February 25, 2021 (Revision of July 22, 2020)

SIGMAPRIME® 700 LT

DESCRIPTION

Universal epoxy anticorrosive primer, based upon pure epoxy technology

PRINCIPAL CHARACTERISTICS

- Universal pure epoxy primer system suitable for Ballast Tanks, Decks, Topside, Superstructure, Hull and Cargo Oil Tanks
- Good abrasion resistance for dedicated areas of application
- Good adhesion to steel and galvanized steel and non-ferrous metal
- Good flow and wetting properties
- Good water and corrosion resistance
- Cures even at temperatures down to -10°C (14°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
- Compatible with well-designed cathodic protection systems
- Suitable on wet blast cleaned substrates (damp or dry)
- Suitable primer for SIGMAGLIDE fouling release system

COLOR AND GLOSS LEVEL

- Gray, redbrown, yellow/green, green
- Eggshell

BASIC DATA AT 10°C (50°F)

Data for product	
Number of components	Two
Mass density	1.4 kg/l (11.7 lb/US gal)
Volume solids	70 ± 2%
VOC (Supplied)	Directive 1999/13/EC, SED: max. 233.0 g/kg max. 317.0 g/l (approx. 2.6 lb/US gal)
Recommended dry film thickness	100 - 250 µm (4.0 - 10.0 mils) depending on system
Theoretical spreading rate	7.0 m^2/l for 100 µm (281 ft^2/US gal for 4.0 mils) 3.5 m^2/l for 200 µm (140 ft^2/US gal for 8.0 mils)
Dry to touch	4 hours
Full cure after	7 days
Shelf life	Base: at least 12 months when stored cool and dry Hardener: at least 24 months when stored cool and dry

Notes:

- Mass Density (kg/l); Base 1,46 - 1,56 Hardener 0,91 - 0,99 Set 1,35 - 1,45
- See ADDITIONAL DATA – Overcoating intervals
- See ADDITIONAL DATA – Curing time
- See ADDITIONAL DATA – Spreading rate and film thickness

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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Immersion exposure

- Steel or steel with not appoved 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 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
- Previous coat must be dry and free from any contamination
- At freezing temperatures surface must be free from ice

IMO-MSC.215(82) Requirements for Water Ballast Tanks and IMO-MSC.288(87) for Cargo tanks of Crude Oil Tankers (specified areas only)

- Steel; ISO 8501-3:2006 grade P2, with all edges treated to a rounded radius of minimum 2 mm (0.079 in) or subject to three pass grinding or at least equivalent process before painting
- Steel or steel with not appoved 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 on the surface to be coated must not exceed rating "1" for dust size class "3", "4" or "5" (ISO 8502-3-2017). Lower dust size classes (“1” and/or “2”) to be removed if visible without magnification.
- Previous coat must be dry and free from any contamination
- At freezing temperatures surface must be free from ice

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 free from grease, salts and any contamination
- Galvanized steel must be sweep blasted or otherwise roughened
- Previous coat must be dry and free from any contamination
- At freezing temperatures surface must be free from ice

Substrate temperature and application conditions

- Substrate temperature during application and curing should be above -10°C (14°F)
- Substrate temperature during application and curing down to -10°C (14°F) is acceptable; however curing to hardness takes longer and complete resistance will be reached when the temperature increases
- 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%

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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 5°C (41°F), otherwise extra thinner may be required to obtain application viscosity
- Adding too much thinner results in reduced sag resistance
- Thinner should be added after mixing the components

Induction time

None

Pot life

7 hours at 10°C (50°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.)

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.)

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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**
100 µm (4.0 mils)	7.0 m^2/l (281 ft^2/US gal)
125 µm (5.0 mils)	5.6 m^2/l (225 ft^2/US gal)
160 µm (6.3 mils)	4.4 m^2/l (178 ft^2/US gal)
200 µm (8.0 mils)	3.5 m^2/l (140 ft^2/US gal)

Note: Max. dft: Dry Film Thickness of 2000 µm (80.0 mils) may occur occasionally (minor areas) where multiple overlapping is unavoidable (i.e. around scallops, corners, erection joint lines etc.). PPG must be consulted in case of DFT readings fall outside this recommendation.

Overcoating interval for DFT up to 160 µm (6.3 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	16 hours	12 hours	8 hours	Not recommended	Not recommended
	Maximum	5 days	4 days	3 days	3 days	Not recommended	Not recommended

Note: At temperatures between 5°C (41°F) and 20°C (68°F) SIGMAPRIME 700 LT need to be specified. At temperatures above 20°C (68°F) SIGMAPRIME 700 is recommended

Overcoating interval for DFT up to 160 µm (6.3 mils)						
Overcoating with...	**Interval**	**-10°C (14°F)**	**-5°C (23°F)**	**0°C (32°F)**	**5°C (41°F)**	**15°C (59°F)**
various two-component epoxy coatings	Minimum	48 hours	28 hours	21 hours	12 hours	6 hours
	Maximum exposed to direct sunshine	2 months	2 months	2 months	1 month	1 month
	Maximum NOT exposed to direct sunshine	3 months	3 months	3 months	2 months	1 month

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Curing time for DFT up to 160 µm (6.3 mils)			
Substrate temperature	**Dry to touch**	**Dry to handle**	**Full cure**
-10°C (14°F)	24 hours	48 hours	21 days
-5°C (23°F)	12 hours	36 hours	14 days
0°C (32°F)	8 hours	24 hours	12 days
5°C (41°F)	6 hours	15 hours	9 days
10°C (50°F)	4 hours	10 hours	7 days
15°C (59°F)	3 hours	8 hours	5 days

Notes:

- Adequate ventilation must be maintained during application and curing (please refer to INFORMATION SHEETS 1433 and 1434)
- In exceptional cases SIGMAPRIME 700 LT may be applied at lower substrate temperatures (down to -15°C (5°F)) provided that the surface is free from ice and other contamination. In such cases special care must be taken to avoid thick film application as this may lead to checking/crazing or solvent entrapment. It should be clear that application at lower temperatures will require additional thinning to obtain application viscosity, however this will affect the sag resistance of the applied coating and can induce solvent retention. Optimal curing an designed product properties will only be achieved when minimum required substrate temperature is reached.

Pot life (at application viscosity)	
Mixed product temperature	**Pot life**
5°C (41°F)	10 hours
10°C (50°F)	7 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.

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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
• CLEANING OF STEEL AND REMOVAL OF RUST	INFORMATION SHEET	1490
• 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.

LIMITATIONS OF LIABILITY

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Depending on specific country of application the following versions are available:

Article code	Color	Reference
247334	redbrown	2008002150 (245345 base, 245360 hardener)
250190	grey	9515052150 (245344 base, 245360 hardener)
313861	yellow/green	4009002150 (298559 base, 245360 hardener)
267770	redbrown	2008002200 (267439 base, 267768 hardener)
267769	grey	5000002200 (267438 base, 267768 hardener)
322682	yellow/green	4009002200 (269713 base, 267768 hardener)
317129	redbrown	2008002200 (317121 base, 317125 hardener)
317130	grey	5000002200 (317122 base, 317125 hardener)
317131	yellow/green	4009002200 (317123 base, 317125 hardener)