## Base Load Power Hub (BLPH)

SDV/BDV AND TIGHT SHUT-OFF XV VALVES

# ACTUATOR SURFACE PREPARATION AND PAINTING PROCEDURES

Document Number: 1724000204-MAT-PRO-00008

Document Class: 2

| | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| 03 | 06/08/2024 | Accepted for Construction (AFC) | ROTORK | ROTORK | ROTORK |
| 02 | 22/07/2024 | Issue for Review (IFR) | ROTORK | ROTORK | ROTORK |
| 01 | 10/05/2024 | Issue for Review (IFR) | ROTORK | ROTORK | ROTORK |
| 00 | 10/04/2024 | Issue for Review (IFR) | ROTORK | ROTORK | ROTORK |
| Rev. | Date | Description | Prepared | Reviewed | Approved |

Fluitek Valves



This document undergoes an issuance cycle within EDMS "Fusionlive".
Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

| Project: **HOLLANDSE KUST NOORD WIND PARK Project**<br>RFS JOB: AF7703 | | |
|---|---|---|
| Component | Material | Paint System |
| Actuator | Carbon Steel/Cast Iron | Norsok M501_2022, System 1B;<br>Rotork System (PCB1EONRA7038-H) |

| REV. | DATE | DESCRIPTION | ISSUED BY | CHECKED AND APPROVED BY |
|---|---|---|---|---|
| 00 | 09/05/2024 | FIRST ISSUE | R. MAIONCHI (QC) | R. DAL TORRIONE (QC) |
| 01 | 03/07/2024 | SECOND ISSUE | R. MAIONCHI (QC) | R. DAL TORRIONE (QC) |

**1. SCOPE** 2

**2. NORMATIVE AND INFORMATIVE REFERENCES** 2

**3. APPLICABILITY** 3

**4. GENERAL REQUIREMENTS** 3

**5. HEALTH, SAFETY AND ENVIRONMENT** 3

**6. SURFACE PREPARATION** 4

**6.1 PRE-BLASTING PREPARATION** 4

**6.2 BLAST CLEANING** 4

**6.3 FINAL SURFACE CONDITIONS** 4

**7. PAINT APPLICATION** 4

**8. Qualification requirement** 5

**9. REPAIR** 5

**10. INSPECTION AND TESTING** 6

**Annex – Painting Inspection Certificate — Painting Cycle – Data Sheets** 7

## 1. SCOPE

The present procedure has the scope to define materials, equipment, techniques, ambient conditions, normative references and roles and responsibilities of the firm staff operating on it. The specification reference is: ***Norsok Standard M-501 Edition 2022***.

## 2. NORMATIVE AND INFORMATIVE REFERENCES

| | |
|---|---|
| **ISO 8501-1** | 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. |
| **SSPC SP-1** | SOLVENT CLEANING |
| **ISO 8501-3** | PREPARATION OF STEEL SUBSTRATES BEFORE APPLICATION OF PAINTS AND RELATED PRODUCTS. VISUAL ASSESSMENT OF SURFACE CLEANLINESS. PREPARATION GRADES OF WELDS, CUT EDGES AND OTHER AREAS WITH SURFACE IMPERFECTIONS. |
| **ISO 8502-3** | PREPARATION OF STEEL SUBSTRATES BEFORE APPLICATION OF PAINTS AND RELATED PRODUCTS. TEST FOR THE ASSESSMENT OF SURFACE CLEANLINESS. PART 3: ASSESSMENT OF DUST ON STEEL SURFACES PREPARED FOR PAINTING (PRESSURE SENSITIVE TAPE METHOD) |
| **ISO 8502-6** | PREPARATION OF STEEL SUBSTRATES BEFORE APPLICATION OF PAINTS AND RELATED PRODUCTS. TEST FOR THE ASSESSMENT OF SURFACE CLEANLINESS.. PART 6: EXTRACTION OF SOLUBLE CONTAMINANTS FOR ANALYSIS. BRESLE TEST. |
| **ISO 8502-9** | PREPARATION OF STEEL SUBSTRATES BEFORE THE APPLICATION OF PAINTS AND RELATED PRODUCTS. TEST FOR THE ASSESSMENT OF SURFACE CLEANLINESS. PART 9: FIELD METHOD FOR THE CONDUCTOMETRIC DETERMINATION OF WATER-SOLUBLE SALTS. |
| **ISO 8503** | PREPARATION OF STEEL SUBSTRATES BEFORE APPLICATION OF PAINTS AND RELATED PRODUCTS – SURFACE ROUGHNESS CHARACTERISTICS OF BLAST CLEANED SUBSTRATES. |
| **ISO 19840** | PAINTS AND VARNISHES – CORROSION PROTECTION OF STEEL STRUCTURES BY PROTECTIVE PAINT SYSTEMS; MEASUREMENT, ACCEPTANCE CRITERIA AND DRY FILMS THICKNESS ON ROUGH SURFACES. |
| **ISO 16276-1** | ASSESSMENT OF, AND ACCEPTANCE CRITERIA FOR, THE ADHESION/COHESION (FRACTURE STRENGTH) OF A COATING - PART 1: PULL-OFF TESTING |

**ISO 12944** PAINT AND VARNISHES-CORROSION PROTECTION OF STEEL STRUCTURES BY PAINT SYSTEM

**ASTM D 4285** STANDARD TEST METHOD FOR INDICATING OIL OR WATER IN COMPRESSED

**NORSOK M-501** NORSOK STANDARD M-501 EDITION 2022. SURFACE PREPARATION AND PROTECTIVE COATING.

## 3. APPLICABILITY

This procedure is applicable to the components reported in the first page (actuators in carbon steel/cast Iron) suitable to be protected by coating systems as per Norsok Standard M-501 Edition 2022. Brackets in stainless steel won't be painted.

