December 1, 2022 (Revision of November 11, 2022)

SIGMACOVER™ 850 (SIGMASHIELD™ 880 HS)

DESCRIPTION

Two-component, glass flake ultra high-build polyamine adduct cured epoxy coating

PRINCIPAL CHARACTERISTICS

- For use in both offshore and onshore business
- Designed for use in heavy-duty and corrosive environments
- Glass-flake reinforced for improved impact and abrasion resistance
- Excellent seawater, cracking and corrosion resistance
- Long-term protection in a single-coat application
- Resistant to well designed cathodic protection
- Strong adhesion properties, suitable for wet blast cleaned substrates (damp or dry)

COLOR AND GLOSS LEVEL

- Light gray (other colors available on request)
- Gloss

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.6 kg/l (12.9 lb/US gal)
Volume solids	90 ± 3%
VOC (Supplied)	Directive 2010/75/EU, SED: max. 140.0 g/kg UK PG 6/23(92) Appendix 3: max. 220.0 g/l (approx. 1.8 lb/US gal) China GB 30981-2020 (tested) 166.0 g/l (approx. 1.4 lb/gal)
Recommended dry film thickness	200 - 1000 µm (8.0 - 40.0 mils)
Theoretical spreading rate	3.0 m^2/l for 300 µm (120 ft^2/US gal for 12.0 mils)
Dry to touch	4 hours
Overcoating Interval	See overcoating tables
Shelf life	Base: at least 24 months when stored cool and dry Hardener: at least 24 months when stored cool and dry

Notes:
- 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

- Coating performance will depend upon the surface preparation degree
- Steel; blast cleaned to ISO-Sa2 or ISO-Sa2½
- Blasting profile of 40 – 80 µm (1.6 – 3.1 mils) is recommended
- Hydrojetted to VIS WJ2/3 L
- Compatible previous coat must be dry and free from any contamination

Substrate temperature

- Substrate temperature during application and curing should be above 0°C (32°F)
- Substrate temperature during application should be at least 3°C (5°F) above dew point

INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 80:20 (4:1)

- Do not thin more than is required by appropriate application property
- Adding too much thinner results in reduced sag resistance and slower cure
- If required, thinner should be added after mixing the components

Induction time

None

Pot life

1.5 hours at 20°C (68°F)

Note: See ADDITIONAL DATA – Pot life

Air spray

Recommended thinner

THINNER 91-92

Volume of thinner

4 - 8%, depending on required thickness and application conditions

Nozzle orifice

1.5 – 3.0 mm (approx. 0.060 – 0.110 in)

Nozzle pressure

0.2 - 0.4 MPa (approx. 2 - 4 bar; 29 - 58 p.s.i.)

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Airless spray

Recommended thinner
THINNER 91-92

Volume of thinner
0 - 5%, depending on required thickness and application conditions

Nozzle orifice
Approx. 0.53 – 0.69 mm (0.021 – 0.027 in)

Nozzle pressure
15.0 MPa (approx. 150 bar; 2176 p.s.i.)

Brush/roller

- Only for touch-up and repair

Recommended thinner
THINNER 91-92

Volume of thinner
0 – 5%

Cleaning solvent
THINNER 90-53

ADDITIONAL DATA

Spreading rate and film thickness	
DFT	**Theoretical spreading rate**
300 µm (12.0 mils)	3.0 m^2/l (120 ft^2/US gal)
500 µm (20.0 mils)	1.8 m^2/l (72 ft^2/US gal)
1000 µm (40.0 mils)	0.9 m^2/l (36 ft^2/US gal)

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Overcoating interval for DFT up to 500 µm (20.0 mils)						
Overcoating with...	**Interval**	**0°C (32°F)**	**10°C (50°F)**	**20°C (68°F)**	**30°C (86°F)**	**40°C (104°F)**
itself	Minimum	20 hours	8 hours	4 hours	2 hours	1.5 hours
	Maximum	1 month	1 month	28 days	21 days	14 days
epoxy coatings	Minimum	20 hours	8 hours	4 hours	2 hours	1.5 hours
	Maximum	1 month	14 days	10 days	7 days	4 days
polyurethanes	Minimum	36 hours	20 hours	14 hours	10 hours	6 hours
	Maximum	1 month	14 days	10 days	7 days	4 days

Note: Surface should be dry and free from any contamination before recoating

Curing time for DFT up to 500 µm (20 mils)			
Substrate temperature	**Dry to touch**	**Dry to handle**	**Full cure**
0°C (32°F)	18 hours	36 hours	24 days
5°C (41°F)	12 hours	30 hours	18 days
10°C (50°F)	6 hours	18 hours	14 days
20°C (68°F)	4 hours	10 hours	7 days
30°C (86°F)	3 hours	6 hours	5 days
40°C (104°F)	2 hours	3 hours	3 days

Notes:

- Premature exposure to water will lead to whitening of dark colours when applied between tides on jetties, piling etc. this will not affect anticorrosive properties of the coating
- Adequate ventilation must be maintained during application and curing (please refer to INFORMATION SHEETS 1433 and 1434)

Pot life (at application viscosity)	
Mixed product temperature	**Pot life**
0°C (32°F)	4 hours
10°C (50°F)	2 hours
20°C (68°F)	1.5 hours
30°C (86°F)	1 hour

SAFETY PRECAUTIONS

- For paint and recommended thinners see INFORMATION 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 vapor, as well as contact between the wet paint and exposed skin or eyes

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WORLDWIDE AVAILABILITY

It is always the aim of PPG Protective and 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

• EXPLANATION TO PRODUCT DATA SHEETS	INFORMATION SHEET	1411
• SAFETY INDICATIONS	INFORMATION SHEET	1430
• SAFETY IN CONFINED SPACES AND HEALTH SAFETY, EXPLOSION HAZARD – TOXIC HAZARD	INFORMATION SHEET	1431
• SAFE WORKING IN CONFINED SPACES	INFORMATION SHEET	1433
• DIRECTIVES FOR VENTILATION PRACTICE	INFORMATION SHEET	1434

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