

SIGMASHIELD 420 LT

4 pages

October 2009
Revision of January 2008

DESCRIPTION two component reinforced high solids polyamine adduct cured epoxy coating

PRINCIPAL CHARACTERISTICS

- coating for cargo tanks of bulk- or oil carriers and storage tanks
- build coat for underwater- and boottop systems
- cures at temperatures down to -10°C
- excellent abrasion and impact resistance
- outstanding (sea)water resistance
- easy to clean

COLOURS AND GLOSS grey, redbrown (other colours on request) - gloss

BASIC DATA AT 10°C (1 g/cm³ = 8.25 lb/US gal; 1 m²/l = 40.7 ft²/US gal)
(data for mixed product)

Mass density 1.6 g/cm³
 Volume solids 81 ± 2%
 VOC (supplied) max. 123 g/kg (Directive 1999/13/EC, SED)
 max. 191 g/l (approx. 1.6 lb/gal)
 Recommended dry film thickness 150 - 200 µm depending on system
 Theoretical spreading rate 5.4 m²/l for 150 µm, 4.1 m²/l for 200 µm *
 Overcoating interval min. 10 hours *
 max. 14 days *
 Full cure after 7 days *

(data for components)

Shelf life (cool and dry place) at least 12 months
* see additional data

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- previous coat; (e.g. SigmaCover 280 (LT) or SigmaShield 220 (LT)) dry and free from ice and any contamination
- substrate temperature should be between -10°C up to 15°C during application and curing and at least 3°C above dew point and free from ice and any contamination
- during application and curing a substrate temperature down to -10°C is possible, but curing to hardness takes longer and complete resistance will be reached when temperature increases
- maximum relative humidity during application and curing is 85%

SYSTEM SPECIFICATION marine system sheets: 3101, 3102, 3103, 3107

SIGMASHIELD 420 LT

October 2009

INSTRUCTIONS FOR USE

mixing ratio by volume: base to hardener 75 : 25

- the temperature of the mixed base and hardener should preferably be above 5°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

none

Pot life

1 hour at 10°C *

* see additional data

AIRLESS SPRAY

Recommended thinner

Thinner 91-92

Volume of thinner

0 - 5% for 200 µm dft,
10% for 100 µm dft

Nozzle orifice

approx. 0.53 - 0.68 mm (= 0.021 - 0.027 in)

Nozzle pressure

15 MPa (= approx. 150 bar; 2130 p.s.i.)

AIR SPRAY

Recommended thinner

Thinner 91-92

Volume of thinner

5 - 10%, depending on required thickness and application conditions

Nozzle orifice

1.7 - 2 mm

Nozzle pressure

0.3 - 0.4 MPa (= approx. 3 - 4 bar; 43 - 57 p.s.i.)

BRUSH/ROLLER

Recommended thinner

Thinner 91-92

Volume of thinner

0 - 5%

CLEANING SOLVENT

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 borne 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

ADDITIONAL DATA**Film thickness and spreading rate**

| | | | | |
|--|-----|-----|-----|-----|
| theoretical spreading rate m ² /l | 8.1 | 5.4 | 4.6 | 4.1 |
| dft in µm | 100 | 150 | 175 | 200 |

max. dft when brushing:

75 µm

SIGMASHIELD 420 LT

October 2009

Overcoating table for SigmaShield 420 LT for dft up to 150 µm

| | substrate temperature | -10°C | 0°C | 5°C | 10°C | 15°C |
|---------------------|-----------------------|----------|----------|----------|----------|----------|
| with epoxy coatings | minimum interval | 48 hours | 24 hours | 10 hours | 5 hours | 4 hours |
| with polyurethanes | minimum interval | 72 hours | 48 hours | 36 hours | 24 hours | 16 hours |
| | maximum interval | 28 days | 28 days | 28 days | 14 days | 10 days |

- surface should be dry and free from chalking and contamination

Curing table for dft up to 150 µm

| substrate temperature | dry to handle | full cure for immersion in sea water | full cure |
|-----------------------|---------------|--------------------------------------|-----------|
| -10°C | 34 hours | 18 days | -- |
| 0°C | 17 hours | 10 days | 28 days |
| 5°C | 12 hours | 7 days | 14 days |
| 10°C | 6 hours | 5 days | 7 days |
| 15°C | 4 hours | 4 days | 5 days |

- for cargo hold application: for full cure for hard angular cargoes, please contact your nearest PPG Protective & Marine Coatings sales office
- adequate ventilation to remove solvent must be maintained during application and curing (please refer to sheets 1433 and 1434)
- should SigmaShield 420 LT or the total coating system be applied in excess of the specified dry film thickness, then the time necessary to reach full cure will be increased

Pot life (at application viscosity)

| | |
|------|---------|
| 5°C | 2 hours |
| 10°C | 1 hour |

Worldwide availability

Whilst it is always the aim of PPG Protective & Marine 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.

SIGMASHIELD 420 LT

October 2009

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 |

LIMITATION OF LIABILITY

The information in this data sheet is based upon laboratory tests we believe to be accurate and is intended for guidance only. All recommendations or suggestions relating to the use of the Sigma Coatings products made by PPG Protective & Marine Coatings, whether in technical documentation, or in response to a specific enquiry, or otherwise, are based on data which to the best of our knowledge are reliable. The products and information are designed for users having the requisite knowledge and industrial skills and it is the end-user's responsibility to determine the suitability of the product for its intended use.

PPG Protective & Marine Coatings has no control over either the quality or condition of the substrate, or the many factors affecting the use and application of the product. PPG Protective & Marine Coatings does therefore not accept any liability arising from loss, injury or damage resulting from such use or the contents of this data sheet (unless there are written agreements stating otherwise).

The data contained herein are liable to modification as a result of practical experience and continuous product development.

This data sheet replaces and annuls all previous issues and it is therefore the user's responsibility to ensure that this sheet is current prior to using the product.

The English text of this document shall prevail over any translation thereof.

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|--------|----------|------------|
| | PDS | 7955 |
| 202661 | grey | 5177052200 |
| 202662 | grey | 5163052200 |
| 202659 | redbrown | 6179052200 |