

SIGMAPRIME® 200 SERIES

OVERVIEW

- Place of origin: Indonesia
- Gloss level: Eggshell
- Dry to touch: 1.5 hours
- Number of components: 2
- Color: Alu light, alu yellow, yellow/green, redbrown

PRODUCT DETAIL

DESCRIPTION

Universal epoxy anticorrosive primer, based upon pure epoxy technology

PRINCIPAL CHARACTERISTICS

- Universal epoxy primer system suitable for ballast tanks, deck, topside, superstructure, hull, cargo oil tanks and cargo holds
- Excellent anticorrosive properties and water resistance
- Surface tolerant primer
- Good chemical resistance
- Good abrasion resistance for dedicated areas of application
- Excellent adhesion to steel, shop primer, galvanized steel and non-ferrous metals
- Excellent recoatability
- Suitable for application and curing in a wide range of climatic conditions
- Suitable for bulk supply and twin feed application
- Suitable on wet blast cleaned substrates (damp or dry)

COLOR AND GLOSS LEVEL

- Alu light, alu yellow, gray, yellow/green, redbrown
- Eggshell

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	SIGMAPRIME 200: 1.3 kg/l (10.8 lb/US gal) SIGMAPRIME 200 K: 1.4 kg/l (11.7 lb/US gal)
Volume solids	SIGMAPRIME 200: 57 ± 2% SIGMAPRIME 200 K: 60 ± 2%

VOC (Supplied)	Directive 1999/13/EC, SED: max. 326 g/kg (SIGMAPRIME 200) max. 430.0 g/l (approx. 3.6 lb/gal) (SIGMAPRIME 200) Directive 1999/13/EC, SED: max. 287 g/kg (SIGMAPRIME 200 K) max. 392.0 g/l (approx. 3.3 lb/gal) (SIGMAPRIME 200 K)
Recommended dry film thickness	See spreading rate tables
Theoretical spreading rate	SIGMAPRIME 200: 3.8 m ² /l for 150 µm (152 ft ² /US gal for 6.0 mils) SIGMAPRIME 200 K: 6.0 m ² /l for 100 µm (241 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

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 – 3.0mils)
- 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 – 3.0mils))
- Primed steel or 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 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)
- Primed steel or 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
- Galvanized steel must be free from grease, salts and any contamination
- Galvanized steel must be cleaned by solvent or roughened by sandpaper
- Coated steel; hydrojetted to VIS WJ2L (blasting profile 30 – 75 µm (1.2 – 3.0mils))
- Primed steel or previous coat must be dry and free from any contamination

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%

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. 2)
- SYSTEMS FOR CARGO HOLDS – SYSTEM SHEET 3107
- MISCELLANEOUS SYSTEMS – SYSTEM SHEET 3108

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: 7 hours at 20°C (68°F)

Note: See ADDITIONAL DATA – Pot life

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

Cleaning solvent: THINNER 90-53

ADDITIONAL DATA

Spreading rate and film thickness – SIGMAPRIME 200	
DFT	Theoretical spreading rate
75 µm (3.0 mils)	7.6 m ² /l (305 ft ² /US gal)
125 µm (5.0 mils)	4.6 m ² /l (183 ft ² /US gal)
160 µm (6.3 mils)	3.6 m ² /l (145 ft ² /US gal)
200 µm (8.0 mils)	2.9 m ² /l (114 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.

Spreading rate and film thickness – SIGMAPRIME 200 K	
DFT	Theoretical spreading rate
100 µm (4.0 mils)	6.0 m ² /l (241 ft ² /US gal)
125 µm (5.0 mils)	4.8 m ² /l (193 ft ² /US gal)
160 µm (6.3 mils)	3.8 m ² /l (153 ft ² /US gal)
200 µm (8.0 mils)	3.0 m ² /l (120 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)	20°C (68°F)	30°C (86°F)	40°C (104°F)
various two-pack epoxy	Minimum	13 hours	6 hours	2.5 hours	1.5 hours	1 hour

coatings	Maximum exposed to direct sunshine	3 months	3 months	3 months	3 months	3 months
	Maximum NOT exposed to direct sunshine	6 months	6 months	6 months	6 months	6 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)	5 hours	14 hours	21 days
10°C (50°F)	3 hours	8 hours	14 days
20°C (68°F)	1.5 hours	4 hours	7 days
30°C (86°F)	45 minutes	2.5 hours	5 days
40°C (104°F)	30 minutes	1.5 hours	4 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)	7 hours
30°C (86°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.