## 4. GENERAL REQUIREMENTS

Our firm ensures that all equipment and structures will be duly protected from whatsoever mechanical damage, ingress of abrasives and dust from blast cleaning. We will make sure that sags, droplets and paint over spray (inclusive dry-spray) will be avoided. Adjacent areas not to be painted shall be protected as requested explicitly by the customer. On completion of the work in any area, all masking materials, spent abrasives and equipment shall be duly removed.

Unless otherwise specified in writing by the coating Manufacturer, surface preparation and paint shall not be applied under the following condition:

Air temperature is below 10° C and more than 40°C;
Surface temperature is below 10°C and more than 40°C;
Surface temperature is less than 3°C above the Dew Point;
Relative humidity is 85% or above;
Wet or damp atmosphere;
Wet surface;
Atmosphere contaminated by dirt, dust, oil, product or any other pollutant;
When the available light is less than 500 lux;
When there is the likelihood of an unfavourable change in weather conditions within two hours after painting.

The suitable environmental conditions shall be followed during the surface preparation, coating application and curing.
All the tests required by the customer will be thoroughly measured and registered through internal equipment at our disposal.

## 5. HEALTH, SAFETY AND ENVIRONMENT

All equipment, abrasive material and paints shall be used in accordance with the manufacturer's safety data sheets and appropriate safety precautions shall be taken. The

operators are required to follow the safety instructions in accordance with H&S procedures, Norsok M-501 and environmental issues.

## 6. SURFACE PREPARATION

### 6.1 PRE-BLASTING PREPARATION

According to ISO12944-3, all sorts of sharp edges, fillets, corners and welds will be rounded or smoothened by grinding with minimum R equal to 2 millimeters according to ISO 8501-3 grade P3.
Eventual hard surface layers will be removed by grinding prior to blast cleaning.
The surfaces in this phase will be free from weld flux, residue, slivers, oil, grease, salt etc. prior to blast cleaning. All surfaces will be washed with clean fresh water before blast cleaning. The degreasing phase (removal of oil and grease) will be performed according to SSPC- SP1 prior to blasting operations.

### 6.2 BLAST CLEANING

Blasting abrasives will be dry, clean and free from contaminants which will be detrimental to the coating outcome. The size of the abrasive particles will be in conformity with what indicated in Norsok Standard M-501 Edition 2022. The surface profile will be graded in accordance with the norm ISO 8503-05 (50 µm to 85 µm) for carbon steel. The cleanliness of the blast cleaned surface will be in accordance with the norm ISO 8501-1 Grade “SA 2 ½”. Only Grit type abrasives will be used.

### 6.3 FINAL SURFACE CONDITIONS

The surface to be coated will be clean, dry, free from oil and grease and have the requested roughness and cleanliness until the first layer of coat is applied.
Dust, blast abrasives will be removed from the surface after blast cleaning so that the particle quantity and particle size do not exceed rating 2 of the norm ISO 8502-3.
The maximum content of soluble impurities on the blasted surface as sampled on ISO 8502-6 will not exceed a conductivity grade as measured in accordance with ISO 8502-9 (Max conductivity corresponding to 20 mg/m$^2$ soluble salt).

## 7. PAINT APPLICATION

Every data sheet referred to the customers’ requirements will be stored in our quality files.

Painting System and product Manufacturer are in accordance with the Painting Cycle annex **PCB1EONRA7038-H**.

The procedure of the coating production and test data refers to our internal procedures of the quality system. Internal recording are performed by the Quality Department and Painting Department concerning the following tests:

| |
|---|
| - Temperature measurement |
| - Humidity measurement |
| - Grade of cleanliness |
| - Surface roughness test |
| - De-dusting test |
| - Soluble Salt contamination grade |
| - Visual Inspection |
| - MEK Test (if applicable) |
| - Dry film thickness and Wet film thickness per each coat. |
| - Pull off test |

Masking of untreated areas will be carried out, where needed.
Blasted surface will be coated by the first coat of the coating system within 4 hours after abrasive blasting is finished.
For each coat a stripe coat will be applied by brush to all welds, corners, behind angles, edges of beams, etc; areas not fully reachable by spray in order to obtain the specified coverage and thickness.
Each coat will be uniformly applied over the whole surface. Each applied coat will be free from pinholes, blisters, holidays, sags, runs, fish-eye, orange peel, contamination etc.
The paint will be applied by spray in accordance with the paint manufacturer instructions and prior to the specified painting system.
Contrasting colours will be used for all successive coats of the paint system.
The carbon steel bolting are protected with the same painting cycle of actuator.

## 8. QUALIFICATION REQUIREMENT

Operators have relevant experience and proficient in surface preparation and coating application techniques and qualified according to Norsok Standard M-501 Edition 2022 (par. 11.2.2) to tradesman level as blast-cleaner, painter applicator etc . Personnel have relevant knowledge of health and safety hazard, use of protective equipment, coating materials, mixing and thinning coatings, coating pot-life, surface requirement etc. Personnel carrying out inspection or verification shall be qualified in accordance with NS 476, Inspector level II, Certified NACE Coating Inspector Level II or equivalent.

