[SURFACE PREPARATION & PAINTING (COATING) PROCEDURE]

Project Title:	FADHILI GAS INCREMENT PROJECT PKG1
Project Number:	SG7061
SE&A P.O. Number:	5000103311
SA Dummy P.O . Number:	CFCI-D43-34(2)-A027-DA
Requisition Description:	CONTROL VALVE, GLOBE (GENERAL)
Requisition Number:	KAR511
Item Description:	CONTROL VALVE
Item Number	COMMON
COMPANY Doc.Number	SG7061-KAR511-01-001-K0PNT001-010
SE&A Doc. Number:	SG7061-KAR511-01-001-K0PNT001-010
NMR Number:	001

ISSUED
26-Feb-2025
DARVICO

FOR APPROVAL

A	26-Feb-2025	FOR APPROVAL	Ajay	Abrar	Haridas		
REV.	**DATE**	**DESCRIPTION**	**MADE BY**	**CHECKED BY**	**APPROVED BY**		

Dresser Al Rushaid Valve and Instrument Co Ltd.

SAMSUNG E&A CO., LTD.,
SAMSUNG E&A ARABIA CO., LTD.

SAUDI ARABIAN OIL COMPANY

OPERATING PROCEDURE	**Effective Date Feb 26, 2025**	**INSTRUCTION NO. QAOP 37**
	Rev. No. A	**Page 1 of 6**
Painting Specification for Control Valve	**Originating Dept.**	**QA**
	Prepared by	**Nataraj (Technical – In-Charge)**
	Approved by	**Fahad (QA – In-Charge)**

Section I

Reference

1. PO 5000103311
2. SAES-H-001_ 10 April 2011
3. SAES-H-101V_ 9 October 2012
4. 34-SAMSS-711 _ 16 January 2020
5. SAES-J-700 _ 02 October 2022
6. APPROVED DATA SHEETS
7. APROVED DRAWINGS
8. 175-091900_ 22 May 2011

Section II

Scope

This specification define the requirements for applying primer, top coat, method of application, color and finish requirement of coating system as applicable to Dresser Masoneilan products. This Painting specification is prepared in compliance with requirements specified in SAES-H-001, SAES-H-101V and P.O 5000103311.

2.1 General

a) The types of paint described herein are two components (Resin and Curing agent) system.

b) All paint material shall be stored in conditions recommended by the paint manufacture.

c) All paint material shall be lead free.

d) No paint shall be used beyond its shelf life (Recommended by paint manufacturer/SAES-H-101V)

e) Any paint which has gelled or settled during shortage shall not be used.

f) All paint material shall be supplied to the work site/ paint booth in original unopened and clearly identifiable containers.

g) MTC's for Paints & Abrasive Type Analysis

2.2 Application Methods

a) All painting system will be applied according to the paint manufacture's recommendations. The paint is applied using an airless spray system in paint booths.

b) Apply primer and top coat with an airless system. The applied coats shall be a continues full bodies film covering all surfaces, and shall be sprayed into comers, depressions etc. completely cover bolt heads, nuts, all ferrous surface, and other areas not protected or masked. Finished surfaces shall be uniform in color free from pin holes, sags, runs, dripping, orange peel effect, or other imperfection. Surfaces, which will be top coated to their attachment.

Section III. Surface Preparation

3.1 Scope Of Work For Surface Preparation

This specification establishes the surface preparation of control valve, Level transmitter, and accessories at DARVICO premises.

a) Prior to the application of coating, all surfaces shall be cleaned free from dirt, grease, oil etc. with NAVI WASHER 99330 or equivalent, weld flux, rust, scale or other substance detrimental to the coating process shall be removed by suitable mechanism, blast cleaning method shall be applied wherever required.

b) The cleaning process used shall be compatible with the alloys, coatings, and material of all parts of an assembly. Care shall be taken to not injure of impair any prior coating or surface treatments.

c) Suitable precautions shall be taken to maintain maximum cleanliness of the assembly throughout the entire painting process.

d) Mechanism of parts which are exposed eg., threaded rods or shafts used for adjustments or setting and mechanical linkages, shall be suitably masked or protected from paint coating insofar as the paint would interfere or restrict their operational and function.

e) Identification plates, instruction plates, scale plates, etc. permanently affixed to the assembly shall be suitably protected or masked to prevent defacement by paint. Holes and other opening shall be plugged or masked when topcoat or primer should be excluded from entry.

f) Abrasive (Garnet) blasting shall be applicable before first coat or wherever valve surfaces so dirty or corroded but which shall be done only after protected of Identification plates, instruction plates, scale plates, arrow plates, stud holes, studs and nuts and other opening etc. These can be protected by plugged or suitable masked. The abrasive material is Australian Garnet 30/60. The reference standards for abrasive blasting shall be SIS 05-59-00 and SSPC-Vis 1.

h) The surface cleanliness finish shall be minimum as advised in the Paint Manufacturer datasheet.

3.2 Pre-blast Check

1. The coating inspector shall decide if the substrate requires solvent or detergent cleaning before abrasive blasting.
2. Prior to blasting, rough welds and cut-offs shall be ground to a minimum radius to ensure proper coating application. Weld spatter shall be removed.
3. Abrasive blasting shall be carried out only when the steel surface is at least 3°C (5°F) above the Dew Point.
4. Surface profile check with replica tape if the shot blast is done per blast cleanliness level SSPC-SP10
5. Atmospheric & weather condition check e.g. ambient temperature, substrate temperature, humidity, dew point.

Section IV. Coating system

For projects ARAMCO, Masoneilan standard shall follow according to **applicable operating temperature** due applied.

The coating shall be as per applicable painting system.

