

SELECTION & SPECIFICATION DATA

Generic Type	Inorganic Zinc Silicate
Designation	<p>This is a Carboline Specialty Product</p> <p>Minimum order quantities and special pricing will apply in North America. Contact your Carboline Sales Representative for more details.</p>
Description	<p>Time-tested corrosion resistant technology that protects steel galvanically in the harshest environments. For over five decades, Carbozinc 11 Series primers have been the industry standard for high-performance inorganic zinc protection on steel structures worldwide. Carbozinc 11 FC is a faster-cure formulation that allows fast topcoating times making it ideal for quick turn around projects.</p>
Features	<ul style="list-style-type: none"> • Meets Class B slip co-efficient and creep testing criteria for use on faying surfaces. • Rapid cure. Dry to handle in 30 minutes at 75°F (24°C) and 60% RH • Can be topcoated in 4-5 hours at 75°F/24°C and minimum 60% RH • High zinc loading • Tolerant to mudcracking (up to 6 mils/150 microns) • Smooth uniform texture reduces topcoat bubbling • Meets FDA requirements in gray color • Very good resistance to salting • May be applied with standard airless or conventional spray equipment • Low HAPs content of 0.12 lbs/solid gallon
Color	0300 (Green)
Finish	Flat
Primer	Self Priming
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>Do not exceed 6.0 mils (152 microns)</p>
Solid(s) Content	<p>By Volume 62.3% +/- 2%</p> <p>Measured in accordance with ASTM D 2697.</p>
Total Zinc Dust in Dry Film	By Weight: 85%
Coverage Rate	<p>1000 ft² at 1 mil (24.9 m²/l at 25 microns)</p> <p>Measured in accordance with ASTM D 2697. Allow for loss in mixing and application.</p>

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VOC Values	As Supplied : EPA Method 24: 4.0 lbs./gal (479 g/l)
	Thinned:
	7 oz/gal w/ Thinner 21: 4.1 lbs./gal (492 g/l)
	5 oz/gal w/ Thinner 26: 4.1 lbs./gal (492 g/l)
	5 oz/gal w/ Thinner 33: 4.1 lbs./gal (492 g/l)
Topcoats	8 oz/gal w/ Thinner 254: 4.0 lbs./gal (507 g/l)
	These are nominal values.
	Acrylics, Epoxies, Polyurethanes, High heat silicones and silicates
Topcoats	Not required for certain exposures. Under certain conditions, a mist coat is required to minimize topcoat bubbling.

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	<u>Non-Immersion</u> : SSPC-SP6 and obtain a 1.0-3.0 mil (25-75 micron) angular blast profile

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. DO NOT MIX PARTIAL KITS. Tip: Sifting zinc through a window screen will aid in the mixing process by breaking up or catching dry zinc lumps.
Thinning	May be thinned up to 5 oz/gal (4%) with Thinner 26 or 33 for ambient and warm surfaces. For extremely warm or windy conditions (above 85°F/29°C) may be thinned up to 8 oz/gal (6%) with Thinner 254. In cool weather (below 40°F (4°C)), thin up to 7 oz/gal (6%) with Thinner 21. 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 Gal. Kit - Part A - .75 gal 1 Gal Kit - Zinc Filler - 14.6 lbs 5 Gal Kit - Part A - 3.75 gal 5 Gal Kit - Zinc Filler - 73 lbs.
Pot Life	8 Hours at 75°F (24°C) and less at higher temperatures. Pot life ends when coating becomes too viscous to use. Any skin formation occurring on the surface of the mixed product should be removed and discarded. Continue using remaining product honoring pot life limitation.

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 equipment manufacturers. Keep material under mild agitation during application. If spraying stops for more than 10 minutes, recirculate the material remaining in the spray line. Do not leave mixed primer in the hoses during work stoppages.
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Conventional Spray	Agitated pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, with a maximum length of 50 feet; 0.070" I.D. fluid tip and appropriate air cap.
Airless Spray	Pump Ratio: 30:1 (min.) GPM Output: 3.0 (min.) Material Hose: 3/8" I.D. (min.) Tip Size: 0.019-0.023" Output PSI: 1500-2000 Filter Size: 60 mesh PTFE 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 and avoid rebrushing.
Roller	Not recommended.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	0°F (-18°C)	0°F (-18°C)	0°F (-18°C)	60%
Maximum	130°F (54°C)	200°F (93°C)	130°F (54°C)	95%

Humidity below 60% will extend the cure times to handle and topcoat. Water misting aids in the curing process and can shorten cure times as outlined below the Curing Schedule. 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.	Dry to Handle	Dry to Topcoat	Dry to Touch
40°F (4°C)	3 Hours	18 Hours	30 Minutes
60°F (16°C)	1 Hour	9 Hours	20 Minutes
75°F (24°C)	30 Minutes	4.5 Hours	10 Minutes
100°F (38°C)	15 Minutes	1.5 Hours	5 Minutes

These times are based on a 2.0-3.0 mil (50-75 micron) dry film thickness and minimum 60% relative humidity. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Surface is ready to topcoat when it passes ASTM D4752 when a minimum result of 4 is obtained. Humidity levels below 60% will require longer cure times. **Notes:** Maximum recoat time is unlimited. Must have a clean, dry surface free of chalk, zinc salts, etc per typical good painting practices. Consult Carboline Technical Service for specific information. Also, loose zinc must be removed from the cured film by rubbing with fiberglass screen wire if: 1) The Carbozinc 11 FC is to be used without a topcoat in immersion service and "zinc pick up" could be detrimental, or 2) When "dry spray/overspray" is evident on the cured film and a topcoat will be applied. For accelerated curing or where the relative humidity is below 60%, allow an initial 2-hour ambient cure. Follow with water misting or steam with clean potable water until the coating achieves a "2H" pencil hardness per ASTM D3363 or passes 50 double rubs with a rating of 4 or better per ASTM D4752 Standard Test Method for Measuring MEK Resistance of Ethyl Silicate (Inorganic) Zinc-Rich Primers by Solvent Rub.

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 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. In addition to ensuring proper ventilation, appropriate respirators must be used by all application personnel.

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A: 6 months at 75°F (24°C) Part B: 24 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° -100°F (4-38°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)	Part A: 58°F (14°C) Zinc Filler: NA

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.