

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)
- ACQPA 27942-certified
- Marking CE level 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 m²/l for 200 µm (170 ft²/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 Hardener: at least 24 months when stored cool and dry |

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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
-

Induction time

0 minute

Note:

- No induction time required
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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.)

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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

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

| Overcoating interval for SIGMASHIELD 880 (Marine black) for 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

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| 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

| 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 µm 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 µm 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

- 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

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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

WARRANTY

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