4.1 Paint Preparation

a) Thoroughly mix base (Resin), Hardener (curing agent) and solvent as instructed by paint manufacture.
b) Adjust viscosity of tope coat preparation for the particular method application used, at ambient temperature by using solvent. The type and quantity of solvent should be as described in manufacture data sheet.
c) Do not use paint under 10degC/50F or over 38degC/100F. Preferred temperature is in the range of 24degC/ 75F.
d) Paint mixture shall be thoroughly stirred and allow to keep 10 minutes before use.
e) Pot life. : Shall be as recommended by Paint Manufacturer.
f) Cleaned surfaces shall be primed or coated before the surface condition degrades below the specified cleanliness level requirement
g) Abrasive blast cleaned surfaces shall be re-inspected prior to priming or coating if the surfaces are held for more than 4 hours after blasting

Note:-

1) Painting system shall be followed as per Document No. P.O. 5000103311
2) For ARAMCO projects where ever APCS is specified, the same shall be followed.
3) Optional top coat paint shall be used on special request.
4) Abrasive Quality: - Batch certification shall be provided to ensure the quality of abrasive.
5) Calibration of instrument and equipment shall be provided for review.
6) Testing Equipment's:- Surface profile thickness gauge shall be provided for review.
7) Surface preparation profile preparation shall be done before coating.
8) In multi-coat applications, primer, intermediate coat, and topcoats shall be of contrasting colors and from the same coating manufacturer [SAES-H-001 § 9.2.2].
9) Repair & Maintenance: - Repair & maintenance coatings shall be selected as per the SAES-H-001/002/003, relevant APCS approved paint Manufacturer's datasheets in SAES-H-101V/002V and as per requirements specified in this project.

Section V

Technical Specification

Applicable tags# D43-365-TV-6038, D43-365-TV-7038 & D43-365-TV-8038

5.1 Painting (Actuator)

Hand Wheel	Black, **APCS-1D RAL 9005, If Any**

All coating shall be using approved products per SAES-H-101V.

Primer – First Coat **Surface Profile: 40-65 microns**

Reference	ARAMCO standard APCS – 1D
Type of coating	Epoxy / Polyurethane Coating System for Atmospheric Service (with Inorganic Zinc Primer)
Surface Cleaness	Sa. 2 ½
Priming	HEMPEL'S GALVOSIL 15780
Dry Film Thk.	65 to 100 microns
Application	Airless spray

Intermediate

Reference	ARAMCO standard APCS – 1D
Type of coating	Epoxy / Polyurethane Coating System for Atmospheric Service (with Inorganic Zinc Primer)
Product	HEMPADUR MASTIC 45881
Dry Film Thk.	100 to 150 microns
Application	Airless spray

Top Coat

Reference	ARAMCO standard APCS – 1D
Type of coating	Epoxy / Polyurethane Coating System for Atmospheric Service (with Inorganic Zinc Primer)
Product	HEMPATHANE TOPCOAT 55210
Dry Film Thk.	25 to 65 microns
Shade / Colour	RAL 1023 / SAFETY YELLOW
Application	Airless spray

Total System Dry Film Thickness: 190-315 microns

NOTE:- In multi-coat applications, primer, intermediate coat, and topcoats shall be of contrasting colors and from the same coating manufacturer [SAES-H-001 § 9.2.2]

5.2 Painting Valve Body

Carbon Steel and Alloy Steel shall be painted as per below table, considering the service temperature.
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Service Temperature: 79.5 0 C / 175 0 F up to 120 0 C / 248 0 F

Primer – First Coat **Surface Profile: 40-65 microns**

Reference	ARAMCO standard APCS-1A
Type of coating	Epoxy Coating (Inorganic Zinc-Priming)
Surface Cleaness	Sa. 2 ½
Priming	HEMPEL's GALVOSIL 15780 (Solvent based)
Dry Film Thk.	65 to 100 microns
Application	Airless spray

Intermediate

Reference	ARAMCO standard APCS-1A
Type of coating	Epoxy Coating Polyamide cured
Product	HEMPADUR MASTIC 45881
Dry Film Thk.	150 microns
Application	Airless spray

Top Coat

Reference	ARAMCO standard APCS-1A
Type of coating	Epoxy Coating Polyamide cured
Product	HEMPADUR MASTIC 45881
Dry Film Thk.	150 microns
Shade / Colour	RAL 9006 / Aluminum
Application	Airless spray

Total System Dry Film Thickness: 275-400 microns

NOTE:- In multi-coat applications, primer, intermediate coat, and topcoats shall be of contrasting colors and from the same coating manufacturer [SAES-H-001 § 9.2.2]

5.3 Painting Valve Body

Insulated Carbon Steel and Alloy Steel / Stainless Steel shall be painted as per below table, considering the service temperature.

Service Temperature: 120. 0 C / 248 0 F up to 650 0 C / 1202 0 F

Primer – First Coat **Surface Profile: 40-65 microns**

Reference	ARAMCO standard APCS-11C
Type of coating	Extremely High Temperature Coating for Bare/Insulated Carbon and Austenitic Stainless Steels
Surface Cleaness	Sa. 2 ½
Priming	VERSILINE CUI 56990
Dry Film Thk.	125 - 150 microns
Application	Airless spray

Top Coat

Reference	ARAMCO standard APCS-11C
Type of coating	Extremely High Temperature Coating for Bare/Insulated Carbon and Austenitic Stainless Steels
Product	VERSILINE CUI 56990
Dry Film Thk.	125 - 150 microns
Shade / Colour	7035 / Light Gray
Application	Airless spray

Total System Dry Film Thickness: 250-300 microns

NOTE:- In multi-coat applications, primer, intermediate coat, and topcoats shall be of contrasting colors and from the same coating manufacturer [SAES-H-001 § 9.2.2]

Section VI. Inspection & Testing

Requirements in this section refer only to coating in the following categories:
a) New construction
b) Major renovation
c) Internal coatings for immersion service

The requirements of SAEP-316 apply to these categories when the coating is performed in Saudi Arabia.

Quality Control Equipment :
The coating contractor shall have the quality control equipment listed in (Attachment A of SAES-H-001) on site for the inspection of surface preparation and coatings application.

Quality Control Records :
Quality Control Equipment Check Sheet – (Attachment B of SAES-H-001) :
This form shall be completed prior to job start-up. It shall be completed and signed by the coating contractor supervisor and then signed by the Saudi Aramco Inspector. No work is allowed until this form is completed.

Daily Job Log:
The coating contractor supervisor shall fill out a log, on a daily basis, recording all problem areas, delays, non-compliances, and corrective actions taken for Saudi Armco inspector witnessing and surveillance.

In-process Inspection Sheet – (Attachment C of SAES-H-001) :
This form shall be completed and signed every work-day by the contractor supervisor. The Saudi Aramco inspector shall initial each item marked with an asterisk before work is allowed to begin on subsequent items.

Coatings and Equipment Log – (Attachment D of SAES-H-001) :
This form shall be completed and signed by the coating contractor supervisor and verified and signed by the Saudi Aramco inspector.

