

Selection & Specification Data

Generic Type	Self-curing, inorganic, zinc silicate.						
Description	A weldable pre-construction inorganic zinc primer for shop use only.						
Features	<ul style="list-style-type: none"> • Welds made over Carboweld 11 coated steel are equal in every respect to welds made to uncoated steel. • Designed to protect steel during construction phase of projects under normal conditions. • Can be topcoated for additional long term protection for atmospheric exposures. • Weld spatter does not adhere to or damage the coating. • Can be welded as quickly and easily as bare steel at production line speeds without loss in strength or consistency of the weld. • Dries to touch and to handle in 3 to 5 minutes. • Utilizes ultra pure, low-lead, zinc filler 						
Color	Gray (0700) Standard.						
Finish	Semi-Gloss *Consult Carboline Technical Service for appropriate topcoat specific for the intended service.						
Dry Film Thickness	0.6 - 0.8 mils (15 - 20 microns) per coat Thicknesses up to 2.0 mils (50 microns) are also acceptable.						
Solids Content	By Weight .48 Percent total zinc in dry film: 85% ± 1%						
VOC Values	<table border="0"> <tr> <td>Thinner 21</td> <td>25.6 oz/gal: 5.99 lbs./gal (718 g/l)</td> </tr> <tr> <td>Thinner 33</td> <td>25.6 oz/gal: 6.09 lbs./gal (730 g/l)</td> </tr> <tr> <td>As Supplied</td> <td>5.81 lbs./gal (696 g/l)</td> </tr> </table> These are nominal values.	Thinner 21	25.6 oz/gal: 5.99 lbs./gal (718 g/l)	Thinner 33	25.6 oz/gal: 6.09 lbs./gal (730 g/l)	As Supplied	5.81 lbs./gal (696 g/l)
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As Supplied	5.81 lbs./gal (696 g/l)						
Limitations	For projects with extended construction phases consult Carboline Technical Service for more suitable primers. For shop use only.						

Substrates & Surface Preparation

General	Remove all oil or grease from the surface to be coated with Thinner #2 or Surface Cleaner 3 (refer to Surface Cleaner 3 Instructions) in accordance with SSPC-SP1.
Steel	<p>Abrasive blast to achieve a sharp angular profile of 1.0-1.5 mils for most applications. Where high build topcoats are used; 1.5-2.5 mil blast profile is recommended.</p> <p>Service: Immersion (see Limitations): SSPC-SP10 Non-Immersion: SSPC-SP6</p>
Welding Data	Automatic- Carboweld 11 when applied at recommended thickness may be welded at speeds up to 48" per minute. This is dependent upon plate thickness and bead size. This includes the following processes: 1) Submerged arc 2) Flux core 3) Short arc and 4) Metal Inert Gas (MIG).

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 (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 the spraying operation. If spraying stops for more than 15 minutes, recirculate the material remaining in the spray line.
Conventional Spray	Pressure pot with dual regulators, agitator, 3/8" I.D. minimum hose, 50' maximum material hose length .070" I.D. fluid tip and appropriate air cap. Keep pot at same level as application.
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 touchup of areas less than one square foot only. Use medium bristle brush and avoid over brushing.
Roller	<u>DO NOT APPLY BY ROLLER.</u>

Mixing & Thinning

Mixing	Power mix base, then combine parts, sifting zinc filler slowly into base and mixing with continuous agitation. Mix until free of lumps. Pour mixture through 30 mesh screen. DO NOT MIX PARTIAL KITS. Keep under mild agitation during application.
Thinning	Not normally required, but may be thinned up to 25.6 ounces per gallon with Thinner #21 in cool weather (below 40°F, 4°C). For hot or windy conditions, use Thinner #33 up to 25.6 ounces per gallon. Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether express or implied.
Ratio	3 Gal Kit Part A (Base): One 5-gal can (partially filled) Part B (Zinc Filler Type III): 14.6 lb unit (6.6 kg) 15 Gal Kit Part A (Base): Three 5-gal cans (partially filled) Part B (Zinc Filler Type III): 73 lb. unit (33.1 kg)
Pot Life	48 Hours at 75°F (24°C) and less at higher temperatures. Pot life ends when coating becomes too viscous to use.

Carboweld[®] 11

Application Conditions

Condition	Material	Surface	Ambient	Humidity
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	Dry to Handle	Final Cure General
0 °F (-18 °C)	2 Hours	5 Days
40 °F (4 °C)	40.0 Minutes	12 Hours
60 °F (16 °C)	15.0 Minutes	6 Hours
80 °F (27 °C)	5.0 Minutes	4 Hours
100 °F (38 °C)	3.0 Minutes	2 Hours

Drying times are based on a .75-1.5 mil (20-40 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. For shop applications or if the relative humidity is too low, the curing time can be reduced by raising the relative humidity by steam or water spray on the coated surface after an initial dry time of 1 hour at 75°F (24°C).

Cleanup & Safety

- Cleanup** Use Thinner #21 or Isopropanol. 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. 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.

Packaging, Handling & Storage

- Shelf Life** Part A: 12 months at 75°F (24°C)
Part B: 24 months at 75°F (24°C)
*Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.
- Shipping Weight (Approximate)** 3 Gallon Kit - 38 lbs. (17.3 kg)
15 Gallon Kit - 184 lbs. (83.6 kg)
- Storage Temperature & Humidity** 40° - 110°F (4°- 43°C)
0-90% Relative Humidity
- Flash Point (Setaflash)** 52°F (11°C) for Base
- Storage** Store Indoors.



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0241