

PPG SIGMAFAST™ 360

DESCRIPTION

Solvent-free two-component polyurethane coating for buried infrastructure such as utility poles

PRINCIPAL CHARACTERISTICS

- Protective exterior coating for exposed and buried infrastructure, including utility structures such as steel poles for high-voltage transmission lines
- Excellent corrosion resistance
- Extremely fast-curing
- Good impact and abrasion resistance
- Excellent adhesion
- Good chemical resistance
- Long-term protection in a single-coat application

COLOR AND GLOSS LEVEL

- Black
- High gloss

BASIC DATA AT 25°C (77°F)

Data for mixed product	
Number of components	Two
Mass density	1.37 kg/l (11.4 lb/US gal)
Volume solids	100 ± 2%
VOC (Supplied)	Max. 1.0 g/L (approx. 0.0 lb/US gal)
Recommended dry film thickness	500 to 750 µm (20.0 to 30.0 mils) per coat
Theoretical spreading rate	1.3 m ² /l for 750 µm (80 ft ² /US gal for 30.0 mils)
Dry to touch	3 minutes
Dry to handle	7 minutes
Full cure after	12 minutes
Shelf life	Base: at least 9 months when stored cool and dry Hardener: at least 6 months when stored cool and dry

Notes:

- See ADDITIONAL DATA – Spreading rate and film thickness
- See ADDITIONAL DATA – Curing time
- SIGMAFAST 360 is supplied as a two-component polyurethane system. The pigmented base is supplied under the identification "SIGMAFAST 360 BASE", while the hardener is supplied under the identification "SIGMALINE 855 (11) HARDENER"

PPG SIGMAFAST™ 360

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Substrate conditions

- Steel: Remove surface contaminants in accordance with SSPC-SP 1 (Solvent Cleaning). Abrasive blast clean to SSPC-SP 10 (Near-White Metal); achieve a surface profile of 75–100 µm (3.0–4.0 mils)
 - New Galvanized Steel: Remove surface contaminants in accordance with SSPC-SP 1 (Solvent Cleaning). Perform a sweep abrasive blast in accordance with SSPC-SP 16
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Substrate temperature and application conditions

- Substrate temperature during application and curing should be above 10°C (50°F)
 - Substrate temperature during application and curing should be at least 3°C (5°F) above dew point
 - Relative humidity during application should not exceed 75%, and good ventilation is required
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SYSTEM SPECIFICATION

Atmospheric exposure

- PPG SIGMAFAST 360: 500 to 750 µm (20.0 to 30.0 mils) DFT continuous application with multiple spray passes
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Buried infrastructure

- PPG SIGMAFAST 360: 500 to 750 µm (20.0 to 30.0 mils) DFT continuous application with multiple spray passes
 - Apply a topcoat to provide UV protection: SIGMADUR 550, U-21 (available only in Mexico) or PSX-700 in accordance with the recommended thickness specified in their technical data sheet
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INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 1:1

- Application with twin-feed hot airless spray equipment
 - No thinner should be added
 - Ensure that the product mixing in the application system is carried out with the correct components: pigmented base under the identification "SIGMAFAST 360 BASE", and isocyanate/hardener under the identification "SIGMALINE 855 (11) HARDENER"
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Application

- For a good intercoat adhesion it is necessary that a coated surface which should be repaired or completely recoated is roughened up by means of sweep blasting or abrading
 - For manual recoating of small damaged areas and special repairs, use a repair material approved by PPG
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PPG SIGMAFAST™ 360

Pot life

10 seconds at 60°C (140°F)

Note:

- See ADDITIONAL DATA – Pot life

Airless spray

- Twin-feed, hot airless spray
- Pump inlet temperature:
Base: 40°C (104°F) to 60°C (140°F)
Hardener: 20°C (68°F) to 40°C (104°F)
- Temperature in the mixing unit must be:
Base: 65°C (149°F) to 75°C (167°F)
Hardener: 60°C (140°F) to 65°C (149°F)

Recommended thinner

No thinner should be added

Nozzle orifice

Approx. 0.58 – 0.79 mm (0.023 – 0.031 in)

Nozzle pressure

15.0 MPa (approx. 150 bar; 2176 p.s.i.)

Note:

- Temperature from the heated hose to the spray gun nozzle must be between 65°C (149°F) to 75°C (167°F)

Cleaning solvent

- THINNER 90-53, THINNER 91-07

Cleaning procedure

- Mixed material will become insoluble within a few seconds after mixing at 60°C (140°F)
- Parts of the spraying equipment containing mixed base and hardener must be cleaned immediately after completion of the job or during any interruption

ADDITIONAL DATA**Physical data of cured material**

Characteristic	Value
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PPG SIGMAFAST™ 360

Physical data of cured material	
Impact resistance (ASTM D2794)	> 5.65 J (508 µm) 50 in-lbs (20 mils)
Cathodic disbondment resistance (ASTM G95-07)	< 12 mm 0.47 in
Surface resistivity (ASTM D257)	> 1×10^{14} ohms/cm ² 6.5×10^{14} ohms/in ²
Dielectric strength (ASTM D149)	> 7.9 kV/mm 200 V/mil
Hardness, Shore D (ASTM D2240)	Min. 70 (@ 500 µm 20 mils.)
Adhesion to Steel (ASTM D4541)	Min. 10.3 MPa 2,000 psi
Taber Abrasion (ASTM D4060, CS-17 Wheel, 1 kg load, 1,000 cycles)	Max. 100 mg 0.00022 Lb

Note:

- The reported physical data is applicable to the mixture of pigmented base under the identification "SIGMAFAST 360 BASE" and isocyanate/hardener under the identification "SIGMALINE 855 (11) HARDENER"

Spreading rate and film thickness	
DFT	Theoretical spreading rate
500 µm (20.0 mils)	2.0 m ² /l (80 ft ² /US gal)
750 µm (30.0 mils)	1.3 m ² /l (60 ft ² /US gal)

Overcoating interval for DFT up to 750 µm (30.0 mils.)				
Overcoating with...	Interval	10°C (50°F)	20°C (68°F)	30°C (86°F)
recommended topcoats	Minimum	10 minutes	5 minutes	3 minutes
	Maximum	45 minutes	40 minutes	30 minutes
itself	Minimum	2 minutes	1.5 minutes	1 minute
	Maximum	7 minutes	4 minutes	2 minutes

Notes:

- When the maximum recoat interval is exceeded, create surface roughness in the previously applied coat by light abrasive blasting or sanding
- Adequate ventilation must be maintained during application and curing

PPG SIGMAFAST™ 360

Curing time for DFT up to 750 µm (30.0 mils.)

Substrate temperature	Dry to touch	Dry to handle	Full cure
10°C (50°F)	2 - 4 minutes	8 - 10 minutes	24 hours
20°C (68°F)	1.5 - 3 minutes	4 - 7 minutes	12 hours
40°C (104°F)	50 - 90 seconds	3 - 5 minutes	8 hours
60°C (140°F)	30 - 60 seconds	1 - 2 minutes	4 hours

Pot life (at application viscosity)

Mixed product temperature	Pot life
10°C (50°F)	1 minute
30°C (86°F)	20 - 30 seconds
60°C (140°F)	5 - 10 seconds

DISCLAIMER

- This product is specifically suitable for use on the substrates mentioned in this document. For application on any other substrates, please always contact your PPG representative for specific instructions and in order to make sure that the product performance can be safeguarded.

SAFETY PRECAUTIONS

- 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.

WARRANTY

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PPG SIGMAFAST™ 360

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