Non Conformance Report :
The non-conformance report shall be issued whenever any defect is resulted by coating materials deficiencies or/ and application malfunctioning. Remedial action and method of repair shall be defined and agreed. The Saudi Aramco inspector shall ensure that report copies have been routinely circulated and remedial actions have been implemented correctly.

Additional Inspection Requirements Applicable to Purchase Orders :
Saudi Aramco Form 175-091900 applies whenever this Standard is referenced in a Purchase Order.

Section VII. Acceptance Criteria

1. Check painting thickens at 5points minimum and ensure the average points are according to standard film thickness specified in the painting procedure.

VALVE BODY / ACTUATOR / HANDWHEEL - PAINTING SYSTEM

Sl.No	Qty	Train-6	Train-7	Train-8	MATERIAL	Operating Temparature Deg F	Painting System-Body	Painting System-Actuator	Painting System-Handwheel
1	3	D43-361-FV-6029	D43-367-FV-7029	D43-368-FV-6029	A216 gr WCC	140	APCS-1A (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
2	3	D43-361-FV-6030	D43-367-FV-7030	D43-368-FV-6030	A216 gr WCC	140	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
3	3	D43-361-FV-6062	D43-367-FV-7062	D43-368-FV-6062	A216 gr WCC	140	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
4	3	D43-361-FV-6096A	D43-367-FV-7096A	D43-368-FV-6096A	A216 gr WCC	140	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
5	3	D43-361-FV-6096B	D43-367-FV-7096B	D43-368-FV-6096B	A216 gr WCC	140	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
6	3	D43-361-PV-6503	D43-367-PV-7503	D43-368-PV-6503	A216 gr WCC	65.4	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
7	3	D43-361-PV-6507	D43-367-PV-7507	D43-368-PV-6507	A352 gr LCC	85	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
8	3	D43-361-PV-6508	D43-367-PV-7508	D43-368-PV-6508	A352 gr LCC	86	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
9	3	D43-361-TV-6041A	D43-367-TV-7041A	D43-368-TV-6041A	A216 gr WCC	144	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
10	3	D43-361-TV-6041B	D43-367-TV-7041B	D43-368-TV-6041B	A216 gr WCC	144	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
11	3	D43-362-FV-6009	D43-372-FV-7009	D43-382-FV-6009	A216 gr WCC	140	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	APCS-1D (RAL 9005, Black)
12	3	D43-362-PV-6525	D43-372-PV-7525	D43-382-PV-6525	A352 gr LCC	84.95	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
13	3	D43-364-PV-6052	D43-374-PV-7052	D43-384-PV-6052	A352 gr LCC	120	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	APCS-1D (RAL 9005, Black)
14	3	D43-364-PV-6053	D43-374-PV-7053	D43-384-PV-6053	A352 gr LCC	120	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	APCS-1D (RAL 9005, Black)
15	3	D43-364-PV-6070	D43-374-PV-7070	D43-384-PV-6070	A216 gr WCC	127	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
16	3	D43-365-LV-6011	D43-375-LV-7011	D43-385-LV-6011	A216 gr WCC	227	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
17	3	D43-365-LV-6025	D43-375-LV-7025	D43-385-LV-6025	A216 gr WCC	227	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
18	3	D43-363-LV-6028	D43-373-LV-7028	D43-383-LV-6028	A352 gr LCC	141.4	APCS-1D (RAL 9006,Aluminum)	APCS-1D (RAL 1023,Traffic Yellow)	-
19	3	D43-361-FV-6026	D43-371-FV-7026	D43-381-FV-6026	A351 gr CF8M (316 St. St.	273	APCS-11C (RAL 9022,Pearl Light Grey)	APCS-1D (RAL 1023,Traffic Yellow)	-

شركة الرشيد درسر للصمامات والاجهزة المحدودة
Dresser Al Rushaid Valve & Instrument Co., Ltd.
C.R. 2055001111 - Paid up Capital SR.10,000,000
Tel.: (013) 341-0278 - Fax:(013) 341-7624
س.ت ٢٠٥٥٠٠١١١١ - رأس المال المدفوع ١٠,٠٠٠,٠٠٠ ريال سعودي
تلفون: ٣٤١-٠٢٧٨ (٠١٣) - فاكس: ٣٤١-٧٦٢٤ (٠١٣)

PAINTING REPORT

CUSTOMER: SAIPEM
CUSTOMER P.O.: 1421673

Painting System : APCS-2A
Dresser Ref.DMN8-01744/22

Valve Tag No.	Surface Profile	Thickness (Avg.microns)		Top coat	Avg. Thickness	Painting System		COLOUR
		Primer	Indermediate			Body-Bonnet		
H49-046-PV-0576	59	108	118	105	331	APCS-2A	APCS-2A	LIGHT GREY 7035
H49-046-PV-0476	57	105	113	102	320	APCS-2A	APCS-2A	LIGHT GREY 7035

Primer Coat : HEMPADUR 85671		**Mid Coat: HEMPADUR 85671**		**Top Coat : HEMPADUR 85671 RAL 9006**	
Manufacture :	**HEMPEL**	**Manufacture :**	**HEMPEL**	**Manufacture :**	**HEMPEL**
Batch No.:	**732100150**	**Batch No.:**	**732110583**	**Batch No.:**	732110660
Expiry Date :	**Oct-23**	**Expiry Date :**	**Nov-23**	**Expiry Date :**	23-Nov

Atmospheric Condition:	
Substrate Temp. Ts	**30.5 ^{0}C**
Air Temperature:Ta	**26.3 ^{0}C**
Dew Point : Td	**15.2 ^{0}C**
Relative Humidity RH % :	**50.70%**
Compressed Air Supply Blotter Test : Good	
Residual Chloride Found:Satisfactory	
Adhesion Test Result: Satisfactory	
Degree of Cleaness :Sa 3 (ISO 8501-1)	

JARVICO - QA DEPARTMENT
QA-3

Q. A. ENGINEER

Notes: Salt contamination ,Chloride content correct value is achieved astisfactory in accordance with ISO 8502-6. ,

Dust Level achived as per SAES H001 & Adhesion Test conducted and found satisfactory as required in the SAMSS

DATE: 12/05/2023

SAMPLE SURFACE PREPARATION REPORT

شركة الرشيد درسر للصمامات والاجهزة المحدودة
Dresser Al Rushaid Valve & Instrument Co., Ltd.
C.R. 2055001111-Paid up Capital SR. 2,000,000 س.ت ٢٠٥٥٠٠١١١١ - رأس المال المدفوع ٢٠٠٠٠٠٠٠ ريال سعودي
Tel.: (03) 341-0278 - Fax: (03) 341-7624 تلفون: ٣٤١٠٢٧٨ (٠٣) - فاكس: ٣٤١٧٦٢٤ (٠٣)