## 9. REPAIR

In case of repairs the following procedure shall be applied:

**PAINTING SPECIFICATION NORSOK M501 Ed. 2022 - SYSTEM 1B**

Zinc Rich Epoxy Primer @ 60 µm
High Solid Epoxy @ 180 µm
Polyurethane (Color) @ 60 µm
TOTAL DFT: 300 µm

- Nature of the damage:
  - Damage to topcoat ( Not Exposing Substrate);

- Damage to substrate (Substrate Exposed);

- Damage to topcoat only (Not Exposing Substrate):

The affected areas shall be delimited by using adhesive tape to form squares or rectangles. Repair by removing damaged coating with sandpaper, or other means approved by Company (wire brushing is forbidden), feather edges and abrade top coat surface and re-apply 1 x 60 µm Polyurethane.

- Damaged to substrate (Substrate Exposed):

The affected areas shall be delimited by using adhesive tape to form squares or rectangles and adjacent areas feathered.
Repairs shall be done locally by degreasing, cleaning, disc grinding, feathering adjoining paint surface and perform surface preparation min. SA 2 1/2 by using blast cleaning equipment.
Layers of the paint shall be reconstitute by spray:

| | |
|---|---|
| Zinc Rich Epoxy Primer | @ 60 µm |
| High Build Epoxy | @ 180 µm |
| Polyurethane (Color) | @ 60 µm |

Care shall be taken to avoid damaging the surrounding areas and to ensure that complete tie-in of the coating with surrounding area. Stripe coat shall be applied by brush to all angles, corners, sharp edges, bolds and nuts, rivet heads.
All stainless steel work in the vicinity must the protected from contamination.

- Product Not Conforming to the specification (NCR)

Where the DFT exceeds the specified maximum requirements, the coating shall be removed and the surface shall be re-blasted and recoated with the initially specified coating system.

Where the DFT is inferior to the minimum requirement, re apply the final coat until to the minimum thickness specified.

Where coating defects are related to improper coating application or improper curing, the entire affect area shall be removed and the surface shall be re-blasted and recoated with the initially specified coating system.

**10. INSPECTION AND TESTING**

Rotork Fluid Systems. will operate the inspection and testing in accordance with ***Norsok Standard M-501 Edition 2022, Inspection Plan*** herewith enclose.

| INSPECTION TEST PLAN – AF7703 REV. 01 | | | | | | |
|---|---|---|---|---|---|---|
| **N.** | **Process Description** | **Record** | **Requirements and Acceptance criteria (CTQs)** | **Method and Equipment** | **Frequency** | **Consequence** |
| 1 | **COMPRESSED AIR CLEANLEANESS PRE-TREATMENT PHASE /BLAST CLEANING PROCESS** | Painting Inspect. For each batch | No presence of water and oil. No defects. Look for sharp edges, weld spatter slivers, rust grade etc. ISO 8501-3 | Visual Inspection | 100% for all surfaces | No blasting or coating |
| 2 | **ENVIRONMENTAL CONDITIONS**<br>Ambient Temperature<br>Steel Temperature<br>Dew Point<br>Relative Humidity | Painting Inspect. For each batch | Temperature (air)10<T<40°C<br>Temperature steel surface: 3°C above the Dew Point<br>Elapsed time between blast cleaning and coating: maximum 4 hours.<br>Relative humidity : < 85% and >50% during curing of organic zinc. | Thermometer<br><br>Hygrometer | Before start of each shift | No blasting or coating |
| 3 | **CHECKS ON THE BLAST CLEANED SURFACE:**<br><br>3.1) Degree of Cleanliness<br><br>3.2) Surface Roughness<br><br>3.3) Degree of dust test | Painting Inspect. For each batch | 3.1) Cleanliness equivalent to SA 2 ½ according to ISO 8501-1.<br><br>3.2) Roughness according to ISO 8503-5 with replica tape(50µm to 85 µm,) Carbon steel;<br><br>3.3) Presence of dust according to EN ISO 8502-3 rating 2 (max) | Visual Inspection<br><br>Roughness Meter<br><br>Adhesive tape | 100%<br>Every item<br><br>Every Item<br><br>Every Item | Reblasting<br><br>Reblasting<br><br>Reclining |
| 4 | **INSPECTION FOLLOWING BLAST CLEANING (SALT TEST)** | Painting Inspect. For each batch | Water soluble salt and chlorides contamination according to EN ISO 8502-6 and according to EN ISO 8502-9. Max conductivity corresponding to 20 mg/m$^2$ soluble salt | Bresle test | Spot checks | Repeat washing and retesting |
| 5 | **VISUAL EXAMINATIONS OF COATING** | Painting Inspect. For each batch | Detect surface Defects eg.: Curing; Contamination; Solvents; Pinholes/Popping; Sagging; Surface Defects, orange peel, fish eye, runs etc. No defect. | Visual Inspection | 100% of surface after each coat | Repair of defects |
| 6 | **APPLICATION OF COATINGS**<br>6.1) Total coating thickness (DFT)<br><br>6.2 Adhesion Test (ISO 16276-1) | Painting Inspect. For each batch<br>Adhesion Test Report | *Painting preparation*<br><br>As per ISO 19840 and coating system data sheet<br><br>Min. 5 MPA. | Gauge meter<br><br>Internal equipment / min 3 dollies per panel after curing | Every item and each coat<br><br>Spot checks | Repair, additional coats or recoating<br><br>Coating to be rejected |

