

SIGMAFAST™ 278 / AMERCOAT® 278

DESCRIPTION

Two-component, high solids, zinc phosphate epoxy primer and buildcoat

PRINCIPAL CHARACTERISTICS

- Epoxy primer or buildcoat in protective coating systems
- Excellent corrosion resistance in atmospheric exposure
- Cures at temperatures down to -5°C (23°F)
- Speed curing in steel fabrication
- Easy application by airless spray
- Wide application range

COLOR AND GLOSS LEVEL

- Redbrown, gray and a selected range of (MIO) colors
- Semi-gloss

Note: Epoxies will yellow over time and this will be more visible in white and off-white. SIGMAFAST 278 should be used for non-cosmetic areas only.

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.5 kg/l (12.5 lb/US gal)
Volume solids	80 ± 2%
VOC (Supplied)	Directive 1999/13/EC, SED: max. 153.0 g/kg UK PG 6/23(92) Appendix 3: max. 230.0 g/l (approx. 1.9 lb/US gal) EPA Method 24: 220.0 g/ltr (1.8 lb/USgal)
Recommended dry film thickness	75 - 250 µm (3.0 - 10.0 mils)
Theoretical spreading rate	6.4 m ² /l for 125 µm (257 ft ² /US gal for 5.0 mils)
Dry to touch	1 hour
Overcoating Interval	Minimum: 2 hours Maximum: Unlimited
Full cure after	3 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



SIGMAFAST™ 278 / AMERCOAT® 278

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Substrate conditions

- Steel; blast cleaned to ISO-Sa2½ or minimum SSPC SP-6, blasting profile 40 – 70 µm (1.6 – 2.8 mils) or power tool cleaned to minimum ISO-St3 / SSPC SP3
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Galvanized steel

- Surface must be dry and free from any contamination
 - Surface should be sufficiently roughened (e.g. sandpapering, sweep blasting)
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Primed steel or previous coat

- Previous suitable coat must be dry and free from any contamination
 - Surface of previous coat should be sufficiently roughened if necessary
 - When applied to zinc silicate, a mist coat and full coat technique is required
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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 down to -5°C (23°F) is acceptable; provided the substrate is free from ice and dry
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INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 75:25 (3:1)

- The temperature of the paint 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
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Induction time

None

Pot life

1 hour at 20°C (68°F)

SIGMAFAST™ 278 / AMERCOAT® 278

Air spray

Recommended thinner

THINNER 91-92

Volume of thinner

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

Nozzle orifice

1.7 – 2.0 mm (approx. 0.070 – 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 - 10%, 30 - 40% when mist coat applied

Nozzle orifice

Approx. 0.46 – 0.53 mm (0.018 – 0.021 in)

Nozzle pressure

20.0 - 25.0 MPa (approx. 200 - 250 bar; 2901 - 3626 p.s.i.)

Brush/roller

Recommended thinner

THINNER 91-92

Volume of thinner

0 – 5%

Notes:

- Application by roller will leave roller marking and is suitable for minimum DFT requirements only
 - A roller suitable for epoxy application must be used
 - Application by brush may show brush marking, due to the thixotropic nature of the paint and is most suitable to small areas, tight angle areas or for stripe coating or touch-up
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Cleaning solvent

THINNER 90-53

SIGMAFAST™ 278 / AMERCOAT® 278

ADDITIONAL DATA

Spreading rate and film thickness	
DFT	Theoretical spreading rate
75 µm (3.0 mils)	10.7 m ² /l (428 ft ² /US gal)
125 µm (5.0 mils)	6.4 m ² /l (257 ft ² /US gal)
250 µm (10.0 mils)	3.2 m ² /l (128 ft ² /US gal)

Overcoating interval for DFT up to 125 µm (5.0 mils)						
Overcoating with...	Interval	-5°C (23°F)	0°C (32°F)	10°C (50°F)	20°C (68°F)	30°C (86°F)
various two-pack epoxy and polyurethane coatings	Minimum	24 hours	14 hours	4 hours	2 hours	1 hour
	Maximum	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited

Notes:

- This product has an unlimited maximum overcoating interval provided the surface is free from chalking and other contamination, in which case it should be cleaned and roughened up to ensure good adhesion of subsequent coat
- The optimum intercoat adhesion is obtained when the subsequent coating is applied before the full cure time of the previous coating has elapsed
- This product will yellow quickly when exposed to sunlight; this has no influence on the anti-corrosive performance and will not affect the topcoat

Curing time for DFT up to 125 µm (5.0 mils)			
Substrate temperature	Dry to touch	Dry to handle	Full cure
-5°C (23°F)	16 hours	38 hours	N/A
0°C (32°F)	11 hours	24 hours	21 days
10°C (50°F)	4 hours	8 hours	8 days
20°C (68°F)	2 hours	4 hours	4 days
30°C (86°F)	1 hour	2 hours	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
0°C (32°F)	10 hours
10°C (50°F)	3 hours
20°C (68°F)	1 hour
30°C (86°F)	30 minutes



SIGMAFAST™ 278 / AMERCOAT® 278

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.

REFERENCES

• CONVERSION TABLES	INFORMATION SHEET	1410
• EXPLANATION TO PRODUCT DATA SHEETS	INFORMATION SHEET	1411
• SAFETY INDICATIONS	INFORMATION SHEET	1430
• RELATIVE HUMIDITY – SUBSTRATE TEMPERATURE – AIR TEMPERATURE	INFORMATION SHEET	1650

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