SIGMALINE 523

4 pages

April 2009
Revision of December 2006

DESCRIPTION

two component solvent free polyamine cured epoxy coating

PRINCIPAL CHARACTERISTICS

- solvent free coating for the protection of pipes against the effects of potable water
- resistant against bacterial attack
- fast curing especially when applied to preheated substrates
- can be applied to rotating pipes at a dry film thickness (dft) up to 600 µm at a substrate temperature of 50°C and up to 900 µm at a substrate temperature of 15°C by twin feed hot airless spray equipment
- approved for drinking water by: KIWA Holland

COLOURS AND GLOSS

redbrown, green - gloss

BASIC DATA AT 20°C

(1 g/cm³ = 8.25 lb/US gal; 1 m²/l = 40.7 ft²/US gal)
(data for mixed product)

Mass density	1.4 g/cm³
Volume solids	100%
VOC (supplied)	max. 29 g/kg (Directive 1999/13/EC, SED) max. 41 g/l (approx. 0.3 lb/gal) see information sheet 1411
Recommended dry film thickness	600 µm in one coat
Theoretical spreading rate	1.7 m²/l for 600 µm *
Touch dry after	3 hours *
Overcoating interval	min. wet in wet within 30 min. max. see additional data *
Full cure after	2.5 days *
	(data for components)
Shelf life (cool and dry place)	at least 12 months

* see additional data

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- steel; blast cleaned to ISO-Sa2½, blasting profile 50 - 100 µm
- substrate temperature should be above 15°C and at least 3°C above dew point, lower temperatures will reduce flow properties
- the recommended substrate temperature should be preferably between 35°C and 50°C
- an even pipe temperature ensures an even curing and appearance (flow and gloss)

INSTRUCTIONS FOR USE

mixing ratio by volume: base to hardener 2 : 1

- application with twin feed hot airless spray equipment
- no thinner should be added

Induction time	none
Pot life	approx. 4 minutes at 60°C * * see additional data

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AIRLESS SPRAY

- twin feed hot airless spray
- pumping viscosity is achieved at 40°C - 60°C
- temperature in the mixing unit must be between 55°C and 65°C

Recommended thinner	no thinner should be added
Nozzle orifice	approx. 0.58 - 0.78 mm (= 0.023 - 0.031 in) depending on required production speed and dft
Nozzle pressure	15 MPa (= approx. 150 bar; 2130 p.s.i.)
Temperature at nozzle	60°C

BRUSH/ROLLER

	for touch up and spot repair only
Recommended thinner	no thinner should be added
Pot life at 20°C	approx. 30 min.
Substrate temperature	min. 15°C

CLEANING SOLVENT

Thinner 90-83 (preferred) or Thinner 90-53

Cleaning Procedures of the spray equipment:

- mixed material will become insoluble within a few minutes after mixing at 60°C
- parts of the spraying equipment containing mixed base and hardener must be cleaned immediately after completion of the job or during any interruption

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

- no solvent present; however, spray mist is not harmless, a fresh air mask should be used during spraying
- ventilation should be provided in confined spaces to maintain good visibility
- protective clothing and spray masks should be provided to avoid any dermatitic or toxic hazard

ADDITIONAL DATA

Film thickness and spreading rate

theoretical spreading rate m²/l	2.0	1.7
dft in µm	500	600

min. dft for closed film with airless spray: 250 µm

Film thickness

- because SigmaLine 523 will be applied in a one coat operation it is necessary to check the specified dft by measuring the wet film thickness (wft)
- weld seams may need a thicker coat to obtain the specified dft alongside the welds

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Overcoating
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

Curing table for dft up to 600 µm

substrate temperature	touch dry	dry to handle	full cure
15°C	5 hours	8 hours	5 days
20°C	3 hours	5 hours	2.5 days
30°C	1 hour	3 hours	1 day
40°C	45 min.	1.5 hour	12 hours
50°C	30 min.	1 hour	6 hours

– a curing temperature below 15°C is not recommended
– adequate ventilation must be maintained during application and curing (please refer to sheets 1433 and 1434)

Pot life (at application viscosity)

20°C	30 min.
50°C	8 min.
60°C	4 min.
70°C	2 min.

– for a repair set of 1 litre and for small quantities in hose and mixing chamber

Worldwide availability

Whilst it is always the aim of PPG Protective & Marine 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
Specification for mineral abrasives	see information sheet 1491

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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 PPG Protective & Marine 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.

PPG Protective & Marine 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. PPG Protective & Marine Coatings does therefore 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.

The English text of this document shall prevail over any translation thereof.

	PDS	7623
149883	redbrown	2008002200 (base)
149832	blue	1000003200 (base)
151209	oxide yellow	3002003200 (hardener)