product data carboline® **Carbozinc 11 SG**

Selection & Specification Data

Generic Type Self-curing, solvent based, inorganic zinc silicate

Description An inorganic zinc rich primer that protects steel galvanically, eliminating sub-film corrosion.

Features
- Excellent corrosion and weathering protection.
- High zinc loading per square foot.
- Meets Class "B" slip co-efficient and creep testing criteria for use on faying surfaces.
- Very good resistance to salting.
- Meets nuclear requirements for level one areas.
- Available in an ASTM D520, Type 2 zinc version.

Color Green (0300) and Gray (0700).

Finish Matte

Topcoats May be topcoated with epoxies, phenolics, acrylics, silicones, vinyls, chlorinated rubbers or others as recommended. Do not topcoat with alkyds.

Dry Film Thickness 2.0 – 3.0 mils (50 - 75 microns) per coat
Don't exceed 6 mils (150 microns) in a single coat. Excessive film thickness over inorganic zincs may increase damage during shipping or erection.

Solids Content
By Weight:: 79% ± 2%
Total zinc in dry film: 85% minimum

Theoretical Coverage Rate
1000 mil ft^2 (24.5 m^2/l at 25 microns)
333 ft^2 at 3 mils (8.2 m^2/l at 75 microns)
Allow for loss in mixing and application.
As measured per NACE 6A181. Material losses during mixing and application will vary and must be taken into consideration when estimating job requirements.

VOC Values
As supplied: 4.01 lbs./gal (481 g/l)
Thinned:
7oz/gal w/ Thinner #21: 4.15 lbs./gal (499 g/l)
5oz/gal w/ Thinner #26: 4.15 lbs./gal (499 g/l)
These are nominal values and may vary slightly with color.

Dry Temp. Resistance
Continuous: 750°F (399°C)
Non-Continuous: 800°F (427°C)

With recommended silicone topcoats:
Continuous: 1000°F (538°C)
Non-Continuous: 1200°F (649°C)

Limitations Exposure to acids or alkalies without a suitable topcoat or for application over rust inhibitors.

Substrates & Surface Preparation

General Remove all oil or grease from the surface to be coated with Thinner 2 or Carboline Surface Cleaner 3 (refer to Surface Cleaner 3 instructions) in accordance with SSPC-SP1.

Steel **Non-Immersion Service:** Abrasive blast to a Commercial Finish in accordance with SSPC-SP6 and obtain a 1-3 mil (25-75 micron) blast profile.

Typical Chemical Resistance

Exposure	Splash & Spillage	Fumes
Acids	Very Good*	Excellent*
Alkalies	Very Good*	Excellent*
Solvents	Excellent	Excellent
Salt	Excellent	Excellent
Water	Excellent	Excellent

*With suitable topcoat.

April 2003 replaces January 2002

0231

Carbozinc 11 SG

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:

Equipment Guidelines (General) The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco. Agitate the mixed material continuously during application. If spraying stops for more than 10 minutes, recirculate the material remaining in the spray line.

Conventional Spray Agitated pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, 50' maximum material hose .070" I.D. fluid tip and appropriate air cap.

Airless Spray

Pump Ratio:	30:1 (minimum)*
GPM Output:	3.0 (minimum)
Material Hose:	3/8" I.D. (minimum)
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 one square foot only. Use medium bristle brush. Avoid excessive rebrushing.

Roller Application by roller is not recommended.

Mixing & Thinning

Mixing Power mix base, then combine and power mix as follows:

Ratio	1 Gallon Kit	5 Gallon Kit
CZ 11 SG Base	1 gallon (partially filled)	5 gallon (partially filled)
Zinc Filler/Special Zinc Filler	14.6 lbs.	73 lbs.

Thinning May be thinned up to 5 oz/gal with Thinner #26. In cool weather, below 40°F (4°C), may be thinned up to 7 oz/gal with Thinner #21. Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and will void product warranty whether express or implied.

Pot Life Pot life ends when material becomes too thick to use.

Material Temperature	Time
60°F (16°C)	12 hours
75°F (24°C)	8 hours
90°F (32°C)	4 hours

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. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved respirator.

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	40-95°F (4°-35°C)	40°-110°F (4°-43°C)	40-95°F (4°-35°C)	40-90%
Minimum	0°F (-18°C)	0°F (-18°C)	0°F (-18°C)	30%
Maximum	130°F (54°C)	200°F (93°C)	130°F (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	Handle	Topcoat	Immersion Service
0°F (-18°C)	4 Hours	7 Days	N/R
40°F (4°C)	1 Hour	48 Hours	72 Hours
60°F (16°C)	45 Minutes	24 Hours	48 Hours
80°F (27°C)	45 Minutes	18 Hours	18 Hours
100°F (38°C)	15 Minutes	16 Hours	14 Hours

These times are based on a 2-3 mil (50-75 micron) dry film thickness and a 50% Relative Humidity or higher. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure.

For shop applications or tank linings, if the relative humidity is low, the curing time can be reduced by raising the Relative Humidity by steam or a water spray on the coated surface after an initial dry time of 1 hour at 75°F (24°C).

Notes:

1. 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.
2. Loose zinc dust must be removed from the cured film by rubbing with fiberglass screen wire if:
   a. The Carbozinc 11 SG is to be used without a topcoat in immersion service and "zinc pickup" could be detrimental, or
   b. When overspray is evident on the cured film and a topcoat will be applied.

Packaging, Handling & Storage

	1 Gallon Kit	5 Gallon Kit
Shipping Weight (Approximate)	23 Lbs. (10 kg)	113 Lbs. (51 kg)

Flash Point (Setaflash) 55°F (13°C) for Carbozinc 11 SG Base

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

Shelf Life Carbozinc 11 SG Base: 6 Months at 75°F (24°C)
Zinc Filler/Special Zinc Filler: 24 Months at 75°F (24°C)

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

Note:
The Carbozinc 11SG base is unusable if the material is jelly-like, stringy or does not properly atomize with conventional spray equipment.

carboline®

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

An RPM Company

April 2003 replaces January 2002