SIGMACOVER™ 435

DESCRIPTION

Two-component, high-build, micaceous iron oxide-pigmented, polyamide-cured recoatable epoxy coating

PRINCIPAL CHARACTERISTICS

- General-purpose epoxy buildcoat or finish in protective coating systems, for steel and concrete structures exposed to atmospheric land or marine conditions
- Easy application, both by airless spray and brush
- Cures even at temperatures down to -10°C (14°F)
- A high relative humidity (maximum 95%) during application and curing does not influence the quality of the coating
- Good adhesion on most aged-, sound alkyd-, chlorinated rubber- and epoxy coatings
- Can be recoated with various two-component and conventional coatings, even after long weathering periods
- Resistant to water and splash of mild chemicals
- Excellent durability
- Tough, with long-term flexibility
- Resistant to temperatures up to 200°C (390°F) (see SYSTEM SHEET 4062)

COLOR AND GLOSS LEVEL

- Light gray (9553-05), dark gray (9558-05), green (9441-05), aluminum (9590-05)
- Eggshell

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.4 kg/l (11.7 lb/US gal)
Volume solids	63 ± 2%
VOC (Supplied)	Directive 1999/13/EC, SED: max. 241.0 g/kg UK PG 6/23(92) Appendix 3: max. 344.0 g/l (approx. 2.9 lb/US gal)
Recommended dry film thickness	75 - 150 µm (3.0 - 6.0 mils) depending on system
Theoretical spreading rate	6.3 m^2/l for 100 µm (253 ft^2/US gal for 4.0 mils)
Dry to touch	2 hours
Overcoating Interval	Minimum: 3 hours Maximum: Unlimited
Full cure after	4 days
Shelf life	Base: at least 24 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

Substrate conditions

- Steel; blast cleaned to ISO-Sa2½, blasting profile 40 – 70 µm (1.6 – 2.8 mils)
- Steel with approved zinc silicate shop primer; pretreated according to SPSS or power tool cleaned to SSPC SP3 (SPSS-Pt3)
- Previous coat must be sound, dry and free from any contamination

Substrate temperature

- Substrate temperature during application and curing down to -10°C (14°F) is acceptable; provided the substrate is free from ice and dry
- Substrate temperature during application and curing should be at least 3°C (5°F) above dew point

SYSTEM SPECIFICATION

- SYSTEMS FOR BOOTTOP AND TOPSIDE – SYSTEM SHEET 3102
- SYSTEMS FOR DECKS – SYSTEM SHEET 3103

INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 82:18

- The temperature of the mixed base and hardener should be above 10°C (50°F), otherwise extra thinner may be required to obtain application viscosity
- Thinner should be added after mixing the components
- Adding too much thinner results in reduced sag resistance

Induction time

None

Pot life

5 hours at 20°C (68°F)

Note: See ADDITIONAL DATA – Pot life

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Air spray

Recommended thinner
THINNER 91-92

Volume of thinner
10 - 15%, depending on required thickness and application conditions

Nozzle orifice
2.0 – 3.0 mm (approx. 0.079 – 0.110 in)

Nozzle pressure
0.3 - 0.4 MPa (approx. 3 - 4 bar; 44 - 58 p.s.i.)

Airless spray

Recommended thinner
THINNER 91-92

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

Nozzle orifice
Approx. 0.48 – 0.58 mm (0.019 – 0.023 in)

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

Brush/roller

Recommended thinner
THINNER 91-92

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**
75 µm (3.0 mils)	8.4 m^2/l (337 ft^2/US gal)
100 µm (4.0 mils)	6.3 m^2/l (253 ft^2/US gal)
150 µm (6.0 mils)	4.2 m^2/l (168 ft^2/US gal)

Note: Maximum DFT when brushing: 75 µm (3.0 mils)

Overcoating interval for DFT up to 150 µm (6.0 mils)							
Overcoating with...	**Interval**	**-5°C (23°F)**	**5°C (41°F)**	**10°C (50°F)**	**20°C (68°F)**	**30°C (86°F)**	**40°C (104°F)**
SIGMA VIKOTE 46, SIGMADUR 550, SIGMADUR 520 and SIGMARINE 40	Minimum Maximum	3 days Unlimited	24 hours Unlimited	16 hours Unlimited	8 hours Unlimited	5 hours Unlimited	3 hours Unlimited
SIGMACOVER 435 and SIGMACOVER 456	Minimum Maximum	36 hours Unlimited	10 hours Unlimited	4 hours Unlimited	3 hours Unlimited	2 hours Unlimited	2 hours Unlimited

Notes:
- Surface should be dry and free from chalking and contamination
- SIGMACOVER 435 should not be overcoated with coal tar epoxy coatings
- Finishes require a corresponding undercoat

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Curing time for DFT up to 150 µm (6.0 mils)		
Substrate temperature	**Dry to handle**	**Full cure**
-10°C (14°F)	24 hours - 48 hours	20 days
-5°C (23°F)	24 hours - 30 hours	14 days
0°C (32°F)	18 hours - 24 hours	10 days
5°C (41°F)	18 hours	8 days
10°C (50°F)	12 hours	6 days
15°C (59°F)	8 hours	5 days
20°C (68°F)	6 hours	4 days
30°C (86°F)	4 hours	3 days
40°C (104°F)	3 hours	48 hours

Notes:

- Adequate ventilation must be maintained during application and curing (please refer to INFORMATION SHEETS 1433 and 1434)
- In exceptional cases SIGMACOVER 435 may be applied at lower substrate temperatures (down to -15°C (5°F)) provided that the surface is free from ice and other contamination. In such cases special care must be taken to avoid thick film application as this may lead to checking/crazing or solvent entrapment.It should be clear that application at lower temperatures will require additional thinning to obtain application viscosity, however this will affect the sag resistance of the applied coating and can induce solvent retention. Optimal curing and designed product properties will only be achieved when minimum required substrate temperature is reached

Pot life (at application viscosity)	
Mixed product temperature	**Pot life**
10°C (50°F)	12 hours
20°C (68°F)	5 hours
30°C (86°F)	4 hours
40°C (104°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

• 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
• CONVERSION TABLES	INFORMATION SHEET	1410
• 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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