Carboguard® 571

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Cycloaliphatic Amine Epoxy
Description	**This is a Carboline Specialty Product** Solvent-free plural component-applied coating commonly used for tank lining applications in the rail industry (corn syrup cars) and other in-shop applications where single-coat and fast handling capabilities are primary requirements. Minimum order quantities and special pricing will apply in North America. Contact your Carboline Sales Representative for more details.
Features	• Single coat, high performance protection • High build capabilities in one coat • Excellent corrosion protection • Low odor during application; zero odor after cure • Fast dry, rapid cure with low temperature bake • Excellent impact and abrasion resistance • **Complies with FDA 21CFR 175.300 criteria for food contact** • VOC compliant to current AIM regulations
Color	Off White (1898); Gray (0794); Blue (4169); Tan (5803)
Finish	Gloss
Primer	Self-priming *Topcoats are not recommended
Dry Film Thickness	6 - 12 mils (152 - 305 microns) per coat 10 - 12 mils (254 - 305 microns) recommended Do not exceed 16 mils (450 microns).
Solids Content	By Volume 99% +/- 2%
Theoretical Coverage Rate	1588 ft²/gal at 1.0 mils (39.0 m²/l at 25 microns) 265 ft²/gal at 6.0 mils (6.5 m²/l at 150 microns) 132 ft²/gal at 12.0 mils (3.2 m²/l at 300 microns) Allow for loss in mixing and application.
VOC Values	**As Supplied** : 0.1 lbs./gal (12 g/l) These are nominal values and may vary slightly with color.
Dry Temp. Resistance	Continuous: 212°F (100°C) Non-Continuous: 250°F (121°C) Discoloration and loss of gloss is observed above 200 °F (93 °C)
Limitations	Epoxies may lose gloss, discolor and chalk when exposed to sunlight.
Wet Temp. Resistance	Immersion temperature resistance depends upon exposure. Consult Carboline Technical Service for specific information. It is recommended that metal tanks operating above 140 °F (60 °C) be insulated.

SUBSTRATES & SURFACE PREPARATION

General | 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.

Steel | SSPC-SP5 with 2.5-3.5 mils (50-75 micron) surface profile.

PERFORMANCE DATA

All test data was generated under laboratory conditions. Field testing results may vary.

Test Method	System	Results
ASTM D2794 Gardner Impact	Blasted Steel 1 ct. 571 10-12 mils dft	Pass at 32 ft lbs, Reverse impact
ASTM D4060 Abrasion	1 ct. 571 12 mils dft	68 mg loss. 1000 cycles, CS17 Wheel, 1000 load
ASTM D4541 Adhesion	1 ct. 571 baked 35 hrs. at 120 °F	1750 psi (Elcometer)
ASTM D522 Mandrel Bend Test	Blasted Steel 1 ct. 571 over 1/32" steel 10-12 mils dft	Pass without cracking at 2" Cylindrical Mandrel

Additional information available upon request

MIXING & THINNING

Mixing | Premix each component separately prior to adding to the equipment.

Thinning | Thinning is not required. Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.

Ratio | 1:1 Ratio (A to B)

Pot Life | 30 minutes when one quart is mixed at 75 °F (24 °C). Less than 5 minutes at 130 °F (54 °C). The pot life ends when the material becomes too viscous to use.

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.

Plural Component Airless Spray | Airless plural component, heated spray equipment capable of 3000 psi with a mixer manifold and whip hose is required for the application of this material. Contact Carboline Technical Service for additional information.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	120°F (49°C)	55°F (13°C)	55°F (13°C)	10%
Maximum	150°F (66°C)	110°F (43°C)	110°F (43°C)	80%

This product 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 application conditions.

CURING SCHEDULE

Curing Details

One-Coat Bake Cycle
Ambient Cure at 75 °F (24 °C) for 15 minutes or longer followed by curing at 150 °F (66 °C)* for 4 Hours
Two-Coat Bake Cycle
Ambient Cure the 1st coat at 75 °F (24 °C) for 15 minutes or longer followed by curing at 120 °F (49 °C)* for 3.5 hours. Ambient cure the 2nd coat at 75 °F (24 °C) for 15 minutes or longer followed by curing at 150 °F (49 °C)* for 4 hours.

* For the bake cycles, increase the surface temperature from 75 °F (24 °C) to 150 °F (66 °C) at a rate not exceeding 30 °F (16 °C) every 15 minutes.
These times are based on a 10.0-12.0 mil (250-300 micron) dry film thickness. Insufficient ventilation or cooler temperatures will require longer cure times. Excessive humidity or condensation on the surface during curing can interfere with the cure, can cause discoloration and may result in a surface haze. Any haze or blush must be removed by water washing before recoating.
Maximum recoat window is 14 days at 75°F.

CLEANUP & SAFETY

Cleanup
Use Thinner 2 or Acetone. 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. Keep container closed when not in use.

Ventilation
When used as a tank lining or 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 air respirator.

Caution
This product exotherms at the end of its pot life. Any unused quantities will become extremely hot. The material begins to thicken at the end of its pot life, which is an indication of exotherm. Immediately spread out on an appropriate surface or add sand or other suitable heat sink to the unused material to reduce the severity of exotherm. Take appropriate precautions against breathing fumes. If this product is thinned for use or during cleanup procedures, it must be kept 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, workers should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A & B: 18 months at 75 °F (24 °C) *Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.
Storage Temperature & Humidity	40-110 °F (4-43 °C) 0-80% Relative Humidity
Storage	Store Indoors.
Shipping Weight (Approximate)	10 Gallon Kit - 145 lbs (66 kg) 50 Gallon Drums - 725 lbs (330 kg)
Flash Point (Setaflash)	Part A: >205 °F (96 °C) Part B: >205 °F (96 °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.