# 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)<br>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 *<br>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 m²/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 |



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