

## 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-1000°F (204°C-538°C) Color stability at maximum temperature will depend on color selected. Requires heat curing.   |
| <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>• Air-dries to touch (full film formation properties occurs after heat curing)</li> </ul>  |
| <b>Color</b>                     | Aluminum only (C901).<br>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   |
| <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<br><br>Do not exceed 2.0 mils in a single coat. Two coats are recommended over stainless steel and one or two coats over inorganic zincs.   |
| <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)<br>321 ft <sup>2</sup> /gal at 1.5 mils (7.9 m <sup>2</sup> /l at 38 microns)<br>241 ft <sup>2</sup> /gal at 2.0 mils (5.9 m <sup>2</sup> /l at 50 microns)<br>Allow for loss in mixing and application.  |
| <b>VOC Values</b>                | <b>As Supplied</b> : 5.04 lbs./gal (604 g/l)<br>Thinner 10 : 16 oz/gal: 5.27 lbs/gal (632 g/l)<br>Thinner 235 : 12 oz/gal: 4.1 lbs/gal (492 g/l)  |
| <b>Dry Temp. Resistance</b>      | Continuous: 1000°F (538°C)<br>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>  |
| <b>Topcoats</b>                  | Not Applicable  |

## SUBSTRATES & SURFACE PREPARATION

|                |  |
|----------------|--|
| <b>General</b> | Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.                        |
| <b>Steel</b>   | Follow surface preparation for recommended or specified primer. When using direct to steel surfaces abrasive blast to SSPC-SP10 with a 0.5 to 1.5 mil (12-37 microns) surface profile. |

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

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### SUBSTRATES & SURFACE PREPARATION

**Aluminum** | Sweep blast cleaning (SSPC-SP7) is recommended.

**Stainless Steel** | Abrasive blast to achieve a 0.5 to 1.5 mil (12-37 microns) surface profile.

### MIXING & THINNING

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

**Thinning** | Normally not required. May be thinned up to 32 oz/gal (25%) by volume with Thinner #235 for "hot" applications exceeding 150°F (66°C) and for mist coating. May be thinned up to 16 oz/gal 12% by volume with Thinner #10. 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 will result in streaky or non-uniform appearance with aluminum containing products.

**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%.

**Brush & Roller (General)** | Recommended for touch up of small areas or where spray application is not permitted. Avoid excessive rebrushing or re-rolling will create a non-uniform appearance.

**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 Handle | Dry to Topcoat with Itself | Dry to Touch |
|---------------|---------------|----------------------------|--------------|
| 75°F (24°C)   | 8 Hours       | 4 Hours                    | 1 Hour       |

These times are based on nominal 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, can 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.

**\*Dry to handle (thumb-twist test).** Final hardness and ultimate film properties are not reached until heat curing has been achieved. Final cure: To obtain optimal properties, must be cured at 400°F. After a 2 hour flash off at 75°F, allow temperature to increase slowly to 400°F. Hold at 350°F to 450°F for 2 hours. The coating may then be placed in service.

## 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 MSDS 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)<br>*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)<br>0-90% Humidity   |
| <b>Storage</b>                            | Store Indoors.   |
| <b>Shipping Weight (Approximate)</b>      | 1 Gallon Kit - 12 lbs. (5.5 kg)<br>5 Gallon Kit - 60 lbs. (27 kg)  |
| <b>Flash Point (Setaflash)</b>            | 68°F (20°C)  |

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## PRODUCT DATA SHEET

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### WARRANTY

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