SIGMACOVER™ 280

DESCRIPTION

Universal epoxy anticorrosive primer, based upon pure epoxy technology

PRINCIPAL CHARACTERISTICS

- Universal epoxy primer system suitable for Ballast Tanks, Decks, Topside, Superstructure, Hull and Cargo Oil Tanks
- General-purpose epoxy primer in protective coating systems for steel and non-ferrous metals
- Good adhesion to steel and galvanized steel
- Good adhesion to non-ferrous metals
- Good flow and wetting properties
- Good water and corrosion resistance
- Cures at temperatures down to 5°C (41°F)
- Suitable for touching up of weld seams and damages of epoxy coatings during construction
- Excellent recoatability
- Can be overcoated with most alkyd-, chlorinated rubber-, vinyl-, epoxy- and two-component polyurethane coatings
- Suitable on wet blast cleaned substrates (damp or dry)
- Compatible with well-designed cathodic protection systems

COLOR AND GLOSS LEVEL

- Yellow/green (redbrown on request)
- Eggshell

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.3 kg/l (11.0 lb/US gal)
Volume solids	57 ± 2%
VOC (Supplied)	Directive 1999/13/EC, SED: max. 327.0 g/kg UK PG 6/23(92) Appendix 3: max. 432.0 g/l (approx. 3.6 lb/US gal)
Recommended dry film thickness	50 - 100 µm (2.0 - 4.0 mils) depending on system
Theoretical spreading rate	11.4 m^2/l for 50 µm (457 ft^2/US gal for 2.0 mils) 5.7 m^2/l for 100 µm (229 ft^2/US gal for 4.0 mils)
Dry to touch	1.5 hours
Overcoating Interval	See overcoating tables
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 – Spreading rate and film thickness
- See ADDITIONAL DATA – Overcoating intervals
- See ADDITIONAL DATA – Curing time

SIGMACOVER™ 280

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Immersion exposure

- Steel or steel with not approved zinc silicate shop primer; blast cleaned (dry or wet) to ISO-Sa2½, blasting profile 30 - 75 µm (1.2 – 3.0 mils)
- Steel with approved zinc silicate shop primer; weld seams and areas of damaged shop primer or breakdown should be blast cleaned to ISO-Sa2½, blasting profile 30 - 75 µm (1.2 – 3.0 mils) or power tool cleaned to SPSS-Pt3
- Coated steel; hydrojetted to VIS WJ2L (blasting profile 30 – 75 µm (1.2 – 3.0 mils))

IMO-MSC.215(82) requirements for water ballast tanks

- Steel; ISO 8501-3: 2006 grade P2, with all edges treated to a rounded radius of minimum 2 mm (0.0789 in) or subject to three pass grinding
- Steel or steel with not approved zinc silicate shop primer; blast cleaned to ISO -Sa2½, blasting profile 30 – 75 µm (1.2 – 3.0 mils)
- Steel with approved zinc silicate shop primer; weld seams and areas of shop primer damage or break down should be blast cleaned to Iso-Sa 2½ blasting profile 30 – 75 µm (1.2 – 3.0 mils): [1] For shop primer with IMO type approval; no additional requirements; [2] For shop primer without IMO type approval; blast cleaned to ISO-Sa2 removing at least 70% of intact shop primer, blasting profile 30 – 75 µm (1.2 – 3.0 mils)
- Dust quantity rating "1 for dust size class "3", "4" or "5", lower dust size classes to be removed if visible on the surface to be coated without magnification (ISO 8502-3:1992)

Atmospheric exposure conditions

- Steel blast cleaned to ISO-Sa2½, blasting profile 30 - 75 µm (1.2 – 3.0 mils) or according to ISO-St3
- Shop primed steel; pretreated to SPSS-Pt3
- Galvanized steel must be sweep blasted or otherwise roughened
- Galvanized steel must be free from grease, salts and any contamination

Concrete / Masonry

- Remove grease, oil and other penetrating contaminants according to ASTM D4258
- Abrade the surface per ASTM D4259 to remove all chalk and surface glaze or laitance. Achieve surface profile - ICRI CSP 3 to 5
- AMERCOAT 114 A may be used as a pit filler for certain applications. Check with PPG Technical Service for guidance on chemical resistance
- Maximum recommended moisture transmission rate is 3 lbs / 1,000 ft2 / 24 hours by moisture transmission test (ASTM F1869, calcium chloride test or by ASTM D4263, plastic sheet test)
- Alternatively, ASTM D4944 (Calcium Carbide Gas method) can be used, moisture content should not exceed 4%

Substrate temperature and application conditions

- Substrate temperature during application and curing should be above 5°C (41°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%

