

SIGMASHIELD™ 1200 LT

DESCRIPTION

Two-component, abrasion-resistant, solvent-free, amine-cured phenolic epoxy coating

PRINCIPAL CHARACTERISTICS

- Single coat system designed for under water hull of ice going and ice breaking vessels, with mechanical anti-fouling properties (easy to clean)
- Recognised by Lloyd's register as an abrasion resistant ice coating
- Excellent abrasion and impact resistance
- Highly durable deck system, which needs heavy impact and abrasion resistance such as cattle decks of livestock carriers and car decks of Ro-Ro vessels
- Low coefficient of friction
- Resistant to well designed cathodic protection
- Also suitable for tanks and other structures requiring abrasion resistance
- Excellent resistance to crude oil up to 120°C (250°F)
- Good chemical resistance against a wide range of chemicals and solvents
- Can be applied by heavy-duty, single-feed, airless spray equipment (60:1)
- Cures at temperatures down to 5°C (41°F)
- Service life is expected more than 20 years when dried film is not seriously damaged

COLOR AND GLOSS LEVEL

- Light Gray, dark gray, redbrown, black (other colors available on request)
- Gloss

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.5 kg/l (12.5 lb/US gal)
Volume solids	100%
VOC (Supplied)	Directive 2010/75/EU, SED: max. 92.0 g/kg UK PG 6/23(92) Appendix 3: max. 136.0 g/l (approx. 1.1 lb/US gal)
Recommended dry film thickness	400 - 600 µm (16.0 - 24.0 mils)
Theoretical spreading rate	2.5 m ² /l for 400 µm (100 ft ² /US gal for 16.0 mils)
Dry to touch	8 hours
Overcoating Interval	Minimum: 24 hours Maximum: 22 days
Full cure after	5 days
Shelf life	Base: at least 24 months when stored cool and dry Hardener: at least 24 months when stored cool and dry

Notes:

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- See ADDITIONAL DATA – Spreading rate and film thickness
 - See ADDITIONAL DATA – Overcoating intervals
 - See ADDITIONAL DATA – Curing time
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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Substrate conditions

- Steel; blast cleaned to a minimum of ISO Sa2½, blasting profile 50 – 100 µm (2.0 – 4.0 mils)
 - Surface must be dry and free from any contamination
 - Coated steel; hydrojetted to VIS WJ2/3 L (blasting profile 50 – 100 µm (2.0 – 4.0 mils))
 - Suitable primer when blasting profile is < 50 µm (2.0 mils): SIGMACOVER 280 50 - 75 µm (2.0 - 3.0 mils)
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Substrate temperature and application conditions

- Substrate temperature during application and curing should be above 5°C (41°F)
 - Substrate temperature during application should be at least 3°C (5°F) above dew point
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INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 4:1

- When mixing, the temperature of the base and hardener should be at least 20°C (68°F)
 - At lower temperature, the viscosity will be too high for spray application
 - No thinner should be added
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Pot life

30 minutes at 20°C (68°F)

Note:

- See ADDITIONAL DATA – Pot life
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Airless spray

- Twin-feed, hot airless spray
- Heavy-duty, single-feed airless spray equipment preferably 60:1 pump ratio and suitable high-pressure hoses
- In-line heating or insulated hoses may be necessary to avoid cooling down of paint in hoses at low air temperature
- Length of hoses should be as short as possible

Recommended thinner

No thinner should be added

Nozzle orifice

Approx. 0.53 mm (0.021 in)

Nozzle pressure

At 20°C (68°F) paint temperature min. 28.0 MPa (approx. 280 bar; 4061 p.s.i.). At 30°C (86°F) min. 22.0 MPa (approx. 220 bar; 3191 p.s.i.)

Brush/roller

- For stripe coating and spot repair only

Recommended thinner

No thinner should be added

ADDITIONAL DATA

Measuring dry film thickness

- The DFT should be measured using a calibration foil of known thickness placed in between the coating and the measuring device
- Because of low initial hardness the DFT cannot be measured for some days (depending on ambient temperature) after application, due to the penetration of the measuring device into the paint film

Measuring wet film thickness

- A difference is often obtained between the measured apparent WFT and the real applied WFT. This is due to the thixotropy and the surface tension of the paint, which retards the release of air, trapped in the paint film for some time.
 - Recommendation is to apply a WFT, which is equal to the specified DFT plus 60 µm (2.4 mils)
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Spreading rate and film thickness	
DFT	Theoretical spreading rate
400 µm (16.0 mils)	2.5 m ² /l (100 ft ² /US gal)
600 µm (24.0 mils)	1.7 m ² /l (67 ft ² /US gal)

Note:

- Maximum DFT when brushing: 150 µm (6.0 mils)

Overcoating interval for DFT up to 500 µm (20.0 mils)					
Overcoating with...	Interval	5°C (41°F)	10°C (50°F)	20°C (68°F)	30°C (86°F)
itself, SIGMACOVER 555 and SIGMACOVER 456	Minimum	24 hours	16 hours	8 hours	4 hours
	Maximum NOT exposed to direct sunshine	22 days	22 days	14 days	10 days
	Maximum exposed to direct sunshine	14 days	14 days	7 days	5 days

Note:

- Surface should be dry and free from any contamination

Curing time for DFT up to 500 µm (20.0 mils)		
Substrate temperature	Full cure	Dry to handle
5°C (41°F)	12 days	36 hours
10°C (50°F)	5 days	24 hours
20°C (68°F)	3 days	12 hours
30°C (86°F)	48 hours	6 hours

Note:

- Although the paint is solvent free adequate ventilation must be maintained during application and curing

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Pot life (at application viscosity)	
Mixed product temperature	Pot life
20°C (68°F)	30 minutes
30°C (86°F)	20 minutes

Note:

- Due to exothermic reaction, temperature during and after mixing may increase

SAFETY PRECAUTIONS

- Although this is a solvent-free paint, care should be taken to avoid inhalation of spray mist, as well as contact between the wet paint and exposed skin or eyes
- See Safety Data Sheet and product label for complete safety and precaution requirements
- Ventilation should be provided in confined spaces to maintain good visibility

WORLDWIDE AVAILABILITY

It is always the aim of PPG Protective & Marine Coatings to supply the same product on a worldwide basis. However, 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

- Information sheet | Explanation of product data sheets

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