

## Selection & Specification Data

|   |  |
|---|--|
| <b>Generic Type</b>                         | Two component, zinc-rich epoxy primer  |
| <b>Description</b>                          | A two component, high solids, zinc rich epoxy primer formulated for the protection of properly prepared steel substrates. 859 EZ can be applied by conventional, airless, or plural component spray. Recommended where a high performance, highly corrosion resistant zinc primer is desired. Typical applications include structural steel, tanks, piping, equipment and other miscellaneous parts in industrial or architectural projects. |
| <b>Features</b>                             | <ul style="list-style-type: none"> <li>• Excellent application properties</li> <li>• Tough abrasion resistant film</li> <li>• Excellent adhesion &amp; undercutting resistance</li> <li>• Superior corrosion resistance</li> <li>• Meets VOC (Volatile Organic Content) regulations, &lt;2.8 lbs./gal</li> <li>• Fast drying for recoat</li> <li>• Meets or exceeds SSPC Paint System 20 Level 3 (2002)</li> </ul>                           |
| <b>Color</b>                                | Green (0300)   |
| <b>Finish</b>                               | Matte  |
| <b>Topcoats</b>                             | Epoxies, polyurethanes and others as recommended by Carboline.   |
| <b>Dry Film Thickness</b>                   | 2 – 3 mils (50-75 microns) per coat. For more severe environments 859 EZ may be applied at 4 mils (100 microns) dry film thickness.  |
| <b>Solids Content</b>                       | By Volume: 64% ± 2%  |
| <b>Theoretical Coverage Rate per Gallon</b> | 509 ft <sup>2</sup> at 2 mils (125 m <sup>2</sup> /l at 50 microns)<br>340 ft <sup>2</sup> at 3 mils ( 8.3 m <sup>2</sup> /l at 75 microns)<br>Mixing and application losses will vary and must be taken into consideration when estimating job requirements.  |
| <b>VOC Values</b>                           | As supplied: 2.79 lbs/gal (334 g/l)<br>Thinned:<br>6.5 oz/gal (5%) w/ #2: 2.99 lbs/gal (359 g/l)<br>3.8 oz/gal (3%) w/#33 2.92 lbs/gal (350 g/l)<br>These are nominal values.  |
| <b>Ratio By Volume</b>                      | 4:1 Ratio<br>4 parts 859 EZ Part A<br>1 part 859 EZ Part B   |
| <b>Pot Life</b>                             | 3 Hours at 75°F (24°C) unthinned.<br>Pot life decreases at higher temperatures. Pot life ends when coating becomes too viscous to use. This product is moisture sensitive. Avoid moisture contamination.   |
| <b>Dry Temp. Resistance</b>                 | Continuous: 180°F (82°C)<br>Non-Continuous: 230°F (110°C)<br>Discoloration is observed above 180°F (82°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. Use Thinner #2 or Carboline Surface Cleaner #3 in accordance with SSPC-SP1. |
| <b>Steel</b>        | Abrasive blast to a commercial finish in accordance with SSPC-SP6 and obtain a 1½ - 2 mil (40-50 micron) blast profile.   |
| <b>Phosphatized</b> | Apply 859 EZ directly to dry, properly phosphatized substrate. Perform adhesion tests to insure proper, uniform and acceptable adhesion of 8701 direct to phosphatized metal substrate.   |

## Curing Schedule

| Substrate Temperature | Dry to Touch | Dry to Handle or Assemble | Dry to Recoat* |
|-----------------------|--------------|---------------------------|----------------|
| 50°F (10°C)           | 1 hour       | 3 hours                   | 4.5 hours      |
| 75°F (24°C)           | 30 minutes   | 1.5 hours                 | 1.5 hours      |
| 90°F (32°C)           | 15 minutes   | 1 hour                    | 1 hour         |
| 130°F (54°C)          | 10 minutes   | 30 minutes                | 30 minutes     |

\*Consult Carboline Technical Service for specific wet-on-wet recoat recommendations. Some topcoats are suitable for immediate recoating of 859 EZ. These times are based on a 2.0-3.0 mils (50-75 microns) 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. Note: Product may be force cured.

### FORCE CURE INFORMATION

| Flash Off              | Bake Time                  | Cool Down  | Total      |
|------------------------|----------------------------|------------|------------|
| <b>Convention Oven</b> |                            |            |            |
| 10 minutes             | 30 minutes at 150°F (65°C) | 20 minutes | 60 minutes |
| <b>Infrared Oven</b>   |                            |            |            |
| 5 minutes              | 15 minutes at 150°F (65°C) | 15 minutes | 35 minutes |

Times and substrate temperatures shown are based on in-house testing and will vary depending on oven type, as well as substrate size and type.

