

SELECTION & SPECIFICATION DATA

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| Generic Type | Single package, modified silicone |
| Description | Single package coating that withstands continuous temperatures of 540°C and surges up to 650°C. Only one coat is required, but may be applied over Carbozinc 11 base coat for superior performance. A Carbozinc 11 base coat prevents rusting of steel and rust streaks during shutdown or when operating temperature falls below 93°C. |
| Features | <ul style="list-style-type: none"> • Single-component formulation • Withstands continuous temperatures up to 540°C • Resists temperature surges up to 650°C • One-coat application for efficiency • Optional application over Carbozinc 11 for enhanced performance • Compatible with Carbozinc 11 base coat • Prevents rusting during shutdowns • Minimizes rust streaks below 93°C • Ideal for high-heat industrial environments • Provides long-term thermal protection for steel surfaces |
| Color | Aluminium only |
| Primer | For steel, an inorganic zinc primer is recommended. None required for stainless steel or aluminium. |
| Typical Uses | Recommended for coating stacks, furnaces, hot piping, mufflers, exhausts and other elevated temperature steel surfaces in any industry, including marine. Generally used where temperatures exceed 260°C. Not recommended for: Immersion service or exposure to splash and spillage of acids and alkalis. |
| Recommended Thickness | 40 Microns Two coats are recommended over steel and one coat over inorganic zincs. |
| Solid(s) Content | By Volume: 30% ± 2% |
| Theoretical Coverage Rates | 7.5m ² /litre at 40 microns NOTE: Material losses during mixing and application will vary and must be taken into consideration when estimating job requirements. |
| Dry Temp. Resistance | Continuous: 540°C (1004°F) Non-Continuous: 650°C (1202°F) |
| Substrates & Compatible Coatings | Carbon steel or others as recommended. May be applied over inorganic zincs such as Carbozinc 11. Excessive film thicknesses of Thermaline 4631 over inorganic zincs may result in blistering and delamination when the temperature is increased. |
| Weathering | Excellent |
| Flexibility | Good |
| Abrasion Resistance | Good |
| Topcoats | None required |

Thermaline 4631

PRODUCT DATA SHEET



SUBSTRATES & SURFACE PREPARATION

General | Remove any oil or grease from surface to be coated prior to abrasive blast or power tool cleaning.

Steel | For best results, a near white metal finish in accordance with ISO 8501 Sa2½ is recommended. Performs well over a mechanically cleaned surface. All surfaces must be free of dust and grease before application. Carbozinc 11 must be properly cured before application of Thermaline 4631.

MIXING & THINNING

Mixing | Mix to a uniform consistency before thinning.

Thinning | Thin up to 12% by volume with Carboline Thinner # 10.
NOTE: Use of thinners other than those supplied or approved 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 | Use adequate air volume for correct operation.
Use a 50% overlap with each pass of the gun. On irregular surfaces, coat edges first, making an extra pass later.

Conventional Spray | Use adequate air volume for correct operation.
Use a 50% overlap with each pass of the gun. On irregular surfaces, coat edges first, making an extra pass later.
Manufacturer & Gun: 905 Gun
Fluid Tip: 1.8mm
Air Cap: Appropriate air cap

Airless Spray | Use 10mm minimum I.D. material hose. Hold gun approximately 300-350mm from the surface and at a right angle to the surface.
Manufacturer & Gun: Trittech T360
Pump: 45 to 1
Use .013-.015" tip with 2200 psi (152 Bar)
Teflon packings are recommended and are available from the pump manufacturer.

Brush & Roller (General) | Spray is recommended. For small areas or touch up, use natural bristle brush applying with full strokes. Avoid rebrushing. Use short nap mohair roller with phenolic core.

APPLICATION CONDITIONS

| Condition | Material | Surface | Ambient | Humidity |
|-----------|-------------|--------------|--------------|----------|
| Minimum | 5°C (41°F) | 5°C (41°F) | 5°C (41°F) | 0% |
| Maximum | 32°C (90°F) | 43°C (109°F) | 43°C (109°F) | 95% |
| Optimum | 21°C (70°F) | 24°C (75°F) | 24°C (75°F) | 45% |

Do not apply when the surface temperature is less than 3°C above the dew point.
Special thinning and application techniques may be required above or below normal conditions.

CURING SCHEDULE

| Surface Temp. | Between Coats |
|---------------|---------------|
| 10°C (50°F) | 16 Hours |
| 16°C (61°F) | 8 Hours |
| 24°C (75°F) | 4 Hours |
| 32°C (90°F) | 2 Hours |

CLEANUP & SAFETY

Cleanup | Use Carboline Thinner # 2.

PACKAGING, HANDLING & STORAGE

Shelf Life | 12 Months minimum when stored at 25°C.

Shipping Weight (Approximate) | **5 Litre:**
Thermaline 4631: 6.4kg
Thinner # 10: 4.9kg

Storage Temperature & Humidity | 4 to 43°C
0 to 100%

Flash Point (Pensky Martens Closed Cup) | Thermaline 4631: 21°C
Thinner # 10: 24°C

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.