KEM® HI-TEMP COATINGS NO. 500 SERIES

PRODUCT INFORMATION

Revised 7/05

PRODUCT DESCRIPTION

KEM HI-TEMP 500 SERIES HIGH PERFORMANCE HEAT RESISTANT COATINGS are based on a one component specially modified epoxy ester resin. The coatings air dry by polymerization and oxidation to form a tough, durable, heat, chemical and moisture vapor resistant film. They do not require any heat curing schedule to obtain their heat resistant properties.

No. 500 Series Coatings are suitable for use on stainless steel surfaces. They are formulated with special ingredients to minimize contamination from chlorides, other halides, sulfides, nitrates and metals which are known to induce external stress corrosion cracking. They contain no free metallic zinc and therefore, will not contribute to embrittlement of stainless steel welds.

RECOMMENDED USES

- Wherever resistance to heat, humidity, and corrosive atmospheric conditions is required
- Can be used as a protective and decorative coating on metal parts, mufflers, hot water and steam lines, where operating temperatures will not exceed 500°F (260°C)
- Not recommended for use on the inside of ovens, stacks, etc.
- Do not use over galvanizing or zinc-rich coating

PRODUCT CHARACTERISTICS

Finish: Gloss (diminishes at higher temperatures)

Color: Wide range of colors available

Volume Solids: 35% ± 2%, varies by color

Weight Solids: varies by color

VOC (calculated): <575 g/L; <5.0 lb/gal

Resin Type: Finish: Modified Epoxy Ester
Primer: Phenolic Alkyd

Type of Cure: Solvent evaporation/Oxidation

Recommended Spreading Rate per coat:

Wet mils:	2.9 - 3.8
Dry mils:	1.0 - 1.3—critical
Coverage:	420 - 560 sq ft/gal approximate

Drying Schedule @ 3.0 mils wet @ 50% RH:

To touch:	30 minutes
To recoat:	½ - 1½ hours*
To cure:	72 hours**

* If recoating cannot be done within that time, allow to cure for 7 days before recoating.

** Due to the thermoplasticity of the coating, when applied to hot surfaces (100° to 150°F [38° to 66°C]), it is important to note that the drying times will be greatly increased, as the coating stays soft and tacky for longer periods, and full cure (hardness) may not be obtained for 7 days.

Drying time is temperature, humidity, and film thickness dependent.

Shelf Life: 18 months, unopened
Store indoors at 40°F to 100°F.

Flash Point: 80°F, PMCC

Reducer/Clean Up: Xylene, R2K4

PERFORMANCE CHARACTERISTICS

Provides excellent resistant to corrosive atmospheres, hostile environmental conditions, and temperatures up to 500°F (260°C).

Heat Resistance of Standard Colors:

	No. 1 Black	Up to 500°F (260°C)
	No. 2 Silver	Up to 500°F (260°C)
*	No. 3 Lagoon	Up to 200°F (93°C)
*	No. 4 Topaz	Up to 250°F (121°C)
*	No. 5 Horizon	Up to 200°F (93°C)
*	No. 6 Newport	Up to 250°F (121°C)
*	No. 7 Mauve	Up to 200°F (93°C)
	No. 8 Walnut	Up to 500°F (260°C)
*	No. 9 Fawn	Up to 200°F (93°C)
*	No. 10 Russet	Up to 400°F (204°C)
*	No. 11 Quarry	Up to 200°F (93°C)
*	No. 12 Camouflage	Up to 350°F (177°C)
*	No. 13 Dusty	Up to 200°F (93°C)
*	No. 14 Golden	Up to 350°F (177°C)
*	No. 15 Charcoal	Up to 450°F (232°C)
*	No. 16 Steel	Up to 200°F (93°C)
*	No. 17 Pewter	Up to 200°F (93°C)
*	No. 18 White	Up to 200°F (93°C)
	Primer	Up to 500°F (260°C)

*Note: All standard colors will withstand dry service temperatures up to 500°F (260°C). However, the temperature listed for each color indicated the maximum temperature that color will withstand, with minimal color change. Above the temperature shown, a significant color change will occur. This color change is not reversible.

