

**SELECTION & SPECIFICATION DATA**

<b>Generic Type</b>	Solvent Based Inorganic Zinc
<b>Description</b>	Time-tested corrosion resistant primer that protects steel galvanically in the harshest environments. For over five decades, Carbozinc 11 (CZ 11) has been the industry standard for high-performance inorganic zinc protection on steel structures worldwide.
<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 45 minutes at 16°C (60°F) and 50% relative humidity.</li> <li>• Low temperature cure down to -18°C.</li> <li>• High zinc loading.</li> <li>• Meets FDA requirements.</li> <li>• Zinc supplied meets ASTM D520 (Type II)</li> <li>• Meets SSPC Paint 20 Type I, Level 1 for zinc content.</li> <li>• Complies with the composition and performance requirements of AS/NZS 3750.15, Type 4 and AS 4848.1;2006 "Single Coat Inorganic Zinc Silicate"</li> <li>• Very good resistance to salting.</li> <li>• May be applied with standard airless or conventional spray equipment</li> </ul>
<b>Colour</b>	Grey & Green
<b>Finish</b>	Flat (0-10)
<b>Primer</b>	Self Priming
<b>Dry Film Thickness</b>	50-75 microns DFT for optimum performance. Dry film thickness up to 150 microns is acceptable
<b>Solid(s) Content</b>	By Volume 62.3% +/- 2% per ASTM D2697 61.5% by volume - Void Method
<b>Total Zinc Content in Dry Film</b>	85% by weight
<b>Coverage Rate</b>	8.2 m <sup>2</sup> / litre at 75 microns DFT  Allow for loss in mixing and application.
<b>VOC Values</b>	EPA Method 24: 515 g/l
<b>Maximum Service Temperature</b>	<u>Untopcoated</u> Continuous: 400°C Non-Continuous: 427°C <u>With recommended high heat topcoats:</u> Continuous: 538°C Non-Continuous: 649°C
<b>Topcoats</b>	Can be topcoated with Epoxies, Polyurethanes, Acrylics, High-Heat Silicones and others as recommended by your Carboline sales representative.  Not required for certain exposures. Under certain conditions, a mist coat is required to minimize topcoat bubbling.

## 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>	Abrasive blast to SSPC SP10 (AS1627.4 Class 2½) and achieve a uniform jagged blast profile of 35µm (minimum) and up to 75µm.

## PERFORMANCE DATA

Test Method	System	Results
AASHTO M300 Bullet Hole Immersion Paragraph 4.6.9	1 ct. CZ11 over Abrasive blasted steel	No blistering or rusting of coating or rusting of bare steel area after 650 hrs. Immersion in 5% sod
ASTM A-325 Slip Co-efficient	Blasted Steel 1 ct. CZ 11 @6 mils (150 microns)	0.68; meets requirement for Class B rating
ASTM B117 Salt Spray	1 ct CZ11 at 2 mils dry film thickness over blasted steel.	No rusting blistering cracking delamination after 43000 hrs. Moderate salting of the surface only.
ASTM D3363 Pencil Hardness	1 ct. CZ11	Pencil Hardness "2H"

Test reports and additional data available upon written request.

## MIXING & THINNING

<b>Mixing</b>	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. <b>DO NOT MIX PARTIAL KITS.</b>
<b>Thinning</b>	May be thinned up to 4% with Thinner #26 or #33 for ambient and warm surfaces. For extremely warm or windy conditions (above 29°C) refer to Carboline Technical Service Group for advice. In cool weather (below 4°C), thin up to 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.
<b>Ratio</b>	4 litre Kit (AU & NZ) - Part A - 3 litres 4 litre Kit (AU & NZ) - Zinc Filler - 7 kg 12 litre Kit (NZ) - Part A - 9 litres 12 litre Kit (NZ) - Zinc Filler - 21 kg
<b>Pot Life</b>	8 Hours at 24°C and less at higher temperatures. Pot life ends when coating becomes too viscous 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.

<b>Spray Application (General)</b>	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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<b>Conventional Spray</b>	Agitated pressure pot equipped with dual regulators, 9.5 mm (3/8") I.D. minimum material hose, with a maximum length of 50 feet; 1.8 mm (0.070") I.D. fluid tip and appropriate air cap.
<b>Airless Spray</b>	Pump Ratio: 30:1 (min.) Output: 12 lts / minute (min.) Material Hose: 9.5 mm (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.
<b>Brush</b>	For touch-up of areas less than one square foot only. Use medium bristle brush and avoid rebrushing.
<b>Roller</b>	Not recommended.

## APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	-18°C (-0°F)	-18°C (-0°F)	-18°C (-0°F)	30%
Maximum	54°C (129°F)	93°C (199°F)	54°C (129°F)	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.	Dry to Handle	Dry to Recoat & Topcoat w/ other finishes
-18°C (-0°F)	4 Hours	7 Days
4°C (40°F)	1 Hours	48 Hours
16°C (60°F)	45 Minutes	24 Hours
27°C (80°F)	45 Minutes	18 Hours
38°C (100°F)	15 Minutes	16 Hours

These times are based on a 75-100 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 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 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 40%**, allow an initial 2-hour ambient cure. Follow 2 hour cure with water misting 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.

# Carbozinc 11

PRODUCT DATA SHEET



## CLEANUP & SAFETY

<b>Cleanup</b>	Use Thinner 21 or Isopropyl Alcohol. In case of spillage, absorb and dispose of in accordance with local applicable regulations.
<b>Safety</b>	Read and follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workmanlike safety precautions.
<b>Ventilation</b>	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 vapour 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

<b>Shelf Life</b>	Part A: 12 months at 24°C Part B: 24 months at 24°C  *Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.
<b>Shipping Weight (Approximate)</b>	4 litre Kit - 10 kg 12 litre Kit - 30 kg
<b>Storage Temperature &amp; Humidity</b>	4-38°C 0-90% Relative Humidity
<b>Flash Point (Setaflash)</b>	Part A: 13°C Zinc Filler: NA
<b>Storage</b>	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.

## WARRANTY

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