Protective & Marine Coatings

HEAT-FLEX™ HI-TEMP 1200
HIGH TEMP COATING

B59A225 GREY
B59A226 DARK GREY

Revised 02/2016 - Issue 2

PRODUCT INFORMATION

PRODUCT DESCRIPTION

HEAT-FLEX® HI-TEMP 1200 is the next generation single-component inert multipolymeric matrix coating that outperforms alternatives in combating corrosion under insulation (CUI) and in high heat applications.

- Resists corrosion under insulation
- Resists stress corrosion cracking
- Application surface temperatures from ambient to 260°C (500°F)
- Operating surface temperatures cryogenic to 649°C (1200°F)
- Heat curing not required to cure and provide corrosion resistance
- Self priming, single component
- No maximum recoat time

PRODUCT CHARACTERISTICS

Finish:	Low Sheen
Colour:	Grey and Dark Grey
Volume Solids:	57% ± 2%
Weight Solids:	81% ± 2%
VOC (EPA Method 24):	<375 g/L (3.2lb.gal)

Recommended Spreading Rate per coat:

	Minimum		Maximum	
W.f.t microns (mils)	**100**	(4.0)	**250**	(10.0)
D.f.t microns (mils)	**57**	(2.3)	**142**	(5.7)
~Coverage m²/L (sqft/gal)	**4.5**	(182)	**3.7**	(152)

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

Drying Schedule @ 8.0 mils wet (200 microns):

	@ 10°C (50°F)	@ 25°C (77°F) *50% RH*	@ 49°C (120°F)
To touch:	30 minutes	20 minutes	10 minutes
To handle:	2 hours	1½ hours	1 hour
To recoat:	3 hours	1 hour	15 mins
To ship:	24 hours*	24 hours	24 hours

Full cure @ 177°C / 350°F is 30 minutes.

*Higher film build effects cure speed and increases ship time at lower temperatures.
Drying time is temperature, humidity, and film thickness dependent.

Shelf Life:	12 months, unopened at 25°C (77°F) Store indoors at 4.5°C (40°F) to 31°C (100°F)
Flash Point:	31°C (87°F) SETA
Reducer:	Not normally recommended*
Clean Up:	Xylene, /MAK (Methyl n-Amy Ketone)

RECOMMENDED USES

- Direct to steel or stainless steel
- As a coating under insulation
- Cyclic service up to 649°C (1200°F)
- Acceptable for use on cryogenic equipment
- For use over properly prepared steel surfaces, either insulated or uninsulated:
  - Power Plants
  - Refineries
  - Chemical Facilities
  - Offshore/Marine
  - Pulp & Paper

PERFORMANCE CHARACTERISTICS

Substrate: Carbon Steel / Stainless Steel
Surface Preparation: SSPC-SP10
System Tested:
2 cts. Heat-Flex Hi-Temp 1200 @ 125-150 microns dft/ct (5-6mls).

Test Name	Test Method	Results
Abrasion Resistance	ASTM D968, Falling Sand	16.4 L/mil*
Abrasion Resistance	ASTM D4060, Milligram Loss	189
Adhesion	ASTM D6677	Rating 10
Blocking Resistance	ASTM D4946	Rating 10
Boiling Water	Dry 537°C (1000°F) Wet 99°C (210°F) 16 weeks, 80 cycles	No adhesion loss
Corrosion Under Insulation (Carbon Steel)	Dry 177°C (350°F) Wet 66°C (150°F) 12 weeks, 6 cycles (calcium silicate and mineral wool)	Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 for rusting
Corrosion Weathering (Carbon Steel)	ASTM D5894, 8 cycles, 2,688 hours	Rating 10 per ASTM D714 for blistering; Rating 10 per ASTM D610 for rusting
Direct Impact Resistance	ASTM D2794	80 in lb
Dry Heat Resistance	ASTM D2485	649°C (1200°F)
Exterior Durability (Carbon Steel)	1 year at 45° South	In-Process
Flexibility	ASTM D522, 180° bend, 1¾" mandrel	Passes
Pencil Hardness	ASTM D3363	2H
Salt Fog Resistance (Carbon Steel)	ASTM B117, 1,848 hours	Rating 10 per ASTM D714 for blistering; Rating 8 per ASTM D610 for rusting

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B59A226 Dark Grey

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Product Information

Surface Preparation

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.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:

Iron & Steel: SSPC-SP6, 40-63 micron profile Or SSPC-SP11, 25-63 micron profile

Stainless Steel: SSPC-SP1, Do not use chlorinated solvents for cleaning

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	Rusted	C St 2	C St 2	SP 2	-
	Pitted & Rusted	D St 2	D St 2	SP 2	-
Power Tool Cleaning	Rusted	C St 3	C St 3	SP 3	-
	Pitted & Rusted	D St 3	D St 3	SP 3	-

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 (40-63 / 1.5-2.5mils microns maximum). If SSPC-SP6/ NACE 3 is not possible, Power Tool Cleaning to Bare Metal per SSPC-SP11 is also acceptable (25-63 / 1.0-2.5 mil 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 537°C, continuous and peak.

Application Conditions

Temperature:
surface 10°C (50°F) minimum, 260°C (500°F) maximum
air and material 10°C (50°F) minimum, 49°C (120°F) maximum
At least 3°C above dew point
Relative humidity: 85% maximum

Refer to product Application Guidelines for detailed application information

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.

Reduction ..... Not recommended*
Clean Up ..... Xylene, MAK
Airless Spray
Unit ..... 30:1 Pump
Pressure ..... 2700 - 3000 psi
Hose ..... 3/8" ID
Tip ..... .17-19 thou (0.43-0.48mm)
Filter ..... 60 mesh
Reduction ..... Not recommended
Conventional Spray
Gun ..... Graco 700N
Fluid Tip ..... .45-55 thou (1.14-1.40mm)
Air Nozzle ..... 20 cfm
Atomization Pressure ..... 50 psi
Fluid Pressure ..... 20 - 30 psi
Reduction ..... Not recommended

Brush
Brush ..... China bristle, small areas only
Reduction ..... Not recommended

Roller
Cover ..... 1/2" woven with solvent resistant core, small areas only
Reduction ..... Not recommended

If specific application equipment is not listed above, equivalent equipment may be substituted.

Mixing Instructions: Mix paint thoroughly with low speed power agitation before use. Obtain a uniform consistency. Additional mixing during application may be necessary due to heavy consistency. Do not incorporate air.

Performance Tips

When using spray application, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

No reduction of material is recommended as it can affect film build, appearance, and adhesion.

***If reduction is required for application to hot steel, use MAK, R6K30 up to a maximum of 5% by volume.**

During application to hot steel, apply coating in several thin passes to allow solvent to escape and to prevent blistering. Allow at least 15-20 minutes between each coat. If blistering does occur, brush out immediately.

Always test adhesion by applying a test patch of 2-3 square feet. Allow one week to dry before checking adhesion.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with xylene/MAK.

Minor color change may be exhibited in exposed service, but will not affect performance.

Topcoating: If applying a topcoat, apply a mist coat of the topcoat. Allow 10 minutes flash off and follow with a full coat.

Ordering Information

Packaging: 3.78L (1 gallon) in a 3.78L container and 11.34L (3 gallons) in a 18.9L (5 gallon) container.

Weight: 1.93 Kg/L, 16.1±0.3 lb/gal

Safety Precautions

Refer to the MSDS 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.

Warranty

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.