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PRODUCT INFORMATION

Recommended Systems

Steel:
1 ct. Kem Hi-Temp 500 Primer @ 1.0 - 1.3 mils dft
1 ct. Kem Hi-Temp 500 Topcoat @ 1.0 - 1.3 mils dft

Masonry:
2 cts. Kem Hi-Temp 500 Topcoat @ 1.0 - 1.3 mils dft/ct.

The systems listed above are representative of the product's use. Other systems may be appropriate.

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-SP10/ NACE 2, 1 mil profile maximum
Masonry:	Cured, clean, dry, sound

Tinting

Do not tint.

Application Conditions

Temperature:

air and material	50°F minimum, 100°F maximum
surface	150°F maximum
	At least 5°F above dew point
Relative humidity:	85% maximum

Refer to product Application Bulletin for detailed application information.

Ordering Information

Packaging: 1, 5 and 55 gallon containers

Safety Precautions

Refer to the MSDS sheet before use.

Information provided herein is based on tests believed to be reliable. In as much as we have no control over the use or application to which others may put this material, we make no guarantee or warranty. This product is sold on the condition that each user of the material make their own evaluation to determine the material's suitability for their own particular use.

Disclaimer

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

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.

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APPLICATION BULLETIN

Revised 7/05

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.

Iron & Steel (atmospheric service)
Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP10/NACE 2. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (1 mil) maximum. Coat any bare steel the same day as it is cleaned or before flash rusting occurs.

Masonry
Surfaces should be thoroughly clean and dry. Surface temperatures must be at least 50°F before coating. Weathered masonry and soft or porous cement board must be brush blasted or power tool cleaned to remove loosely adhering contamination and to get to a hard, firm surface.

Application Conditions

Temperature:	
air and material	50°F minimum, 100°F maximum
surface	150°F maximum
	At least 5°F above dew point
Relative humidity:	85% maximum

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.

Reducer/Clean Up ..... Xylene, R2K4

Airless Spray
- Pressure ..... 2500 psi
- Hose ..... 1/4" ID
- Tip ..... .013" - .015"
- Filter ..... 100 mesh
- Reduction ..... As needed up to 7% by volume

Conventional Spray
- Type ..... External mix
- Gun ..... Graco 217 - 800 to 217- 816
- Air Nozzle ..... 12 CFM
- Atomization Pressure .. 50 psi
- Fluid Pressure ..... 15-20 psi
- Reduction ..... As needed up to 7% by volume

Brush
- Brush ..... Natural Bristle
- Reduction ..... Not recommended

Roller
- Cover ..... 3/8" woven with phenolic core
- Reduction ..... Not recommended

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

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Application Procedures

Surface preparation must be completed as indicated.

Mixing Instructions: Mix paint thoroughly by boxing and stirring before use. Avoid incorporating air into the paint.

Apply paint at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per coat:

Wet mils:	2.9 - 3.8
Dry mils:	1.0 - 1.3 (critical)
Coverage:	420 - 560 sq ft/gal approximate

Drying Schedule @ 3.0 mils wet @ 50% RH:

To touch:	30 minutes
To recoat:	½ - 1½ hours*
To cure:	72 hours**

* If recoating cannot be done within that time, allow to cure for 7 days before recoating.
** Due to the thermoplasticity of the coating, when applied to hot surfaces (100° to 150°F [38° to 66°C]), it is important to note that the drying times will be greatly increased, as the coating stays soft and tacky for longer periods, and full cure (hardness) may not be obtained in the 72 hour period indicated.

Drying time is temperature, humidity, and film thickness dependent.

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

Performance Tips

Stripe coat all crevices, welds, and sharp angles to prevent early failure in these areas.

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.

Excessive reduction of material can affect film build and appearance.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Xylene, R2K4.

Note: All standard colors will withstand dry service temperatures up to 500°F (260°C). However, the temperature listed for each color indicated the maximum temperature that color will withstand, with minimal color change. Above the temperature shown, a significant color change will occur. This color change is not reversible.

Excessive film build may cause blistering.

For best performance, it is essential that the temperature be taken up slowly, over a period of 3-4 hours, to the normal operating temperature.

Refer to Product Information sheet for additional performance characteristics and properties.

Clean Up Instructions

Clean spills and spatters immediately with Xylene, R2K4. Clean tools immediately after use with Xylene, R2K4. Follow manufacturer's safety recommendations when using any solvent.

Safety Precautions

Refer to the MSDS sheet before use.

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