

SELECTION & SPECIFICATION DATA

Generic Type	Solvent Based Inorganic Zinc
Description	Ultra-low VOC member of the Carbozinc family with extraordinary corrosion resistance properties. Carbozinc 11 HS combines unparalleled performance characteristics with an ultra-low VOC formulation that meets some of the most stringent VOC restrictions.
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 1 hour at 75°F (24°C) and 50% relative humidity • Low temperature cure down to 15°F (-9°C) • High zinc loading • Very good resistance to salting • May be applied with airless or conventional spray • Excellent as a lining for solvent storage* (Green color only) • May be used as a weldable pre-construction primer • Exhibits long-term corrosion resistance • Ultra-low VOC level for solvent-based inorganic zincs
Color	Standard: Green (0300) Special Order: Grey (0700)
Finish	Flat
Primer	Self Priming
Service Temperature	<u>Untopcoated</u> Continuous: 750°F (400°C) Non-Continuous: 800°F (427°C) <u>With recommended high heat topcoats:</u> Continuous: 1000°F (538°C) Non-Continuous: 1200°F (649°C)
Dry Film Thickness	2 - 3 mils (51 - 76 microns) per coat 0.50-1.00 mils (12-25 microns) per coat for weldable, pre-construction primer. 2.0-5.0 mils for OEM applications in controlled environments. Dry film thickness in excess of 6.0 mils (150 microns) per coat is not recommended.
Total Zinc Dust in Dry Film	By Weight: 84%
Solids Content	By Volume 75% +/- 2% Measured in accordance with ASTM D 2697.
Theoretical Coverage Rate	1203 ft²/gal at 1.0 mils (29.5 m²/l at 25 microns) 602 ft²/gal at 2.0 mils (14.8 m²/l at 50 microns) 401 ft²/gal at 3.0 mils (9.8 m²/l at 75 microns) Allow for loss in mixing and application.

SELECTION & SPECIFICATION DATA

VOC Values	Thinner 236 E 38 oz/gal: 2.4 lbs./gal (288 g/l) Thinner 254 8 oz/gal: 2.73 lbs./gal (327 g/l) Thinner 26 15.28 oz/gal: 2.95 lbs./gal (354 g/l) Thinner 33 15.28 oz/gal: 2.95 lbs./gal (354 g/l) As Supplied 2.4 lbs./gal (288 g/l)
	These are nominal values. When used as a pre-construction primer thin up to 38 oz/gal using exempt Thinner 236 E.
Topcoats	Acrylics, Epoxies, Polyurethanes, High Heat Silicones, Silicates and others as recommended by your Carboline sales representative.
	Not required for certain exposures. A mist-coat/full-coat spray technique is often 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	SSPC-SP6 Surface Profile: 1.0-3.0 mils (25-75 micron). Consult Carboline Technical Service for appropriate surface preparation guidelines regarding tank lining applications.

PERFORMANCE DATA

Test Method	System	Results
AASHTO M300	Blasted Steel 1 ct. CZ 11 HS	No blistering or rusting of coating or any bare steel areas
ASTM A-325 or A-490 Slip co-efficient	1 ct. CZ 11 HS	0.58 meets requirements for Class B rating
ASTM B117 Salt Spray	Blasted Steel 1 ct. CZ 11 HS	No rusting or blistering; slight rust in scribe, no creepage at scribe after 70,000 hours
ASTM D3363 Pencil hardness	1 ct. CZ 11 HS	Pencil Hardness 3 H

MIXING & THINNING

Mixing	Power mix base (Part A), then combine and power mix as follows. Pour zinc filler (Part B) very slowly into premixed base (Part A) with continuous agitation. Mix until free of lumps. Then add activator (Part C) and mix for another 2 minutes. 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. Note: Will not cure without the use of the Activator as defined below.
Thinning	Normally not required but may be thinned up to 11 oz per 0.72 gal kit or 55 oz per 3.6 gal kit with Thinner 26, 33 or 254. Use of thinners other than those supplied by Carboline may adversely affect product performance and void product warranty, whether expressed or implied. For use as a weldable zinc primer to achieve a recommended DFT of 0.50-1.00 mils, thin this product starting with 10% (and up to 30%) with Thinner 236E. Consult Carboline Technical Service for guidance.

MIXING & THINNING

Ratio	<u>0.72 Gal Kit</u>
	Part A (Base): Short fill 1-gal
	Part C (Activator): 6.4 fl. oz.
	Part B (Zinc Filler): 14.6 lbs
	<u>3.6 Gal Kit</u>
	Part A (Base): Short fill 5-gal
	Part C (Activator): 32 fl. oz.
	Part B (Zinc Filler): 73 lbs

Pot Life | 8 Hours at 75°F (24°C) and less at higher temps. Pot life ends when coating becomes too viscous.

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.
Conventional Spray	Agitated pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, with a maximum length of 50 feet; .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: 0.017-0.021" Output PSI: 2100-2500 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	15°F (-9°C)	15°F (-9°C)	15°F (-9°C)	30%
Maximum	95°F (35°C)	150°F (66°C)	120°F (49°C)	95%

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 which are as follows: material 60°F-85°F (16°C-29°C), surface & ambient 40°F-95°F (4°C-35°C) and humidity 40-90%.

CURING SCHEDULE

Surface Temp.	Dry to Handle	Dry to Topcoat
15°F (-9°C)	16 Hours	7 Days
40°F (4°C)	4 Hours	72 Hours
60°F (16°C)	2 Hours	36 Hours
75°F (24°C)	1 Hour	18 Hours
100°F (38°C)	45 Minutes	14 Hours

These times are based on a 3.0 mil (75 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Humidity levels below 50% will require longer cure times.

Notes: Maximum recoat times are 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 or aluminum screen wire 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 40%, allow an initial 2-hour ambient cure followed by misting with water or steam to keep the coated surface wet for a minimum of 8 hours and until the film achieves a "2H" pencil hardness per ASTM D3363.

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 MSDS for this product and use personal protective equipment as directed.
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. Appropriate respirators must be used by all application personnel.

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A (Base): 12 months at 75°F (24°C) Part B: 24 months at 75°F (24°C) Part C: 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. This product is solvent based and not affected by excursions below these published storage temperatures, down to 10°F, for a duration of no more than 14 days. Always inspect the product prior to use to make sure it is smooth and homogeneous when properly mixed.
Shipping Weight (Approximate)	0.72 Gallon Kit - 22 lbs (10 kg) 3.6 Gallon Kit - 103 lbs (47 kg)
Flash Point (Setaflash)	Carbozinc 11 HS base: 55°F (13°C) HS Activator: 90°F (33°C) Zinc Filler: N/A

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 or injuries resulting from use. Liability, if any, is limited to replacement of products. 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.