**ANNEX "A" – PAINTING INSPECTION CERTIFICATE –PAINTING CYCLE – DATA SHEETS –**

| rotork Fluid Systems | PAINTING CERTIFICATE | N.: |
|---|---|---|

| CUSTOMER | ORDER NUMBER | RFS JOB NUMBER | PAINTING CYCLE |
|---|---|---|---|
| | | | |

| SERIAL N°/ITEM: |
|---|
| REFERENCE DOCUMENTS: |

| SURFACE PREPARATION | | | | | ENVIRONMENTAL CONDITIONS<br>Parameters 1= Ambient Temperature; 2= Steel Temp.; 3=Relative Umidity; 4=Dew Point | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TEST TYPE | DATE | Reference | Acceptance criteria | Result | START DATE: | | | | FINISH DATE: | | | |
| GRIT TYPE: | | | | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| VISUAL EXAMINATION/*CONTROLLO VISIVO* | | ISO 8501-3 | preparation grade P3 | | | | | | | | | |
| BLASTING GRADE CHECK/*VERIFICA GRADO SABBIATURA* | | ISO 8501-1 Grade SA | SA 2 1/2 | | | | | | | | | |
| ASSESSMENT OF DUST/*VERIFICA PRESENZA POLVERE* | | ISO 8502-3 | max dust qu.ty rating 2 | | | | | | | | | |
| SALT TEST/*VERIFICA GRADO SALINITA'* | | ISO 8502-6<br>ISO 8502-9 | Max soluble salt content 20 mg/m2 | | | | | | | | | |
| ROUGHNESS TEST/*VERIFICA GRADO RUGOSITA'* | | ISO 8503-5 | 50 ÷ 85 µm | | | | | | | | | |

## *PAINTING*

| TEST TYPE / REQUESTED DATA | | PRIMER COAT | INTERMEDIATE COAT 1° COAT | INTERMEDIATE COAT 2° COAT | TOP COAT |
|---|---|---|---|---|---|
| PRODUCT NAME<br>*NOME DEL PRODOTTO* | | | | | |
| MANUFACTURER<br>*PRODUTTORE* | | | | | |
| DATE OF APPLICATION<br>*DATA APPLICAZIONE* | | | | | |
| APPLICATION METHOD<br>*METODO DI APPLICAZIONE* | | | | | |
| AIR TEMPERATURE (°C)<br>*TEMPERATURA DELL'ARIA (°C)* | | | | | |
| SURFACE STEEL TEMPERATURE (°C)<br>*TEMPERATURA DEL PEZZO (°C)* | | | | | |
| RELATIVE MOISTURE<br>*UMIDITA' RELATIVA* | | | | | |
| DEW POINT (°C)<br>*PUNTO DI RUGIADA(°C)* | | | | | |
| WET FILM THICHNESS (µm)<br>*SPESSORE DEL FILM UMIDO (µm)* | MEASURED OUT<br>*MISURATO* | | | | |
| DRY FILM THICHNESS (µm)<br>*SPESSORE DEL FILM SECCO (µm)* | REQUIRED<br>*RICHIESTO* | | | | |
| DRY FILM THICHNESS (µm)<br>*SPESSORE DEL FILM SECCO (µm)* | MEASURED OUT<br>*MISURATO* | | | | |

| | Acceptance | | Date | Result |
|---|---|---|---|---|
| VISUAL EXAMINATION/*CONTROLLO VISIVO* | No defects Final color | | | |
| FINAL DRY FILM THICKNESS (ISO 19840)/SPESSORE FINALE | Painting Cycle | | | |
| Adhesion Test / Prova di Adesione (ISO 16276-1) | min. 5 MPa | | | |

| Q.C. | INSPECTOR / THIRD PARTY | INSPECTOR / THIRD PARTY |
|---|---|---|
| Date: | Date: | Date: |

# ROTORK FLUID SYSTEMS
# Painting Cycle Document

| PAINTING CYCLE No. | PCB1EONRA7038-H |
|---|---|
| GENERIC SERVICE APPLICATION: | Offshore and coastal environment, non-insulated |
| ATMOSPHERIC CORROSION RESISTANCE ACCORDING TO ISO 12944 | CX |
| SUPPORT TYPE: | CARBON STEEL/CAST IRON |
| SERVICE TEMPERATURE: | -50°C To + 80°C |

| SURFACE PREPARATION | |
|---|---|
| GRADE OF CLEANLINESS ACCORDING TO ISO 8501-1 | Sa 2-1/2 |
| SURFACE ROUGHNESS CHARACTERISTICS OF BLAST-CLEANED STEEL SUBSTRATES ACCORDING TO ISO 8503-1 (min-max) | 50µ 85µ |
| SOLUBLE SALTS LEVEL ACCORDING TO ISO 8502-6 | Max 20mg/$m^2$ NaCl |

**PAINTING CYCLE**

| COAT | TYPE OF PAINT | NDFT (µm) |
|---|---|---|
| 1 | Zinc Rich Epoxy Primer (Avantguard 750) | 60 |
| 2 | High Build Epoxy (Hempaprime Multi 500) | 180 |
| 3 | UV-resistent topcoat (Hempathane HS 55610) | 60 |
| | | |
| | **Total NDFT** | **300** |

| | |
|---|---|
| PRODUCT MANUFACTURER | HEMPEL |
| TOP COLOR: | RAL 7038 |
| COMPLIANT WITH SPECIFICATION: | Norsok M501_2022, System 1B |

