

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



SIGMASHIELD™ 880

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 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

Note:

- Contact your local PPG representatives for details about maximum thinning %

SIGMASHIELD™ 880

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.)

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.)

SIGMASHIELD™ 880

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) |

| 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



SIGMASHIELD™ 880

| 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

| 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 |



SIGMASHIELD™ 880

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

- 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

WARRANTY

PPG warrants (i) its title to the product, (ii) that the quality of the product conforms to PPG's specifications for such product in effect at the time of manufacture and (iii) that the product shall be delivered free of the rightful claim of any third person for infringement of any U.S. patent covering the product. THESE ARE THE ONLY WARRANTIES THAT PPG MAKES AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, UNDER STATUTE OR ARISING OTHERWISE IN LAW, FROM A COURSE OF DEALING OR USAGE OF TRADE, INCLUDING WITHOUT LIMITATION, ANY OTHER WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR USE, ARE DISCLAIMED BY PPG. Any claim under this warranty must be made by Buyer to PPG in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life of the product, or one year from the date of the delivery of the product to the Buyer, whichever is earlier. Buyer's failure to notify PPG of such non-conformance as required herein shall bar Buyer from recovery under this warranty.

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