PPG HI-TEMP™ 900

DESCRIPTION

Two-component, ambient cured multi-polymeric heat resistant primer/coat for new build applications

PRINCIPAL CHARACTERISTICS

- Designed to prevent corrosion under insulation (CUI) of carbon steel and stainless steel
- New-build, shop, and field application
- Scratch and mar resistant coating for ease of transport
- Long-term protection in a single-coat application
- Formulated to prevent chloride induced stress corrosion cracking of austenitic and duplex stainless steel
- May be used as primer for PPG HI-TEMP heat-resistant color topcoats
- Resistant to thermal shock/cycling and intermittent immersion and boiling water
- Good UV resistance
- Cyclic temperature resistance from -196°C to 320°C (-321°F to 608°F)
- Provides continuous dry temperature resistance from -196°C to 482°C (-321°F to 900°F)

COLOR AND GLOSS LEVEL

- Black, aluminum
- Flat

Note:

- Minor color differences may occur due to batch variation and from exposed service above 316°C (600°F)

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.7 kg/l (14.5 lb/US gal) Aluminum: 1.5 kg/l (12.9 lb/US gal)
Volume solids	75 ± 2% Aluminum: 70 ± 2%
VOC (Supplied)	EPA Method 24: 240.0 g/ltr (2.0 lb/USgal) max. 307.0 g/l (approx. 2.6 lb/gal) (aluminum)
Recommended dry film thickness	200 - 300 µm (8.0 - 12.0 mils) per coat
Theoretical spreading rate	3.0 m^2/l for 250 µm (120 ft^2/US gal for 10.0 mils) Aluminum: 2.1 m^2/l for 250 µm (87 ft^2/US gal for 10.0 mils)
Dry to touch	4 hours
Shelf life	Base: at least 12 months when stored cool and dry Hardener: at least 12 months when stored cool and dry

Note:

- See ADDITIONAL DATA – Curing time

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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Substrate conditions of carbon steel for insulated and non-insulated service

- Must be free of oil, dirt, grease and all other contaminants, especially salts
- Round off all rough welds and sharp edges. Remove weld spatter
- Steel with approved zinc silicate shop primer; weld seams and areas of damaged shop primer or breakdown should be blast cleaned to ISO-Sa2, blasting profile 25 – 75 µm (1.0 – 3.0 mils) or power tool cleaned to SPSS-SP11
- Suitable coating (zinc silicate primer) must be dry, free from any contamination and zinc salts
- Recommended is dry abrasive blast cleaning to SSPC-SP6, “Commercial Blast” (ISO-Sa2) with a 25 to 50 µm (1.0 to 2.0 mils) profile

Substrate conditions of stainless steel for insulated and non-insulated service

- Must be free of oil, dirt, grease and all other contaminants, especially salts
- Round off all rough welds and sharp edges. Remove weld spatter
- Small surfaces may be cleaned with a chlorinated-free solvent. Large surfaces may be cleaned utilizing a high- or low- pressure wash or steam cleaning with an alkaline detergent (such as Prep 88), followed by a freshwater rinse. Water used should be potable grade or better and should be checked to assure minimal salt content. Do not use any chemical additives in the rinse water
- An anchor profile is not mandatory for adhesion of PPG HI-TEMP 900 on stainless steel surfaces. As an option, following cleaning, a light abrasive sweep blast using an appropriate chloride-free abrasive may be performed. After completion of this mechanical surface preparation, rinse the surface with potable grade water or better. Always allow rinsed surfaces to dry before coating

Note:

- Do not use chlorinated solvents on stainless steel surfaces

Substrate temperature and application conditions

- Substrate temperature during application should be between 10°C (50°F) and 66°C (151°F)
- Substrate temperature during application should be at least 3°C (5°F) above dew point
- Relative humidity during application should not exceed 85%, and good ventilation is required

SYSTEM SPECIFICATION

Insulated service: carbon steel

- Cyclic service temperature range of -196°C to 320°C (-321°F to 608°F)
- Isothermal dry temperature service up to 482°C (900°F)
- PPG HI-TEMP 900: 250 to 300 µm (10.0 to 12.0 mils) DFT

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Insulated service: carbon steel

- Cyclic service temperature range of -196°C to 320°C (-321°F to 608°F)
- Isothermal dry temperature service up to 482°C (900°F)
- PPG DIMETCOTE 9: 50 to 75 µm (2.0 to 3.0 mils) DFT
- PPG HI-TEMP 900: 200 to 250 µm (8.0 to 10.0 mils) DFT

Insulated service: stainless steel

- Cyclic service temperature range of -196°C to 320°C (-321°F to 608°F)
- Isothermal dry temperature service up to 482°C (900°F)
- PPG HI-TEMP 900: 200 to 250 µm (8.0 to 10.0 mils) DFT

