

SIGMACOVER™ 300

DESCRIPTION

Two-component, high-build, polyamine adduct-cured, coal tar 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 (23°F), provided the substrate is free from ice)
- Good abrasion resistance
- Recognized corrosion control coating (Lloyd's register)
- Resistant to well designed/controlled cathodic protection

COLOR AND GLOSS LEVEL

- Black, brown
- Eggshell

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.5 kg/l (12.5 lb/US gal)
Volume solids	71 ± 2%
VOC (Supplied)	Directive 1999/13/EC, SED: max. 207.0 g/kg max. 305.0 g/l (approx. 2.5 lb/US gal)
Recommended dry film thickness	125 - 500 µm (5.0 - 20.0 mils)
Theoretical spreading rate	5.7 m ² /l for 125 µm (5 ft ² /US gal for 5.0 mils)
Dry to touch	4 hours
Overcoating Interval	Minimum: 6 hours Maximum: 4 days when exposed to direct sunshine Maximum: 18 days when NOT exposed to direct sunshine
Full cure after	7 days
Shelf life	Base: at least 12 months when stored cool and dry Hardener: at least 24 months when stored cool and dry

Notes:

- See ADDITIONAL DATA - Spreading rate and film thickness
- See ADDITIONAL DATA - Overcoating intervals
- See ADDITIONAL DATA - Curing time



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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Immersion in water with cathodic protection

- Steel; blast cleaned to ISO-Sa2½, blasting profile 40 – 70 µm (1.6 – 2.8 mils)
- Steel with approved zinc silicate shop primer; sweep blasted to SPSS-Ss or SPSS-Pt2
- Surface must be dry and free from any contamination
- Existing coal tar epoxy coating should be sufficiently roughened

Immersion in water without cathodic protection

- Steel; blast cleaned to ISO-Sa2½, blasting profile 40 – 70 µm (1.6 – 2.8 mils)
- Steel with approved shop primer; sweep blasted to SPSS-Ss or power tool cleaned to SPSS-Pt3
- Surface must be dry and free from any contamination
- Existing coal tar epoxy coating should be sufficiently roughened

Atmospheric exposure conditions

- Steel; blast cleaned to ISO-Sa2, blasting profile 40 – 70 µm (1.6 – 2.8 mils)
- Steel with approved shop primer; powertool cleaned to SPSS-Pt2 or SPSS-Pt3
- Surface must be dry and free from any contamination
- Existing coal tar epoxy coating should be sufficiently roughened

Substrate temperature and application conditions

- Substrate temperature during application and curing should be above 5°C (41°F) to obtain maximum resistance against chemical and mechanical influences
- Substrate temperature during application and curing should be at least 3°C (5°F) above dew point
- Ambient temperature during application at -5°C (23°F) is acceptable; however curing to hardness takes longer and complete cure will be reached when the temperature increases

INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 86:14

- Adding too much thinner results in reduced sag resistance and slower cure
- The temperature of the mixed base and hardener should preferably be above 15°C (59°F)
- Thinner should be added after mixing the components

Induction time

None

Pot life

6 hours at 20°C (68°F)

Note: See ADDITIONAL DATA – Pot life



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Air spray

Recommended thinner

THINNER 91-79

Volume of thinner

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

Nozzle orifice

2.0 - 3.0 mm (approx. 0.079 - 0.110 in)

Nozzle pressure

0.2 - 0.4 MPa (approx. 2 - 4 bar; 29 - 58 p.s.i.)

Airless spray

Recommended thinner

THINNER 91-79

Volume of thinner

0 - 5%

Nozzle orifice

Approx. 0.53 - 0.64 mm (0.021 - 0.025 in)

Nozzle pressure

15.0 MPa (approx. 150 bar; 2176 p.s.i.)

Brush/roller

- Only for touch-up and spot repair

Recommended thinner

THINNER 91-79

Volume of thinner

0 - 5%

Cleaning solvent

THINNER 90-53

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ADDITIONAL DATA

Spreading rate and film thickness	
DFT	Theoretical spreading rate
125 µm (5.0 mils)	5.7 m ² /l (228 ft ² /US gal)
250 µm (10.0 mils)	2.8 m ² /l (114 ft ² /US gal)
300 µm (12.0 mils)	2.4 m ² /l (95 ft ² /US gal)
400 µm (16.0 mils)	1.8 m ² /l (71 ft ² /US gal)
500 µm (20.0 mils)	1.4 m ² /l (57 ft ² /US gal)

Note: Maximum DFT when brushing: 125 µm (5.0 mils)

Overcoating interval for DFT up to 250 µm (10.0 mils)								
Overcoating with...	Interval	-5°C (23°F)	5°C (41°F)	10°C (50°F)	15°C (59°F)	20°C (68°F)	30°C (86°F)	40°C (104°F)
SIGMACOVER 300, SIGMACOVER 510 and other compatible paints	Minimum	48 hours	24 hours	18 hours	12 hours	6 hours	4 hours	3 hours
	Maximum exposed to direct sunshine	21 days	21 days	12 days	8 days	4 days	3 days	48 hours
	Maximum NOT exposed to direct sunshine	1.5 months	1.5 months	30 days	24 days	18 days	14 days	7 days

Notes:

- 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 (10.0 mils) applied in one coat, the minimum overcoating interval must be extended as follows: 300 µm (12.0 mils), 2 times as long; 400 µm (16.0 mils), 3 times as long; 500 µm (20.0 mils), 4 times as long
- Adequate ventilation must be maintained during application and curing (please refer to INFORMATION SHEETS 1433 and 1434)



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Curing time for DFT up to 500 µm (20 mils)			
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 (41°F)	48 hours	4 days	None
10°C (50°F)	30 hours	48 hours	15 days
15°C (59°F)	24 hours	30 hours	10 days
20°C (68°F)	16 hours	24 hours	7 days
30°C (86°F)	8 hours	18 hours	3 days
40°C (104°F)	5 hours	12 hours	48 hours

Notes:

- Adequate ventilation must be maintained during application and curing (please refer to INFORMATION SHEETS 1433 and 1434)
- 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 DFT ranging from 250 – 500 µm (10.0 – 20.0 mils) 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)	
Mixed product temperature	Pot life
15°C (59°F)	8 hours
20°C (68°F)	6 hours
25°C (77°F)	5 hours
30°C (86°F)	4 hours
35°C (95°F)	2 hours

SAFETY PRECAUTIONS

- For paint and recommended thinners see INFORMATION 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 vapor, as well as contact between the wet paint and exposed skin or eyes

WORLDWIDE AVAILABILITY

It is always the aim of PPG Protective and Marine Coatings to supply the same product on a worldwide basis. However, 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

• CONVERSION TABLES	INFORMATION SHEET	1410
• EXPLANATION TO PRODUCT DATA SHEETS	INFORMATION SHEET	1411
• SAFETY INDICATIONS	INFORMATION SHEET	1430
• SAFETY IN CONFINED SPACES AND HEALTH SAFETY, EXPLOSION HAZARD – TOXIC HAZARD	INFORMATION SHEET	1431
• SAFE WORKING IN CONFINED SPACES	INFORMATION SHEET	1433
• DIRECTIVES FOR VENTILATION PRACTICE	INFORMATION SHEET	1434
• CLEANING OF STEEL AND REMOVAL OF RUST	INFORMATION SHEET	1490
• SPECIFICATION FOR MINERAL ABRASIVES	INFORMATION SHEET	1491
• RELATIVE HUMIDITY – SUBSTRATE TEMPERATURE – AIR TEMPERATURE	INFORMATION SHEET	1650

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