

Selection Data

GENERIC TYPE : Two component, cross-linked epoxy.

GENERAL PROPERTIES : CARBOLINE 893 is a high solids, high build epoxy primer with excellent corrosion resistance. Can be applied by spray, brush or roller to yield a cured film which is tough and abrasion resistant, Performs extremely well under a wide variety of topcoats and application conditions. Available in five standard colors. Features include :

- Excellent corrosion protection.
- Good flexibility and lower stress upon curing than most epoxy coatings.
- Tested for Nuclear Service Level I,II(Approved for OPR-1000)
- Can be spray applied at up to 6 mils film thickness in one coat.
- Meets the most stringent VOC (Volatile Orange Content) regulations.

Recommended USES : Recommended as a general purpose epoxy primer over commercially blasted steel or intermediate coat over inorganic zinc primers. It is recommended with an appropriate topcoat for protection of structural steel, concrete, equipment and tank exteriors exposed to corrosive conditions.

Consult Carboline Technical Service Department for other specific uses.

NOT RECOMMENDED FOR : Immersion service, splash and spillage of very strong solvents or concentrated acids.

TYPICAL CHEMICAL RESISTANCE :

<u>Exposure*</u>	<u>Splash and Spillage</u>	<u>Fumes</u>
Acids	Good	Very Good
Alkalies	Good	Excellent
Solvents	Very Good	Excellent
Salt solutions	Excellent	Excellent
Water	Excellent	Excellent

TEMPERATURE RESISTANCE :

Continuous	200°F(93°C)
Non-continuous	250°F(121°C)

SUBSTRATES : Apply over suitably prepared metal, concrete, or other surfaces as recommended.

TOPCOAT REQUIRED : CARBOLINE 890, CARBOLINE 834, CARBOLINE 134, 133HB other surfaces as recommended.

COMPATIBLE COATINGS : CARBOLINE 893 may be used as an intermediate coat over inorganic zincs. A mist coat is required to minimize bubbling over inorganic zincs. As a primer for catalyzed epoxies, catalyzed urethanes and others as recommended.

Specification Data

CARBOLINE 893	By Volume
	77%±2%

October 2014 replaces August 2011

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VOLATILE ORGANIC CONTENT :

As Supplied : 1.62 lbs./gal(195 gm/liter)

Thinned : The following are nominal values utilizing :

<u>% Thinned</u>	<u>Fluid Ounces/Gal</u>	<u>Pounds/Gallon</u>	<u>Grams/Liter</u>
10%	13	2.12	255
12%	16	2.18	261

CARBOLINE Thinner #2 (spray application)

<u>% Thinned</u>	<u>Fluid Ounces/Gal</u>	<u>Pounds/Gallon</u>	<u>Grams/Liter</u>
12%	13	2.15	258
12%	16	2.22	266
25%	32	2.75	329

CARBOLINE Thinner #33 (brush & roller application)

RECOMMENDED DRY FILM THICKNESS PER COAT :

3 mils(75 microns) for use in mild environments or as an intermediate coat over CARBO ZINC 11.

4-6 mils(100-150 microns) for use in more severe environments.

Dry film thicknesses in excess of 10 mils(250 microns) per coat are not recommended. Excessive film thickness over inorganic zinc may increase damage during shipping or erection.

THEORETICAL COVERAGE PER MIXED GALLON :

1235 mil sq. ft. (30.8 sq. m/l at 25 microns)
412 sq. ft. at 3 mils (10.3 sq. m/l at 75 microns)
247 sq. ft. at 5 mils (6.2 sq. m/l at 125 microns)

* Mixing and application losses will vary and must be taken into consideration when estimating job requirements.

STORAGE CONDITIONS : Store indoors.

Temperature : 40-110°F (4-43°C)

Humidity : 0-90%

SHELF LIFE : Twenty-four months minimum when stored at 75°F(24°C)

COLORS : Red(0500), Gray(0700), Green(0300), Yellow(0600) and White(0800) are standard.

GLOSS : Eggshell

Ordering Information

Prices may be obtained from your Carboline Sales Representative Carboline Customer Service Department.

APPROXIMATE SHIPPING WEIGHT :

	<u>2'S</u>	<u>10'S</u>
CARBOLINE 893	29 lbs. (13kg)	143 lbs. (65kg)
CARBOLINE Thinner #2	9 lbs. (4kg) in 1's	45 lbs. (20kg) in 5's
CARBOLINE Thinner #33	9 lbs. (4kg) in 1's	45 lbs. (20kg) in 5's

FLASH POINT : (Setaflash)

CARBOLINE 893 Part A	57°F (14°C)
CARBOLINE 893 Part B	57°F (14°C)
CARBOLINE Thinner #2	24°F (-5°C)
CARBOLINE Thinner #33	91°F (33°C)

Carboline® 893

These instructions are not intended to show product recommendations for specific service. They are issued as an aid in determining correct surface preparation. Mixing instructions and application procedure. It is assumed that the proper product recommendations have been made. These instructions should be followed closely to obtain the maximum service from the materials.