Non-insulated service: carbon and stainless steel

- Cyclic service temperature range of -196°C to 320°C (-321°F to 608°F)
- Isothermal dry temperature service up to 482°C (900°F)
- PPG HI-TEMP 900: 250 to 300 µm (10.0 to 12.0 mils) DFT
- Topcoat coat (optional): Apply Hi-Temp 500 or 1000 series at 37.5 to 50 µm (1.5 to 2.0 mils) DFT

Note:

- Maximum allowable DFT for both insulated and non-insulated service 375 µm (15.0 mils) including topcoats

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INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 5:1, aluminum 6:1

- Mix thoroughly before application
- PPG HI-TEMP 900 is a heavy bodied material; use mechanical agitation for mixing immediately before application. Be sure any settled solids are incorporated during mixing. If thinning is needed, thin only with PPG thinners and in accordance with applicable regulations. Agitate as needed during application
- It is essential to apply multiple thin passes of PPG HI-TEMP 900 during application. This process, similar to mist coating, prevents surface defects and also allows solvents to escape without leaving pinholes
- Do not exceed recommended maximum dry film thicknesses for the appropriate service type and temperatures

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Air spray

- No thinner is recommended

Nozzle orifice

1.8 – 2.2 mm (approx. 0.070 – 0.087 in)

Nozzle pressure

0.4 - 0.6 MPa (approx. 4 - 6 bar; 58 - 87 p.s.i.)

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Airless spray

- No thinner is recommended

Nozzle orifice

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

Nozzle pressure

13.8 MPa (approx. 138 bar; 2002 p.s.i.)

Brush/roller

- Spray application is recommended but when spray painting is not possible, brush or roller may be used. The coating should be applied with a suitable brush or short nap roller, brush and roll only in one direction.

Recommended thinner

Application to ambient substrate below 66°C (150°F): THINNER 21-06 (AMERCOAT 65) or THINNER 91-10 for VOC compliant only

Volume of thinner

Up to 5% THINNER can be added if desired

Note:

- Due to thixotropic nature of the paint, it is difficult to obtain a smooth film by brush, although this does not affect performance

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Cleaning solvent

- THINNER 21-06 (AMERCOAT 65)
- THINNER 91-10 for VOC compliant only

ADDITIONAL DATA

Spreading rate and film thickness	
DFT	**Theoretical spreading rate**
250 µm (10.0 mils)	3.0 m^2/l (120 ft^2/US gal)

Overcoating interval for DFT up to 250 µm (10.0 mils)					
Overcoating with...	**Interval**	**10°C (50°F)**	**15°C (59°F)**	**20°C (68°F)**	**30°C (86°F)**
itself and approved topcoats	Minimum	16 - 24 hours	14 - 20 hours	10 - 16 hours	8 - 12 hours
	Maximum	3 months	3 months	3 months	3 months

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Curing time for DFT up to 250 µm (10.0 mils)		
Substrate temperature	**Dry to recoat/topcoat**	**Dry to handle/ship**
10°C (50°F)	16 - 24 hours	48 hours
20°C (68°F)	10 - 16 hours	36 hours
38°C (100°F)	6 - 10 hours	24 hours

Note:

- Drying times are dependent on air and steel temperature, applied film thickness, ventilation and other environmental conditions

Pot life (at application viscosity)	
Mixed product temperature	**Pot life**
20°C (68°F)	1.5 hours

SAFETY PRECAUTIONS

- The product is for use only by professional applicators in accordance with information in this product data sheet and the applicable material safety data sheet (MSDS). Refer to the appropriate MSDS before using this material. All use and application of this product should be performed in compliance with all relative federal, state and local, health, safety and environmental regulations or in compliance with all pertinent local, regional and national regulations as well as good safety practices for painting, and in conformance with recommendations in SSPC PA 1, “Shop, Field and Maintenance Painting of Steel.”

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

WARRANTY

PPG warrants (i) its title to the product, (ii) that the quality of the product conforms to PPG’s specifications for such product in effect at the time of manufacture and (iii) that the product shall be delivered free of the rightful claim of any third person for infringement of any U.S. patent covering the product. THESE ARE THE ONLY WARRANTIES THAT PPG MAKES AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, UNDER STATUTE OR ARISING OTHERWISE IN LAW, FROM A COURSE OF DEALING OR USAGE OF TRADE, INCLUDING WITHOUT LIMITATION, ANY OTHER WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR USE, ARE DISCLAIMED BY PPG. Any claim under this warranty must be made by Buyer to PPG in writing within five (5) days of Buyer’s discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life of the product, or one year from the date of the delivery of the product to the Buyer, whichever is earlier. Buyer’s failure to notify PPG of such non-conformance as required herein shall bar Buyer from recovery under this warranty.

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