December 12, 2023 (Revision of April 20, 2023)

SIGMASHIELD™ 880

DESCRIPTION

Two-component, high-build, polyamine adduct-cured epoxy coating

PRINCIPAL CHARACTERISTICS

- Primarily designed for use in offshore splash zone maintenance
- Outstanding sea water resistance
- Excellent corrosion resistance
- Surface tolerant and abrasion resistant
- Continues to cure when immersed in water
- Long-term protection in a single-coat application
- Resistant to well designed cathodic protection
- Suitable for application on exterior of buried pipes
- Suitable on wet blast or ultra high pressure water (UHPWW) cleaned substrates (damp or dry)
- Suitable primer for SIGMAGLIDE fouling release system

COLOR AND GLOSS LEVEL

- Offwhite, yellow and black (other colors available on request)
- Gloss

Note: Epoxy coatings will characteristically chalk and fade upon exposure to sunlight. Light colors are prone to ambering to some extent in interior or exterior exposures

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.5 kg/l (12.1 lb/US gal)
Volume solids	85 ± 2%
VOC (Supplied)	Directive 2010/75/EU, SED: max. 122.0 g/kg UK PG 6/23(92) Appendix 3: max. 207.0 g/l (approx. 1.7 lb/US gal) EPA Method 24: 200.0 g/ltr (1.7 lb/USgal) China GB 30981-2020 (tested) 152.0 g/l (approx. 1.3 lb/gal)
Recommended dry film thickness	150 - 1000 µm (6.0 - 40.0 mils) depending on system
Theoretical spreading rate	4.3 m^2/l for 200 µm (170 ft^2/US gal for 8.0 mils)
Dry to touch	3 hours
Overcoating Interval	Minimum: 3.5 hours Maximum: 14 days

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Data for mixed product	
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

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Substrate conditions

- Coating performance will depend upon the surface preparation degree
- For atmospheric service, abrasive blast to ISO-Sa2½ or minimum SSPC SP-6, power tool cleaned to ISO-St3 (SSPC SP-3) or hand tool cleaned to ISO-St2 (SSPC SP-2) or ultra high pressure water jet to SSPC SP WJ-2(L) / NACE WJ-2(L)
- For immersion service: steel; blast cleaned to ISO-Sa2½ (SSPC SP-10), blasting profile 40 – 75 µm (1.6 – 3.0 mils)
- SSPC SP WJ-2(L) is also acceptable over a previous blasted surface
- For touch up and repair, power tool cleaning in accordance with SSPC SP-11 is acceptable
- Higher profiles (>75 microns, 3.0 mils) is allowable with appropriate coating thickness
- Compatible previous coat must be dry and free from any contamination

Note: Coating performance is, in general, proportional to the degree of surface preparation.

Galvanized, stainless steel and non-ferrous metals

- Galvanised steel;sweep blasted or otherwise roughened; dry and free from salts and other contamination
- Stainless steel and non-ferrous metal; degreased and sweep blast, SSPC SP-16 with blasting profile 40 – 100 µm (1.5 – 4.0 mils)
- The surface should be sufficiently roughened by sweep blasting with inert non-metallic abrasives

Substrate temperature and application conditions

- 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 75:25 (3:1)

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

Induction time

None

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Pot life
2 hours at 20°C (68°F)

Note: See ADDITIONAL DATA – Pot life

Air spray

Recommended thinner
THINNER 91-92 or THINNER 91-82 (AMERCOAT T-10)

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.)

Airless spray

Recommended thinner
THINNER 91-92 or THINNER 91-82 (AMERCOAT T-10)

Volume of thinner
0 - 8%, 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

Recommended thinner
THINNER 91-92 or THINNER 91-82 (AMERCOAT T-10)

Volume of thinner
0 – 5%

Cleaning solvent
THNNER 90-53, THINNER 90-58 (AMERCOAT 12)

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ADDITIONAL DATA

Spreading rate and film thickness	
DFT	**Theoretical spreading rate**
200 µm (8.0 mils)	4.3 m^2/l (170 ft^2/US gal)
500 µm (20.0 mils)	1.7 m^2/l (68 ft^2/US gal)

Overcoating interval for DFT up to 500 µm (20.0 mils)							
Overcoating with...	**Interval**	**-5°C (23°F)**	**5°C (41°F)**	**10°C (50°F)**	**20°C (68°F)**	**30°C (86°F)**	**40°C (104°F)**
itself	Minimum	36 hours	14 hours	7 hours	3.5 hours	2 hours	1.5 hours
	Maximum	2 months	1.5 months	1 month	28 days	21 days	14 days
epoxy coatings	Minimum	36 hours	14 hours	7 hours	3.5 hours	2 hours	1.5 hours
	Maximum	1 month	28 days	21 days	14 days	7 days	4 days
polyurethanes	Minimum	48 hours	22 hours	14 hours	10 hours	6 hours	4 hours
	Maximum	1 month	28 days	21 days	14 days	7 days	4 days

Note: Surface should be dry and free from any contamination

Overcoating interval for SIGMASHIELD 880 (Marine black) DFT up to 300 µm (12.0 mils)							
Overcoating with...	**Interval**	**5°C (41°F)**	**10°C (50°F)**	**15°C (59°F)**	**20°C (68°F)**	**30°C (86°F)**	**40°C (104°F)**
SIGMAGLIDE 790	Minimum	24 hours	20 hours	16 hours	10 hours	6 hours	4 hours
	Maximum	11 days	10 days	9 days	8 days	7 days	6 days

Note: Please contact your PPG representative for more details

Curing time for DFT up to 500 µm (20 mils)			
Substrate temperature	**Dry to touch**	**Dry to handle**	**Full cure**
-5°C (23°F)	24 hours	48 hours	30 days
5°C (41°F)	10 hours	24 hours	18 days
10°C (50°F)	5 hours	16 hours	14 days
20°C (68°F)	3 hours	8 hours	7 days
30°C (86°F)	2 hours	5 hours	5 days
40°C (104°F)	1 hour	3 hours	3 days

Notes:

- For repair of jetties, piling etc. between tides, SIGMASHIELD 880 can be immersed within 30 minutes. Whitening can be happened for dark color, but will not affect anti-corrosive performances.
- The curing time is related to the DFT of the paint and ventilation of the drying condition. High DFT and poor ventilation will slow curing
- When total DFT is higher than 1500 µm (60.0 mils), curing times have to be 2 - 2.5 times in order to obtain sufficient mechanical strength.
- Adequate ventilation must be maintained during application and curing

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Pot life (at application viscosity)	
Mixed product temperature	**Pot life**
10°C (50°F)	3 hours
20°C (68°F)	2 hours
30°C (86°F)	1 hour

Product Qualifications

- Qualified for NORSOK M501 Rev.6 System 7C up to 120°C(250°F) with 175 microns 2 coat system (SIGMASHIELD 880ALU primer), which can be used as NORSOK M501 System 7B as well
- Qualified for NORSOK M501 Rev.6 System 7A with 300 microns 2 coat system (with SIGMASHIELD 880 ALU primer)
- Meets or exceeds the performance requirements of Corps of Engineers C-200a and SSPC Paint 16

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

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

WARRANTY

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