SURFACE PREPARATION REPORT

CUSTOMER: **DATE:**

CUSTOMER P.O.: **Dresser Ref.:**

PROJECT NAME:

Valve Tag No.	Part	Substrate Temperature (°C)	Relative Humidity (%)	Dew Point (°C)	Anchor Profile (µm)	Degree of Cleanliness
J55-PCV-1017A	BODY	25.62	53.62	13.3	52	SSPC-SP-10/SA 2 1/2
J55-PCV-1018A	BODY	24.99	51.22	13.3	49	SSPC-SP-10/SA 2 1/2
J55-PCV-1019A	BODY	26.83	50.78	13.3	50	SSPC-SP-10/SA 2 1/2
J55-PCV-1023A	BODY	27.42	53.29	13.3	52	SSPC-SP-10/SA 2 1/2
J55-PCV-1043A	BODY	25.19	56.23	13.3	52	SSPC-SP-10/SA 2 1/2
J55-PCV-1053A	BODY	23.67	54.21	13.3	51	SSPC-SP-10/SA 2 1/2
J55-PCV-1073A	BODY	24.55	53.76	13.3	49	SSPC-SP-10/SA 2 1/2
J55-PCV-1083A	BODY	24.52	58.55	13.3	53	SSPC-SP-10/SA 2 1/2
J55-PCV-1093A	BODY	26.30	54.19	13.3	53	SSPC-SP-10/SA 2 1/2
J55-PCV-1113A	BODY	26.51	56.32	13.3	52	SSPC-SP-10/SA 2 1/2
J55-PCV-1153A	BODY	26.33	55.11	13.3	49	SSPC-SP-10/SA 2 1/2
J55-PCV-1153B	BODY	27.82	51.00	13.3	52	SSPC-SP-10/SA 2 1/2
J55-PCV-1173A	BODY	26.87	54.68	13.3	51	SSPC-SP-10/SA 2 1/2
J55-PCV-2023A	BODY	26.73	56.32	13.3	50	SSPC-SP-10/SA 2 1/2
J55-PCV-3003A	BODY	23.57	53.55	13.3	51	SSPC-SP-10/SA 2 1/2
J55-PCV-2048	BODY	24.55	54.98	13.3	52	SSPC-SP-10/SA 2 1/2
J55-PCV-2068	BODY	24.93	50.49	13.3	49	SSPC-SP-10/SA 2 1/2

Remarks:-

All acceseble cast surface are examined and found meeting the requirements of MSS SP 55 example A requirements

All blast surfaces are checked and ad found meeting SSPC-SP-10 requirements.

Salt Contamination test conducted. Salt content:0.8 mg/cm2

Q.A.Inspector
Fahad Ahamad

Customer Inspector

Certificate of Proficiency

CSWIP CERT NO 547931

This is to certify that

Fahad Ahmad

Date of birth: 5 March 1989

has demonstrated proficiency as a BGAS-CSWIP Painting Inspector Grade 2 in accordance with CSWIP requirements published in Document BGAS-CSWIP-BG-22-12, 2nd Edition, April 2019 and amendments in force on the examination date.

Date of Issue: 14 November 2023

Date of Expiry: 24 August 2028

Signed _____
(For CSWIP)

SIGNATURE OF HOLDER
(Person named above) _____ Date _____

NEW EMPLOYERS SHOULD ALWAYS ASK TO SEE THE CERTIFICATE HOLDER'S TWI CERTIFICATION LTD IDENTITY CARD, AND VERIFY CERTIFICATE VALIDITY AT WWW.CSWIP.COM

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Hempel's Galvosil 15780

Product characteristics

Description
Hempel's Galvosil 15780 is a two-component, medium-zinc, solvent-borne, selfcuring inorganic zinc silicate coating. Applicable by airless spray.

Hempel's Zinc metal pigment 97170 is in full compliance with ISO 3549 and ASTM D520 type II.

Recommended use
As a general purpose rust-preventing primer in paint systems for long-life protection of steel exposed to moderately to severely corrosive environment. In compliance with SSPC-Paint 20, type 1, level 2.

Service temperature:
- Without topcoat: maximum, dry, atmospheric exposure: 540°C [1004°F].
- Wet service temperatures: Please consult the Chemical protection guide at hempel.com.

Product safety

Flash point 14°C [57°F]

VOC content mixed product

Legislation	Value
EU	471 g/L [3.93 lb/US gal]
US (coatings)	471 g/L [3.93 lb/US gal]
US (regulatory)	471 g/L [3.93 lb/US gal]
China	471 g/L [3.93 lb/US gal]

According to specific legislation, see details in the Explanatory Notes available at Hempel website, hempel.com or at your local Hempel website. According to EPA Method 24.

Handling
Handle with care. Before and during use, observe safety labels on packaging and paint containers and follow all local and national safety regulations. Always consult Hempel's Safety Data Sheet for this product along with the Product Data Sheet.

For professional use only.

Product data

Product code
15780

Product components
Base 15789
Zinc 97170

Standard shade / code
Grey 19840

Gloss
Flat

Volume solids
62 ± 2%

Specific gravity
2.3 kg/L [19 lb/US gal]

Reference dry film thickness
50 micron [2.0 mils]

Surface preparation

Cleanliness
- Remove oil, grease and other contaminants by suitable detergent cleaning.
- Remove salts, detergents and other contaminants by high pressure fresh water cleaning.

New build:
- Abrasive blasting to min. Sa 2½ (ISO 8501-1) / SP 10 (SSPC).
- Remove dust, blast media and loose materials.

Maintenance and Repair
- According to Hempel's Specification.

Roughness
- Surface profile Medium (G) (ISO 8503-2).

Consult Hempel's separate Surface Preparation Guidelines for more details.

Hempel's Galvosil 15780

Application

Mixing ratio
Base 15789 : Zinc 97170
(4.2 : 5.8 by weight)

Products containing floating or settling particles/pigments need to be continuosly stirred during application. This is especially important in case of heavy thinning.

