New Guard Coatings Group

A global reputation to protect.

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This information is not exhaustive and it is the user's responsibility to ensure that this data sheet is the most current by contacting their local New Guard Coatings Group branch prior to using the coating/product.

SIGMALINE™ 2500

DESCRIPTION

Two-component, solvent-free amine cured novolac phenolic epoxy coating

PRINCIPAL CHARACTERISTICS

- One-coat system direct to metal for pipe internals and externals
- Excellent resistance to cathodic protection
- Excellent resistance to crude oil up to 120°C (250°F)
- Glossy and smooth appearance
- Reduced explosion risk and fire hazard
- Fast-curing, especially when applied to preheated substrates
- Can be applied to rotating pipes at a dry-film thickness (DFT) up to 600 µm (24.0 mils) at a substrate temperature up to 90°C (194°F)

COLOR AND GLOSS LEVEL

- Dark brown
- Gloss

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	100%
VOC (Supplied)	Directive 1999/13/EC, SED: max. 83.0 g/kg max. 125.0 g/l (approx. 1.0 lb/US gal)
Recommended dry film thickness	600 - 1000 µm (24.0 - 40.0 mils)
Theoretical spreading rate	1.7 m^2/l for 600 µm (67 ft^2/US gal for 24.0 mils) 1.0 m^2/l for 1000 µm (40 ft^2/US gal for 40.0 mils)
Dry to touch	30 minutes at 60 °C (140°F)
Overcoating Interval	Minimum: 3 hours Maximum: 1 month
Full cure after	48 hours
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 – Overcoating intervals
- See ADDITIONAL DATA – Curing time

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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Substrate conditions

- Steel; blast cleaned to a minimum of ISO-Sa2½ (SSPC SP-10), blasting profile 50 – 100 µm (2.0 – 4.0 mils)

Substrate temperature and application conditions

- Substrate temperature during application and curing should be above 15°C (59°F)
- Substrate temperature during application and curing should be at least 3°C (5°F) above dew point
- Substrate temperature during automatic application between 40°C (104°F) and 60°C (140°F) is recommended, which will ensure good curing and appearance

INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 80:20 (4:1)

- Application with twin-feed hot airless spray equipment

Induction time

None

Pot life

5 minutes at 50°C (122°F)

Note: See ADDITIONAL DATA – Pot life

Airless spray

- Twin-feed, hot airless spray
- Pumping viscosity is achieved at 40°C (104°F) to 60°C (140°F)
- Temperature in the mixing unit must be between 40°C - 70°C (104°F - 158°F)

Recommended thinner

No thinner should be added

Nozzle orifice

Approx. 0.48 – 0.78 mm (0.019 – 0.031 in)

Nozzle pressure

At 40°C (104°F) paint temperature min. 19.0 MPa (approx. 190 bar; 2756 p.s.i.). At 60°C (140°F) min. 15.0 MPa (approx. 150 bar; 2176 p.s.i.)

Note: Sag resistance depends on both paint and substrate temperature. Film build can be optimized by applying multiple passes wet-in-wet after allowing the previous pass to set

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Brush/roller
- Only for touch-up and spot repair

Recommended thinner
No thinner should be added

Cleaning solvent
THINNER 90-83 (preferred) or THINNER 90-53

Cleaning procedures
- All application equipment must be cleaned immediately after use
- Paint inside the spraying equipment must be removed before the pot life has been expired

ADDITIONAL DATA

Spreading rate and film thickness	
DFT	**Theoretical spreading rate**
600 µm (24.0 mils)	1.7 m^2/l (67 ft^2/US gal)
800 µm (32.0 mils)	1.3 m^2/l (50 ft^2/US gal)
1000 µm (40.0 mils)	1.0 m^2/l (40 ft^2/US gal)

Overcoating interval for DFT up to 600 µm (24.0 mils)				
Overcoating with...	**Interval**	**20°C (68°F)**	**30°C (86°F)**	**40°C (104°F)**
itself	Minimum	3 hours	1.5 hours	1 hour
	Maximum	1 month	1 month	1 month

Notes:
- Adequate ventilation must be maintained during application and curing (please refer to INFORMATION SHEETS 1433 and 1434)
- When exposed to sunlight maximum interval is 2 days for all mentioned temperatures

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Curing time for DFT up to 600 µm (24.0 mils)		
Substrate temperature	**Dry to handle**	**Full cure**
20°C (68°F)	3 hours	48 hours
30°C (86°F)	1.5 hours	24 hours
40°C (104°F)	1 hour	12 hours
50°C (122°F)	40 minutes	6 hours
60°C (140°F)	30 minutes	3 hours
70°C (158°F)	20 minutes	2 hours
90°C (194°F)	10 minutes	1 hour

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**
20°C (68°F)	20 minutes
50°C (122°F)	5 minutes
60°C (140°F)	4 minutes
70°C (158°F)	3 minutes

Note: Due to exothermic reaction, temperature during and after mixing may increase

SAFETY PRECAUTIONS

- For paint and recommended thinners see INFORMATION SHEETS 1430, 1431 and relevant Material Safety Data Sheets
- Although this is a solvent-free paint, care should be taken to avoid inhalation of spray mist, as well as contact between the wet paint and exposed skin or eyes
- Ventilation should be provided in confined spaces to maintain good visibility

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

• CONVERSION TABLES	INFORMATION SHEET	1410
• 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
• SPECIFICATION FOR MINERAL ABRASIVES	INFORMATION SHEET	1491
• SURFACE PREPARATION OF STEEL PIPES AND FITTINGS SHOP APPLICATION	INFORMATION SHEET	1492
• INTERNAL CHEMICAL CLEANING OF STEEL PIPES IN-SITU APPLICATION	INFORMATION SHEET	1493
• RELATIVE HUMIDITY – SUBSTRATE TEMPERATURE – AIR TEMPERATURE	INFORMATION SHEET	1650

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