



# Protective & Marine Coatings

# HEAT-FLEX® HI-TEMP 1000

B59-820 SERIES

Revised: November 17, 2023

## PRODUCT INFORMATION

7.19

### PRODUCT DESCRIPTION

**HEAT-FLEX HI-TEMP 1000** is formulated with a specially engineered silicon hybrid resin enabling it to withstand temperatures from 500°F (260°C) to 1000°F (538°C) as well as severe thermal cycling. It can be used direct to stainless steel, carbon steel or as a topcoat over Heat-Flex 1200 Plus or an inorganic zinc rich primer while providing outstanding corrosion protection.

- Single component
- Recommended for continuous service up to 1000°F (538°C) with spikes up to 1200°F (648°C)
- User-friendly - can be brush or rolled
- Excellent spray application properties
- Air dries at ambient
- Can be applied direct to stainless steel

### PRODUCT CHARACTERISTICS

<b>Generic type:</b>	Silicone Hybrid
<b>Color:</b>	SW4003 Pallet Tan, SW4054 Basin, SW4070 Generator Green, Black, Aluminum, Cirrus Gray, Shale Gray, Thunder Gray, New-Toned White
<b>Finish:</b>	Flat
<b>Volume solids:</b>	53-56%, depending on color 31% Aluminum
<b>VOC:</b>	372 g/L ; 3.10 lb/gal 415 g/L ; 3.47 lb/gal Aluminum

### Recommended Spreading Rate per coat:

	Minimum	Maximum
<b>Wet mils (microns)</b>	<b>2.5 (63)</b>	<b>3.5 (88)</b>
<b>Dry mils (microns)</b>	<b>1.5 (37)</b>	<b>2.0 (50)</b>
<b>~Coverage sq ft/gal (m<sup>2</sup>/L)</b>	<b>448 (10.9)</b>	<b>597 (14.5)</b>
<b>Theoretical coverage sq ft/gal (m<sup>2</sup>/L) @ 1 mil / 25 microns dft</b>	<b>896 (22.1)</b>	

**NOTE:** Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

### Drying Schedule @ 50% RH:

	@ 50°F/10°C	@ 77°F/25°C
<b>To touch:</b>	9 hours	6 hours
<b>To recoat:</b>	24 hours	10 hours
<b>To ship:*</b>	72 hours	48 hours

\* Proper procedures for thin-filmed systems should be followed when handling and shipping. Avoid any mechanical abrasion.

*Drying time is temperature, humidity, and film thickness dependent. Higher temperatures will reduce tack free, recoat, and ship times. To achieve optimum film properties, a heat cure of 350°F/177°C for 30 minutes is required.*

<b>Shelf Life:</b>	12 months, unopened Store indoors at 50°F (10°C) to 100°F (38°C).
<b>Flash Point:</b>	80°F (27°C)
<b>Reducer:</b>	Not recommended
<b>Clean Up:</b>	Xylene, R2K4
Do not exceed maximum recommended DFT. May affect adhesion.	

### RECOMMENDED USES

- Direct to stainless steel
- Direct to carbon steel or with primer
- Cyclic service up to 1000°F (538°C) with temperature spikes up to 1200°F (648°C)
  - Power plants
  - Refineries
  - Chemical facilities
  - Offshore/Marine
  - Pulp & Paper

### RECOMMENDED SYSTEMS

		Dry Film Thickness / ct.	
		Mils	(Microns)
<b>Carbon Steel:</b>			
2 cts.	Heat-Flex Hi-Temp 1000**	2.0-2.5	(50-62)
or			
1 ct.	Heat-Flex 1200 Plus	5.0-6.0	(125-150)
1 ct.	Heat-Flex Hi-Temp 1000**	1.5-2.0	(37-50)
or			
1 ct.	EpoPhen FF***	7.0-9.0	(175-225)
1 ct.	Heat-Flex Hi-Temp 1000	2.0-2.5	(50-62)
or			
1 ct.	Phenicon HS FF***	5.0-6.0	(125-150)
1 ct.	Heat-Flex Hi-Temp 1000	2.0-2.5	(50-62)
or			
1 ct.	Cor-Cote HT***	4.0-5.0	(100-125)
1 ct.	Heat-Flex Hi-Temp 1000	2.0-2.5	(50-62)
or			
1 ct.	Cor-Cote HT FF***	4.0-5.0	(100-125)
1 ct.	Heat-Flex Hi-Temp 1000	2.0-2.5	(50-62)

\*\*Must apply a mist coat of Heat-Flex Hi-Temp 1000. Allow 10 minutes flash off and follow with a full coat.