Thinner
Hempel's Thinner 08700
Hempel's Accelerator & Thinner 0870M

Cleaner
Hempel's Thinner 08700

Pot life

Product temperature	20°C [68°F]
Pot life	4 hours

Application method

Tool	Thinning max vol.	Application parameters
Airless spray	10%	Nozzle pressure: 100 bar [1500 psi] Nozzle orifice: 0.019-0.023"
Air spray	10%	Not Applicable.
Brush	10%	Not Applicable.

To minimise dry spray at high temperatures, extra thinning may be necessary. If brush or roller application is used, more coats will be necessary to achieve the specified dry film thickness. Spray data are indicative and subject to adjustment. Pressure is for a material temperature of 20°C [68°F].

Film thickness

Specification range	Low	High	Recommended
Dry film thickness	50 micron [2.0 mils]	80 micron [3.1 mils]	50 micron [2.0 mils]
Wet film thickness	80 micron [3 mils]	130 micron [5 mils]	80 micron [3 mils]
Theoretical spreading rate	12 m²/L [490 sq ft/US gal]	7.7 m²/L [310 sq ft/US gal]	12 m²/L [490 sq ft/US gal]

Application conditions
- To avoid condensation, apply on a clean and dry surface with a temperature that is at least 3°C [5°F] above the dew point.
- Surface temperature must be above 0°C [32°F] during application and curing.
- Surface temperature must be below 40°C [104°F] during application and curing.

Relative Humidity:
- Relative humidity must be above 50% during curing.

Application remarks
- Consult Hempel's Application Guidelines and Instructions for more details.

Drying and overcoating

Product compatibility
- Previous coat: None.
- Subsequent coat: According to Hempel's Specification.

Drying time

Surface temperature		20°C [68°F]
Touch dry	min	15
Fully cured	hours	16

Determined for dry film thickness 50 micron [2.0 mils] at standard conditions, see Hempel's Explanatory Notes for details.

Overcoating

Overcoating times are indicative for products of the same generic chemistry. Consult Hempel's specification for more information.

Hempel's Galvosil 15780

Drying conditions
- To obtain the drying time stated, it is important to maintain sufficient ventilation during application, drying and curing.

Overcoating details
- Remove zinc salts or other contamination before overcoating.
- Flash-coat technique is recommended when overcoating Galvosil qualities.
- Inorganic zinc silicates must be fully cured before overcoating.

Storage

Shelf life

Ambient temperature	25°C [77°F]
Base	6 months
Zinc	36 months

Shelf life from date of production, when stored in original, unopened containers. Thereafter, the product quality must be re-inspected. Storage at elevated temperatures may reduce shelf life. For advice, please consult Hempel.

Storage conditions
- Product must be stored according to local legislation, at maximum 40°C [104°F], without direct sunlight and protected from rain and snow.
- Must be stored under absolutely dry conditions, protect against seeping humidity.

Additional documents

Additional information is available at the Hempel website https://www.hempel.com/service-and-support/technical-guidelines or at your local Hempel website:

- Explanatory Notes for Product Data Sheet.
- Application methods.
- General Application Guidelines

Hempadur Mastic 45881

Product characteristics

Description
Hempadur Mastic 45881 is a polyamide curing, high solids epoxy paint. It forms a hard and tough coating, and has good wetting properties.
Complies with EU Directive 2004/42/EC, The Paints Directive on the limitation of volatile organic compounds: subcategory j.

Recommended use
Hempadur Mastic 45881 is recommended as a self-primed, surface tolerant paint system, or as an intermediate or a topcoat in heavy duty paint systems where low VOC and high film build are required. The product can be used where extended recoating properties for polyurethane topcoats are requested. It may also be used directly on zinc silicate or spray metallized surfaces. The product can be used for minor repairs in immersed areas.

Service temperature:
- Maximum, dry exposure only: 120°C [248°F].

Certificates / Approvals
- EC-type examined as a low flame spread material when used as part of a predefined paint system. Please refer to “Declaration of Conformity” on hempel.com for further details.
- Complies with US FDA and EU food regulations for contact with dry foodstuff. Consult Hempel for details.

Features
- Versatile.
- High surface tolerance.

Product safety

Flash point 39°C [102°F]

VOC content mixed product

Legislation	Value	5% thinning, by volume	Limit value, phase II (2010)[a]
EU	218 g/L [1.82 lb/US gal]	250 g/L [2.09 lb/US gal]	500 g/L [4.17 lb/US gal]
US (coatings)	218 g/L [1.82 lb/US gal]	-	-
US (regulatory)	218 g/L [1.82 lb/US gal]	-	-
China	218 g/L [1.82 lb/US gal]	-	-

According to specific legislation, see details in the Explanatory Notes available at Hempel website, hempel.com or at your local Hempel website. VOC values may vary with shade, please consult the Safety Data Sheet, section 9. [a]EU Directive 2004/42/CE.

Handling
Handle with care. Before and during use, observe safety labels on packaging and paint containers and follow all local and national safety regulations. Always consult Hempel’s Safety Data Sheet for this product along with the Product Data Sheet.

For professional use only.

Product data

Product code
45881

Product components
Base 45889
Curing Agent 95881

Standard shade* / code
Light grey 12170 **

Gloss
Semi-gloss

Volume solids
80 ± 2%

* Other shades are available, including shades containing MIO. Please contact your local Hempel representative.
** Slight discolouration may occur. This does not affect the performance of the coating.

Hempadur Mastic 45881

Specific gravity
1.5 kg/L [12 lb/US gal]

Reference dry film thickness
125 micron [4.9 mils]

Aluminium shade / code
Aluminium grey 19002 *

Gloss
Please consult Hempel's Guideline on aluminium pigmented coatings.

Volume solids
72 ± 2%

Specific gravity
1.3 kg/L [11 lb/US gal]

Reference dry film thickness
125 micron [4.9 mils]

Surface preparation

Cleanliness
- Remove oil, grease and other contaminants by suitable detergent cleaning.
- Remove salts, detergents and other contaminants by high pressure fresh water cleaning.

New build:
- Abrasive blasting to min. Sa 2½ (ISO 8501-1) / SP 10 (SSPC).
- Concrete: According to Hempel's Specification.
- Remove dust, blast media and loose materials.

Maintenance and Repair
- Spot abrasive blasting to min. PSa 2 (ISO 8501-2) / SP 6 (SSPC).
- Minor areas may be hand or power tool cleaned instead of abrasive blasting.
- Water jetting to min. Wa 2 (ISO 8501-4).
- Flash rust degree of maximum FR M (ISO 8501-4).
- Remove dust, blast media and loose materials.

