product data

carboline®

Carboguard® 893 SG

Corrosion Resistant Epoxy

Selection & Specification Data

Generic Type
Anti-corrosive (zinc phosphate) epoxy polyamide

Description
Versatile corrosion resistant coating. Used either as a primer, intermediate coat, or self-priming finish over steel and zinc primers. May be topcoated with itself, or a broad variety of high performance finish coats. Product also has surface tolerant properties.

Features

- Ready to apply after mixing; no sweat-in time or thinning required.
- Economical fit for use epoxy
- Available in a variety of rapid tint colors
- Attractive low sheen for tank exteriors
- Used as a primer, intermediate, or finish coat
- Power tool cleaned surfaces acceptable
- VOC compliant to current AIM regulations

Gloss
Low sheen

Colour
Primer colour Gray (0700). Variety of other finish coat colors in rapid tint service. Use Bright White (T800) for tank exterior finish.

Primers
Self-priming. May be applied over zinc-rich primers. A mist coat may be required to minimize bubbling over inorganic zinc primers.

Topcoats
Acrylics, Alkyds, Epoxies, Polyurethanes

Dry Film Thickness
75-125 microns per coat as a primer or an intermediate.
Two coats at 75-125 microns per coat may be used direct-to-metal.
100-150 microns per coat as a finish coat over a primer.
Do not exceed 250 microns in a single coat. Excessive film thickness over inorganic zincs may increase damage during shipping or erection.

Solids Content
By volume: 62% ± 2%

Theoretical Coverage Rate
8.27 m^2 per litre at 75 microns DFT
6.20 m^2 per litre at 100 microns DFT
4.13 m^2 per litre at 150 microns DFT

Mix Ratio
1:1 by volume (Part A : Part B)

VOC Values
As supplied: 336 g/
Thinned:
10% with #10: 355 g/l
12% with #33: 397 g/l
These are nominal values and may vary slightly with colour.

Dry Temp. Resistance
Continuous: 93°C
Non-Continuous: 121°C
Discolouration and loss of gloss is observed above 93°.

Limitations
Epoxies lose gloss, discolour and eventually chalk in sunlight exposure.

Substrates & Surface Preparation

General
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.

Steel
For most applications:
AS 1627.4 Class 2 to obtain a blast profile of 25-50 microns.
May also be applied over hand tool prepared steel for for certain applications.

Galvanized Steel
Galvanizing requires a roughened surface for optimum adhesion/performance of high build epoxies. Clean surface as in "General" above; ensure there are no chemical treatments (chromate passivation etc) that may interfere with adhesion; and abrade the surface to establish a suitable roughness (typically 25-40 microns).

Concrete
Concrete must be cured 28 days at 24°C and 50% relative humidity or equivalent. Prepare surfaces in accordance with ASTM D4258 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete (or equivalent standards). Voids in concrete may require surfacing. Pre-sealing with Carboguard 1340 may help minimize pin-holing or bubbling.

Performance Data

Test Method	System	Results	Report #
ASTM D4541 Adhesion	Blasted Steel 2 cts 893 SG	1600 psi (Pneumatic)	09453
ASTM D522 Flexibility	Blasted Steel 1 ct 893 SG	90° Bend, no cracking, ¾" (19mm) mandrel	09453

Test reports and additional data available on written request.

Issued October 2012 – Ex US Nov. 2009

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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 DeVilbiss and Graco.

Conventional Spray
Pressure pot equipped with dual regulators, 9.5 mm (3/8") I.D. minimum material hose, 1.8 mm (.070") I.D. fluid tip and appropriate air cap.

Airless Spray

Pump Ratio:	30:1 (min.)*
GPM Output:	12 Lt / minute (min.)
Material Hose:	9.5mm (3/8") I.D. (min.)
Tip Size:	.017"-.021"
Output PSI:	2100-2300
Filter Size:	60 mesh

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

Brush & Roller (General)
Multiple coats may be required to obtain desired appearance, recommended dry film thickness and adequate hiding. Avoid excessive re-brushing or rerolling. For best results, tie-in within 10 minutes at 24°C.

Brush
Use a medium bristle brush

Roller
Use a 9 mm nap, phenolic cored sleeve

Mixing & Thinning

Mixing
Power mix separately and then combine together and power mix.
DO NOT MIX PARTIAL KITS

Ratio
1:1 by volume (Part A : Part B)

Thinning
Normally not required but may thin as follows:
Spray: Up to 12% with Thinner #10.
Brush & Roller: Up to 12% 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
4 Hours at 24°C.
Pot life ends when coating thickens and loses application properties. Pot life times will be less at higher temperatures.

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.

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 local Electric Code.

Application Conditions

Condition	Material	Surface	Ambient	Humidity
Normal	16° - 29°C	16° - 29°C	16° - 29°C	0 – 80%
Minimum	10°C	10°C	10°C	0%
Maximum	32°C	52°C	43°C	85%

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 Recoat	Dry to Topcoat w/ Other Finishes	Maximum Recoat Time
10°C	24 hours	24 hours	1 year
16°C	10 hours	10 hours	1 year
24°C	7 hours	7 hours	1 year
32°C	4 hours	4 hours	1 year

These times are based on a 100-150 micron dry film thickness for atmospheric exposures. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Excessive humidity or condensation on the surface during curing can interfere with the cure, can cause discolouration and may result in a surface haze. Any haze or blush must be removed by water washing before recoating. If the maximum recoat times have been exceeded, the surface must be abraded by sweep blasting or sanding prior to the application of additional coats. For force curing, contact Carboline Technical Service for specific requirements.

Packaging, Handling & Storage

Pack Sizes
8 litre two component kits (1:1 V/V Mix)

Flash Point (Setaflash)
Part A: 24°C
Part B: 24°C

Storage Temperature & Humidity
Store under cover
4°- 43°C
0-100% Relative Humidity

Shelf Life
Parts A & B: Min. 36 months at 24°C

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

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Issued October 2012 – Ex US Nov. 2009