

## SELECTION & SPECIFICATION DATA

<b>Generic Type</b>	Epoxy Amine
<b>Description</b>	Carboguard 995 is a two component, 99% volume solids, amine cured epoxy formulated as a flexible, direct-to-metal (DTM) protective lining for railcars. Typical uses include dry bulk service for hopper cars carrying polyethylene, polypropylene or polystyrene plastic pellets.
<b>Features</b>	<ul style="list-style-type: none"> <li>• Flexible, solvent-free lining</li> <li>• Meets 21CFR175.300(b)(3)(viii)(a) &amp; (b)</li> <li>• Single-coat application</li> <li>• Excellent flow and leveling</li> </ul>
<b>Color</b>	Blue, and other colors available subject to minimum order.
<b>Finish</b>	High Gloss
<b>Primer</b>	Self-priming
<b>Dry Film Thickness</b>	10 - 12 mils (254 - 305 microns) per coat
<b>Solids Content</b>	By Volume 99% +/- 1%
<b>Theoretical Coverage Rate</b>	1588 ft <sup>2</sup> /gal at 1.0 mils (39.0 m <sup>2</sup> /l at 25 microns) 159 ft <sup>2</sup> /gal at 10.0 mils (3.9 m <sup>2</sup> /l at 250 microns) 132 ft <sup>2</sup> /gal at 12.0 mils (3.2 m <sup>2</sup> /l at 300 microns) Allow for loss in mixing and application.
<b>VOC Values</b>	<b>As Supplied</b> : 0.1 lbs./gal.; 9 g/l
<b>Dry Temp. Resistance</b>	Continuous: 225°F (107°C) Discoloration of epoxies at elevated temperatures is normal, but does not affect performance.

## SUBSTRATES & SURFACE PREPARATION

<b>General</b>	Remove all oil or grease from the surface to be coated with clean rags soaked in Thinner 2 or Carboline Surface Cleaner 3 (refer to Surface Cleaner 3 instructions) in accordance with SSPC-SP1. For welds prepare per NACE RP0178-89, Weld Prep Designation C.
<b>Steel</b>	For dry cargo service, abrasive blast to a Near White Metal Finish in accordance with SSPC-SP10 and obtain a 2.5 - 3.0 mil (65-75 microns) blast profile.

## MIXING & THINNING

<b>Ratio</b>	1:1 by volume (Part A to Part B)
<b>Pot Life</b>	15 minutes @ 77°F (24°C)

## 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)**

This is a high solids coating and may require adjustments in spray techniques. Wet film thickness is easily and quickly achieved. The following spray equipment has been found suitable and is available from manufacturers.

**Airless Spray**

A plural component spray rig works best for this product. Use a fixed or variable ratio 45:1 ratio pump with 0.017 (617) to 0.019 (619) inch diameter orifice for airless spray gun tip at a 2,800 psi recommended minimum fluid pressure at tip to obtain proper atomization. An artist brush can be used for touchup of WFT marks and other small repair areas.

## APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	105°F (41°C)	60°F (16°C)	50°F (10°C)	0%
Maximum	115°F (46°C)	120°F (49°C)	100°F (38°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. Special application techniques may be required above or below normal application conditions.

## CURING SCHEDULE

Surface Temp.	Set to Touch	Tack Free	Dry to Handle or Recoat	Maximum Recoat Time
77°F (25°C)	2 Hours	5 Hours	10 Hours	30 Days
100°F (38°C)	1 Hour	3 Hours	5 Hours	15 Days

Normally, polymerization and curing will take place in 7 days at 70°F (21°C). Do not apply when air temperatures or surfaces are below 50°F (10°C). Within 24 hours after coating is applied, a minimum substrate temperature of 70°F (21°C) is required for proper cure. Curing must be complete before the hopper car is closed up or moved to weather conditions below the 50°F minimum. This may require force curing (see below).

**Force Cure**

An air-dry time of 1.5 to 3 hours at 50 °F (10 °C) to 100 °F (38 °C) with forced ventilation should be allowed before force curing. After air dry period, substrate temperature should be raised approximately 30 degrees in increments of 30 minutes until the desired temperature is reached. Curing time begins when the specific substrate temperature is reached. The following force cure schedule may be used.

**Substrate Temperature / Cure Time**

- 120 °F (49 °C) / 3.5 hours
- 130 °F (54 °C) / 3 hours
- 140 °F (60 °C) / 2 hours

Following the cure schedule above, allow the lining to air dry in the shop for an additional two hours.

NOTE: Force curing at elevated temperatures does increase resistance to certain exposures; therefore, when exposure is severe, force curing is recommended to obtain maximum resistance.

## CLEANUP & SAFETY

**Cleanup** | Thinner #2 or Acetone

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<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.
<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.

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## PACKAGING, HANDLING & STORAGE

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<b>Shelf Life</b>	Part A: 12 months at 75°F (24°C) Part B: 12 months at 75°F (24°C)
<b>Storage Temperature &amp; Humidity</b>	40°-120°F (4°-49°C) Store indoors 0-100% Relative Humidity
<b>Storage</b>	Store indoors.
<b>Shipping Weight (Approximate)</b>	Approximately 13 lbs/gal
<b>Flash Point (Setaflash)</b>	>200°F

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## 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 Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance, injuries or damages resulting from use. Carbolines sole obligation, if any, is to replace or refund the purchase price of the Carboline product(s) proven to be defective, at Carbolines option. Carboline shall not be liable for any loss or damage. 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.