

Hempaprim® CUI 275

Product characteristics

Description

Hempaprim® CUI 275 is a phenolic epoxy improvement based on fast drying, alkylamine cured epoxy. It provides long lasting barrier protection in coating systems for severe corrosive environments, including high temperature and wet conditions found beneath thermal insulation. Available in versions with or without glass flake.

Recommended use

Hempaprim® CUI 275 can be used across a wide temperature range where corrosion under insulation (CUI) typically occurs and where thermal cycling is present. It can be specified for operating temperatures from -196°C (-321°F) to 204°C (400°F), with sporadic allowance up to 275°C (527°F). The product significantly reduces the risk of cracking when applied at high DFTs compared to traditional epoxy phenolic coatings. It can be used in new construction and maintenance and repair, on carbon and stainless steels, and for both insulated and uninsulated service.

Service temperature:

- Maximum, dry exposure only (peak): 275°C [527°F].

Certificates / Approvals

- Meets requirements to ISO 12944 when used as part of a predefined paint system. C5-H, CX
- Meets the requirements of ISO 19277, when used as part of a predefined paint system. For categories CUI-1, CUI-2, CUI-3, CUI-1-Cryo, CUI-2-Cryo, CUI-3-Cryo
- Tested and assessed according to NACE TM0174; standard test method for evaluating protective coatings for immersion service. Resistance to Boiling Tap Water, Method B.
- Meets requirements to NORSOK M-501 when used as part of a predefined paint system. Edition 7, System 1D, 6C, 9.

Features

- Fast overcoating.
- Wide temperature resistance from cryogenic up to 275°C (527°F).
- Can be applied at temperatures down to -10°C (14°F).
- Can be spray applied on hot surfaces up to 204°C (400°F).
- Excellent crack resistance compared to traditional epoxy phenolic coatings.

Product safety

Flash point 35°C [95°F]

VOC content mixed product

Legislation	Value
EU	305 g/L [2.55 lb/US gal]
US (coatings)	305 g/L [2.55 lb/US gal]
US (regulatory)	305 g/L [2.55 lb/US gal]
China	305 g/L [2.55 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

17530

Product components

Base 17539
Curing Agent 95072

Standard shade* / code

Aluminium grey 19690 **

Gloss

Semi-flat

* Epoxy coatings have an inherent tendency of chalking, fading and discolouring. This does not affect the performance of the coating

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

Hempaprime CUI 275

Volume solids

66 ± 2%

Specific gravity

1.3 kg/L [11 lb/US gal]

Reference dry film thickness

150 micron [6.0 mils]

Aluminium shade / code

Aluminium grey 19694 *

Gloss

Please consult Hempel's Guideline on aluminium pigmented coatings.

Volume solids

66 ± 2%

Specific gravity

1.3 kg/L [11 lb/US gal]

Reference dry film thickness

150 micron [6.0 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.
- Flash rust degree of maximum FR M (ISO 8501-4).

New build:

- Abrasive blasting to min. Sa 2½ (ISO 8501-1) / SP 10 (SSPC).
- Remove dust, blast media and loose materials.
- Water jetting to Wa 2½ (ISO 8501-4).

Maintenance and Repair

- Square up small damaged areas and treat them as one large combined area.
- Feather edges to sound surrounding coating.
- Remove dust, blast media and loose materials.
- Abrasive blasting to min. Sa 2½ (ISO 8501-1) / SP 10 (SSPC).
- Minor areas may be hand or power tool cleaned instead of abrasive blasting.
- Clean thoroughly by hand or power tool to St 2 (ISO 8501-1) / SP 2 (SSPC). Avoid polishing.
- Water jetting to Wa 2½ (ISO 8501-4).

Roughness

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

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

Application

Mixing ratio

Base 17539 : Curing Agent 95072
(3 : 1 by volume)

Stir well before use.

Thinner

Hempel's Thinner 08450

Hempaprime CUI 275

Cleaner

Hempel's Tool Cleaner 99610

Pot life

Product temperature	20°C [68°F]	15°C [59°F]	30°C [86°F]
Pot life	2 hours	3 hours	1 hour
Pot life (spray)	2 hours	3 hours	1 hour
Pot life (brush)	2 hours	3 hours	1 hour

Application method

Tool	Thinning max vol.	Application parameters
Airless spray	5%	Nozzle pressure: 250 bar [3600 psi] Nozzle orifice: 0.017-0.025"
Brush/Roller	5%	Not Applicable.
Air spray	5%	Nozzle pressure: 3-5 bar [44 psi] Nozzle orifice: 0.055-0.079"

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	100 micron [4.0 mils]	225 micron [9.0 mils]	150 micron [6.0 mils]
Wet film thickness	153 micron [6.1 mils]	343 micron [14 mils]	229 micron [9.2 mils]
Theoretical spreading rate	6.6 m²/L [269 sq ft/US gal]	2.9 m²/L [118 sq ft/US gal]	4.4 m²/L [179 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.

Application remarks

- Stir well before use.

Drying and overcoating

Product compatibility

- Previous coat: Recommended product is: Hempaprime Ultimate 850
- Subsequent coat: Recommended products are: Hemptthane 55610, Hempel's Silicone Acrylic 56940, Hempaxane Light 55030

Drying time

Surface temperature		-10°C [14°F]	0°C [32°F]	20°C [68°F]	40°C [104°F]
Surface dry	hours	28	12	3½	2
Hard dry	hours	35	14	4	2½
Dry to walk on	hours	42	21	4½	3
Fully cured	days	40	20	5	1½

Determined for dry film thickness 150 micron [6.0 mils] at standard conditions, see Hempel's Explanatory Notes for details.

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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					
Hempaprim® CUI 275	Min	14 h	7 h	90 min	45 min
	Max	90 d	90 d	60 d	30 d
Hempathane HS 55610	Min	27 h	14 h	3 h	90 min
	Max	90 d	90 d	28 d	14 d
Hempel's Silicone Acrylic	Min	14 h	7 h	90 min	45 min
	Max	90 d	90 d	60 d	30 d
Hempatherm IC 175	Min	54 h	27 h	6 h	3 h
	Max	Ext*	Ext*	Ext*	Ext*

Ext*: Depending on the actual exposure conditions, the coated surface is overcoatable for an extended period of time. Contact your local Hempel representative for advice.

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

Overcoating details

- Flash-coat technique is recommended when overcoating Galvosil qualities.
- If the maximum overcoating interval is exceeded, roughening of the surface is necessary to ensure intercoat adhesion.
- The surface must be clean before overcoating.
- Inorganic zinc silicates must be fully cured before overcoating.
- If the maximum overcoating interval between epoxy and topcoat is exceeded, apply an additional thin layer of the epoxy.

Other remarks

- The paint film must be dry and cured before insulating.

Storage

Shelf life

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

Storage conditions

- The product must be stored in accordance with Safety Data Sheet, label and local regulations. Keep the containers in a dry, shaded, cool, well-ventilated space and away from sources of heat and ignition. Containers must be kept tightly closed. Handle with care.

Carbon Footprint

Dry film thickness	1 µm	1 mil
GWP (Global Warming Potential)	10.3 g CO ₂ e/m ²	0.054 lb CO ₂ e/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.

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

Hempaprim® CUI 275

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
- Guideline on aluminium pigmented coatings.

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.