September 18, 2020 (Revision of October 10, 2019)

SIGMASHIELD™ 880 ALU

DESCRIPTION

Two-component, surface tolerant high solid MIO / Aluminium epoxy primer

PRINCIPAL CHARACTERISTICS

- Primarily designed as primer for use in harsh conditions like offshore splash zone and subsea
- Outstanding sea water resistance
- Excellent corrosion resistance
- Excellent abrasion and impact resistance
- Continues to cure when immersed in water
- Resistant to well designed cathodic protection
- Perfect for buried pipes and structural steel in heavy industrial areas
- Meets the requirements of Norsok M-501 rev. 6, system 7A, 7B and 7C
- Meets the requirements of ISO 12944-9, splash and tidal zones (CX and Im4) and immersion (Im4)

COLOR AND GLOSS LEVEL

- Yellow/green
- Semi-gloss

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)	max. 220.0 g/l (approx. 1.8 lb/US 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

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
- Steel; hand/power tool clean in accordance with St3 or SSPC-SP3 for new building and St2 or SSPC-SP2 for maintenance, UHPWH in accordance with WJ-2L/3L (SSPC-VIS-4)
- Compatible previous coat must be dry and free from any contamination

Note: For subsea service at high operating temperatures (up to 90°C / 194°F), abrasive blast cleaned to minimum ISO-Sa2½ (SSPC SP-10), blasting profile 40 – 80 µm (1.6 – 3.1 mils)

Substrate temperature

- 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

Pot life

2 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 - 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

Volume of thinner
0 – 5%

Cleaning solvent
THINNER 90-53

ADDITIONAL DATA

Spreading rate and film thickness	
DFT	**Theoretical spreading rate**
175 µm (7.0 mils)	4.9 m^2/l (195 ft^2/US gal)
300 µm (12.0 mils)	2.8 m^2/l (114 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 and SIGMASHIELD 880	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

Note: Surface should be dry and free from any contamination

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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 ALU can be immersed within 30 minutes. Whitening can be happened, 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
- At DFT ranging from 500 – 1000 µm (20.0 – 40.0 mils) applied in a one coat application, 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 (please refer to INFORMATION SHEETS 1433 and 1434)

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 7A with 2 coating system
- Qualified for NORSOK M501 Rev.6 System 7C up to 90°C(194°F) with 2 coating system, which can be used as NORSOK M501 System 7B as well

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.

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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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