\*\*\*Refer to respective product data sheet for maximum service temperature recommendation.

### Uninsulated Stainless Steel:

2 cts.	Heat-Flex Hi-Temp 1000	1.5-2.0	(37-50)
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NOTE: Heat-Flex Hi-Temp 1000 is also suitable for use over inorganic zinc rich primers.

Not recommended for:

- Immersion service
- Interiors of industrial air pollution control devices

### TINTING

Do not tint

### APPLICATION CONDITIONS

Temperature:	50°F (10°C) minimum, 120°F (50°C) maximum Air, surface, and material At least 5°F (2.8°C) above dew point Maximum 85% relative humidity
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### ORDERING INFORMATION

Weight:	12.8 ± 0.2 lb/gal ; 1.5 Kg/L
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### SURFACE PREPARATIONS

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Minimum recommended surface preparation:

Iron & Steel:	SSPC-SP6, 1.5-2.5 mil (40-63 micron) profile Or SSPC-SP11, 1.0-2.5 mil (25-63 micron) profile
Stainless Steel:	SSPC-SP1, Do not use chlorinated solvents for cleaning



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### SURFACE PREPARATIONS (CONT'D)

#### Iron & Steel

Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Commercial Blast Cleaning per SSPC-SP6/NACE 3. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (1.5-2.5 mils / 40-63 microns maximum). If SSPC-SP6/NACE 3 is not possible, Power Tool Cleaning to Bare Metal per SSPC-SP11 is also acceptable (1.0-2.5 mil / 25-63 micron profile maximum). Hand Tool Cleaning per SSPC SP 2 or Power Tool Cleaning per SSPC SP 3 are acceptable\* preparation methods when SSPC SP 6 or SSPC SP 11 are not possible. Coat any bare steel the same day as it is cleaned or before flash rusting occurs. On stainless steel, clean per SSPC-SP1. Aluminum Oxide grit is also acceptable for use. Do not use chlorinated solvents for cleaning stainless steel. Product performance is relative to the surface preparation achieved.

\*Where SSPC SP 2 or SP 3 are used the Dry Temperature Resistance is recommended to a maximum 1000°F, continuous and peak.

Surface Preparation Standards					
Condition of Surface	ISO 8501-1 BS7079:A1	Swedish Std. SIS055900	SSPC	NACE	
White Metal	Sa 3	Sa 3	SP 5	1	
Near White Metal	Sa 2.5	Sa 2.5	SP 10	2	
Commercial Blast	Sa 2	Sa 2	SP 6	3	
Brush-Off Blast	Sa 1	Sa 1	SP 7	4	
Hand Tool Cleaning	C St 2	C St 2	SP 2	-	
Pitted & Rusty	D St 2	D St 2	SP 2	-	
Power Tool Cleaning	C St 3	C St 3	SP 3	-	
Pitted & Rusty	D St 3	D St 3	SP 3	-	

### APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Conventional spray is the recommended method of application, however Heat-Flex Hi-Temp 1000 may also be applied by airless spray, brush or roller. Do not apply Heat-Flex Hi-Temp 1000 in heavier films than specified since blistering may occur.

#### Conventional Spray:

Gun .....	Graco 700N
Fluid Nozzle .....	0.045" - 0.055"
Air Nozzle.....	20 cfm
Atomizing Pressure.....	50 psi
Fluid Pressure.....	20-30 psi
Reduction.....	Not recommended

Provide material pot with agitator, regulators for fluid and air pressure, and oil and moisture traps in supply line.

#### Airless Spray:

Unit.....	30:1 Pump
Pressure.....	2700-3000 psi
Hose.....	3/8" ID
Tip .....	0.017" - 0.019"
Filter .....	60 mesh
Reduction.....	Not recommended

### APPLICATION EQUIPMENT (CONT'D)

#### Brush:

Brush .....	Natural bristle
Reduction .....	Not recommended

#### Roller:

Cover .....	1/4"-3/8" woven with solvent resistant core
Reduction .....	Not recommended

If specific application equipment is not listed, equivalent equipment may be substituted. For brush and roller application, maintain a wet edge while avoiding runs or excess film build.

### APPLICATION PROCEDURES

Surface preparation must be completed as indicated.

**Mixing Instructions:** Mix paint thoroughly with low speed, spark-proof, power agitation before use. Obtain a uniform consistency. Do not incorporate air.

### CLEAN UP

Thoroughly flush spray equipment and hoses immediately after use with Xylene, R2K4. Dismantle spray equipment and clean parts, brushes and rollers with Xylene, R2K4.

### SAFETY PRECAUTIONS

Refer to the SDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

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