November 29, 2023 (Revision of March 23, 2023)

SIGMATHERM™ 540

DESCRIPTION

One-component, heat-resistant, moisture-curing silicone aluminum

PRINCIPAL CHARACTERISTICS

- Dry heat resistance up to 600°C (1112°F)
- No heat cure necessary between coats
- To be used for the internal and external protection of steel surfaces
- Excellent resistance against weathering
- Also suitable on top of zinc silicate primer
- A minimum drying time of 3 days at 20°C (68°F) should be allowed before exposure to heat

COLOR AND GLOSS LEVEL

- Aluminum and black
- Eggshell

Note: Supplied colors can differ per region, please contact your PPG representative for availability in your region

BASIC DATA AT 20°C (68°F)

Data for product	
Number of components	One
Mass density	1.1 kg/l (9.2 lb/US gal)
Volume solids	45 ± 2%
VOC (Supplied)	Directive 2010/75/EU, SED: max. 412.0 g/kg UK PG 6/23(92) Appendix 3: max. 498.0 g/l (approx. 4.2 lb/US gal) China GB 38469-2019 (tested) 463.0 g/l (approx. 3.9 lb/gal)
Temperature resistance (Continuous)	To 600°C (1110°F)
Recommended dry film thickness	25 µm (1.0 mils)
Theoretical spreading rate	18.0 m^2/l for 25 µm (722 ft^2/US gal for 1.0 mils)
Dry to touch	45 minutes
Overcoating Interval	Minimum: 16 hours
Shelf life	At least 15 months when stored cool and dry

Notes:
- 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 Sa 2½ or SSPC-SP-10, blasting profile 25 – 50 µm (1.0 – 2.0 mils)
- Suitable coating (zinc silicate primer) must be dry, free from any contamination and zinc salts
- Lightly abrasive blast in accordance with SSPC SP-16 requirements or otherwise abrade the surface to ensure a uniform and dense surface profile of at least 25 µm (1.0 mil)

Note: The maximum continuous dry heat temperature when power tool treated surface (ISO-St3) is 400°C

Substrate temperature and application conditions

- Substrate temperature during application should be at least 3°C (5°F) above dew point

SYSTEM SPECIFICATION

- Suitable Primers : PPG Ethyl Silicate Zinc Primers
- Do not use HI-TEMP 1027 or 222G as primer
- Direct to stainless steel with suitable surface treatment

INSTRUCTIONS FOR USE

- Power agitate to uniform consistency
- Application with airless equipment is possible, but be careful not to apply more than specified thickness
- When applying more than one coat, it is recommended that the total dry film thickness of SIGMATHERM 540 does not exceed 80 µm (3.1 mils)

Air spray

Recommended thinner
No thinner should be added

Nozzle orifice
1.5 – 2.0 mm (approx. 0.060 – 0.079 in)

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

Brush/roller

- For Roller application the best results will be obtained by using fine foam type rollers

Cleaning solvent
THINNER 21-06

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ADDITIONAL DATA

Overcoating interval for DFT up to 25 µm (1.0 mils)					
Overcoating with...	**Interval**	**10°C (50°F)**	**20°C (68°F)**	**30°C (86°F)**	**40°C (104°F)**
itself	Minimum Maximum	24 hours Unlimited	16 hours Unlimited	12 hours Unlimited	6 hours Unlimited

Note: Surface should be dry and free from any contamination

Curing time for DFT up to 25 µm (1.0 mils)		
Substrate temperature	**Dry to touch**	**Dry to handle**
10°C (50°F)	1 hour	5 hours
20°C (68°F)	45 minutes	3.5 hours
30°C (86°F)	30 minutes	2 hours
40°C (104°F)	15 minutes	1 hour

Note: Adequate ventilation must be maintained during application and curing

SAFETY PRECAUTIONS

- See Safety Data Sheet and product label for complete safety and precaution requirements
- 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.

REFERENCES

- EXPLANATION TO PRODUCT DATA SHEETS INFORMATION SHEET 1411

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