NOTE

| REV. | DATE | DESCRIPTION | ISSUED BY | APPROVED BY |
|---|---|---|---|---|
| 0 | 14/02/2024 | ISSUED FOR INTERNAL APPROVAL | Bernini | Barsotti |
| 1 | 14/02/2024 | APPROVED | Bernini | Maionchi |
| | | | | |
| | | | | |
| | | | | |

# Hempadur Avantguard 750

## Product characteristics

**Description**
Hempadur Avantguard 750 is an activated zinc-rich epoxy primer in compliance with the requirements of Level 2, type II in SSPC Paint-20, 2019 and ISO 12944 Part 5, 2018. The product is in full compliance with ASTM D520 type II and EU Directive 2004/42/EC, the Paints Directive on the limitation of volatile organic compounds: subcategory j.

**Recommended use**
Hempadur Avantguard 750 is recommended as a versatile primer for long-term protection of steel in severely corrosive environments including offshore.

**Service temperature:**
- Maximum, dry exposure only: 160°C [320°F].

**Certificates / Approvals**
- Meets requirements to NORSOK M-501 when used as part of a predefined paint system. Edition 6, system no. 1.
- 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**
- Reduces the effect of corrosion and provides excellent galvanic protection.
- Fast drying primer with short minimum overcoating intervals.
- Excellent mechanical strength, also in cyclic temperatures, with improved tolerance to high film thickness through high flexibility and self-healing effect.
- Superior tolerance to high relative humidity during application.
- Cures down to -10°C [14°F].

## Product safety

**Flash point** 25°C [77°F]

**VOC content mixed product**

| Legislation | Value | 5% thinning, by volume | Limit value, phase II (2010)[a] |
|---|---|---|---|
| EU | 330 g/L [2.75 lb/US gal] | 356 | 500 |
| US (coatings) | 330 g/L [2.75 lb/US gal] | | |
| US (regulatory) | 330 g/L [2.75 lb/US gal] | | |
| China | 330 g/L [2.75 lb/US gal] | | |

VOC values may vary with shade, please consult the Safety Data Sheet, section 9. According to specific legislation, see details in the Explanatory Notes available at Hempel website, hempel.com or at your local Hempel website. [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**
1736G

**Product components**
Base 1736U
Curing Agent 97043

**Standard shade / code**
Grey 19840

**Gloss**
Flat

**Volume solids**
65 ± 2%

# Hempadur Avantguard 750

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

**Reference dry film thickness**
60 micron [2.4 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.

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

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

## Application

**Mixing ratio**
Base 1736U : Curing Agent 97043
(8.5 : 1.5 by volume)

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

**Thinner**
Above 20°C [68°F] Hempel's Thinner 08450
Below 20°C [68°F] Hempel's Thinner 08510

**Cleaner**
Hempel's Tool Cleaner 99610

**Pot life**

| Product temperature | 0°C [32°F] | 20°C [68°F] | 40°C [104°F] |
|---|---|---|---|
| Pot life | 5 hours | 4 hours | 1½ hours |

**Application method**

| Tool | Thinning max vol. | Application parameters |
|---|---|---|
| Airless spray | 5% | Nozzle pressure: 220 bar [3200 psi]<br>Nozzle orifice: 0.017-0.021" |

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 | 40 micron [1.6 mils] | 100 micron [3.9 mils] | 60 micron [2.4 mils] |
| Wet film thickness | 60 micron [2.5 mils] | 150 micron [6 mils] | 90 micron [3.5 mils] |
| Theoretical spreading rate | 16 m²/L [650 sq ft/US gal] | 6.5 m²/L [260 sq ft/US gal] | 11 m²/L [450 sq ft/US gal] |

Overthickness should be closely controlled and never locally exceed 200 micron [7.9 mils] DFT. On irregular surfaces it is recommended to employ special care in avoiding over application.

**Application conditions**
- Temperature of product must be above 15°C [59°F] during application.
- 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.
- Surface temperature must be below 40°C [104°F] during application and curing.

**Relative Humidity:**
- Relative humidity must be below 95% during curing.
- Relative humidity must be below 95% during application.

# Hempadur Avantguard 750

## Drying and overcoating

**Product compatibility**

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

**Drying time**

| Surface temperature | | -10°C [14°F] | 0°C [32°F] | 20°C [68°F] | 40°C [104°F] |
|---|---|---|---|---|---|
| Touch dry | min | 50 | 30 | 10 | 5 |
| Hard dry | hours | 4½ | 3 | 1½ | ½ |

Determined for dry film thickness 60 micron [2.4 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 | | | | | |
| Hempaprime Multi 500 Winter | Min | 3 h | 90 min | 45 min | 25 min |
| | Max | Ext* | Ext | Ext | Ext |
| Hempathane HS 55610 | Min | 3 h | 90 min | 45 min | 25 min |
| | Max | 56 d | 42 d | 14 d | 3½ d |
| Atmospheric severe | | | | | |
| Hempaprime Multi 500 Winter | Min | 3 h | 90 min | 45 min | 25 min |
| | Max | 90 d | 90 d | 30 d | 7 d |
| Hempathane HS 55610 | Min | 3 h | 90 min | 45 min | 25 min |
| | Max | 20 d | 15 d | 5 d | 28 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.
- Remove zinc salts or other contamination before overcoating.
- 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] |
|---|---|
| Base | 12 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 maximum 40°C [104°F], without direct sunlight and protected from rain and snow.

