PPG SIGMASHIELD® 680

DESCRIPTION

Two-component, epoxy anticorrosive primer, based upon pure epoxy technology

PRINCIPAL CHARACTERISTICS

- Specialized for use under SIGMAGLIDE fouling release system
- Excellent anticorrosive properties and water resistance
- Good abrasion resistance
- Suitable for application and curing in a wide range of climatic conditions
- Excellent adhesion to steel, galvanized steel and non-ferrous metals

COLOR AND GLOSS LEVEL

- Gray, yellow/green and redbrown
- Low sheen

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.4 kg/l (11.7 lb/US gal)
Volume solids	60 ± 2%
VOC (Supplied)	Directive 2010/75/EU, SED: max. 287.0 g/kg max. 392.0 g/l (approx. 3.3 lb/US gal)
Recommended dry film thickness	150 µm (6.0 mils)
Theoretical spreading rate	6.0 m^2/l for 100 µm (241 ft^2/US gal for 4.0 mils)
Dry to touch	2 hours
Full cure after	7 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 – Overcoating intervals
- See ADDITIONAL DATA – Curing time

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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Substrate conditions

- Surface must be free from grease, salts and any contamination
- Steel; blast cleaned to ISO Sa2½, blasting profile 30 – 75 µm (1.2 – 3.0 mils) or according to ISO St3
- Coated steel; hydrojetted to VIS WJ2L (blasting profile 30 – 75 µm (1.2 – 3.0 mils))
- Aluminium substrate; Dry & free from contamination. Pretreated by sweep-blasting with non-metallic / inert blasting material to a min. surface roughness of (Rz) 30-75 microns. To be coated within 6-8 hours

Substrate temperature and application conditions

- Substrate temperature during application and curing should be between 5°C (41°F) and 40°C (104°F)
- Substrate temperature during application and curing should be at least 3°C (5°F) above dew point
- Relative humidity during application and curing should not exceed 85%

INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 4:1

- The temperature of the mixed base and hardener should preferably be above 5°C (41°F), otherwise extra thinner may be required to obtain application viscosity
- Thinner should be added after mixing the components
- Adding too much thinner results in reduced sag resistance

Application

Pot life

4 hours at 20°C (68°F)

Note:

- See ADDITIONAL DATA – Pot life

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Air spray

Recommended thinner

THINNER 91-92

Volume of thinner

0 - 15%, depending on required thickness and application conditions

Nozzle orifice

1.5 – 2.0 mm (approx. 0.060 – 0.079 in)

Nozzle pressure

0.3 - 0.4 MPa (approx. 3 - 4 bar; 44 - 58 p.s.i.)

Airless spray

Recommended thinner

THINNER 91-92

Volume of thinner

0 - 15%, depending on required thickness and application conditions

Nozzle orifice

Approx. 0.53 – 0.74 mm (0.021 – 0.029 in)

Nozzle pressure

15.0 MPa (approx. 150 bar; 2176 p.s.i.)

Brush/roller

Recommended thinner

No extra thinner is necessary

Volume of thinner

Up to 5% THINNER 91-92 can be added if desired

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ADDITIONAL DATA

Overcoating interval for DFT up to 150 µm (6.0 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 Maximum	28 hours 7 days	24 hours 7 days	20 hours 6 days	12 hours 5 days	10 hours 4 days	8 hours 2 days
itself	Minimum Maximum	13 hours 1 months	6 hours 1 months	4 hours 1 months	3 hours 14 days	2 hours 14 days	1 hour 14 days

Note:

- Surface should be dry and free from any contamination

Curing time for DFT up to 150 µm (6.0 mils)			
Substrate temperature	**Dry to touch**	**Dry to handle**	**Full cure**
5°C (41°F)	4 hours	8 hours	9 days
10°C (50°F)	3 hours	6 hours	7 days
15°C (59°F)	2 hours	4 hours	5 days
20°C (68°F)	2 hours	3 hours	4 days
30°C (86°F)	1 hour	2 hours	3 days
40°C (104°F)	1 hour	2 hours	2 days

Note:

- Adequate ventilation must be maintained during application and curing

Pot life (at application viscosity)	
Mixed product temperature	**Pot life**
5°C (41°F)	10 hours
10°C (50°F)	7 hours
15°C (59°F)	6 hours
20°C (68°F)	4 hours
30°C (86°F)	2 hours
40°C (104°F)	1 hour

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SAFETY PRECAUTIONS

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

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