Roughness
- Surface profile Medium (G) (ISO 8503-2).

Consult Hempel's separate Surface Preparation Guidelines for more details.

Application

Mixing ratio
Base 45889 : Curing Agent 95881
(3 : 1 by volume)

Stir well before use.

Thinner
Hempel's Thinner 08450

Cleaner
Hempel's Tool Cleaner 99610

Pot life

Product temperature	20°C [68°F]	30°C [86°F]
Pot life	2 hours	1½ hours

Application method

Tool	Application parameters
Airless spray	Nozzle pressure: 250 bar [3600 psi] Nozzle orifice: 0.017-0.023"
Brush	Not Applicable.
Roller	Not Applicable.

If brush or roller application is used, more coats will be necessary to achieve the specified dry film thickness. Spray data are indicative and subject to adjustment. Pressure is for a material temperature of 20°C [68°F].

* Appearance of the aluminium pigmented coats will depend on application method, drying conditions, handling etc. Please see the Guideline on Aluminium pigmented coatings at hempel.com or at your local Hempel website.

Hempadur Mastic 45881

Film thickness

Specification range	Low	High	Recommended
Dry film thickness	100 micron [3.9 mils]	200 micron [7.9 mils]	125 micron [4.9 mils]
Wet film thickness	125 micron [5 mils]	250 micron [10 mils]	150 micron [6 mils]
Theoretical spreading rate	8 m²/L [330 sq ft/US gal]	4 m²/L [160 sq ft/US gal]	6.4 m²/L [260 sq ft/US gal]

Product may be specified in another film thickness than indicated depending on purpose and area of use. This will alter spreading rate, drying and curing time and overcoating interval. For best performance, avoid excessive film thickness.

Application conditions

- Temperature of product must be above 15°C [59°F] during application.
- Surface temperature must be above 15°C [59°F] during application and curing.
- To avoid condensation, apply on a clean and dry surface with a temperature that is at least 3°C [5°F] above the dew point.

Relative Humidity:

- Relative humidity must be below 85% during drying and curing.

Drying and overcoating

Product compatibility

- Previous coat: None or according to Hempel's specification.
- Subsequent coat: None or according to Hempel's specification.

Drying time

Surface temperature		20°C [68°F]
Hard dry	hours	4
Fully cured	days	7

Determined for dry film thickness 125 micron [4.9 mils] at standard conditions, see Hempel's Explanatory Notes for details.

Overcoating

Hempel's specification supersedes any guidelines indicated in the overcoating table

Quality name		20°C [68°F]	30°C [86°F]	40°C [104°F]
Atmospheric medium				
Hempadur Mastic 45881	Min Max	7 h Ext*	5½ h Ext	3½ h Ext
Hempathane HS 55610	Min Max	6 h Ext*	5 h Ext	3 h Ext
Atmospheric severe				
Hempadur Mastic 45881	Min Max	10 h Ext*	8 h Ext	5 h Ext
Hempathane HS 55610	Min Max	10 h 72 h	8 h 54 h	5 h 36 h

Overcoating times are indicative for products of the same generic chemistry. Consult Hempel's specification for more information.

Drying conditions

- To obtain the drying time stated, it is important to maintain sufficient ventilation during application, drying and curing.

Overcoating details

- If the maximum overcoating interval is exceeded, roughening of the surface is necessary to ensure intercoat adhesion.
- The surface must be dry and clean prior to application.

Other remarks

- Epoxy coats have an inherent tendency of chalking in outdoor exposure. This does not affect the performance of the coating.
- Hempel's Specification supersedes any recommendations given in the Product Data Sheets.

Hempadur Mastic 45881

Storage

Shelf life

Ambient temperature	25°C [77°F]
Base	36 months
Curing Agent	36 months

Shelf life from date of production, when stored in original, unopened containers. Thereafter, the product quality must be re-inspected. Storage at elevated temperatures may reduce shelf life. For advice, please consult Hempel.

Storage conditions

- Product must be stored according to local legislation, at 40°C [104°F] without direct sunlight and protected from rain and snow.

Additional documents

Additional information is available at the Hempel website https://www.hempel.com/service-and-support/technical-guidelines or at your local Hempel website:

- Explanatory Notes for Product Data Sheet.
- Application methods.
- General Application Guidelines

Hempathane Topcoat 55210

Product characteristics

Description
Hempathane Topcoat 55210 is a glossy polyurethane topcoat that is cured with aliphatic isocyanate and delivers good gloss and colour retention.
Complies with EU Directive 2004/42/EC, The Paints Directive on the limitation of volatile organic compounds: subcategory j.

Recommended use
Hempathane Topcoat 55210 is recommended as a finishing coat for protection of structural steel in severely corrosive atmospheric environment, where colour fastness and gloss retention are required.

Service temperature:
- Maximum, dry exposure only: 120°C [248°F].

Certificates / Approvals
- EC-type examined as a low flame spread material when used as part of a predefined paint system. Please refer to “Declaration of Conformity” on hempel.com for further details.
- Complies with the European Fire Standard EN 13501-1, reaction to fire classification, when used as part of a predefined paint system. B-s1, d0.

Features
- For severely corrosive atmospheric environment.
- The minimum temperature for curing is -10°C [14°F].
- Glossy with good gloss and colour retention.

Product safety

Flash point 33°C [91°F]

VOC content mixed product

Legislation	Value	10% thinning, by volume	Limit value, phase II (2010)[a]
EU	446 g/L [3.72 lb/US gal]	483 g/L [4.03 lb/US gal]	500 g/L [4.17 lb/US gal]
US (coatings)	446 g/L [3.72 lb/US gal]	-	-
US (regulatory)	446 g/L [3.72 lb/US gal]		
China	446 g/L [3.72 lb/US gal]		

According to specific legislation, see details in the Explanatory Notes available at Hempel website, hempel.com or at your local Hempel website. VOC values may vary with shade, please consult the Safety Data Sheet, section 9. [a]EU Directive 2004/42/CE.

Handling
Handle with care. Before and during use, observe safety labels on packaging and paint containers and follow all local and national safety regulations. Always consult Hempel’s Safety Data Sheet for this product along with the Product Data Sheet.

For professional use only.

Product data

Product code
55210

Product components
Base 55219
Curing Agent 95370

Standard shade* / code
White 10000 **

Gloss
Glossy

Volume solids
51 ± 2%

* Wide range of colours is available via Hempel’s Multi-Tint® system.
** Colour stability may be affected by exposure to harsh chemical and/or high temperatures.

