

**SELECTION & SPECIFICATION DATA**

<b>Generic Type</b>	Inorganic polymer (inert multi-polymeric matrix)
<b>Description</b>	A single-component, high performance coating which has outstanding resistance to wet / dry cycling conditions at elevated temperatures. Film is internally reinforced with a combination of aluminium and micaceous iron oxide (MIO) flake for superior barrier and thermal shock resistance. While it is typically used to protect steel substrates under insulation operating up to 649°C, it can also be used on non-insulated steel surfaces. It can handle cryogenic exposures and will cure effectively at ambient conditions to provide corrosion protection without additional heat curing. It has excellent chemical resistant properties to handle the corrosive effects of wet insulation under thermal cycling conditions. This product is recommended for CS-6 and SS-5 systems of NACE SP0198 Standard Practice for coatings to control corrosion under insulation (CUI).
<b>Features</b>	<ul style="list-style-type: none"> <li>• Prevents corrosion under insulation</li> <li>• Aluminium and MIO reinforced inorganic film</li> <li>• Continuous temperature resistance to 649°C</li> <li>• Very good flexibility</li> <li>• Outstanding resistance to wet / dry thermal cycling</li> <li>• Prevents stress corrosion cracking of stainless steels</li> <li>• Does not require heat cure for corrosion resistance</li> <li>• Self-priming; single component</li> <li>• An optional additive may be added to speed up time to handle</li> </ul>
<b>Color</b>	Grey and Darker Grey
<b>Finish</b>	Eggshell (10-25)
<b>Primer</b>	Self-priming. May be used over Carbozinc 11 Primers for uninsulated applications.
<b>Dry Film Thickness</b>	90 to 125 microns per coat For high temperature applications, thinner films are recommended. Consult StonCor Africa Technical Services. Two coats are recommended for optimal performance. For best results, keep maximum dry film thickness below 250 microns.
<b>Solid(s) Content</b>	By Volume 53% ± 2%
<b>Theoretical Coverage Rates</b>	5.9m <sup>2</sup> /litre at 90 microns Allow for loss in mixing and application.
<b>VOC Value(s)</b>	As Supplied: 407 g/litre With optional Fortifier HT: 420 g/litre
<b>Maximum Service Temperature</b>	This product will handle thermal cycling from cryogenic -196°C to high heat of 649°C.

**SUBSTRATES & SURFACE PREPARATION**

<b>General</b>	All surfaces must be thoroughly cleaned to remove dirt, grease, mill scale, loose rust and any other contaminants that can reduce adhesion via SSPC-SP1 solvent cleaning along with the recommended surface preparation as referenced below.
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# Thermaline Heatshield

## PRODUCT DATA SHEET



### SUBSTRATES & SURFACE PREPARATION

<b>Ferrous Metal</b>	For optimum performance, abrasive blast to SSPC-SP10 (NACE No. 2) to obtain 60 to 90 microns blast profile. Where blasting is impractical or not permitted use hand power tools to prepare surface to SSPC-SP11 or SSPC-SP15 to obtain a 25 to 50 microns. A better cleaning method will improve performance and service life.
<b>Stainless Steel</b>	Surface profile should be a dense angular 25 to 75 micron and is best achieved through abrasive blasting. Remove all contaminants that would interfere with the performance of stainless steel for the intended service such as, but not limited to, imbedded iron or chlorides.

### MIXING & THINNING

<b>Mixing</b>	Power mix Part A to uniformity. Add Part B and mix to uniformity.
<b>Thinning</b>	Thinning not normally required for spray application. For applications over hot surfaces (up to 260°C), conventional spray is the preferred method of application. For small areas or touch-up, use a brush and thin up to 10% by volume with Thinner # 10 for normal temperatures or up to 10% with Thinners HT for hot surface applications. Use of thinners other than those supplied or approved by StonCor Africa may adversely affect product performance and will void product warranty whether express or implied.
<b>Pot Life</b>	Pot life is 8 hours at 25°C.

### APPLICATION EQUIPMENT GUIDELINES

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

<b>Conventional Spray</b>	Pressure pot equipped with dual regulators, 10mm ID minimum material hose, 1.8mm fluid tip with appropriate air cap. Adjust air pressure to provide uniform spray pattern.
<b>Airless Spray</b>	<b>Pump Ratio:</b> 32:1 (min)* <b>Volume Output:</b> 11.5 lpm (min) <b>Material Hose:</b> 12.5mm (min) <b>Tip Size:</b> 0.017-0.019" <b>Output PSI:</b> 1500-2000
<b>Brush &amp; Roller (General)</b>	Use a natural bristle brush applying in full strokes. Avoid rebrushing. If rolled, use a short nap roller with solvent resistant core. Avoid rerolling. Appearance will vary using brush or roller application methods due to the orientation of the aluminium flake.

### APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	13°C (55°F)	10°C (50°F)	7°C (45°F)	0%
Maximum	32°C (90°F)	260°C (500°F)	38°C (100°F)	95%

This product simply requires the substrate temperature to be above the dew point. Condensation due to substrate temperatures below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate. Special application techniques may be required above or below normal (15 to 50°C) application conditions. Consult StonCor Africa Technical Service.

## CURING SCHEDULE

Surface Temp.	Dry to Handle	Dry to Touch	Dry to Recoat
10°C (50°F)	6 Hours	1 Hour	6 Hours
16°C (61°F)	5.5 Hours	1 Hour	3 Hours
24°C (75°F)	5 Hours	45 Minutes	1 Hour
32°C (90°F)	2 Hours	30 Minutes	1 Hour

### Relative Humidity: 50%

These times are based on the recommended dry film thickness, 90 to 125 microns. Excessive film thickness or inadequate ventilating conditions after application require longer dry times and will cause premature failure in extreme cases. Lower humidity may lengthen dry time.

**Note:** Avoid rapid temperature excursion for the first heat cycle; particularly early in the cure. A gentle heat rise through 260°C will achieve maximum film durability. For recoat time via brush or roller, follow the dry to handle time (thumb twist test).

This product has superior handling properties over standard silicones (harder film), but has some thumbnail softness until it has undergone a heat excursion. In these cases use padded slings and dunnage. Typical dry-to-ship time is 24 hours.

## CLEANUP & SAFETY

**Cleanup** | Use Thinner # 2 or Acetone.

**Ventilation** | When used in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved supplied air respirators.

**Caution** | This product contains flammable solvents. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workmen should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

## PACKAGING, HANDLING & STORAGE

**Shelf Life** | 12 Months at 25°C  
\*Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.

**Shipping Weight (Approximate)** | Thermaline Heatshield Part A: 5 litre ± 8.2kg  
Thermaline Heatshield Part B: 0.2 litre ± 0.2kg

**Storage Temperature & Humidity** | 4°C to 49°C  
0-95% Relative Humidity

**Flash Point (Pensky Martens Closed Cup)** | Thermaline Heatshield Part A: 27°C  
Thermaline Heatshield Part B: 42°C

**Storage** | Store indoors

# Thermaline Heatshield

## PRODUCT DATA SHEET

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### WARRANTY

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To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance, injuries or damages resulting from use. Carbolines sole obligation, if any, is to replace or refund the purchase price of the Carboline product(s) proven to be defective, at Carbolines option. Carboline shall not be liable for any loss or damage. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated.