

## SELECTION & SPECIFICATION DATA

<b>Generic Type</b>	Single package silicone finish
<b>Description</b>	High-performance finish for areas exposed to extreme temperatures. Suitable for service from 400°F-1004°F (204°C-540°C) Color stability at maximum temperature will depend on color selected.
<b>Features</b>	<ul style="list-style-type: none"> <li>• Resistant to severe thermal shock</li> <li>• Provides outstanding long-term performance when applied over Carbozinc inorganic zinc primers</li> <li>• Provides barrier protection prior to heat curing (full film physical properties occur after heat curing)</li> <li>• Approved MPI #22</li> </ul>
<b>Color</b>	Aluminum (C901) only The alignment of aluminum flakes in aluminum-filled finishes is very dependent on application conditions and techniques. Care must be taken to keep conditions as constant as possible to reduce variations in final appearance. It is also advisable to work from a single batch of material since variations can occur from batch to batch. For more information consult Carboline Technical Service Department.
<b>Finish</b>	Gloss Initially (flat after heat curing)
<b>Primer</b>	Inorganic zincs. None needed for stainless steel or aluminum.
<b>Dry Film Thickness</b>	1.5 - 2 mils (38 - 51 microns) per coat Do not exceed 2.0 mils (51 microns) in a single coat. One or two coats are typical. Two coats are recommended over stainless steel.
<b>Solids Content</b>	By Volume 30% +/- 2%
<b>Theoretical Coverage Rate</b>	481 ft <sup>2</sup> /gal at 1.0 mils (11.8 m <sup>2</sup> /l at 25 microns) 321 ft <sup>2</sup> /gal at 1.5 mils (7.9 m <sup>2</sup> /l at 38 microns) 241 ft <sup>2</sup> /gal at 2.0 mils (5.9 m <sup>2</sup> /l at 50 microns) Allow for loss in mixing and application.
<b>VOC Values</b>	Thinner 230 : 12 oz/gal: 5.18 lbs/gal (621 g/l) Thinner 10 : 16 oz/gal: 5.2 lbs/gal (623 g/l) <b>As Supplied</b> : 4.94 lbs./gal (592 g/l)
<b>Dry Temp. Resistance</b>	Continuous: 1004°F (540°C) Non-Continuous: 1200°F (649°C)
<b>Limitations</b>	<ul style="list-style-type: none"> <li>• Do not use for immersion service.</li> <li>• Do not exceed thickness recommendation.</li> <li>• Excessive film thickness may result in blistering and delamination when the temperature is increased</li> </ul>

## SUBSTRATES & SURFACE PREPARATION

<b>General</b>	Remove all contaminants in accordance with SSPC-SP 1.
<b>Steel</b>	SSPC-SP10 with 0.5-1.0 mils (12-25 microns) surface profile. Prime with specific Carboline primers as recommended by your Carboline sales representative.

# Thermaline<sup>®</sup> 4700 Aluminum

## PRODUCT DATA SHEET



### SUBSTRATES & SURFACE PREPARATION

**Stainless Steel** | Clean and abrade per SSPC-SP 16 to achieve a 0.5 to 1.0 mil (12-25 microns) surface profile.

**Aluminum** | Clean and abrade per SSPC-SP 16 to achieve 0.5 to 1.0 mil (12 to 25 microns) surface profile.

### MIXING & THINNING

**Mixing** | Power mix until uniform in consistency. Avoid air entrapment.

**Thinning** | Normally not required. May be thinned up to 16 Oz/gal (12.5%) by volume with Thinner 10, or (12 Oz/Gal) (10%) by volume with Thinner #230 for "hot" applications exceeding 150°F (66°C) and for mist coating.

**WARNING:** These levels of thinning may exceed VOC allowances in certain areas. Check your local VOC regulations pertaining to High Temperature Coatings before thinning to ensure compliance.

Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.

### 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.

**Spray Application (General)** | The following spray equipment has been found suitable for application of this material. Conventional spray application is preferred.  
**Note:** Different application procedures or methods may result in non-uniform appearance.

**Conventional Spray** | Use DeVilbiss P-MBC, E-needle and tip, and a 704 air cap or equal. Use adequate air volume for proper equipment operation. Hold gun 10-12" from the surface and at right angles. Overlap each pass 50%.

**Airless Spray** | Not recommended.

**Brush & Roller (General)** | Recommended for touch up of small areas or where spray application is not permitted. Avoid excessive brushing or rolling as this may result in a non-uniform appearance. Brush & roller application may result in a streaky appearance due to orientation of the aluminum pigment. For the best aesthetic appearance, spray application is required.

**Brush** | Use a medium bristle brush.

**Roller** | Use a short-nap mohair roller cover with solvent resistant core.

### APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	55°F (13°C)	40°F (4°C)	40°F (4°C)	0%
Maximum	95°F (35°C)	300°F (149°C)	120°F (49°C)	90%

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.

## CURING SCHEDULE

Surface Temp.	Dry to Touch	Dry to Topcoat	Dry to Handle
75°F (24°C)	1 Hour	4 Hours	8 Hours

These times are based on a 2.0 mil (51 microns) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Excessive humidity or condensation on the surface during curing can interfere with the cure and may cause discoloration. During high humidity conditions, it is recommended that the application be done while temperatures are increasing. If the final cure time is exceeded, the surface must be abraded prior to the application of additional coats.

Full physical properties will be reached when heat curing has been completed. After a 2 hour flash off at 75°F (24°C), allow temperature to increase at a maximum rate of 2°F per minute to 400°F (204°C). Hold at 350°F to 450°F (177°C to 232°C) for 2 hours.

## CLEANUP & SAFETY

<b>Cleanup</b>	Use Thinner 2. In case of spillage, absorb and dispose of in accordance with local applicable regulations.
<b>Safety</b>	Read and follow all caution statements on this Product Data Sheet and on the SDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.
<b>Ventilation</b>	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 respirator.

## PACKAGING, HANDLING & STORAGE

<b>Shelf Life</b>	Shelf Life: 12 months at 77°F (25°C) *Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.
<b>Storage Temperature &amp; Humidity</b>	Between 40°F-100°F(4°C-38°C) 0-90% Humidity
<b>Storage</b>	Store Indoors.
<b>Shipping Weight (Approximate)</b>	1 Gallon Kit - 12 lbs. (5.5 kg) 5 Gallon Kit - 60 lbs. (27 kg)
<b>Flash Point (Setaflash)</b>	68°F (20°C)

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## PRODUCT DATA SHEET



### WARRANTY

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 to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. Carboline warrants our products to be free of manufacturing defects in accord with applicable Carboline quality control procedures. THIS WARRANTY IS NOT VALID WHEN THE PRODUCT IS NOT: (1) APPLIED IN ACCORDANCE WITH CARBOLINE'S SPECIFICATIONS, AND/OR (2) PROPERLY STORED, CURED, AND USED UNDER NORMAL OPERATING CONDITIONS. Carboline assumes no responsibility for coverage, performance, injuries, or damages resulting from use of the product. If this product is found not to perform as specified upon inspection by a Carboline representative during the warranty period, Carboline's sole obligation, if any, is to replace the Carboline product(s) proven to be defective or refund the purchase price thereof, at Carboline's sole option. Carboline shall not be liable for any other losses or damages. This warranty excludes (1) labor and costs of labor for the application or removal of any product, and (2) any incidental or consequential damages, whether based on breach of express or implied warranty, negligence, strict liability or any other legal theory. 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. The whole text of this Product Data Sheet, as well as the documents derived from it, have been written in English, and for legal purposes the English version shall prevail.