

SIGMACOVER 300

5 pages

September 2009
Revision of September 2005

DESCRIPTION

two component high build polyamine adduct cured coaltar epoxy coating

PRINCIPAL CHARACTERISTICS

- outstanding (sea)water resistance (outside hull and ballast tanks)
- outstanding water and crude oil resistance
- excellent corrosion resistance
- good resistance against chemically polluted water
- can be applied and cures at low temperatures (application possible down to -5°C, provided the substrate is free from ice)
- good abrasion resistance
- Recognized corrosion control coating (Lloyd's register), see sheet 1886
- resistant to well designed/controlled cathodic protection

COLOURS AND GLOSS

black, brown - eggshell

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	1.5 g/cm ³
Volume solids	71 ± 2%
VOC (supplied)	max. 207 g/kg (Directive 1999/13/EC, SED) max. 305 g/l (approx. 2.5 lb/gal)
Recommended dry film thickness	125 - 500 µm (see system sheets)
Theoretical spreading rate	5.7 m ² /l for 125 µm *
Touch dry after	4 hours
Overcoating interval	min. 6 hours * max. 5 days *
Full cure after	7 days *

(data for components)

Shelf life (cool and dry place)

at least 12 months
* see additional data

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- **for immersion in water, with cathodic protection:**
 - steel; blast cleaned to ISO-Sa2½, blasting profile 40 - 70 µm
 - steel with approved zinc silicate shop primer; sweep blasted to SPSS-Ss or power tool cleaned to SPSS-Pt3
 - existing coal tar epoxy coating; sufficiently roughened and free from any contamination
- **for immersion in water, without cathodic protection:**
 - steel; blast cleaned to ISO-Sa2½, blasting profile 40 - 70 µm
 - steel with approved shop primer; sweep blasted to SPSS-Ss or power tool cleaned to SPSS-Pt3
 - existing coal tar epoxy coating; sufficiently roughened and free from any contamination
- **for atmospheric exposure conditions:**
 - steel; blast cleaned to ISO-Sa2 or ISO-Sa2½, blasting profile 40 - 70 µm
 - steel; hydrojetted to VIS WJ2/3 L

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- steel with approved shop primer; power tool cleaned to SPSS-Pt2 or SPSS-Pt3
- existing coal tar epoxy coating; sufficiently roughened and free from any contamination
- in order to obtain the maximum resistance against chemical- and mechanical influences the substrate temperature should be above 5°C during application and curing
- application at temperatures down to -5°C is possible but curing to hardness takes longer and complete cure will be reached when temperature increases
- substrate temperature should be at least 3°C above dew point

SYSTEM SPECIFICATION

marine system sheets: 3101, 3102, 3106, 3107

INSTRUCTIONS FOR USE

mixing ratio by volume: base to hardener 86 : 14

- the temperature of the mixed base and hardener should preferably be above 15°C, otherwise extra solvent may be required to obtain application viscosity
- too much solvent results in reduced sag resistance and slower cure
- thinner should be added after mixing the components

Induction time

none

Pot life

6 hours at 20°C *
* see additional data

AIRLESS SPRAY

Recommended thinner

Thinner 91-79

Volume of thinner

0 - 5% for a dft of 250 µm
10 - 15% for a dft of 125 µm

Nozzle orifice

approx. 0.53 - 0.64 mm (= 0.021 - 0.025 in)

Nozzle pressure

15 MPa (= approx. 150 bar; 2130 p.s.i.)

AIR SPRAY

Recommended thinner

Thinner 91-79

Volume of thinner

5 - 10%, depending on required thickness and application conditions

Nozzle orifice

1.5 - 3 mm

Nozzle pressure

0.2 - 0.4 MPa (= approx. 2 - 4 bar; 28 - 57 p.s.i.)

BRUSH/ROLLER

Recommended thinner

Thinner 91-79

Volume of thinner

0 - 5%

CLEANING SOLVENT

Thinner 90-53

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SAFETY PRECAUTIONS

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

this is a solvent borne paint and care should be taken to avoid inhalation of spray mist or vapour as well as contact between the wet paint and exposed skin or eyes

ADDITIONAL DATA

Film thickness and spreading rate

theoretical spreading rate m ² /l	5.7	2.8	2.4	1.8	1.4
dft in µm	125	250	300	400	500

max. dft when brushing (touch up and spot repair): 125 µm

Overcoating table for dft up to 250 µm

substrate temperature	-5°C	5°C	10°C	15°C	20°C	30°C	40°C
minimum interval	48 hours	24 hours	18 hours	12 hours	6 hours	4 hours	3 hours
maximum interval when exposed to direct sunshine	21 days	21 days	12 days	8 days	4 days	3 days	2 days
maximum interval when not exposed to direct sunshine	40 days	40 days	30 days	24 days	18 days	14 days	7 days

with SigmaCover 300 and SigmaCover 510 and other compatible paints

- surface should be dry and free from any contamination
- when overcoated with other paints, tar bleeding will occur
- when overcoating work is to be carried out on coats thicker than 250 µm applied in one coat, the minimum overcoating interval must be extended as follows:
 - for 300 µm : 2 times as long
 - for 400 µm : 3 times as long
 - for 500 µm : 4 times as long
- adequate ventilation must be maintained during application and curing (please refer to sheets 1433 and 1434)

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Curing table for dft up to 250 µm

substrate temperature	dry to handle	initial cure for exposure to sea water and to slightly polluted atmosphere	full cure for immersion in polluted water or crude oil
5°C	48 hours	96 hours	--
10°C	30 hours	48 hours	15 days
15°C	24 hours	30 hours	10 days
20°C	16 hours	24 hours	7 days
30°C	8 hours	18 hours	3 days
40°C	5 hours	12 hours	2 days

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

Drydockings

- exposure to sea water is permitted after the initial curing time
- if SigmaCover 300 has been applied by means of hot airless spray, exposure to sea water is permitted after an initial cure of 4 hours
- at dfts ranging from 250 - 500 µm applied in a one coat application the curing times have to be doubled in order to obtain sufficient mechanical strength
- the mechanical strength, when cured at low temperature, is low initially, but will increase quickly when exposed to sea water

Pot life (at application viscosity)

15°C	8 hours
20°C	6 hours
25°C	5 hours
30°C	4 hours
35°C	2 hours

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.

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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

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.

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179000	black	8000002200
178998	brown	2000002200