## Carbon Footprint

| Dry film thickness | 1 µm | 1 mil |
|---|---|---|
| GWP (Global Warming Potential) | 18.9 g $CO_2e/m^2$ | 0.098 lb $CO_2e/ft^2$ |

The carbon footprint is for 1 square meter / square foot of surface area with a dry film thickness of 1 micron / mil.

The scope includes raw materials, in-bound transport to the Hempel factory, Hempel manufacturing processes, and any Volatile Organic Compounds emitted during and after the application of the product.

# Hempadur Avantguard 750

It is calculated based on the standard shade defined in this PDS. Values may vary with shade.

## 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.
- Substrates.
- Surface Preparation.
- Application Instruction for this product.
- Repair & maintenance.
- Inspection & quality control.

This Product Data Sheet ("**PDS**") relates to the supplied product ("**Product**") and is subject to updating from time-to-time. Accordingly, the buyer/applicator should have regard to the PDS supplied together with the relevant batch of the Product (and not an earlier version). In addition to the PDS, the buyer/applicator may receive some or all of the following specifications, statements and/or guidelines as listed below or as are available from the Hempel website under 'Products' at www.hempel.com (the "**Additional documents**"):

| No. | Document description | Location/comments |
|---|---|---|
| 1. | Technical Statement | One-off specific advice provided on request for specific projects |
| 2. | Specification | Only issued for specific projects |
| 3. | PDS | This document |
| 4. | Explanatory Notes to the PDS | Available at www.hempel.com and contain relevant information about the Product testing parameters |
| 5. | Application Instruction | Where available, at www.hempel.com |
| 6. | Generic technical guidelines (e.g. on application and surface preparation) | Where available, at www.hempel.com |

In the event of a conflict of information between the PDS and the Additional documents, the order of priority of information shall be in the order as set out above. In such event you should also contact your representative at Hempel for clarification. Furthermore, the buyer/applicator must have full regard to the relevant Safety Data Sheet provided with each Product and which can also be downloaded from www.hempel.com.

Hempel shall not be liable for defects where the application of the Product has not been made fully in accordance with the recommendations and requirements set out in the relevant PDS and the Additional Documents. The information and terms of this disclaimer apply to this PDS, the Additional documents and any other documents supplied by Hempel in respect of the Product. In addition, the Product is supplied and all technical assistance is given subject to Hempel's General Conditions of Sale, Delivery and Service, unless otherwise expressly agreed in writing.

# Hempaprime Multi 500

## Product characteristics

**Description**
Hempaprime Multi 500 is a fast drying, high solids epoxy paint. It provides hard wearing and long lasting barrier protection in coating systems for severe corrosive environments. The product meets the requirements of ISO 12944 Part 5, 2019 when used as part of a predefined paint system.

**Recommended use**
Hempaprime Multi 500 is recommended as a high-build, intermediate coat in high performance coating systems where fast handling and short overcoating times are required. Due to its fast drying - up to twice as fast as comparable products - the product is excellent for projects where fast throughput is key. The product can also be used as a self-priming, surface tolerant coat and a finishing coat in heavy-duty coating systems. Suited for application down to 10°C [50°F]. The product is available in several MIO shades such as 18021 and 18061; both with 80% MIO content. The volume solids % for MIO shades is 77 ± 2.

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

**Certificates / Approvals**
- Meets requirements to ISO 12944 when used as part of a predefined paint system. Part 6, Im2; Part 9, CX.
- Meets requirements to NORSOK M-501 when used as part of a predefined paint system. Edition no. 6, System 1.

**Features**
- Fast overcoating.
- Crack resistant in high film thickness.
- Low VOC.
- Ready to use - optimised application properties.
- Surface tolerant.

## Product safety

**Flash point** 25°C [77°F]

**VOC content mixed product**

| Legislation | Value |
|---|---|
| EU | 196 g/L [1.64 lb/US gal] |
| US (coatings) | 196 g/L [1.64 lb/US gal] |
| US (regulatory) | 196 g/L [1.64 lb/US gal] |
| China | 196 g/L [1.64 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.

**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**
45950

**Product components**
Base 45959
Curing Agent 95090

**Standard shade* / code**
Brownish red 50630 **

**Gloss**
Semi-gloss

**Volume solids**
85 ± 2%

**Specific gravity**
1.4 kg/L [12 lb/US gal]

**Reference dry film thickness**
150 micron [5.9 mils]

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

# Hempaprime Multi 500

**Micaceous iron oxide (MIO) shade / code**
Metallic grey 12430

**Gloss**
Semi-gloss

**Volume solids**
85 ± 2%

**Specific gravity**
1.6 kg/L [14 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.
- Concrete: According to Hempel's Specification.

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 45959 : Curing Agent 95090
(4 : 1 by volume)

Stir well before use.

**Thinner**
Hempel's Thinner 08450

**Cleaner**
Hempel's Tool Cleaner 99610
Hempel's Thinner 08450

**Pot life**

| Product temperature | 10°C [50°F] | 20°C [68°F] | 30°C [86°F] |
|---|---|---|---|
| Pot life | 2½ hours | 1 hour | ½ hours |

**Application method**

| Tool | Thinning max vol. | Application parameters |
|---|---|---|
| Airless spray | 5% | Nozzle pressure: 225 bar [3300 psi]<br>Nozzle orifice: 0.019-0.023" |
| Brush/Roller | 5% | Not Applicable. |

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 | 100 micron [3.9 mils] | 250 micron [10 mils] | 150 micron [5.9 mils] |
| Wet film thickness | 120 micron [5 mils] | 300 micron [12 mils] | 175 micron [7 mils] |
| Theoretical spreading rate | 8.5 m²/L [350 sq ft/US gal] | 3.4 m²/L [140 sq ft/US gal] | 5.6 m²/L [230 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.

