

SIGMAGUARD 425

(SIGMAGUARD BT)

4 pages

September 2005
Revision of January 2003**DESCRIPTION**

two component solvent free amine cured epoxy coating

PRINCIPAL CHARACTERISTICS

- 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

COLOURS AND GLOSS

grey, 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

98 ± 2%

VOC (supplied)

max. 47 g/kg (Directive 1999/13/EC, SED)

max. 66 g/l (approx. 0.6 lb/gal)

see information sheet 1411

Recommended dry film
thickness

250 µm

Theoretical spreading rate

3.9 m²/l at 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 65°C

* see additional data

**RECOMMENDED
SUBSTRATE CONDITIONS
AND TEMPERATURES**

- previous coat; dry and free from any contamination
- substrate temperature should be above 5°C and at least 3°C above dew point
- maximum relative humidity during application and curing is 80%

SYSTEM SPECIFICATION

marine

system sheet 3106

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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 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 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. 0.53 mm (= 0.021 in)

Nozzle pressure

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

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

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ADDITIONAL DATA

Film thickness and spreading rate

theoretical spreading rate m ² /l	3.9	3.3
dft in µm	250	300

max. dft when brushing: 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 60 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	5°C	10°C	20°C	30°C	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

Curing table

substrate temperature	touch dry	dry to handle	full cure
5°C	48 hours	3 days	21 days
10°C	24 hours	2 days	14 days
20°C	12 hours	24 hours	7 days
30°C	8 hours	16 hours	3 days
40°C	6 hours	12 hours	2 days

- adequate ventilation must be maintained during application and curing (please refer to sheet 1433 and 1434)

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Pot life (at application viscosity)

20°C	60 min.
30°C	30 min.

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

Worldwide availability

Whilst it is always the aim of Sigma 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

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

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