

SIGMAGUARD 425

(SIGMAGUARD BT)

5 pages

September 2005
Revision of January 2003

DESCRIPTION	two component solvent free amine cured epoxy coating
PRINCIPAL CHARACTERISTICS	<ul style="list-style-type: none"> – provides long term protection for ballast tanks and steel structures, with excellent resistance against corrosion and water – suitable for block stage application – good edge covering capacity – reduces explosion risk and fire hazard in confined spaces – can be applied by single feed airless spray equipment
COLORS AND GLOSS	grey, green - 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	11.68 lbs/gal (1.4 g/cm ³)
Solids content	98 ± 2%
VOC (supplied - EPA 24)	max. 47 g/kg (Directive 1999/13/EC, SED) max. 0.6 lb/gal (approx. 66 g/l) see information sheet 1411
Recommended dry film thickness	10 mils (250 µm)
Theoretical spreading rate	159 ft ² /gal (3.9 m ² /l) at 10 mils (250 µm dft) *
Touch dry after	12 hours *
Overcoating interval	min. 24 hours * max. 7 days *
	(data for components)
Shelf life (cool and dry place)	at least 12 months
Flash point	base and hardener above 149°F (65°C) * see additional data
RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES	<ul style="list-style-type: none"> – previous coat; dry and free from any contamination – substrate temperature should be above 41°F (5°C) and at least 5°F (3°C) above dew point – maximum relative humidity during application and curing is 80%
SYSTEM SPECIFICATION	marine system sheet 3106

SIGMAGUARD 425

(SIGMAGUARD BT)

September 2005

INSTRUCTIONS FOR USE

mixing ratio by volume: base to hardener 80 : 20

- when mixing the temperature of the base and hardener should be at least 68°F (20°C)
- at lower temperature the viscosity will be too high for spray application
- no thinner should be added

Induction time

none

Pot life

approx. 1 hour at 68°F (20°C) *

* see additional data

AIRLESS SPRAY

- use heavy duty single feed airless spray equipment preferably 60:1 pump ratio and suitable high pressure hoses
- in-line heating or insulated hoses may be necessary to avoid cooling down of paint in hoses at low air temperature
- the paint lines should be as short as possible

Recommended thinner

no thinner should be added

Nozzle orifice

approx. 0.021" inch (= 0.53 mm)

Nozzle pressure

at 68°F (20°C) (paint temperature) min. 4000 p.s.i.
(= approx. 28 MPa or 280 bar)
at 86°F (30°C) (paint temperature) min. 3000 p.s.i.
(= approx. 22 MPa or 220 bar)

BRUSH

for stripe coating and spot repair only

Recommended thinner

no thinner should be added

CLEANING SOLVENT

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

- 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

SAFETY PRECAUTIONS

for paint and recommended thinners see safety sheets 1430, 1431 and relevant material safety data sheets

- spray mist is not harmless, a fresh air mask and gloves should be used during spraying
- ventilation should be provided in confined spaces to maintain good visibility

SIGMAGUARD 425

(SIGMAGUARD BT)

September 2005

ADDITIONAL DATA

Film thickness and spreading rate

theoretical	159 (3.9)	134 (3.3)
spreading rate ft ² /gal (m ² /l)		
dft in mil (µm)	10 (250)	12 (300)

max. dft when brushing: 4 mils (100 µm)

measuring wet film thickness

- a difference 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
- a practical 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 for some days (depending on ambient temperature) after application due to the penetration of the measuring device into the paint film
- the dft should be measured using a calibration foil of known thickness placed in between the coating and the measuring device

Overcoating with SigmaGuard 425 (for spot repair and stripe coating only)

substrate temperature	41°F (5°C)	50°F (10°C)	68°F (20°C)	86°F (30°C)	104°F (40°C)
minimum interval	3 days	48 hours	24 hours	16 hours	12 hours
maximum interval	11 days	9 days	7 days	5 days	3 days

- surface should be dry and free from any contamination

SIGMAGUARD 425

(SIGMAGUARD BT)

September 2005

Curing table

substrate temperature	touch dry	dry to handle	full cure
41°F (5°C)	48 hours	3 days	21 days
50°F (10°C)	24 hours	2 days	14 days
68°F (20°C)	12 hours	24 hours	7 days
86°F (30°C)	8 hours	16 hours	3 days
104°F (40°C)	6 hours	12 hours	2 days

- 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)	60 min.
86°F (30°C)	30 min.

- due to exothermic reaction, temperature during pot life may increase up to 140°F (60°C) at gel point

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

SIGMAGUARD 425

(SIGMAGUARD BT)

September 2005

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	7953
187701 grey	5163052200