

## Selection & Specification Data

<b>Generic Type</b>	Solvent Based Inorganic Zinc
<b>Description</b>	Ultra-low VOC member of the Carbozinc family with extraordinary performance characteristics. Carbozinc 11 HS combines unparalleled performance properties with a 2.4 lbs/gallon (unthinned) and 2.7 lbs/gallon (thinned) formulation that meets even the most stringent VOC restrictions.
<b>Features</b>	<ul style="list-style-type: none"> <li>▪ Meets Class B slip co-efficient and creep testing criteria for use on faying surfaces</li> <li>▪ Rapid cure. Dry to handle in 1 hour at 75°F (24°C) and 50% relative humidity</li> <li>▪ Low temperature cure down to 15°F (-9°C)</li> <li>▪ High zinc loading</li> <li>▪ Available in ASTM D520, Type II zinc version</li> <li>▪ Very good resistance to salting</li> <li>▪ May be applied with standard airless or conventional spray equipment</li> <li>▪ May be used as a weldable pre-construction primer where VOC regulations prohibit traditional coatings. Exhibits long-term corrosion resistance during pre-construction is required along with full recoatability and weldability.</li> <li>▪ VOC compliant to current AIM regulations</li> </ul>
<b>Color</b>	Green (0300)
<b>Finish</b>	Flat
<b>Primers</b>	Self Priming
<b>Topcoats</b>	Not required for certain exposures. Can be topcoated with Epoxies, Polyurethanes, Acrylics, High-Heat Silicones and others as recommended by your Carboline sales representative. Under certain conditions, a mist coat is required to minimize topcoat bubbling.
<b>Dry Film Thickness</b>	2.0-3.0 mils (50-75 microns). Dry film thickness in excess of 6.0 mils (150 microns) per coat is not recommended. When used as a weldable pre-construction primer, the recommended DFT is 0.75-1.25 mils (19-31 microns).
<b>Solids Content</b>	By Weight: 91% ± 2%
<b>Zinc Content</b>	By Weight: 84% ± 2% in dry film
<b>Theoretical Coverage Rate</b>	1203 mil ft <sup>2</sup> (30.0 m <sup>2</sup> /l at 25 microns) 401 ft <sup>2</sup> at 3.0 mils (10.0 m <sup>2</sup> /l at 75 microns) Allow for loss in mixing and application
<b>VOC Values</b>	Supplied: EPA Method 24: 2.4 lbs./gal (288 g/l) Thinned: 15.28 oz/gal w/ #26 or #33: 2.95 lbs./gal (354 g/l) (11 oz/.72 gal. kit or 55 oz/3.6 gal kit) 15.28 oz/gal w/ #237: 2.77 lbs/gal (332 g/l) (11 oz/.72 gal. kit or 55 oz/3.6 gal kit) These are nominal values.  Thinned (As pre-construction primer): 38.4 oz/gal w/ #26: 3.6 lbs./gal (435 g/l) 27.65 oz/.72 gallon kit or 138.25 oz/3.6 gallon kit

## Selection & Specification Data Cont.

<b>Dry Temp. Resistance</b>	<u>Untopcoated:</u> Continuous: 750°F (399°C) Non-Continuous: 800°F (427°C) <u>With recommended silicone topcoats:</u> Continuous: 1000°F (538°C) Non-Continuous: 1200°F (649°C)
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## Substrates & Surface Preparation

<b>General</b>	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.
<b>Steel</b>	SSPC-SP6 <u>Surface Profile:</u> 1.0-3.0 mils (25-75 micron)

## Performance Data

Test Method	System	Results	Report #
ASTM D3363 Pencil hardness	1 ct. CZ11HS	Pencil Hardness 3H	03278
ASTM A-325 or A-490 Slip co-efficient	1 ct. CZ11HS	0.58 meets requirements for Class B rating	08510
AASHTO M300	Blasted steel 1ct. CZ11HS	No blistering or rusting of coating or any bare steel areas.	02934
ASTM B117 Salt Spray	Blasted Steel 1 ct. CZ11HS	No rusting or blistering; slight rust in scribe, no creepage at scribe after 70,000 hours	SR 380

Test reports and additional data available upon written request.

## Application Equipment

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.

### General Guidelines:

**Spray Application (General)** The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco. 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', .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: .017-.021"  
 Output PSI: 2100-2500  
 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 and avoid rebrushing.

**Roller** Not recommended

# Carbozinc® 11 HS

## 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. Then add activator and mix for another 2 minutes. Pour mixture through a 30 mesh screen. **DO NOT MIX PARTIAL KITS. Note:** Carbozinc 11 HS will not cure without the use of the Activator as defined below.

Tip: Sifting zinc through a window screen will aid in the mixing process by breaking up or catching dry zinc lumps.

**Ratio**

	.72 Gal Kit	3.6 Gal Kit
Part A:	1 gal. (short fill)	5 gals. (short fill)
Activator:	6.4 fl. oz.	32 fl. oz.
Zinc Filler:	14.6 lbs	73 lbs

**Thinning** Normally not required but may be thinned up to 11 oz per .72 gal kit or 55 oz per 3.6 gal kit with Thinner #26, #33 or #237. 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 0.75-1.25 mils, thin this product 30% with Thinner #26.

Carboline Thinner #236E may also be used to thin this product to minimize HAP and VOC emissions. Consult Carboline Technical Service for guidance.

**Pot Life** 8 Hours at 75°F (24°C) and less at higher temperatures. Pot life ends when coating becomes too viscous to use.

## 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. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.

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

**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.

## Application Conditions

Condition	Material	Surface	Ambient	Humidity
Normal	60°-85°F (16°-29°C)	40°-95°F (4°-35°C)	40°-95°F (4°-35°C)	40-90%
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.

## Curing Schedule

Surface Temp. & 50% Relative Humidity	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 (32°C)	¾ Hour	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:** 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. 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 coated surface achieves a "2H" pencil hardness per ASTM D3363.

## Packaging, Handling & Storage

<b>Shipping Weight (Approximate)</b>	<u>.72 Gallon Kit</u> 22 lbs (10 kg)	<u>3.6 Gallon Kit</u> 103 lbs (47 kg)
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**Flash Point (Setaflash)** Carbozinc 11 HS base: 55°F (13°C)  
HS Activator: 90°F (33°C)  
Zinc Filler: N/A

**Storage (General)** Store Indoors.

**Storage Temperature & Humidity** 40° -100°F (4-38°C).  
0-90% Relative Humidity

**Shelf Life** Part A: 12 months at 75°F (24°C)  
Part B: 24 months at 75°F (24°C)  
Part C: Min. 24 months at 75°F (24°C)

**\*Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.**



350 Hanley Industrial Court, St. Louis, MO 63144-1599  
314/644-1000 314/644-4617 (fax) www.carboline.com

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