PPG HI-TEMP™ 1000 VS

DESCRIPTION

One-component, heat-resistant silicone topcoat for use in an elevated temperature coating system, primarily for application over PPG HI-TEMP 1027 primer

PRINCIPAL CHARACTERISTICS

- Heat-resistant topcoat with highly engineered silicone resin; able to withstand severe thermal cycling to 650°C (1200°F)
- Superior color stability to 650°C (1200°F) for black and aluminum – other colors to 538°C (1000°F)
- Can be applied to hot substrates, ranging from 10°C to 149°C (50°F to 300°F)
- Air dries rapidly
- Excellent spray application properties
- User-friendly system with excellent brush and roller application characteristics
- Excellent weathering and corrosion resistance when applied over PPG HI-TEMP 1027 primer, Inorganic Zinc (IOZ) or other approved primers
- No softening in thermal cyclic service

COLOR AND GLOSS LEVEL

- Standard and custom colors, including aluminum
- Flat

BASIC DATA AT 20°C (68°F)

Data for product	
Number of components	One
Mass density	1.4 kg/l (11.4 lb/US gal)
Volume solids	34 ± 2%
VOC (Supplied)	Directive 1999/13/EC, SED: max. 272.0 g/kg max. 420.0 g/l (approx. 3.5 lb/US gal)
Temperature resistance	To 650°C (1200°F)
Color stability standard and custom colors	To 538°C (1000°F)
Color stability black and aluminum	To 650°C (1200°F)
Recommended dry film thickness	50 - 63 µm (2.0 - 2.5 mils) per coat
Theoretical spreading rate	6.8 m^2/l for 50 µm (273 ft^2/US gal for 2.0 mils)
Dry to touch	2 hours
Dry to handle	24 hours

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Data for product	
Shelf life	At least 24 months when stored cool and dry

Notes:
- See ADDITIONAL DATA – Spreading rate and film thickness
- See ADDITIONAL DATA – Curing time

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

New or corroded surfaces

- For corrosion resistant service, use of an approved corrosion resistant primer is necessary. Surfaces to be coated with PPG HI-TEMP 1027 primer or Inorganic Zinc (IOZ) must be prepared and primed in accordance with the appropriate product data sheet. Consult a PPG representative for alternate and approved primers, and if approved, prepare the surface and apply the primer in accordance with the product data sheet for the approved primer. Allow appropriate dry time. Apply one coat of PPG HI-TEMP 1000 VS topcoat at 50 to 63 µm (2.0 to 2.5 mils) DFT.
- For cosmetic service only, an approved corrosion resistant primer is recommended but not necessary. Abrasive blast clean to SSPC-SP 6 “Commercial Blast” (ISO-Sa2) with profile of 25 to 38 µm (1.0 to 1.5 mils) or pressure wash to an equivalent of SSPC-SP 6 (ISO-Sa2) condition. Surfaces to be coated must be dry and free of salts, weld splatter, oil, dirt, grease, and all other contaminants. Round off all rough welds and sharp edges. Apply two coats of PPG HI-TEMP 1000 VS topcoat at 50 to 63 µm (2.0 to 2.5 mils) DFT per coat for a total of 100 to 125 µm (4.0 to 5.0 mils) DFT.

Previously painted surfaces in good condition

- If old coating is intact and there is no evidence of cracking, fracturing, and/or delamination, pressure wash surface to remove all salts, oil, grease, and contaminants and apply one coat of PPG HI-TEMP 1000 VS at 50 to 63 µm (2.0 to 2.5 mils) DFT.

Previously painted surfaces in poor condition with some localized corrosion

- If old coating shows evidence of cracking, fracturing, delamination, and/or corrosion, follow surface preparation guidelines for new steel. If there is no evidence of cracking, fracturing, or delamination, just small areas of corrosion (less than 10% of the area to be coated), power wash the entire structure, removing all salts, oil, grease, and other contaminants. Once dry, perform surface preparation and apply PPG HI-TEMP 1027 in accordance with the product data sheet on all areas where the existing paint has been removed. Once these areas are primed and dry, apply one coat of PPG HI-TEMP 1000 VS at 50 to 63 µm (2.0 to 2.5 mils) DFT over the entire surface.

Note: Prior to application of the PPG HI-TEMP 1000 VS topcoat over other coatings, prepare a small test patch area and test for adhesion

Substrate temperature

- 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
- Application to hot substrate: should be above 66°C (151°F) and below 149°C (300°F)

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SYSTEM SPECIFICATION

Uninsulated steel - Option 1

- PPG HI-TEMP 1027: 125 to 150 µm (5.0 to 6.0 mils) DFT
- PPG HI-TEMP 1000 VS: 50 to 63 µm (2.0 to 2.5 mils)

Uninsulated steel - Option 2

- Inorganic Zinc (IOZ) or other approved primer (refer to the respective PRODUCT DATA SHEET for DFT)
- PPG HI-TEMP 1000 VS: 50 to 63 µm (2.0 to 2.5 mils)

Note: Do not exceed recommended dry film thickness

INSTRUCTIONS FOR USE

- Use mechanical agitation for mixing. Mix materials until uniform in consistency.
- Thinning is normally not required. If a condition warrants thinning, only PPG thinners should be used and in accordance with applicable regulations.

Air spray

Recommended thinner - application to ambient substrate below 66°C (150°F)

- THINNER 21-06 (PPG HI-TEMP THINNER 11/AMERCOAT 65)
- THINNER 91-10 or PPG HI-TEMP THINNER 10 (VOC compliant)

Recommended thinner - application to hot substrate at 66°C (150°F) up to 149°C (300°F)

- THINNER 21-25 or PPG HI-TEMP THINNER 5

Volume of thinner

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

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

Recommended thinner - application to ambient substrate below 66°C (150°F)
- THINNER 21-06 (PPG HI-TEMP THINNER 11/AMERCOAT 65)
- THINNER 91-10 or PPG HI-TEMP THINNER 10 (VOC compliant)

Recommended thinner - application to hot substrate at 66°C (150°F) up to 149°C (300°F)
- THINNER 21-25 or PPG HI-TEMP THINNER 5

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
20.7 MPa (approx. 207 bar; 3003 p.s.i.)

Brush/roller

Recommended thinner - application to ambient substrate below 66°C (150°F)
- THINNER 21-06 (PPG HI-TEMP THINNER 11/AMERCOAT 65)
- THINNER 91-10 or PPG HI-TEMP THINNER 10 (VOC compliant)

Recommended thinner - application to hot substrate at 66°C (150°F) up to 149°C (300°F)
- THINNER 21-25 or PPG HI-TEMP THINNER 5

Volume of thinner
Up to 5% THINNER can be added if desired

Note: Spray application is recommended but when spray painting is not possible, brush or roller is an appropriate method. The coating should be applied with a suitable brush or short nap roller.

Cleaning solvent
- THINNER 21-06 (PPG HI-TEMP THINNER 11/AMERCOAT 65)
- THINNER 91-10 or PPG HI-TEMP THINNER 10 (VOC compliant)
- THINNER 21-25 or PPG HI-TEMP THINNER 5

ADDITIONAL DATA

Spreading rate and film thickness	
DFT	**Theoretical spreading rate**
50 µm (2.0 mils)	6.8 m^2/l (273 ft^2/US gal)
63 µm (2.5 mils)	5.4 m^2/l (218 ft^2/US gal)

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Curing time for DFT up to 63 µm (2.5 mils)			
Substrate temperature	**Dry to touch**	**Dry to overcoat**	**Dry to handle**
10°C (50°F)	4 hours	10 hours	3 days
20°C (68°F)	2 hours	8 hours	24 hours
32°C (90°F)	2 hours	6 hours	16 hours
66°C (151°F)	30 minutes	4 hours	12 hours

Note: When shipping and handling equipment coated with PPG HI-TEMP 1000 VS follow industry standard procedures for thin film coatings. Avoid mechanical damage and abrasion

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 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

• CONVERSION TABLES	INFORMATION SHEET	1410
• EXPLANATION TO PRODUCT DATA SHEETS	INFORMATION SHEET	1411

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.

LIMITATIONS OF LIABILITY

IN NO EVENT WILL PPG BE LIABLE UNDER ANY THEORY OF RECOVERY (WHETHER BASED ON NEGLIGENCE OF ANY KIND, STRICT LIABILITY OR TORT) FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IN ANY WAY RELATED TO, ARISING FROM, OR RESULTING FROM ANY USE MADE OF THE PRODUCT. The information in this sheet is intended for guidance only and is based upon laboratory tests that PPG believes to be reliable. PPG may modify the information contained herein at any time as a result of practical experience and continuous product development. All recommendations or suggestions relating to the use of the PPG product, whether in technical documentation, or in response to a specific inquiry, or otherwise, are based on data, which to the best of PPG’s knowledge, is reliable. The product and related information is designed for users having the requisite knowledge and industrial skills in the industry and it is the end-user’s responsibility to determine the suitability of the product for its own particular use and it shall be deemed that Buyer has done so, as its sole discretion and risk. PPG has no control over either the quality or condition of the substrate, or the many factors affecting the use and application of the product. Therefore, PPG does not accept any liability arising from any loss, injury or damage resulting from such use or the contents of this information (unless there are written agreements stating otherwise). Variations in the application environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results. This sheet supersedes all previous versions and it is the Buyer’s responsibility to ensure that this information is current prior to using the product. Current sheets for all PPG Protective & Marine Coatings Products are maintained at www.ppgpmc.com. The English text of this sheet shall prevail over any translation thereof.

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