SIGMAPRIME® 700

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 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
- 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
- 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	70 ± 2%
VOC (Supplied)	Directive 2010/75/EU, SED: max. 227.0 g/kg max. 313.0 g/l (approx. 2.6 lb/US gal)
Recommended dry film thickness	100 - 250 µm (4.0 - 10.0 mils)
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	2 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:

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- Mass Density (kg/l); Base 1,46 - 1,56 Hardener 0,96 - 0,99 Set 1,35 - 1,45
- See ADDITIONAL DATA – Spreading rate and film thickness
- See ADDITIONAL DATA – Overcoating intervals
- See ADDITIONAL DATA – Curing time

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Immersion exposure

- 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 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))
- Previous coat must be dry and free from any contamination

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 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 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

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
- Existing pipelines may have to be cleaned first by scraper pigs and solvents
- Galvanized steel must be sweep blasted or otherwise roughened
- Galvanized steel must be free from grease, salts and any contamination
- Previous coat must be dry and free from any contamination

Substrate temperature and application conditions

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

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INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 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

0 minute

Note:

- No induction time required

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.)

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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

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: DFT 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.

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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	Not recommended	24 hours	16 hours	12 hours	8 hours	5 hours
	Maximum	Not recommended	6 days	4 days	3 days	3 days	48 hours

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°C) SIGMAPRIME 700 is recommended.

Overcoating interval for DFT up to 160 µm (6.3 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 coatings	Minimum	15 hours	9 hours	4 hours	2.5 hours	1.5 hours
	Maximum exposed to direct sunshine	3 months	3 months	2 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 160 µm (6.3 mils)			
Substrate temperature	**Dry to touch**	**Dry to handle**	**Full cure**
5°C (41°F)	7 hours	19 hours	21 days
10°C (50°F)	7 hours	14 hours	14 days
15°C (59°F)	5 hours	11 hours	7 days
20°C (68°F)	4 hours	6 hours	5 days
30°C (86°F)	1 hour	3 hours	5 days

Note:

- Adequate ventilation must be maintained during application and curing

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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)	4 hours

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

WARRANTY

LIMITATIONS OF LIABILITY

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AVAILABILITY OF PACKAGING

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

Article code	Color	Reference
245825	Redbrown	2008002150 (245345 base, 245346 hardener)
267442	Redbrown	2008002200 (267439 base, 267440 hardener)
317127	Grey	5000002200 (317122 base, 317124 hardener)
317128	Yellow/green	4009002200 (317123 base, 317124 hardener)
267441	Grey	5000002200 (267438 base, 267440 hardener)
245824	Grey	9515052150 (245344 base, 245346 hardener)
298560	Yellow/green	4009002150 (298559 base, 245346 hardener)
317126	Redbrown	2008002200 (317121 base, 317124 hardener)
269714	Yellow/green	4009002200 (321758 base, 267440 hardener)