

## 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 four 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>• CZ 11 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 and 50% relative humidity.</li> <li>• Low temperature cure down to -18°C.</li> <li>• High zinc loading.</li> <li>• Meets FDA requirements in grey color.</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>• Complies with the composition and performance requirements of: <ul style="list-style-type: none"> <li>○ AS/NZS 3750.15, Type 4</li> <li>○ AS 4848.1:2006 Single Coat Inorganic Zinc Silicate</li> </ul> </li> </ul>									
<b>Gloss</b>	Flat									
<b>Colour</b>	Grey									
<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>	50-75 microns. Dry film thickness in excess of 150 microns per coat is not recommended.									
<b>Volume Solids</b>	(Void Method) 61.5%									
<b>Zinc Content in Dry Film</b>	By Weight: 85% ± 2%									
<b>Theoretical Coverage Rate</b>	8.2 m <sup>2</sup> per litre at 75 microns. Allow for loss in mixing and application.									
<b>Mix Ratio</b>	<table border="0" style="margin-left: 20px;"> <tr> <td></td> <td style="text-align: center;"><u>4 litre</u></td> <td style="text-align: center;"><u>12 litre</u></td> </tr> <tr> <td>Part A:</td> <td style="text-align: center;">3 litres</td> <td style="text-align: center;">9 litres</td> </tr> <tr> <td>Zinc Filler:</td> <td style="text-align: center;">7 kg</td> <td style="text-align: center;">21 kg (3x7 kg)</td> </tr> </table>		<u>4 litre</u>	<u>12 litre</u>	Part A:	3 litres	9 litres	Zinc Filler:	7 kg	21 kg (3x7 kg)
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<b>VOC Values</b>	EPA Method 24: 515 g/l									
<b>Dry Temp. Resistance</b>	<u>Untopcoated:</u> Continuous: 399°C Non-Continuous: 427°C <u>With recommended silicone topcoats:</u> Continuous: 538°C Non-Continuous: 649°C									

## 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>	<u>Non-Immersion:</u> AS1627.4 Class 2 or SSPC-SP6 minimum and obtain a 25-75 micron angular blast profile.

## Performance Data

Test Method	System	Results	Report #
ASTM A-325 Slip Co-efficient	Blasted steel 1 ct. CZ 11	0.668; meets requirements for Class B rating	02722
ASTM B117 Salt Spray	1 ct. CZ 11 at 50µm dry film thickness over blasted steel	No rusting or blistering, cracking or delamination after 43000 hrs. Moderate salting of the surface only.	SR 408
ASTM D3363 Pencil Hardness	1 ct. CZ 11	Pencil Hardness "2H"	03278
AASHTO M300 Bullet Hole Immersion Paragraph 4.6.9	1 ct. CZ 11 over SP10 blast steel	No blistering or rusting of coating or rusting of bare steel area after 650 hrs. Immersion in 5% sodium chloride solution; 1.5" round bare area in coating.	02514

Test reports and additional data available upon written request.

### Approvals:

NORSOK M-501, Revision 5 System 1: ISO 20340  
 Carbozinc 11 1 coat 90 microns DFT\*  
 \*Under various approved intermediate & finish coats.  
 Reference N.I.T, Oslo, Norway;  
 Report N<sup>o</sup>.s  
 3410-05-0060 Mt01, Mt02 & Mt03

## 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 Graco and Devilbiss. 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, 9mm (3/8") I.D. minimum material hose, with a maximum length of 16m, 1.8mm (.070") I.D. fluid tip and appropriate air cap.

**Airless Spray** Pump Ratio: 30:1 (min.)  
Output: 10 litres / minute (min.)  
Material Hose: 9mm (3/8") I.D. (min.)  
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 0.1m<sup>2</sup> (1 ft<sup>2</sup>) only. Use medium bristle brush and avoid rebrushing.

## 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.

**Ratio**

	4 litre kit	12 litre kit
Part A:	3 litres	9 litres
Zinc Filler:	7 kgs	21 kgs

**Thinning** May be thinned up to 4% with #26 for ambient and warm surfaces. For extremely warm or windy conditions may be thinned up to 4% with #33. In cool weather below 4°C, thin up to 6% with #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.

**Pot Life** 8 Hours at 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 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.

## 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 local regulations. 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	4° - 35°C	4° - 43°C	4° - 35°C	40 - 90%
Minimum	-18° C	-18°C	-18°C	30%
Maximum	54°C	93°C	54°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
-18°C	4 hours	7 days
4°C	1 hour	48 hours
16°C	¾	24 hours
27°C	¾	18 hours
38°C	¼	16 hours

These times are based on a 75-100 µm dry film thickness. Higher 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 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.

## Packaging, Handling & Storage

**Pack Sizes** **Australia:** 4 litre kit  
**New Zealand:** 4 & 12\* litre kits  
\*Note: 12 litre kits MTO only

**Flash Point (Setflash)** Part A: 13°C  
Zinc Filler: N/A

**Storage Temperature & Humidity** 4-38°C  
0-90% Relative Humidity

**Shelf Life** 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.**

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