SIGMACOVER™ 280

SYSTEM SPECIFICATION

- ANTICORROSIVE SYSTEMS FOR UNDERWATER AND BOOTTOP - SYSTEM SHEET 3101
- SYSTEMS FOR BOOTTOP AND TOPSIDE – SYSTEM SHEET 3102
- SYSTEMS FOR DECKS – SYSTEM SHEET 3103
- SYSTEMS FOR SUPERSTRUCTURE AND DECK FITTINGS – SYSTEM SHEET 3104
- SYSTEMS FOR INTERIOR(S) – SYSTEM SHEET 3105
- SYSTEMS FOR BALLAST TANKS – SYSTEM SHEET 3106 (spec. 5.7)
- SYSTEMS FOR CARGO HOLDS – SYSTEM SHEET 3107

INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 80:20 (4:1)

- The temperature of the mixed base and hardener should preferably be above 15°C (59°F), otherwise extra thinner may be required to obtain application viscosity
- Adding too much thinner results in reduced sag resistance and slower cure
- Thinner should be added after mixing the components

Induction time

None

Pot life

8 hours at 20°C (68°F)

Note: See ADDITIONAL DATA – Pot life

Air spray

Recommended thinner

THINNER 91-92

Volume of thinner

0 - 10%, 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.)

SIGMACOVER™ 280

Airless spray

Recommended thinner
THINNER 91-92

Volume of thinner
0 - 10%, depending on required thickness and application conditions

Nozzle orifice
Approx. 0.46 mm (0.018 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

Cleaning solvent
THINNER 90-53

ADDITIONAL DATA

Spreading rate and film thickness	
DFT	**Theoretical spreading rate**
50 µm (2.0 mils)	11.4 m^2/l (457 ft^2/US gal)
75 µm (3.0 mils)	7.6 m^2/l (305 ft^2/US gal)
100 µm (4.0 mils)	5.7 m^2/l (229 ft^2/US gal)

Note: Maximum DFT when brushing: 50 µm (2.0 mils)

Overcoating interval for DFT up to 100 µm (4.0 mils)						
Overcoating with...	**Interval**	**5°C (41°F)**	**10°C (50°F)**	**20°C (68°F)**	**30°C (86°F)**	**40°C (104°F)**
other types of paint like most chlorinated rubber-, vinyl-, and alkyd coatings	Minimum	16 hours	10 hours	5 hours	3 hours	2 hours
	Maximum	21 days	21 days	10 days	7 days	4 days

Notes:
- Surface should be dry and free from any contamination
- Glossy finishes require a corresponding undercoat

SIGMACOVER™ 280

Overcoating interval for DFT up to 100 µm (4.0 mils)						
Overcoating with...	**Interval**	**5°C (41°F)**	**10°C (50°F)**	**20°C (68°F)**	**30°C (86°F)**	**40°C (104°F)**
various two-pack epoxy and polyurethane coatings	Minimum	36 hours	16 hours	8 hours	6 hours	4 hours
	Maximum exposed to direct sunshine	3 months	3 months	3 months	2 months	2 months
	Maximum NOT exposed to direct sunshine	6 months	6 months	6 months	4 months	3 months

Note: Surface should be dry and free from any contamination

Curing time for DFT up to 100 µm (4.0 mils)			
Substrate temperature	**Dry to touch**	**Dry to handle**	**Full cure**
5°C (41°F)	8 hours	13 hours	21 days
10°C (50°F)	4 hours	6 hours	14 days
20°C (68°F)	2 hours	2.5 hours	7 days
30°C (86°F)	1 hour	1.5 hours	5 days
40°C (104°F)	45 minutes	1 hour	3 days

Note: 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**
15°C (59°F)	10 hours
20°C (68°F)	8 hours
30°C (86°F)	5 hours
35°C (95°F)	4 hours

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.

SIGMACOVER™ 280

REFERENCES

• CONVERSION TABLES	INFORMATION SHEET	1410
• 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
• CLEANING OF STEEL AND REMOVAL OF RUST	INFORMATION SHEET	1490
• SPECIFICATION FOR MINERAL ABRASIVES	INFORMATION SHEET	1491
• RELATIVE HUMIDITY – SUBSTRATE TEMPERATURE – AIR TEMPERATURE	INFORMATION SHEET	1650
• PPG PROTECTIVE & MARINE COATINGS' BALLAST TANK WORKING PROCEDURES NEW-BUILDING		

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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Article code	Color	Reference
179083	yellow/green	4009002200 (144497 base, 142014 hardener)
179085	redbrown	6137002200 (144493 base, 142014 hardener)

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