

SELECTION & SPECIFICATION DATA

Generic Type	Self-curing, solvent based, inorganic zinc silicate
Description	An inorganic zinc rich primer that protects steel galvanically, eliminating sub-film corrosion.
Features	<ul style="list-style-type: none"> • Excellent corrosion and weathering protection. • High zinc loading per square foot. • Very good resistance to salting. • Meets nuclear requirements for level one areas. • Available in Type III (ASTM D520) zinc dust.
Color	Green (0300) and Gray (0700).
Finish	Flat
Service Temperature	<p><u>Untopcoated</u> Continuous: 750°F (400°C) Non-Continuous: 800°F (427°C)</p> <p><u>With recommended high heat topcoats:</u> Continuous: 1000°F (538°C) Non-Continuous: 1200°F (649°C)</p>
Dry Film Thickness	<p>2 - 3 mils (51 - 76 microns) .</p> <p>Don't exceed 6 mils (150 microns) in a single coat. Excessive film thickness over inorganic zincs may increase damage during shipping or erection.</p>
Total Zinc Dust in Dry Film	By Weight: 85%
Solids Content	<p>By Volume 62% +/- 2%</p> <p>Measured in accordance with ASTM D 2697</p>
Theoretical Coverage Rate	<p>999 ft²/gal at 1.0 mils (24.5 m²/l at 25 microns) 500 ft²/gal at 2.0 mils (12.3 m²/l at 50 microns) 333 ft²/gal at 3.0 mils (8.2 m²/l at 75 microns) Allow for loss in mixing and application.</p>
VOC Values	<p>As Supplied : 4.01 lbs./gal (481 g/l) Thinner 33 : 5 oz/gal: 4.1 lbs/gal (492 g/l) Thinner 26 : 5 oz/gal: 4.15 lbs/gal (499 g/l) Thinner 21 : 7 oz/gal: 4.15 lbs/gal (499 g/l)</p> <p>These are nominal values and may vary slightly with color.</p>
Limitations	Exposure to acids or alkalis without a suitable topcoat or for application over rust inhibitors.
Topcoats	<p>Epoxies, acrylics silicones or others as recommended by your Carboline sales representative.</p> <p>Do not topcoat with alkyds.</p>

SUBSTRATES & SURFACE PREPARATION

General	Remove all oil or grease from the surface to be coated with Thinner 2 or Carboline Surface Cleaner 3 (refer to Surface Cleaner 3 instructions) in accordance with SSPC-SP1.
Steel	Non-Immersion Service: Abrasive blast to a Commercial Finish in accordance with SSPC-SP6 and obtain a 1-3 mil (25-75 micron) blast profile. Immersion Service: Abrasive blast to a White Metal Finish in accordance with SSPC-SP5 and obtain a 1-3 mil (25-75 micron) blast profile.

TYPICAL CHEMICAL RESISTANCE

Exposure	Fumes	Splashes & Spills
Acids	Excellent	Very Good
Alkalies	Excellent	Very Good
Salt	Excellent	Excellent
Solvents	Excellent	Excellent
Water	Excellent	Excellent

Exposures (acids and alkalies) above are with suitable topcoats.

MIXING & THINNING

Mixing	Power mix base, then combine and power mix as follows. Pour zinc filler very slowly into premixed base with continuous agitation. Mix until free of lumps. Pour mixture through a 30 mesh screen. Sifting zinc through a screen will aid in the mixing process by breaking up or catching dry zinc lumps. DO NOT MIX PARTIAL KITS.
Thinning	May be thinned up to 5 oz/gal with Thinner 26 or 33. In cool weather, below 40°F (4°C), may be thinned up to 7 oz/gal with Thinner 21. Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and will void product warranty whether express or implied.
Ratio	<u>1 Gal Kit</u> Part A (Base): Short fill 1-gal Zinc Filler: 14.6 lbs <u>5 Gal Kit</u> Part A (Base): Short fill 5-gal Zinc Filler: 73 lbs
Pot Life	The following is based on material (product) temperature. 12 hours @60°F(16°C) 8 hours @75°F(24°C) 4 hours @90°F(32°C) Pot life ends when material becomes too thick 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.

Spray Application (General)	The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco. Agitate the mixed material continuously during application. If spraying stops for more than 10 minutes, recirculate the material remaining in the spray line.
------------------------------------	---

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.

Conventional Spray	Agitated pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, 50' maximum material hose .070" I.D. fluid tip and appropriate air cap.
Airless Spray	Pump Ratio: 30:1 (minimum)* GPM Output: 3.0 (minimum) Material Hose: 3/8" I.D. (minimum) Tip Size: .019-.023" Output PSI: 1500-2000 Filter Size: 60 mesh *Teflon packings are recommended and available from the pump manufacturer.
Brush	For touch up of areas less than one square foot only. Use medium bristle brush. Avoid excessive rebrushing.
Roller	Application by roller is not recommended.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	0°F (-18°C)	0°F (-18°C)	0°F (-18°C)	30%
Maximum	130°F (54°C)	200°F (93°C)	130°F (54°C)	95%
Optimum	75°F (24°C)	75°F (24°C)	75°F (24°C)	50%

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 or optimum application conditions.

CURING SCHEDULE

Surface Temp.	Handle	Immersion Service	Topcoat
0°F (-18°C)	4 Hours	NR	7 Days
40°F (4°C)	1 Hour	72 Hours	48 Hours
60°F (16°C)	45 Minutes	48 Hours	24 Hours
80°F (27°C)	45 Minutes	18 Hours	18 Hours
100°F (38°C)	15 Minutes	14 Hours	16 Hours

*These times are based on a 2-3 mil (50-75 micron) dry film thickness and a 50% Relative Humidity or higher. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. For shop applications or tank linings, if the relative humidity is low, the curing time can be reduced by raising the Relative Humidity by steam or a water spray on the coated surface after an initial dry time of 1 hour at 75°F (24°C).

Notes:

1. Any salting that appears on the zinc surface as a result of prolonged weathering exposure must be removed prior to the application of additional coatings.
2. Loose zinc dust must be removed from the cured film by rubbing with fiberglass screen wire if:
 - a. The Carbozinc 11 SG is to be used without a topcoat in immersion service and "zinc pickup" could be detrimental, or
 - b. When overspray is evident on the cured film and a topcoat will be applied.

CLEANUP & SAFETY

Cleanup	Use Thinner #21 or isopropyl alcohol. 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.
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 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

Shelf Life	Carbozinc 11 SG Base: 6 Months at 75°F (24°C) and less at higher temperatures, shelf life ends when coating becomes too thick to use. Zinc Filler Type II or Type III: 24 Months at 75°F (24°C) Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers. Note: The Carbozinc 11 SG base is unusable if the material is jelly-like, stringy or does not properly atomize with conventional spray equipment.
Storage Temperature & Humidity	40° - 120°F (4° - 49°C) 0-90% Relative Humidity
Storage	Store Indoors.
Shipping Weight (Approximate)	1 Gallon Kit - 23 Lbs. (10 kg) 5 Gallon Kit - 113 Lbs. (51 kg)
Flash Point (Setaflash)	55°F (13°C) for Carbozinc 11 SG Base

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.