

PPG HI-TEMP™ 480

DESCRIPTION

Two-component, high solids polyamine cured epoxy coating

PRINCIPAL CHARACTERISTICS

- Surface tolerant primer/coating
- Excellent resistance to corrosion
- Designed to prevent corrosion under insulation (CUI) of carbon steel and stainless steel
- Complies with ISO 19277 CUI-1, CUI-2, CUI-3 certification
- Universal CUI coating derived from next generation phenolic epoxy technology, provides a corrosion resistant barrier on carbon steel and stainless steel under thermal insulation
- Suitable for use in high-temperature environments up to 250°C (480°F), capable of handling intermittent spikes up to 275°C (530°F)
- Pass cryogenic cyclic test from -196°C (-321°F) to 250°C (480°F)
- Excellent resistance to thermal shock during rapid wet & dry cycling
- Can be applied on hot substrates up to 150°C (302°F)

COLOR AND GLOSS LEVEL

- Dark gray, Red Brown
- Semi-gloss

Note:

- Epoxy coatings will chalk and fade upon exposure to sunlight, elevated temperatures, or chemical exposure. Discoloration and normal chalking do not impact performance. Light colors will darken over time. Some batch-to-batch variation in color is to be expected. Color matches are approximate.

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.5 kg/l (12.7 lb/US gal)
Volume solids	81 ± 2%
VOC (Supplied)	EPA Method 24: max 200.0 g/ltr (1.7 lb/US gal)
Recommended dry film thickness	125 - 250 µm (5.0 - 10.0 mils)
Theoretical spreading rate	6.4 m²/l for 125 µm (257 ft²/US gal for 5.0 mils) 3.2 m²/l for 250 µm (130 ft²/US gal for 10.0 mils)
Dry to touch	6 hours
Overcoating Interval	Minimum: 10 hours Maximum: 3 months
Full cure after	10 days
Shelf life	Base: at least 24 months when stored cool and dry

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Data for mixed product

	Hardener: at least 24 months when stored cool and dry
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Notes:

- See ADDITIONAL DATA – Overcoating intervals
- See ADDITIONAL DATA – Curing time
- Intermittent temperature resistance should be less than 5% of the time, and maximum 24 hours

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Substrate conditions

- Steel; blast cleaned to ISO Sa2½ or SSPC-SP10, blasting profile 50 – 75 µm (2.0 – 3.0 mils)
- For maintenance, minimum SSPC SP6, power tool cleaned to ISO St3 (SSPC SP3) or hand tool cleaned to ISO St2 (SSPC SP2) or ultra high pressure water jet to SSPC SP WJ-2(L) / NACE WJ-2(L). Any existing sound anchor profile shall be retained and shall be a minimum of 40 µm (1.6 mils).
- Remove all loose paint, mill scale, and rust. The surface to be coated must be dimensionally stable, dry, clean and free of grease, oil, and other foreign materials.
- Stainless steel; abrasive blast in accordance with SSPC SP-17 guidelines or higher. Achieve a surface profile of 50 µm (2.0 mils).

Substrate temperature and application conditions

- Substrate temperature during application and curing should be above 10°C (50°F)
- Substrate temperature during application and curing should be at least 5°F (3°C) above dew point

SYSTEM SPECIFICATION

- PPG HI-TEMP 480: 250 microns (10.0 mils) DFT in one coat system

Notes:

- Can be applied with 2 times application if needed - 125 µm (5.0 mils) X 2 coats
- Do not exceed 400 µm (16.0 mils) average total DFT
- Top coat may be needed for sunlight directly exposed condition. Please contact your PPG representative for suitable top coats.

INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 6:1

- The temperature of the mixed base and hardener should preferably be above 15°C (59°F), otherwise extra thinner may be required to obtain application viscosity
- Adding too much thinner results in reduced sag resistance and slower cure
- Thinner should be added after mixing the components
- Very good mechanical mixing of base and hardener is essential

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Induction time

0 minute

Note:

- No induction time required
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Pot life

2 hours at 20°C (68°F)

Note:

- See ADDITIONAL DATA – Pot life
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Air spray**Recommended thinner**

Application below 50°C (122°F): THINNER 91-92

Application from 50°C (122°F) to 149°C (300°F): Thinner 21-25 (Amercoat 101)

Volume of thinner

0 - 10%, depending on required thickness and application conditions

Nozzle orifice

1.4 – 2.0 mm (approx. 0.055 – 0.079 in)

Nozzle pressure

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

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Airless spray**Recommended thinner**

Application below 50°C (122°F): THINNER 91-92

Application from 50°C (122°F) to 149°C (300°F): Thinner 21-25 (Amercoat 101)

Volume of thinner

0 - 5%, depending on required thickness and application conditions

Nozzle orifice

Approx. 0.43 – 0.53 mm (0.017 – 0.021 in)

Nozzle pressure

17 - 22 MPa (approx. 170 - 220 bar; 2465 - 3190 p.s.i.)

Brush/roller

- Use a high quality natural bristle brush. Ensure brush is well loaded to avoid air entrainment. Brush application is limited to small touch up areas of a few square inches.

Recommended thinner

THINNER 91-92

Volume of thinner

0 - 5%

Note:

- When larger areas need to be coated by roller for high temperature service, use 5 - 10% THINNER 21-06 or 91-92 to achieve 100 - 150 µm (4.0 - 6.0 mils) DFT per coat. Extra control on closed film and maximum allowed DFT is advised due to the irregular film build of this type of application. Application on hot substrate is not advisable by brush/roller.
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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)	6.4 m ² /l (257 ft ² /US gal)
250 µm (10.0 mils)	3.2 m ² /l (130 ft ² /US gal)

Overcoating interval for DFT up to 250 µm (10.0 mils)					
Overcoating with...	Interval	10°C (50°F)	20°C (68°F)	30°C (86°F)	40°C (104°F)
itself	Minimum	30 hours	10 hours	6 hours	4 hours
	Maximum	3 months	3 months	2 months	1 month
PPG HI-TEMP 500	Minimum	48 hours	16 hours	10 hours	5 hours
	Maximum	1 month	1 month	1 month	1 month
PPG HI-TEMP 1000	Minimum	48 hours	16 hours	10 hours	5 hours
	Maximum	1 month	21 days	21 days	21 days
PPG SIGMATHERM 350	Minimum	48 hours	16 hours	10 hours	5 hours
	Maximum	1 month	14 days	14 days	14 days
PPG SIGMATHERM 540	Minimum	48 hours	16 hours	10 hours	5 hours
	Maximum	1 month	1 month	21 days	21 days
PSX 700	Minimum	48 hours	16 hours	10 hours	5 hours
	Maximum	3 months	2 months	2 months	1 month
SIGMADUR 520 and SIGMADUR 550	Minimum	48 hours	16 hours	10 hours	5 hours
	Maximum	2 months	2 months	2 months	1 month

Notes:

- Surface should be dry and free from any contamination
- Adequate ventilation must be maintained during application and curing
- Maximum service temperature when topcoated: 150°C (302°F) with PPG SIGMADUR 520/550; 120°C (248°F) with PPG PSX 700

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Curing time for DFT up to 250 µm (10.0 mils)			
Substrate temperature	Dry to touch	Dry to handle	Full cure
10°C (50°F)	20 hours	40 hours	21 days
20°C (68°F)	6 hours	20 hours	10 days
30°C (86°F)	4 hours	10 hours	5 days
40°C (104°F)	2 hours	8 hours	3 days

Note:

- Adequate ventilation must be maintained during application and curing

Pot life (at application viscosity)	
Mixed product temperature	Pot life
10°C (50°F)	3 hours
20°C (68°F)	2 hours
30°C (86°F)	1.5 hour

Product Qualifications

- Complies with NORSOK_2022 system 1D / 6C / 9 for use in Offshore environments

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 & 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

- Information sheet | Explanation of product data sheets

PPG HI-TEMP™ 480

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