# Hempaprime Multi 500

**Application conditions**
- Optimal paint temperature for proper mixing, pumping and spraying is: 20°C [68°F].
- 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.

**Application remarks**
- Product requires heavy duty spray equipment; spray hoses shall be as short as possible.

## Drying and overcoating

**Product compatibility**
- Previous coat: None or according to Hempel's specification.
- Subsequent coat: None or according to Hempel's specification. Recommended products are: Hempadur, Hempaprime, Hempathane

**Drying time**

| Surface temperature | | 10°C [50°F] | 20°C [68°F] | 30°C [86°F] | 40°C [104°F] |
|---|---|---|---|---|---|
| Touch dry | hours | 2½ | 1 | ⅔ | ⅓ |
| Surface dry | hours | 5½ | 2½ | 1 | ½ |
| Hard dry | hours | 8 | 3½ | 1½ | ¾ |

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 | | | | | |
| Hempaprime Multi 500 | Min | 7 h | 3 h | 2 h | 90 min |
| | Max | Ext* | Ext | Ext | Ext |
| Hempathane HS 55610 | Min | 7 h | 3 h | 2 h | 90 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.
- According to Hempel's Specification.

**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.

## Storage

**Shelf life**

| Ambient temperature | 25°C [77°F] | 35°C [95°F] |
|---|---|---|
| Base | 24 months | 16 months |
| Curing Agent | 24 months | 16 months |

Shelf life from date of production, when stored in original, unopened containers. Thereafter, the product quality must be re-inspected. Always check the best before date or expiry date on the label.

**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.

# Hempaprime Multi 500

## Additional documents

Additional information is available at the Hempel website hempel.com or at your local Hempel website:

- Explanatory Notes explaining the fields in this Product Data Sheet.
- Surface Preparation Guidelines.
- Application Guidelines for different application methods.
- General Application Guidelines

This Product Data Sheet ("**PDS**") relates to the supplied product ("**Product**") and is subject to updating from time-to-time. Accordingly, the buyer/applicator should have regard to the PDS supplied together with the relevant batch of the Product (and not an earlier version). In addition to the PDS, the buyer/applicator may receive some or all of the following specifications, statements and/or guidelines as listed below or as are available from the Hempel website under 'Products' at www.hempel.com (the "**Additional documents**"):

| No. | Document description | Location/comments |
|---|---|---|
| 1. | Technical Statement | One-off specific advice provided on request for specific projects |
| 2. | Specification | Only issued for specific projects |
| 3. | PDS | This document |
| 4. | Explanatory Notes to the PDS | Available at www.hempel.com and contain relevant information about the Product testing parameters |
| 5. | Application Instruction | Where available, at www.hempel.com |
| 6. | Generic technical guidelines (e.g. on application and surface preparation) | Where available, at www.hempel.com |

In the event of a conflict of information between the PDS and the Additional documents, the order of priority of information shall be in the order as set out above. In such event you should also contact your representative at Hempel for clarification. Furthermore, the buyer/applicator must have full regard to the relevant Safety Data Sheet provided with each Product and which can also be downloaded from www.hempel.com.

Hempel shall not be liable for defects where the application of the Product has not been made fully in accordance with the recommendations and requirements set out in the relevant PDS and the Additional Documents. The information and terms of this disclaimer apply to this PDS, the Additional documents and any other documents supplied by Hempel in respect of the Product. In addition, the Product is supplied and all technical assistance is given subject to Hempel's General Conditions of Sale, Delivery and Service, unless otherwise expressly agreed in writing.

# Hempathane HS 55610

## Product characteristics

**Description**
Hempathane HS 55610 is a glossy polyurethane topcoat, cured with aliphatic isocyanate. The product has good gloss and colour retention and contains zinc phosphate.
Complies with EU Directive 2004/42/EC, The Paints Directive on the limitation of volatile organic compounds: subcategory j.

**Recommended use**
Hempathane HS 55610 is recommended as VOC compliant, high-build finishing coat for protection of structural steel in severely corrosive environment. The product may be specified as a one coat "direct to metal" system in environments classified as C2 and C3.

**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.
- The following shades are formulated with special electrical conductive pigments that makes it possible to design paint systems that meet the requirements in ISO 80079-36:2016 Explosive atmospheres (ATEX): 95000

**Features**
- For severely corrosive atmospheric environment.
- Direct-to-metal in C2 and C3 environments.
- Glossy with good gloss and colour retention.
- High volume solids and VOC-compliant.
- The minimum temperature for curing is -10°C [14°F].

