# Thermaline 4674 black

PRODUCT DATA SHEET

## SELECTION & SPECIFICATION DATA

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| **Generic Type** | Modified silicone |
| **Description** | Single package medium to high temperature coating that withstands continuous temperatures of 400°C and peaks up to 540°C.<br>For the protection of the exterior of equipment such as stacks, incinerators, furnace exteriors, and heat exchangers and other elevated temperature steel surfaces. |
| **Features** | • Resistant to thermal shock conditions from ambient temperature to 400°C.<br>• May be applied directly to properly prepared steel.<br>• Application over inorganic zinc primers CARBOZINC, like Carbozinc 11, will provide superior performance by preventing rusting and rust streaking during a shutdown or when the equipment is exposed to moisture and/or salts at temperature less than 93°C.<br>• Excellent weathering properties. |
| **Color** | Black. |
| **Finish** | Low Gloss |
| **Primer** | None required.<br>A primer coat of Carbozinc will greatly increase performance over steel. |
| **Wet Film Thickness** | Normally 90 µm. |
| **Dry Film Thickness** | Normally 40 µm.<br>Two coats are recommended over bare steel and one or two coats over inorganic zincs such as Carbozinc 11.<br>Excessive film thickness over inorganic zincs may result in blistering and delamination when temperature is increased. |
| **Solid(s) Content** | By volume: 45 ± 2% |
| **Theoretical Coverage Rates** | 11,2 m²/l at 40 µm.<br>Allow for loss in mixing and application. |
| **VOC Value(s)** | **As Supplied :** 500 g/l. |
| **Dry Temp. Resistance** | Continuous: 400°C (752°F)<br>Non-Continuous: 540°C (1004°F) |
| **Limitations** | Not recommended for immersion service or exposure to splash and spillage of acids and alkalis. |
| **Topcoats** | Normally none. |

## SUBSTRATES & SURFACE PREPARATION

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| **General** | Surface 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. |
| **Steel** | Follow surface preparation for recommended or specified primer.<br>When using direct to steel surfaces abrasive blast to SSPC-SP10 with a 0.5 to 1.5 mil (12-37 microns) surface profile. |

## SUBSTRATES & SURFACE PREPARATION

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| **Aluminum** | Sweep blast cleaning (SSPC-SP16) is recommended. |
| **Stainless Steel** | Sweep blast cleaning (SSPC-SP16) is recommended. |

## MIXING & THINNING

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| **Mixing** | Power mix to uniform consistency. Avoid excessive air entrapment. |
| **Thinning** | May be thinned up to 12% with Thinner #10.<br>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.

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| **General** | The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco.<br><br>Conventional spray application is preferred. |
| **Conventional Spray** | Pressure pot equipped with dual regulators, 3/8” I.D., minimum material hose .043” I.D. fluid tip and appropriate air cap. |
| **Airless Spray** | Pump ratio: 30 : 1 (min.) *<br>GMP Output: 3.0 (min.)<br>Material Hose: 3/8” I.D. (min.)<br>Tip Size: .013-.015”<br>Output PSI: 2200<br>Filter Size: 60 mesh<br><br>* Teflon packings are recommended and available from the pump manufacturer. |
| **Brush & Roller (General)** | For small areas and and touch-up only. |
| **Brush** | Use a medium natural bristle brush applying full strokes, avoid re-brushing. |
| **Roller** | Not recommended. |

## APPLICATION CONDITIONS

| Condition | Material | Surface | Ambient | Humidity |
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| Minimum | 4°C (39°F) | 4°C (39°F) | 4°C (39°F) | 0% |
| Maximum | 38°C (100°F) | 54°C (129°F) | 54°C (129°F) | 95% |

Condensation due to substrate temperatures below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate.
Do not apply when the surface temperature is less than 3°C above the DEW- POINT.
Special application techniques may be required above or below normal pplication conditions.

## CURING SCHEDULE

| Surface Temp. | Minimum Recoat Time |
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| 10°C (50°F) | 8 Hours |
| 16°C (61°F) | 6 Hours |
| 24°C (75°F) | 4 Hours |
| 36°C (97°F) | 2 Hours |

These times are based on 40 µm dry film thickness. Excessive film thickness or inadequate ventilating condition after application require longer dry times and could result in solvent entrapment and premature failure in extreme cases.

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**Final Cure:** To obtain optimum properties, Thermaline 4674 must be cured at temperatures of 177-232°C (350-450°F). Allow for initial increase of temperature to proceed slowly up to 177°C (350°F) over a 6 hours time period.

## CLEANUP & SAFETY

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| **Cleanup** | Use Thinner#2. In case of spillage, absorb and dispose of in accordance with local applicable regulations. |
| **Safety** | 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. |
| **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 respirator. |
| **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

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| **Shelf Life** | 24 months at 24 °C (75 °F)<br><br>Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers. |
| **Storage Temperature & Humidity** | 4-43°C<br>0-90% HR |
| **Flash Point (Setaflash)** | 27°C |
| **Storage** | Store Indoors. |
| **Packaging** | 20 liters. |

## WARRANTY

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