

SIGMALINE 2500

(SIGMALINING FDP 67)

5 pages

February 2006
Revision of September 2005

DESCRIPTION	two component solvent free amine cured phenolic epoxy coating
PRINCIPAL CHARACTERISTICS	<ul style="list-style-type: none"> - one coat system direct to metal for pipe externals - excellent resistance to cathodic protection - 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 24 mils (600 µm) at a substrate temperature up to 194°F (90°C) - approved to Saudi Aramco APCS 113
COLORS AND GLOSS	dark brown - gloss
BASIC DATA AT 68°F	(8.25 lb/US gal = 1 g/cm ³ ; 40.7 ft ² /US gal = 1 m ² /l) (data for mixed product)
Mass density	12.52 lbs/gal (1.5 g/cm ³)
Solids content	100%
VOC (supplied - EPA 24)	max. 83 g/kg (Directive 1999/13/EC, SED) max. 1.0 lb/gal (approx. 125 g/l) see information sheet 1411
Recommended dry film thickness	24 mils (600 µm) depending on system
Theoretical spreading rate	69 ft ² /gal (1.7 m ² /l) for 24 mils (600 µm) *
Touch dry after	30 min. at 140°F (60°C)
Overcoating interval	min. equal to dry to handle time (see curing table) max. 2 days (external exposure) or 1 month (in-shop exposure)
Full cure after	3 hours at 140°F (60°C)
Gellation time	4 - 6 min. at 122°F (50°C) (data for component)
Shelf life (cool and dry place)	at least 6 months
Flash point	base and hardener above 149°F (65°C) * see additional data

SIGMALINE 2500

(SIGMALINING FDP 67)

February 2006

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- steel; blast cleaned to a minimum of SSPC SP10/NACE 2 (ISO-Sa2½), blasting profile (R_z) 2 - 4 mil (50 - 100 µm)
- substrate temperature should be above 59°F (15°C) and at least 5°F (3°C) above dew point during application and curing
- the recommended substrate temperature should be preferably between 104°F (40°C) and 140°F (60°C)
- these recommended substrate temperatures ensure good curing and appearance

INSTRUCTIONS FOR USE

mixing ratio by volume: base to hardener 4 : 1

- application with twin feed hot airless spray equipment

Induction time

none

Pot life

5 min. at 122°F (50°C) *

* see additional data

AIRLESS SPRAY

- twin feed hot airless spray
- pumping viscosity is achieved at 104°F - 160°F (40°C - 60°C)
- temperature in the mixing unit must be between 104°F and 160°F (40°C and 70°C)

Recommended thinner

no thinner should be added

Nozzle orifice

approx. 0.019" - 0.031" inch (= 0.48 - 0.78 mm) depending on required production speed and dft

Nozzle pressure

at 104°F (40°C) (paint temperature) min. 2700 p.s.i.
(= approx. 19 MPa; 190 bar)
at 140°F (60°C) (paint temperature) min. 2100 p.s.i.
(= approx. 15 MPa; 150 bar)

BRUSH/ROLLER

for touch up and spot repair only

Recommended thinner

no thinner should be added

CLEANING SOLVENT

Sigma thinner 90-83 (preferred) or Sigma thinner 90-53

Cleaning Procedures of the spray equipment:

- all equipment used for application must be cleaned immediately after use
- paint inside the spraying equipment must be removed before the pot life time has been expired

SIGMALINE 2500

(SIGMALINING FDP 67)

February 2006

SAFETY PRECAUTIONS

for paint and recommended thinners see safety 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

ADDITIONAL DATA

Film thickness and spreading rate

theoretical spreading rate ft ² /gal (m ² /l)	69 (1.7)
dft in mil (µm)	24 (600)

measuring wet film thickness

- a deviation is often obtained between the measured apparent wft and the real applied wft
- this is due to the thixotropy and the surface tension of the paint which retards the release of air trapped in the paint film for some time
- recommendation is to apply a wft which is equal to the specified dft plus 2 mils (50 µm)

measuring dry film thickness

- because of low initial hardness the dft cannot be measured within some days due to the penetration of the measuring device into the soft paint film
- the dft should be measured using a calibration foil of known thickness placed in between the coating and the measuring device

Overcoating table with SigmaLine 2500 (spot repair)

substrate temperature	68°F (20°C)	86°F (30°C)	104°F (40°C)
minimum interval	3 hours	1.5 hour	1 hour
maximum interval *	1 month	1 month	1 month

* when exposed to sunlight maximum interval is 2 days for all mentioned temperatures

- surface should be dry and free from any contamination

SIGMALINE 2500

(SIGMALINING FDP 67)

February 2006

Curing table

substrate temperature	dry to handle	full cure
68°F (20°C)	3 hours	2 days
86°F (30°C)	90 min.	1 day
104°F (40°C)	60 min.	12 hours
122°F (50°C)	40 min.	6 hours
140°F (60°C)	30 min.	3 hours
160°F (70°C)	20 min.	2 hours
194°F (90°C)	10 min.	1 hour

- although the paint is solvent free adequate ventilation must be maintained during application and curing (please refer to sheet 1433 and 1434)

Pot life (at application viscosity)

68°F (20°C)	20 min.
122°F (50°C)	5 min.
140°F (60°C)	4 min.
160°F (70°C)	3 min.

- for touch up due to exothermic reaction, temperature during and after mixing may increase

Worldwide availability

Whilst it is always the aim of SigmaKalon Marine & Protective Coatings to supply the same product on a worldwide basis, 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

Explanation to product data sheets	see information sheet 1411
Safety indications	see information sheet 1430
Safety in confined spaces and health safety	
Explosion hazard - toxic hazard	see information sheet 1431
Safe working in confined spaces	see information sheet 1433
Directives for ventilation practice	see information sheet 1434
Cleaning of steel and removal of rust	see information sheet 1490

SIGMALINE 2500

(SIGMALINING FDP 67)

February 2006

LIMITATION OF LIABILITY

The information in this data sheet is based upon laboratory tests we believe to be accurate and is intended for guidance only. All recommendations or suggestions relating to the use of the Sigma Coatings products made by SigmaKalon Marine & Protective Coatings, whether in technical documentation, or in response to a specific enquiry, or otherwise, are based on data which to the best of our knowledge are reliable. The products and information are designed for users having the requisite knowledge and industrial skills and it is the end-user's responsibility to determine the suitability of the product for its intended use.

SigmaKalon Marine & Protective Coatings has no control over either the quality or condition of the substrate, or the many factors affecting the use and application of the product. SigmaKalon Marine & Protective Coatings therefore does not accept any liability arising from loss, injury or damage resulting from such use or the contents of this data sheet (unless there are written agreements stating otherwise).

The data contained herein are liable to modification as a result of practical experience and continuous product development. This data sheet replaces and annuls all previous issues and it is therefore the user's responsibility to ensure that this sheet is current prior to using the product.

In the event of any disparity or dispute in the wording of this document, the original English text shall prevail.

PDS	7667
195814 dark brown	2058002200