## Product safety

**Flash point** 31°C [88°F]

**VOC content mixed product**

| Legislation | Value | 5% thinning, by volume | Limit value, phase II (2010)[a] |
|---|---|---|---|
| EU | 343 g/L [2.86 lb/US gal] | 366 g/L [3.05 lb/US gal] | 500 g/L [4.17 lb/US gal] |
| US (coatings) | 320 g/L [2.67 lb/US gal] | - | - |
| US (regulatory) | 343 g/L [2.86 lb/US gal] | | |
| China | 343 g/L [2.86 lb/US gal] | | |
| Hong Kong | 320 g/L [2.67 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. 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**
55610

**Product components**
Base 55619
Curing Agent 97050

**Standard shade* / code**
White 10000 **

**Gloss**
Glossy

* 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 HS 55610

**Volume solids**
67 ± 2%

**Specific gravity**
1.4 kg/L [12 lb/US gal]

**Reference dry film thickness**
80 micron [3.1 mils]

---

**Aluminium shade / code**
Aluminium grey 19002

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

**Volume solids**
58 ± 2%

**Specific gravity**
1.1 kg/L [10 lb/US gal]

**Reference dry film thickness**
80 micron [3.1 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
- Abrasive blasting to min. Sa 2 (ISO 8501-1) / SP 6 (SSPC).
- Minor areas may be hand or power tool cleaned instead of abrasive blasting.
- Water jetting to Wa 2½ (ISO 8501-4).
- Flash rust degree of maximum FR M (ISO 8501-4).
- Remove dust, blast media and loose materials.

**Roughness**
- Surface profile Medium (S) (ISO 8503-2).

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

## Application

**Mixing ratio**
Base 55619 : Curing Agent 97050
(7 : 1 by volume)

Stir well before use.

**Thinner**
Hempel's Thinner 08080

**Cleaner**
Hempel's Thinner 08080

**Pot life**

| Product temperature | 10°C [50°F] | 20°C [68°F] | 30°C [86°F] |
|---|---|---|---|
| Pot life | 3½ hours | 2 hours | 1 hour |

**Application method**

| Tool | Thinning max vol. | Application parameters |
|---|---|---|
| Airless spray | 5% | Nozzle pressure: 175 bar [2500 psi]<br>Nozzle orifice: 0.017-0.021" |

If brush or roller application is used, more coats will be necessary to achieve the specified dry film thickness. Never thin more than allowed according to local environmental legislation. Spray data are indicative and subject to adjustment. Pressure is for a material temperature of 20°C [68°F].

# Hempathane HS 55610

### Film thickness

| Specification range | Low | High | Recommended |
|---|---|---|---|
| Dry film thickness | 50 micron [2.0 mils] | 125 micron [4.9 mils] | 80 micron [3.1 mils] |
| Wet film thickness | 75 micron [3 mils] | 190 micron [7 mils] | 120 micron [5 mils] |
| Theoretical spreading rate | 13 m²/L [530 sq ft/US gal] | 5.3 m²/L [220 sq ft/US gal] | 8.3 m²/L [340 sq ft/US gal] |

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.
- Beware of ice on the surface at low temperatures.
- The film formation may be adversely affected by light rain, high humidity and/or condensation during application and the following interval after application: “8 hours, 20°C/68°F”.
- Optimal spraying properties are obtained at paint temperatures of 15-30°C [59-86°F]. Beyond these temperatures additional thinning may be necessary.

### Relative Humidity:

- Relative humidity must be below 85% during curing.
- Relative humidity must be below 85% during application.

## 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 [50°F] | 20°C [68°F] | 30°C [86°F] |
|---|---|---|---|---|
| Touch dry | min | 120 | 90 | 60 |
| Surface dry | hours | 11 | 3½ | 2 |
| Hard dry | hours | 12 | 5 | 3 |
| Fully cured | days | - | 7 | - |

Determined for dry film thickness 80 micron [3.1 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] | 10°C [50°F] | 20°C [68°F] | 30°C [86°F] |
|---|---|---|---|---|---|
| Atmospheric medium | | | | | |
| Hempathane HS 55610 | Min | 30 h | 9 h | 6 h | 3 h |
| | 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 HS 55610

## 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.
- Surface Preparation.
- Application Instruction for this product.
- Aluminium pigmented topcoats.

This Product Data Sheet ("**PDS**") relates to the supplied product ("**Product**") and is subject to updating from time-to-time. Accordingly, the buyer/applicator should have regard to the PDS supplied together with the relevant batch of the Product (and not an earlier version). In addition to the PDS, the buyer/applicator may receive some or all of the following specifications, statements and/or guidelines as listed below or as are available from the Hempel website under 'Products' at www.hempel.com (the "**Additional documents**"):

| No. | Document description | Location/comments |
|---|---|---|
| 1. | Technical Statement | One-off specific advice provided on request for specific projects |
| 2. | Specification | Only issued for specific projects |
| 3. | PDS | This document |
| 4. | Explanatory Notes to the PDS | Available at www.hempel.com and contain relevant information about the Product testing parameters |
| 5. | Application Instruction | Where available, at www.hempel.com |
| 6. | Generic technical guidelines (e.g. on application and surface preparation) | Where available, at www.hempel.com |

In the event of a conflict of information between the PDS and the Additional documents, the order of priority of information shall be in the order as set out above. In such event you should also contact your representative at Hempel for clarification. Furthermore, the buyer/applicator must have full regard to the relevant Safety Data Sheet provided with each Product and which can also be downloaded from www.hempel.com.

Hempel shall not be liable for defects where the application of the Product has not been made fully in accordance with the recommendations and requirements set out in the relevant PDS and the Additional Documents. The information and terms of this disclaimer apply to this PDS, the Additional documents and any other documents supplied by Hempel in respect of the Product. In addition, the Product is supplied and all technical assistance is given subject to Hempel's General Conditions of Sale, Delivery and Service, unless otherwise expressly agreed in writing.