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 for protection of tunnels and other concrete structures
- ACQPA certificate n.° 27942 (class B-300 IL and VL)
- CE-marked product in accordance with EN 1504-2 (system 2+)

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
Shelf life	Base: at least 24 months when stored cool and dry

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Data for mixed product	
	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 SP6, power tool cleaned to ISO St3 (SSPC SP3) or hand tool cleaned to ISO St2 (SSPC SP2) 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 SP10), 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 SP11 is acceptable
- Higher profiles (>75 µm, 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 SP16 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

Concrete

- Dried for at least 28 days in good ventilation conditions
- Moisture content should not exceed 4.5%
- Concrete must be sound, dry, free from laitance and any contamination
- Surface should be sufficiently roughened

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INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 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

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Induction time

0 minute

Note:

- No induction time required

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.)

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Airless spray

Recommended thinner

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

Volume of thinner

Typically 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.)

Note:

- Contact your local PPG representative for maximum allowance of thinning, which can be different by local VOC regulations

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Brush/roller

Recommended thinner

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

Volume of thinner

0 – 5%

Cleaning solvent

- THINNER 90-53 or THINNER 90-58 (AMERCOAT 12)

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)

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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

Curing time for DFT up to 500 µm (20.0 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

- Meets or exceeds the performance requirements of Corps of Engineers C-200a and SSPC Paint 16
- Qualified for NORSOK M501:2022 System 7A, 7B

SAFETY PRECAUTIONS

- 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
- See Safety Data Sheet and product label for complete safety and precaution requirements

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
- Information sheet | Directives for ventilation practice

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