

SELECTION & SPECIFICATION DATA

Generic Type	Solvent based inorganic zinc
Description	Time-tested corrosion resistant primer that protects steel galvanically in the harshest environments. For over five decades, Carbozinc 11 has been the industry standard for high performance inorganic zinc protection on steel structures worldwide.
Features	<ul style="list-style-type: none"> • Carbozinc 11 meets Class B slip co-efficient and creep testing criteria for use on faying surfaces. • Rapid cure. Dry to handle in 45 minutes at 16°C and 50% relative humidity. • Low temperature cure down to -18°C. • High zinc loading. • Meets FDA requirements in grey colour. • Very good resistance to salting. • May be applied with standard airless or conventional spray equipment. • VOC compliant in certain areas.
Color	<p>Mixed Colour: Green Part A: Yellow Part B (Zinc): Grey</p>
Finish	Flat (0-10)
Primer	Self priming
Service Temperature	<p>As below:</p> <p>Untopcoated Continuous: 400°C Non-continuous: 427°C</p> <p>With recommended high heat topcoats Continuous: 538°C Non-continuous: 649°C</p>
Dry Film Thickness	50 to 75 microns per coat Dry film thickness up to 150 microns is acceptable.
Solid(s) Content	By Volume: 62.3% ± 2% Measured in accordance with ASTM D2697
Total Zinc Content in Dry Film	By Weight: 85% ± 2%
Theoretical Coverage Rates	12.2m ² /litre at 50 microns 8.2m ² /litre at 75 microns Measured in accordance with ASTM D2697. Allow for loss in mixing and application.
VOC Value(s)	As supplied: EPA Method 24 - 479 g/l Thinned 4% with Thinner # 33 - 492 g/l These are nominal values
Topcoats	<p>Can be topcoated with Epoxies, Polyurethanes, Acrylics, High Heat Silicones and others as recommended by StonCor Africa. Not required for certain exposures. Under certain conditions, a mist coat is required to minimize topcoat bubbling.</p>

Carbozinc 11

PRODUCT DATA SHEET



SUBSTRATES & SURFACE PREPARATION

General	Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and other contaminants that could interfere with adhesion of the coating.
Steel	Non Immersion: ISO 8501 Sa2 and obtain a 25 to 75 micron angular blast profile (Reference ASTM D4417)

PERFORMANCE DATA (TYPICAL VALUES)

Test Method	System	Results
AASHTO M300 Bullet Hole Immersion Paragraph 4.6.9	1 Coat CZ11 over abrasive blasted steel	No blistering or rusting of coating or rusting of bare steel area after 650 hours. Immersion in 5% sodium chloride
Pencil Hardness ASTM D3363	1 Coat CZ11	Pencil Hardness "2H"
Salt Spray ASTM B117	1 Coat CZ11 at 2 mils dry film thickness over blasted steel	No rusting blistering cracking delamination after 43000 hours. Moderate salting of the surface only.
Slip Co-Efficient ASTM A-325	Blasted steel 1 coat CZ11 at 150 microns	0.68; Meets requirement for Class B rating

Test reports and additional data available upon written request.

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. Sifting zinc through a screen will aid in the mixing process by breaking up or catching dry zinc lumps. DO NOT MIX PARTIAL KITS.
Thinning	May be thinned up to 4% with Thinner # 33 for ambient and warm surfaces. 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	10 Litre Kit Part A: 7.73lt Part B: 16kg
Pot Life	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.

Spray Application	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, 10mm ID minimum material hose, with a maximum length of 8m to 10m max; 1.8mm nozzle and air cap ID fluid tip and appropriate air cap.

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Airless Spray	<p>Pump Ratio: 45:1 (min) GPM Output: 3.0 (min) Material Hose: 10mm ID (min) Tip Size: 0.019 to 0.023" Output PSI: 1500 to 2000 Filter Size: 60 Mesh PTFE packings are recommended and available from the pump manufacturer It should be noted that the zinc particles are abrasive, which can result in high wear and tear on the packings, pistons and sleeves.</p>
Brush	<p>For touch-up of areas less than one square foot only. Use medium bristle brush and avoid rebrushing.</p>
Roller	<p>Not recommended.</p>

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 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 (39°F)	1 Hour	48 Hours
16°C (61°F)	45 Minutes	24 Hours
27°C (81°F)	45 Minutes	18 Hours
38°C (100°F)	15 Minutes	16 Hours

These times are based on a 75 to 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.

Note: Maximum recoat time is unlimited. Must have a clean, dry surface free of chalk, zinc salts, etc., per typical good painting practices. Consult StonCor Africa 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.

Alternatively, use a 5% solution of Carbozinc 11 Accelerator and apply a mist coat.

Curing Details | Relative Humidity: 50%

Carbozinc 11

PRODUCT DATA SHEET



CLEANUP & SAFETY

Cleanup	Use Thinner # 2 or Thinner # 33. 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.
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 applicable personnel.

PACKAGING, HANDLING & STORAGE

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.
Shipping Weight (Approximate)	10 Litre Kit Part A: 8.96kg Part B: 17.5kg
Storage Temperature & Humidity	4 to 38°C 0 to 90% Relative Humidity
Flash Point (Pensky Martens Closed Cup)	Part A: 13°C Zind Filler: N/A
Storage	Store indoors This product is solvent based and not affected by excursions below these published storage temperatures, down to -12°C, 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

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, injuries or damages resulting from use. Carbolines sole obligation, if any, is to replace or refund the purchase price of the Carboline product(s) proven to be defective, at Carbolines option. Carboline shall not be liable for any loss or damage. 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.