

## Selection & Specification Data

<b>Generic Type</b>	Zinc phosphate epoxy polyamide primer containing Micaceous Iron Oxide.
<b>Description</b>	An economical, high build primer or intermediate coat. Cures to hard, tough film with excellent sub-film corrosion resistance. Carboguard 193 MIO has excellent adhesion and better tolerance of field application variables than other types of coatings. It is also recommended for shop application.
<b>Features</b>	<ul style="list-style-type: none"> <li>- Primer for protection of structural steel, concrete, equipment and tank exteriors in chemical and food plants, breweries, paper mills and other industries with corrosive conditions</li> <li>- Excellent protection for equipment subjected to impact abrasion, detergents, water, steam and oils</li> <li>- Good flexibility</li> <li>- Good weathering (chalks)</li> <li>- Very good abrasion resistance</li> <li>- Not recommended for splash and spillage of strong solvents or concentrated acids</li> </ul>
<b>Colour</b>	Grey and Buff
<b>Finish</b>	Flat
<b>Topcoat</b>	May be topcoated with catalyzed epoxies, vinyls, modified phenolics or others as recommended.
<b>Dry Film Thickness</b>	75 Microns
<b>Solids Content</b>	By Volume 50% ± 2%
<b>Theoretical Coverage Rate</b>	6.7m <sup>2</sup> /litre at 75 microns
	<b>NOTE:</b> Material losses during mixing and application will vary and must be taken into consideration when estimating job requirements.
<b>Temp Resistance</b>	<b>Non-immersion</b> Continuous                    93°C Non-continuous            121°C

## Substrates & Surface Preparation

<b>General</b>	Remove any oil or grease from surface to be coated prior to abrasive blasting or power tool cleaning.
<b>Steel</b>	<b>Non-immersion:</b> Dry abrasive blast to a near white metal finish in accordance with ISO 8501 Sa2½ to obtain a 25 to 50 micron blast profile.
<b>Concrete</b>	Do not coat concrete treated with hardening solutions unless test patches indicate satisfactory adhesion. Do not apply coating unless concrete has cured at least 28 days at 25°C and 50% RH or equivalent time. Apply to properly prepared concrete that was acid etched or sweep sandblasted.

## Performance Data

Test Method	System	Results
Cross Hatch Adhesion ADTM D3359B	Blasted steel 1 Coat Carboguard 193 MIO 1 Coat Carbothane 134	5B
Pencil Hardness ASTM D5363	1 Coat Carboguard 193 MIO	2H
Salt Fog ASTM B117	1 Coat Carboguard 193 MIO	450 Hours 1mm undercreep at scribe; rust scribe; no blisters plane
Water Immersion ASTM D870	1 Coat Carboguard 193 MIO	96 Hours No blisters; softening; cracking
Direct Impact ASTM 2794	1 Coat Carboguard 193 MIO	2.26 Nm

## Application Equipment

**Spray** Use sufficient air volume for correct operation of equipment.

Use a 50% overlap with each pass of the gun. On irregular surfaces, coat the edges first, making an extra pass later.

**NOTE:** The following equipment has been found suitable, however equivalent equipment may be substituted.

**Conventional** Use a 10mm minimum I.D. material hose. Hold gun 300 to 350mm from the surface and at a right angle to the surface.

<b>Mfr &amp; Gun</b>	<b>Fluid Tip</b>	<b>Air Cap</b>
Binks # 18 or # 62	66	63PB
DeVilbiss P-MBC or JGA	E	704

**Airless** Use a 10mm minimum I.D. material hose. Hold gun approximately 450 to 500mm from the surface and at a right angle to the surface.

<b>Mfr &amp; Gun</b>	<b>Pump *</b>
DeVilbiss JGN-502	QFA-514 or QFA-519
Graco 205-591	President 30:1 or Bulldog 30:1
Binks Model 700	B5-18 or B8-36 37:1

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

Use a .013" to .017" tip with 2000 psi (138 bar).

**Brush or Roller** For small areas or touch-up only. Use a medium, natural bristle brush with full strokes. Avoid rebrushing. Use short nap mohair roller with phenolic core.

## Mixing & Thinning

**Mixing** Power mix separately, then combine and mix in the below proportions.

**Thinning** Thin up to 25% by volume with Thinner # 2.

**NOTE:** Use of thinners other than those supplied or approved by StonCor Africa may adversely affect product performance and void product warranty, whether expressed or implied.

<b>Ratio</b>	<b>10 Litre Kit</b>
Part A	5 litre
Part B	5 litre

**Pot Life** 12 Hours at 25°C and less at higher temperatures. Pot life ends when coating loses body and begins to sag.

## Application Conditions

Condition	Material	Surface	Ambient	Humidity
Normal	18-29°C	18-29°C	18-29°C	N/A
Minimum	13°C	10°C	10°C	0%
Maximum	32°C	43°C	43°C	90%

Do not apply when the surface temperature is less than 3°C above the dew point.

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

## Curing Schedule

Surface Temp. & 50% Relative Humidity	Dry to Touch	Between Coats	Final Cure *
10°C	120 Minutes	24 Hours	12 Days
16°C	80 Minutes	12 Hours	6 Days
25°C	45 Minutes	6 Hours	2 Days
32°C	30 Minutes	3 Hours	2 Days

\* **NOTE:** If allowed to weather, chalking should be removed by light sanding followed by water washing and then allowed to dry thoroughly prior to topcoating.

## Cleanup & Safety

**Cleanup** Use Thinner # 2

**Safety** Read and follow all caution statements on this product data sheet and on the material safety data sheet for this product. 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 provided during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapour concentration from reaching the lower explosion limit for the solvents used. In addition to proper ventilation, fresh air respirators or fresh air hoods must be used by all application personnel. Where flammable solvents exist, explosion proof lighting equipment must be used. Hypersensitive persons should wear protective clothing, gloves and/or protective cream on face, hands and all exposed areas.

## Packaging, Handling & Storage

<b>Shipping Weight (Approximate)</b>	Carboguard 193 MIO	<b>5 Litre</b>	<b>10 Litre</b>
	Thinner # 2	4.8kg	15.0kg

<b>Flash Point (Pensky Martens Closed Cup)</b>	Part A	8°C
	Part B	16°C
	Thinner # 2	22°C

**Storage Temperature & Humidity** 4 to 43°C  
0 to 100%  
Store indoors

**Shelf Life** 24 Months minimum when stored at 25°C

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



Co. Reg. No.: 1996/01848/07  
Tel No: +27 11 254 5500  
Website: [www.carboline.co.za](http://www.carboline.co.za)  
E-mail: [carboline@carboline.com](mailto:carboline@carboline.com)