SURFACE PREPARATION : Remove oil or grease from surface to be coated with clean rags soaked in CARBOLINE Thinner #2 or Surface Cleaner #3 (refer to Surface Cleaner #3 instructions) in accordance with SSPC-SP 1.

STEEL : Apply over clean, dry steel, abrasive blasted to a Near White Metal Finish in accordance with SSPC-SP 10 and obtain a 1.5-3.0 mils (38-76 micron) blast profile.

Concrete : Apply over clean, dry recommended surfer.

Can be applied directly to dry concrete where an uneven surface can be tolerated. Remove laitance by abrasive blasting or other means.

MIXING : Mix separately, than combine and mix in the following proportions :

	2 Gallon Kit	10 Gallon Kit
CARBOLINE 893 Part A	1 gallon	5 gallons
CARBOLINE893 Part B	1 gallon	5 gallons

DO NOT MIX PARTIAL KITS.

THINNING : For spray applications, may be thinned up to 12% by volume (16 fl.oz./gallon) with CARBOLINE Thinner #2

For brush and roller application, may be thinned up to 25% by volume (32 fl.oz./gallon) by volume with CARBOLINE Thinner #33.

Refer to Specification Data For VOC information.

Use of thinners other than those supplied or approved by Carboline may adversely affect product performance and void product warranty, whether express or implied.

POT LIFE : Four hours at 75°F(24°C) and less at higher temperatures. Pot life ends when coating loses body and begins to sag. Thinning rates above 12% will shorten the working time to two hours due reduced film build.

APPLICATION TEMPERATURES :

	<u>Material</u>	<u>Surfaces</u>
Normal	60-85°F (16-29°C)	60-85°F (16-29°C)
Minimum	39.2°F (4°C)	41°F (5°C)
Maximum	90°F (32°C)	135°F (57°C)

	<u>Ambient</u>	<u>Humidity</u>
Normal	60-85°F (16-29°C)	0-80%
Minimum	41°F (5°C)	0%
Maximum	110°F (43°C)	85%

Do not apply when surface temperature is less than 5°F(or 3°C) above the dew point.

Special thinning and application techniques may be required above or below normal conditions.

SPRAY : This is a high solids coating and may require slight adjustments in spray techniques. Wet film thicknesses are easily and quickly achieved. The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco.

Conventional : Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, .0700" I.D. fluid tip and appropriate air cap.

AIRLESS :

Pump Ratio	: 30 : 1 (min.)
GPM Output	: 3.0 (min.)
Material Hose	: 3/8" I.D.(min.)
Tip Size	: 0.17-0.21"
Output PSI	: 2000-2500
Filter Size	: 60 mesh

*Teflon packings are recommended and are available from the pump manufacturer.

BRUSH OR ROLLER : Use medium bristle brush, or good quality short nap roller, avoid excessive rebrushing and rerolling. Two coats may be required to obtain desired appearance, hiding and recommended DFT. For best results tie-in within 10 minutes at 75°F(24°C)

DRYING TIMES : These times are at 4 mils(100 microns) dry film thickness. Film thicknesses higher than 4 mils(100 microns) will lengthen cure times.

Dry to Touch : 3 hours at 75°F (24°C)

Dry to Handle : 6 hours at 75°F (24°C)

Temperature

50°F (10°C)

60°F (16°C)

75°F (24°C)

90°F (32°C)

Dry to Topcoat

24 hours

16 hours

8 hours

4 hours

If allowed to weather, chalking should be removed by water washing and then allowed to dry thoroughly prior to topcoating.

CLEANUP : Use CARBOLINE Thinner #2.

CAUTION : READ AND FOLLOW ALL CAUTION STATEMENTS ON THIS PRODUCT DATA SHEET AND ON THE MATERIAL SAFETY DATA SHEET FOR THIS PRODUCT.

CAUTION:CONTAINS COMBUSTIBLE SOLVENTS. KEEP AWAY FROM SPARKS AND OPEN FLAMES. IN CONFINED AREAS WORKMEN MUST WEAR FRESH AIRLINE RESPIRATORS. HYPERSENSITIVE PERSONS SHOULD WEAR GLOVES OR USE PROTECTIVE CREAM. ALL ELECTRIC EQUIPMENT AND INSTALLATIONS SHOULD BE MADE AND GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. IN AREAS WHERE EXPLOSIN HAZARDS EXIST, WORKMEN SHOULD BE REQUIRED TO SUSE NONFERROUS TOOLS AND TO WEAR CONDUCTIVE AND NONSPARKING SHOES.

