

Selection & Specification Data

Generic Type	Organic Zinc-Rich Epoxy
Description	Low VOC organic zinc epoxy steel primer with extremely fast cure-to-topcoat characteristics for in-shop applications and quick turnaround requirements in the field. Carbozinc 859 has less than 3.0 lbs/gallon VOC (thinned) and is used extensively in virtually all industrial markets.
Features	<ul style="list-style-type: none"> • Meets Class B slip co-efficient and creep testing criteria for use on faying surfaces • Rapid cure. Dry to recoat in 30 minutes at 75°F (24°C) and 50% relative humidity. • Complies with SSPC Paint 20 (Type II) • Low temperature cure down to 35°F (2°C) • Excellent adhesion • Protects against undercutting corrosion • Field proven primer that applies well by spray methods • Excellent touch-up primer by brush or roll for small areas. • VOC compliant to current AIM regulations
Color	Green (0300); Gray (0700)
Finish	Flat
Primer	Self Priming
Dry Film Thickness	3.0 - 5.0 mils (76 - 127 microns) per coat
	Dry film thickness in excess of 10.0 mils (250 microns) per coat is not recommended.
Solids Content	By Volume 66% +/- 2% Tested in accordance with ASTM D2697.
Zinc Content in Dry Film	By Weight 81%
Theoretical Coverage Rate	1059 ft ² at 1.0 mils (26.0 m ² /l at 25 microns) 353 ft ² at 3.0 mils (8.7 m ² /l at 75 microns) 212 ft ² at 5.0 mils (5.2 m ² /l at 125 microns)
	Allow for loss in mixing and application.
VOC Values	Thinner 2 13 oz/gal: 3.12 lbs./gal (374 g/l) Thinner 236 E 13 oz/gal: 2.72 lbs/gal (326 g/l) Thinner 33 13 oz/gal: 3.15 lbs./gal (378 g/l) As Supplied 2.72 lbs./gal (326 g/l) These are nominal values. *Use Thinner 76 for projects requiring non-photochemically reactive solvents.
Dry Temp. Resistance	Continuous: 400 °F (204 °C) Non-Continuous: 425 °F (218 °C)
Topcoats	Acrylics, epoxies, polyurethanes and others as recommended by your Carboline sales representative. Under certain conditions, a mist coat is required to minimize topcoat bubbling.

Substrates & Surface Preparation

General	Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other
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Substrates & Surface Preparation

	contaminants that could interfere with adhesion of the coating.
Steel	SSPC-SP6 with a 1.0-3.0 mil (25-75 micron) surface profile. SSPC-SP2 or SP3 with a roughened surface for touch-up.

Performance Data

Test Method	System	Results
ASTM D2794 Impact	A. 859 B. 859/ Polyurethane Gardner Impact Tester, Direct (Intrusion), inch- pounds, over 1/8" steel	A. 160 B. 100 min.
ASTM D4541 Adhesion	A. Carbozinc 859 B. 859 / Polyurethane C. 859 / Epoxy/ Polyurethane	A. 841 psi Pneumatic B. 1,100 min. psi Pneumatic C. 602 psi Elcometer
ASTM D522 Flexibility	A. 859 B. 859/ Polyurethane	A. >6% B. >5%
ASTM D970 Immersion	A. Carbozinc 859/ Epoxy/Polyurethane Salt Water (5% sodium chloride) at 75°F, 30 days B. 859 / Epoxy/Polyurethane; Fresh Water @75°F for 30 days	A & B had no rusting in the scribe; and no blistering, softening or discoloration with either environment
Slip Co-efficient	Carbozinc 859 A-490 bolt spec; 6 mils dry film maximum 10% max thinning	Meets requirements for class B rating

Test reports and additional data available upon written request.

Mixing & Thinning

Mixing	Power mix Part A completely. Then slowly sift in the zinc filler under agitation. Power mix Part B separately and add slowly to the mixture. Pour mixture through a 30 mesh screen. DO NOT MIX PARTIAL KITS. Tip: Sifting zinc through a window screen will aid in mixing process by breaking up or catching dry zinc lumps.
Thinning	Normally not required but may be thinned up to 13 oz/gal (10%) with Thinner 2, Thinner 76 or Thinner 236E. In hot or windy conditions, may be thinned up to 13 oz/gal with Thinner 33. Use of thinners other than those supplied by Carboline may adversely affect product performance and void product warranty, whether expressed or implied. Use of Carboline Thinner 236E to thin this product will minimize HAP and VOC emissions. Consult Carboline Technical Service for guidance

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