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# Carbozinc® 859 EZ

## 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 Binks, DeVilbiss and Graco.

**Conventional Spray** Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, .070" I.D. fluid tip and appropriate air cap.

**Airless Spray (Non-plural)**

|                |                  |
|----------------|------------------|
| Pump Ratio:    | 30:1 (min.)      |
| GPM Output:    | 3.0 (min.)       |
| Material Hose: | 3/8" I.D. (min.) |
| Tip Size:      | .015-.019"       |
| Output PSI:    | 2100-2300        |
| Filter Size:   | 30-60 mesh       |

Teflon packings are recommended and available from the pump manufacturer.

**Airless Spray (Heated, plural component)**

|                           |                               |
|---------------------------|-------------------------------|
| Pump Ratio:               | Graco 35:1 (min)              |
| GPM Output:               | 3.5 (min)                     |
| Lower Units:              | Two (2) #0<br>One (1) #5      |
| Heaters:                  | One (1) Graco Viscon (A side) |
| Material Hose:            | 50" x 3/8" I.D.               |
| Mixer:                    | 10" static                    |
| Gun:                      | Graco Silver 205-591          |
| Tip Size:                 | .015-.019"                    |
| Output psi:               | 2400-2800                     |
| Filter Size:              | 30-60 mesh (in-line)          |
| Solvent Flush Pump Ratio: | 10:1                          |

**Touch Up** Respray or brush. Brushing recommended only for touchup of small areas. Use medium, natural bristle brush applying with full strokes. Avoid excessive rebrushing.

## Mixing & Thinning

**Mixing** For plural component application equipment follow the equipment manufacturer's instructions. Power mix each component separately prior to using plural component spray equipment or batch mixing. THIS PRODUCT IS MOISTURE SENSITIVE. AVOID MOISTURE CONTAMINATION. DO NOT MIX PARTIAL KITS.

**Ratio By Volume** 4:1 Ratio (A to B)

**Thinning** Normally not required for plural heated application. For batch mix applications, it may be thinned up to 6.5 oz/gal (5%) with Thinner #2. For hotter than normal application conditions it may be thinned 3.8 oz/gal with Thinner #33. 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** 3 Hours at 75°F (24°C) unthinned  
Pot life decreases at higher temperatures. Pot life ends when coating becomes too viscous to use. This product is moisture sensitive. Avoid moisture contamination.

## Application Conditions

| Condition | Material               | Surface                | Ambient                | Humidity |
|-----------|------------------------|------------------------|------------------------|----------|
| Normal    | 60°-85°F<br>(16°-29°C) | 60°-85°F<br>(16°-29°C) | 60°-85°F<br>(16°-29°C) | 30-70%   |
| Minimum   | 50°F<br>(10°C)         | 50°F<br>(10°C)         | 50°F<br>(10°C)         | 0%       |
| Maximum   | 90°F<br>(32°C)         | 120°F<br>(49°C)        | 110°F<br>(43°C)        | 90%      |

Do not apply when the surface temperature is less than 5°F (3°C) 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 thinning and application techniques may be required above or below normal application conditions.

## Cleanup & Safety

**Cleanup** Use Thinner #2 or Acetone. 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. 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 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.

## Packaging, Handling & Storage

|                                      |  |   |
|--------------------------------------|--|---|
| <b>Shipping Weight (Approximate)</b> | <b>1 Gallon Kit</b><br>25 lbs. ( kg)   | <b>3.75Gallon Kit</b><br>82 lbs. ( kg)    |
|                                      | <b>15 Gallon Kit</b><br>335 lbs. ( kg) | <b>150 Gallon Kit</b><br>1,226 lbs. ( kg) |
| <b>Thinner 2</b>                     | <b>5 Gallon</b><br>40 lbs. ( kg)       | <b>50 Gallon Drum</b><br>405 lbs. ( kg)   |
|                                      | <b>Thinner 33</b><br>40 lbs. ( kg)     | <b>405 lbs. ( kg)</b>                     |
| <b>Flash Point (Setaflash)</b>       | Part A:                                | 58°F (14°C)                               |
|                                      | Part B:                                | 48°F (9°C)                                |
|                                      | Thinner 2:                             | 24°F (-4.4)                               |
|                                      | Thinner 33:                            | 89°F (32°C)                               |

**Storage (General)** Store Indoors.

**Storage Temperature & Humidity** 40° - 95°F (4-35°C)  
0-90% Relative Humidity

**Shelf Life** Part A: 6 months at 75°F (24°C)  
Part B: Min. 12 months at 75°F (24°C)

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



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