Hempathane Topcoat 55210

Specific gravity
1.2 kg/L [10 lb/US gal]

Reference dry film thickness
50 micron [2.0 mils]

Aluminium shade / code
Aluminium grey 19002

Gloss
Please consult Hempel's Guideline on aluminium pigmented coatings.

Volume solids
48 ± 2%

Specific gravity
1.1 kg/L [9 lb/US gal]

Reference dry film thickness
50 micron [2.0 mils]

Surface preparation

Cleanliness
- According to Hempel's Specification.

New build:
- According to Hempel's Specification.

Maintenance and Repair
- According to Hempel's Specification.

Consult Hempel's separate Surface Preparation Guidelines for more details.

Application

Mixing ratio
Base 55219 : Curing Agent 95370
(7 : 1 by volume)

Stir well before use.

Thinner
Hempel's Thinner 08080

Cleaner
Hempel's Thinner 08080
Hempel's Thinner 08510

Pot life

Product temperature	10°C [50°F]	20°C [68°F]	30°C [86°F]
Pot life	6 hours	4 hours	2½ hours

Application method

Tool	Thinning max vol.	Application parameters
Airless spray	10%	Nozzle pressure: 150 bar [2200 psi] Nozzle orifice: 0.017-0.019"
Air spray	10%	Not Applicable.

If brush or roller application is used, more coats will be necessary to achieve the specified dry film thickness. To comply with Korean VOC regulation, thinning is limited to max. vol. 1%. Spray data are indicative and subject to adjustment. Pressure is for a material temperature of 20°C [68°F].

Hempathane Topcoat 55210

Film thickness

Specification range	Low	High	Recommended
Dry film thickness	40 micron [1.6 mils]	80 micron [3.1 mils]	50 micron [2.0 mils]
Wet film thickness	80 micron [3 mils]	150 micron [6 mils]	100 micron [4 mils]
Theoretical spreading rate	13 m²/L [530 sq ft/US gal]	6.4 m²/L [260 sq ft/US gal]	10 m²/L [410 sq ft/US gal]

Product may be specified in another film thickness than indicated depending on purpose and area of use. This will alter spreading rate, drying and curing time and overcoating interval. For best performance, avoid excessive film thickness.

Application conditions
- To avoid condensation, apply on a clean and dry surface with a temperature that is at least 3°C [5°F] above the dew point.
- Surface temperature must be above -10°C [14°F] during application and curing.
- The film formation may be adversely affected by light rain, high humidity and/or condensation during application and the following interval after application: “10 hours, 20°C/68°F”.

Relative Humidity:
- Relative humidity must be below 85% during curing.

Application remarks
- Two coats of the topcoat may be necessary to obtain full hiding power.

Drying and overcoating

Product compatibility
- Previous coat: According to Hempel’s Specification. Recommended products are: Hempaprime Multi 500 45950/3, Hempadur Quattro series, Hempadur Avantguard series.
- Subsequent coat: None.

Drying time

Surface temperature		-10°C [14°F]	0°C [32°F]	20°C [68°F]	40°C [104°F]
Touch dry	hours	2½	1⅔	¾	⅓
Surface dry	min	-	-	60	-
Fully cured	days	-	-	7	-

Determined for dry film thickness 50 micron [2.0 mils] at standard conditions, see Hempel’s Explanatory Notes for details.

Overcoating

Hempel’s specification supersedes any guidelines indicated in the overcoating table

Quality name		-10°C [14°F]	0°C [32°F]	20°C [68°F]	40°C [104°F]
Atmospheric medium					
Hempathane Topcoat 55210	Min	30 h	18 h	6 h	100 min
	Max	Ext*	Ext	Ext	Ext

Overcoating times are indicative for products of the same generic chemistry. Consult Hempel’s specification for more information.

Drying conditions
- To obtain the drying time stated, it is important to maintain sufficient ventilation during application, drying and curing.
- Condensation on the freshly applied coating should be avoided.

Overcoating details
- The surface must be dry and clean prior to application.

Other remarks
- Hempel’s Specification supersedes any recommendations given in the Product Data Sheets.

Hempathane Topcoat 55210

Storage

Shelf life

Ambient temperature	25°C [77°F]
Base	36 months
Curing Agent	24 months

Shelf life from date of production, when stored in original, unopened containers. Thereafter, the product quality must be re-inspected. Storage at elevated temperatures may reduce shelf life. For advice, please consult Hempel.

Storage conditions

- Product must be stored according to local legislation, at maximum 40°C [104°F], without direct sunlight and protected from rain and snow.
- The curing agent is sensitive to moisture. Store in a dry place and keep the can tightly closed until use.

Additional documents

Additional information is available at the Hempel website https://www.hempel.com/service-and-support/technical-guidelines or at your local Hempel website:

- Explanatory Notes for Product Data Sheet.
- Application methods.
- Application Instruction for this product.

Versiline CUI

Product characteristics

Description
Versiline CUI 56990 is a MIO pigmented, fibre reinforced, inorganic co-polymer coating that cures to an inert polymer matrix, able to resist temperatures up to 650°C [1200°F] and thermal shock/cycling in dry or dry/wet service.

Conforms to NACE SP0198 - 2017 systems SS-5, CS-6 and CS-8. Approved to Saudi Aramco APCS-11C.

Recommended use
Versiline CUI 56990 is recommended for long term protection of hot pipework, equipment and other hot surfaces. The product is specially developed to prevent corrosion under insulation (CUI) and is applied directly onto the steel substrate or over a zinc silicate primer.

Service temperature:
- From -196°C [-321°F] up to 650°C [1202°F] for dry or dry/wet exposure.

Certificates / Approvals
- Tested and assessed according to NACE TM0174; standard test method for evaluating protective coatings for immersion service. Resistance to Boiling Tap Water, Method B.
- Tested and assessed according to standard for Fire Test on Building Materials and Structures; method of test for ignitability BS 476-5.
- Tested and assessed according to standard for Fire Test on Building Materials and Structures; determination of the surface spread of flame of products BS 476-7.

Features
- MIO pigmented.
- Able to resist temperatures up to 650°C [1200°F] and thermal shock/cycling in dry or dry/wet service.
- Prevents corrosion under insulation (CUI).
- Applied directly onto the steel substrate or over a zinc silicate primer.

