CGSB 51 34] [No. 15 asphalt saturated felt to CSA A123.3-05 (R2015)].

### Metal lath: to ASTM C847-14a [galvanized] [painted] finish, 10 mm rib at 2.17 kg/m2.

### Transition Strips: purpose made metal extrusion; [stainless steel] [brass] [zinc] [anodized aluminum] type.

### Reducer Strips: purpose made metal extrusion; [stainless steel] [brass] [zinc] [anodized aluminum] type; maximum slope of 1:2.

### Prefabricated Movement Joints: purpose made, having a minimum Shore A Hardness of 60 and elasticity of plus or minus 40 percent when used in accordance to TTMAC [Detail 301EJ][*Consultant to confirm reference*].

### Sealant: in accordance with Section 07900 - Joint Sealers.

### Floor sealer and protective coating: [to CAN/CGSB 25.20-95, Type [1] [2]] [to tile and grout manufacturers recommendations].

### Thresholds: [\_\_\_] marble, [\_\_\_] mm thick, [rounded edges] [bevelled [one side] [two sides]], honed finish to exposed surfaces, size to suit door opening and frame width.

### Ceramic Accessories: Soap holder; semi recessed, 150 mm x 150 mm face dimension combination soap holder and grab bar, colour shall match surrounding wall tile.

## Mixes

### Portland Cement:

#### Scratch coat: 1 part portland cement, 1/5 to 1/2 parts hydrated lime to suit job conditions, 4 parts sand, 1 part water, [and latex additive where required]. Adjust water volume depending on water content of sand.

#### Slurry bond coat: portland cement and water mixed to creamy paste. Latex additive may be included.

#### Mortar bed for floors: 1 part portland cement, 4 parts sand, 1 part water. Adjust water volume depending on water content of sand. [Latex additive may be included].

#### Mortar bed for walls and ceilings: 1 part portland cement, 1/5 to 1/2 parts hydrated lime to suit Site conditions, 4 parts sand and 1 part water. Adjust water volume depending on water content of sand. [Latex additive may be included].

#### Levelling coat: 1 part portland cement, 4 parts sand, minimum 1/10 part latex additive, 1 part water including latex additive.

#### Bond or setting coat: 1 part portland cement, 1/3 part hydrated lime, 1 part water.

#### Measure mortar ingredients by volume.

### Dry set mortar: mix in accordance with the manufacturer's instructions.

### Organic adhesive: [pre mixed type] as approved by the Consultant.

### Mix bond and levelling coats, and grout in accordance with the manufacturer's instructions.

### Adjust water volumes to suit water content of sand.

## Patching and Leveling Compound

### The patching and leveling compound shall be Portland cement base, acrylic polymer compound, manufactured specifically for resurfacing and leveling concrete floors. Products containing gypsum are not acceptable.

### The compound shall have the following physical properties as a minimum:

#### Compressive strength - 25 MPa.

#### Tensile strength - 7 MPa.

#### Flexural strength - 7 MPa.

#### Density - 1.9.

### The compound must be capable of being applied in layers up to 50 mm thick, being brought to feather edge, and being trowelled to smooth finish.

### The compound must be ready for use in 48 hours after application.

## Cleaning Compounds

### Specifically designed for cleaning masonry and concrete and which will not prevent bond of subsequent tile setting materials including patching and leveling compounds and elastomeric waterproofing membrane and coat.

### Materials containing acid or caustic material are not acceptable.

# EXECUTION

## Workmanship

### Perform tile work in accordance with TTMAC 2012/2014 Specification Guide 09 30 00 Tile Installation Manual, "Ceramic Tile", except where specified otherwise.

### Apply tile [or backing coats] to clean and sound surfaces.

### Fit tile around corners, fitments, fixtures, drains and other built in objects. Maintain uniform joint appearance. Cut edges smooth and even. Do not split tiles.

### Maximum surface tolerance: [1:800].

### Make joints between tile uniform and approximately [1.5 mm] wide, plumb, straight, true, even and flush with adjacent tile. Ensure sheet layout is not visible after installation. Align patterns.

### Lay out tiles so perimeter tiles are a minimum of ½ the original tile size.

### Sound tiles after setting and replace hollow sounding units to obtain full bond.

### Make internal angles square, external angles [rounded][bullnosed].

### Use [round] [bullnose] edged tiles at termination of wall tile panels, except where panel abuts projecting surface or differing plane.

### Install divider strips at junction of tile flooring and dissimilar materials.

### Perform grouting a minimum of 24 hours after the completion of tile installation.

### Clean installed tile surfaces after installation and the grouting has cured.

### Make control joints [at [\_\_\_] m in each direction] [where indicated]. Make joint width same as tile joints. Fill control joints with sealant in accordance with Section [07900 - Joint Sealers]. Keep building expansion joints free of mortar and grout.

## Wall Tile

### Install in accordance with [TTMAC detail] [\_\_\_].

## Floor Tile

### Install in accordance with [TTMAC detail] [\_\_\_].

## Ceiling Tile

### Install in accordance with [TTMAC detail] [\_\_\_].

## Base Tile

### Install in accordance with [TTMAC detail] [\_\_\_].

## Stair Treads

### Install in accordance with [TTMAC detail] [\_\_\_].

## Floor Sealer and Protective Coating

### Apply in accordance with the manufacturer's instructions.

**END OF SECTION**