



Product data

VERNADUR 85671

BASE 85675 : CURING AGENT 97371

Description:	VERNADUR 85671 is a two-component, amine adduct cured phenolic epoxy (novolac) coating with very good adhesion and high temperature, water and chemical resistance.
Recommended use:	As an interior lining in tanks, pipelines, railcars etc. for hot water, brine, crude oil, vegetable oils and other chemicals as per the Chemical Resistance Guide, ONLY shades 11150 and 50900. ALL other shades including Aluminium (19000) can ONLY be used as an external coating for the protection of insulated (CUI) and uninsulated process pipework and vessels including cryogenic conditions.
Service temperature:	Dry service temperatures: Minimum: -196°C/-320°F ; Maximum: 205°C/400°F For temperatures above 160°C/320°F - Consult the separate APPLICATION INSTRUCTIONS. For cryogenic service: Consult the separate APPLICATION INSTRUCTIONS In crude oil: Maximum: 130°C/266°F In vegetable oils: Maximum: 60°C/140°F In water (maximum gradient 15°C/27°F): 95°C/203°F

PHYSICAL CONSTANTS:

Shade nos/Colours:	11150* / Light grey
Finish:	Flat
Volume solids, %:	68 ± 1
Theoretical spreading rate:	6.8 m ² /l [272.7 sq.ft./US gallon] - 100 micron/4 mils
Flash point:	25 °C [77 °F]
Specific gravity:	1.7 kg/litre [13.9 lbs/US gallon]
Surface-dry:	1.5 hour(s) 20°C/68°F
Through-dry:	6.5 hour(s) 20°C/68°F
Fully cured:	7 day(s) 20°C/68°F (According to separate APPLICATION INSTRUCTIONS)
VOC content:	317 g/l [2.6 lbs/US gallon]
Shelf life:	1 year for BASE and 1 year (25°C/77°F) for CURING AGENT from time of production. Shelf life is reduced at storage temperatures above: 25°C/77°F. *other shades according to assortment list. <i>The physical constants stated are nominal data according to the HEMPEL Group's approved formulas.</i>

APPLICATION DETAILS:

Version, mixed product:	85671
Mixing ratio:	BASE 85675 : CURING AGENT 97371 8.8 : 1.2 by volume 13.8 : 1.0 by weight
Application method:	Airless spray / Brush (touch up)
Thinner (max.vol.):	VERNA THINNER 08450 (According to separate APPLICATION INSTRUCTIONS) 3
Pot life:	hour(s) 20°C/68°F
Induction time:	15 minute(s) 20°C/68°F (According to separate APPLICATION INSTRUCTIONS)
Nozzle orifice:	0.018 - 0.021 "
Nozzle pressure:	200 bar [2900 psi] (Airless spray data are indicative and subject to adjustment)
Cleaning of tools:	VERNA TOOL CLEANER 99610
Indicated film thickness, dry:	100 micron [4 mils] see REMARKS overleaf
Indicated film thickness, wet:	150 micron [6 mils]
Overcoat interval, min:	According to separate APPLICATION INSTRUCTIONS
Overcoat interval, max:	According to separate APPLICATION INSTRUCTIONS

Safety:	Handle with care. Before and during use, observe all safety labels on packaging and paint containers, consult VERNA Safety Data Sheets and follow all local or national safety regulations.
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SURFACE PREPARATION: **New steel:** Remove oil and grease etc. thoroughly with suitable detergent. Remove salts and other contaminants by high pressure fresh water cleaning. Abrasive blasting to near white metal Sa 2½ (ISO 8501-1:2007) with a surface profile corresponding to Rugotest No. 3, BN10a, Keane-Tator Comparator 3.0 G/S, or ISO Comparator Medium (G).
Repair and maintenance: Remove oil and grease etc. thoroughly with suitable detergent. Remove salts and other contaminants by high pressure fresh water cleaning. Other degrees of cleaning including wet methods like ultra-high-pressure-water-jetting (UHPWJ) and blasting with mixtures of grit and water may be relevant according to Hempel-specification. Remove water, any residual blasting material and other debris. Old steel surfaces having been exposed to salt water, excessive amounts of salt residues in pittings may call for abrasive blasting, high pressure fresh water hosing, drying, and finally, dry abrasive blasting again.
Concrete: Remove slip agent and other possible contaminants by emulsion washing followed by high pressure hosing with fresh water. Remove scum layer and loose matter to a hard, rough and uniform surface, preferably by abrasive blasting, possibly by other mechanical treatment or acid etching. Seal surface with suitable sealer, as per relevant painting specification.

APPLICATION CONDITIONS: Apply only on a dry and clean surface with a temperature above the dew point to avoid condensation. Use only where application and curing can proceed at temperatures above: 10°C/50°F. The temperature of paint itself should be 15°C/59°F or above. Curing requires a relative humidity of: max 80%.
 In confined spaces provide adequate ventilation during application and drying.
 Reference is made to separate APPLICATION INSTRUCTIONS.

PRECEDING COAT: None, or as per specification.
SUBSEQUENT COAT: None, or as per specification.

REMARKS:

Certificates/Approvals: The WRAS approval is valid once the final coating has cured for at least the following number of days: 5 days at 20°C/68°F followed by 7 hours at 50°C/177°F

Colours/Colour stability: Also available in colours that are low HAPS versions: 1163H/off white and 5090H/light red

Film thicknesses/thinning: **Film thicknesses:** May be specified in another film thickness than indicated depending on purpose and area of use. This will alter spreading rate and may influence drying time and overcoating interval. Normal range is: 100-160 micron / 4-6.4 mils.
Thinning: Keep thinning at absolute minimum. Do not dilute the components separately - only the mixture.

Shades: The natural tendency of epoxy coatings to chalk in outdoor exposure is also reflected in this product.

Overcoating: Overcoating intervals related to later conditions of exposure: If the maximum overcoating interval is exceeded, roughening of the surface is necessary to ensure intercoat adhesion.
 Before overcoating after exposure in contaminated environment, clean the surface thoroughly with high pressure fresh water hosing and allow drying.

A specification supersedes any guideline overcoat intervals indicated in the table.

Environment	Atmospheric, severe					
	10°C (50°F)		20°C (68°F)		30°C (86°F)	
	Min	Max	Min	Max	Min	Max
VERNADUR	25 h	47 d	16 h	21 d	8 h	10.5 d
Environment	Immersion					
	VERNADUR	25 h	47 d	16 h	21 d	8 h

NR = Not Recommended, Ext. = Extended, m = minute(s), h = hour(s), d = day(s)



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Overcoating note:	The surface MUST be completely clean before overcoating. All dust, abrasives and loose dry spray must be removed by vacuum cleaning. Dry spray should be removed by light abrading. The coating may only be exposed to strong direct sunlight or ultraviolet light under exceptional circumstances and then only for short periods. The coating is to be checked carefully and any patchy, whitish, and/or greasy formation, must be completely removed by suitable cleaning method.
Note:	VERNADUR 85671 For professional use only.

This Product Data Sheet supersedes those previously issued.

For explanations, definitions and scope, see "Explanatory Notes" available on www.hempel.com. Data, specifications, directions and recommendations given in this data sheet represent only test results or experience obtained under controlled or specially defined circumstances. Their accuracy, completeness or appropriateness under the actual conditions of any intended use of the Products herein must be determined exclusively by the Buyer and/or User.

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