Product safety

Flash point 35°C [95°F]

VOC content

Legislation	Value
EU	391 g/L [3.26 lb/US gal]
US (coatings)	391 g/L [3.26 lb/US gal]
US (regulatory)	391 g/L [3.26 lb/US gal]
China	391 g/L [3.26 lb/US gal]

According to specific legislation, see details in the Explanatory Notes available at Hempel website, hempel.com or at your local Hempel website. Measured according to GB/T 23985-2009. VOC values may vary with shade, please consult the Safety Data Sheet, section 9.

Handling
Handle with care. Before and during use, observe safety labels on packaging and paint containers and follow all local and national safety regulations. Always consult Hempel's Safety Data Sheet for this product along with the Product Data Sheet.

For professional use only.

Product data

Product code
56990

Standard shade / code
Metallic dark grey 10710 *

Gloss
Flat

Volume solids
75 ± 2%

Specific gravity
1.9 kg/L [16 lb/US gal]

Reference dry film thickness
150 micron [5.9 mils]

* Slight discolouration may occur. This does not affect the performance of the coating.

Versiline CUI

Aluminium shade / code
Pearlescent grey 19360

Gloss
Please consult Hempel’s Guideline on aluminium pigmented coatings.

Volume solids
70 ± 2%

Specific gravity
1.8 kg/L [15 lb/US gal]

Reference dry film thickness
150 micron [5.9 mils]

Surface preparation

Cleanliness
- Remove oil, grease and other contaminants by suitable detergent cleaning.
- Remove salts, detergents and other contaminants by high pressure fresh water cleaning.

New build:
- Abrasive blasting to min. Sa 2½ (ISO 8501-1) / SP 10 (SSPC).
- Remove dust, blast media and loose materials.
- Stainless steel, aluminium and other non ferric metals and alloys: use non-metallic blast media (corundum, garnet, etc.).

Maintenance and Repair
- Spot abrasive blasting to min. PSa 2½ (ISO 8501-2) / SP 10 (SSPC).
- Water jetting to Wa 2½ (ISO 8501-4).
- Flash rust degree of maximum FR M (ISO 8501-4).
- Minor areas may be hand or power tool cleaned instead of abrasive blasting.
- Remove dust, blast media and loose materials.
- Abrasive blasting to min. Sa 2½ (ISO 8501-1) / SP 10 (SSPC).
- Minor areas can be cleaned by power tool to St 2 provided the surface is roughened and not polished.
- Clean thoroughly by hand or power tool to St 3 (ISO 8501-1) / SP 3 (SSPC). Avoid polishing.

Roughness
- Surface profile Medium (G) (ISO 8503-2).

Consult Hempel's separate Surface Preparation Guidelines for more details.

Application

Mixing ratio
Stir well before use.

Thinner
Hempel's Thinner 08080

Cleaner
Hempel's Thinner 08080
Hempel's Tool Cleaner 99610

Application method

Tool	Thinning max vol.	Application parameters
Airless spray	10%	Nozzle pressure: 175 bar [2500 psi] Nozzle orifice: 0.017-0.021"
Air spray	10%	Not Applicable.
Brush	5%	Not Applicable.

If brush or roller application is used, more coats will be necessary to achieve the specified dry film thickness. Spray data are indicative and subject to adjustment. Pressure is for a material temperature of 20°C [68°F].

Versiline CUI

Film thickness

Specification range	Low	High	Recommended
Dry film thickness	125 micron [4.9 mils]	225 micron [8.9 mils]	150 micron [5.9 mils]
Wet film thickness	170 micron [7 mils]	300 micron [12 mils]	200 micron [8 mils]
Theoretical spreading rate	6 m²/L [240 sq ft/US gal]	3.3 m²/L [130 sq ft/US gal]	5 m²/L [200 sq ft/US gal]

Product may be specified in another film thickness than indicated depending on purpose and area of use. This will alter spreading rate, drying and curing time and overcoating interval. For best performance, avoid excessive film thickness. Overthickness should be closely controlled and never locally exceed 225 micron [8.9 mils] DFT. On irregular surfaces it is recommended to employ special care in avoiding over application.

Application conditions

- To avoid condensation, apply on a clean and dry surface with a temperature that is at least 3°C [5°F] above the dew point.
- Surface temperature must be above 10°C [50°F] during application and curing.
- Can be applied onto hot substrate up to maximum 200°C [392°F].

Relative Humidity:

- Relative humidity must be below 85% during application.

Drying and overcoating

Product compatibility

- Previous coat: None or according to Hempel's specification. Recommended products are: Hempel's Galvosil 15700, Hempel's Galvosil 15680, Hempel's Galvosil Fibre 15750.
- Subsequent coat: None or according to Hempel's specification. Recommended products are: Hempel's Silicone Topcoat 56900, Hempel's Silicone Acrylic 56940, Hempel's Silicone Aluminium 56910.

Drying time

Surface temperature		10°C [50°F]	20°C [68°F]	30°C [86°F]	40°C [104°F]
Touch dry	min	90	45	30	30
Hard dry	hours	4	2	1½	1½

Determined for dry film thickness 150 micron [5.9 mils] at standard conditions, see Hempel's Explanatory Notes for details.

Overcoating

Hempel's specification supersedes any guidelines indicated in the overcoating table

Quality name		10°C [50°F]	20°C [68°F]	30°C [86°F]	40°C [104°F]
Atmospheric medium					
Versiline CUI	Min	18 h	6 h	3 h	2½ h
	Max	Ext*	Ext	Ext	Ext

Consult Hempel's specification for more information.

Drying conditions

- To obtain the drying time stated, it is important to maintain sufficient ventilation during application, drying and curing.

Overcoating details

- The surface must be dry and clean prior to application.

Other remarks

- Hempel's Specification supersedes any recommendations given in the Product Data Sheets.

Storage

Shelf life

Ambient temperature	25°C [77°F]
Product	12 months

Shelf life from date of production, when stored in original, unopened containers. Thereafter, the product quality must be re-inspected. Storage at elevated temperatures may reduce shelf life. For advice, please consult Hempel.

Versiline CUI

Storage conditions
- Product must be stored according to local legislation, at maximum 40°C [104°F], without direct sunlight and protected from rain and snow.

Additional documents

Additional information is available at the Hempel website https://www.hempel.com/service-and-support/technical-guidelines or at your local Hempel website:

- Explanatory Notes for Product Data Sheet.
- Application methods.
- Surface Preparation.
- Application Instruction for this product.
- Repair & maintenance.