SIGMA PHENGUARD 935

(SIGMA PHENGUARD COATING)

4 pages

September 2005
Revision of January 2003

DESCRIPTION

two component high build amine adduct cured phenolic epoxy coating

PRINCIPAL CHARACTERISTICS

- second coat in the Sigma Phenguard tankcoating system
- excellent resistance to a wide range of organic acids, alcohols, edible oils, fats (regardless of free fatty acid content) and solvents
- maximum cargo flexibility
- low cargo absorption
- good resistance to hot water
- Recognized corrosion control coating (Lloyd's register), see sheet 1886
- good application properties, resulting in a smooth surface

COLOURS AND GLOSS

pink - eggshell

BASIC DATA AT 20°C

(1 g/cm³ = 8.25 lb/US gal; 1 m²/l = 40.7 ft²/US gal)
(data for mixed product)

Mass density	1.7 g/cm³
Volume solids	66 ± 2%
VOC (supplied)	max. 191 g/kg (Directive 1999/13/EC, SED) max. 315 g/l (approx. 2.6 lb/gal)
Recommended dry film thickness	100 µm *
Theoretical spreading rate	6.6 m²/l for 100 µm *
Touch dry after	2 hours
Overcoating interval	min. 24 hours * max. 21 days *
Curing time	see curing table *

(data for components)

Shelf life (cool and dry place)	at least 12 months
Flash point	base 25°C, hardener 32°C

* see additional data

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- previous coat of Sigma Phenguard 930; dry and free from any contamination
- the substrate must be perfectly dry before and during application of Sigma Phenguard 935
- substrate temperature must be above 10°C and at least 3°C above dew point during application and curing

SYSTEM SPECIFICATION

marine	system sheet 3141
tankcoatings	system sheet 3322

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INSTRUCTIONS FOR USE

mixing ratio by volume: base to hardener 88 : 12

- the temperature of the mixed base and hardener should preferably be above 15°C, otherwise extra solvent may be required to obtain application viscosity
- too much solvent results in reduced sag resistance and slower cure
- thinner should be added after mixing the components

Induction time

allow induction time before use
15°C - 20 min.
20°C - 15 min.
25°C - 10 min.

Pot life

4 hours at 20°C *
* see additional data

AIRLESS SPRAY

Recommended thinner	Sigma thinner 91-92
Volume of thinner	2 - 10%, depending on required thickness and application conditions
Nozzle orifice	approx. 0.46 - 0.53 mm (= 0.018 - 0.021 in)
Nozzle pressure	15 MPa (= approx. 150 bar; 2130 p.s.i.)

AIR SPRAY

Recommended thinner	Sigma thinner 91-92
Volume of thinner	2 - 10%, depending on required thickness and application conditions
Nozzle orifice	2 mm
Nozzle pressure	0.3 MPa (= approx. 3 bar; 43 p.s.i.)

BRUSH/ROLLER

Recommended thinner	Sigma thinner 91-92
Volume of thinner	0 - 5%

CLEANING SOLVENT

Sigma thinner 90-53

SAFETY PRECAUTIONS

for paint and recommended thinners see safety sheets 1430, 1431 and relevant material safety data sheets

this is a solvent based paint and care should be taken to avoid inhalation of spray mist or vapour as well as contact between the wet paint and exposed skin or eyes

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ADDITIONAL DATA

Film thickness and spreading rate

theoretical spreading rate m²/l	6.6	5.3
dft in µm	100	125

max. dft when brushing: 60 µm

Overcoating table for Sigma Phenguard 935

substrate temperature	10°C	15°C	20°C	30°C	40°C
minimum interval	36 hours	32 hours	24 hours	16 hours	12 hours
maximum interval	28 days	25 days	21 days	14 days	7 days

– surface should be dry and free from any contamination

Curing table

substrate temperature	min. curing time of Sigma Phenguard tankcoating system before transport of cargoes without note 4, 7, 8 or 11 and ballast water and tanktest with seawater
10°C	14 days
15°C	14 days
20°C	10 days
30°C	7 days
40°C	5 days

– minimum curing time of Sigma Phenguard tankcoating system before transport of cargoes with note 4, 7, 8 or 11: 3 months
– for detailed information on resistance and resistance notes, please refer to the latest issue of the Cargo Resistance List
– for transport of methanol and vinyl acetate monomer, a hot cargo cure is required which cannot be substituted by a service period of 3 months with non-aggressive cargoes
– adequate ventilation must be maintained during application and curing (please refer to sheet 1433 and 1434)
– the performance of the applied system strongly depends on the curing degree of the first coat at time of recoating. Therefore overcoating time between 1st and 2nd coat is extended in comparison between 2nd and 3rd coat (see overcoating details)

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Pot life (at application viscosity)

10°C	6 hours
20°C	4 hours
30°C	1.5 hour

Worldwide availability

Whilst it is always the aim of Sigma Coatings to supply the same product on a worldwide basis, slight modification of the product is sometimes necessary to comply with local or national rules/circumstances.
Under these circumstances an alternative product data sheet is used.

REFERENCES

Explanation to product data sheets	see information sheet 1411
Safety indications	see information sheet 1430
Safety in confined spaces and health safety	
Explosion hazard - toxic hazard	see information sheet 1431
Safe working in confined spaces	see information sheet 1433
Directives for ventilation practice	see information sheet 1434
Specification for mineral abrasives	see information sheet 1491

DS 7435
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