

Selection & Specification Data

Generic Type	Epoxy modified water based cementitious mortar
Description	An economical epoxy patching and surfacing compound that exhibits excellent bond strength to concrete and other masonry surfaces. It is ideally suited for patching spalled concrete and masonry wall surfacing to accept subsequent topcoats. Carboguard 510 repairs damaged concrete, fills large cracks, and can be used as a coving and sloping material for floor-wall transitions.
Features	<ul style="list-style-type: none"> • Epoxy modification improves chemical resistance for wastewater environment • Water based, low odor • Excellent film strength, abrasion, and impact resistance • Is castable, making it suitable for restoring pump foundations • Easily topcoated to provide additional chemical resistance or appearance • Also used as a primer without aggregate • Topcoated with Carboline's lining systems provides protection from H₂S or MIC
Color	Gray
Primer	Normally self-priming to concrete or masonry surfaces.
Dry Film Thickness	0.2 - 0.5 inches (6350 - 12700 microns) per coat
	Normal 1/4- 1/2 inch per coat to resurface substrate. May be applied up to 2 inches (50800 microns) as required to fill voids.
Spreading Rate	As Primer Only: 120 square feet per gallon 3-gal kit with aggregate blend: 20 square feet @ 1 inch thick
VOC Values	As Supplied < 0.10 lbs/gal (12 g/L) EPA Method 24 (calculated minus water and exempt solvents)
Limitations	<ul style="list-style-type: none"> • Minimum surface and ambient temperature is 50 °F (10 °C) • Not for use under vinyl ester or polyester materials
Topcoats	May be coated with Epoxies, Polyurethanes, or Epoxy-Novolacs depending on exposure and need.

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.
Concrete or CMU	Concrete shall be designed, placed, cured, and prepared per NACE No. 6/SSPC-SP 13, latest edition. Abrade to remove all laitance, loose concrete, etc. and to create surface profile in accordance with the appropriate ICRI CSP 4-7.

Performance Data

Test Method	System	Results
Abrasion Resistance Tabor Abrador CS-17 Wheel	Carboguard 510	0.09 mg
ASTM C-109 Compressive Strength	Carboguard 510	5840 psi
ASTM C-190 Tensile Strength	Carboguard 510	865 psi
ASTM C-348 Flexural Strength	Carboguard 510	1840 psi
Dynamometer Adhesion to concrete	Carboguard 510	350 psi

Test reports and additional data available upon written request.

Mixing & Thinning

Mixing	Power mix Parts A and B separately, then combine and use as a primer at a spreading rate of 120 square feet per gallon. Within 4 hours of priming, combine the following mixture, for use as a surfacing build up material. Premix sand and cement for best results before adding to A+B mixture.
Ratio	1:2 <u>½ Cubic foot kit (for voids, bugholes)</u> Part A: 0.38 gal. (3.4 lbs.) Part B: 0.77 gal. (6.2 lbs.) Sand #40-80 angular mesh: 39 lbs. Portland Cement (Type 1): 11 lbs. <u>3 Gallon Kit* (for filling up to 1" thick)</u> Part A: 1 gallon (8.8 lbs.) Part B: 2 gallon (16. lbs.) Sand #30-50 angular mesh*: 150 lbs. Portland Cement (Type 1)*: 42 lbs. <u>3 Gallon Kit* (for filling over 1" thick)</u> Part A: 1 gallon (8.8 lbs.) Part B: 2 gallon (16. lbs.) Sand #30-50 angular mesh*: 50 lbs. Portland Cement (Type 1)*: 42 lbs. Pea Gravel ¼": 100 lbs. Volume Yield: 1.66 cubic feet *Sand, cement and pea gravel for 3 and 15 gallon kits are not supplied by Carboline and should be bought locally. Note: In thicknesses over 2", up to 15% additional pea gravel can be added to further extend volume by 5%. Components listed are for 3 gallon kit. Scale up appropriately for 15 gallon kit. Apply to the surface using rubber float or other suitable spreading tool.
Pot Life	60 minutes at 75 °F (24 °C)

Application Equipment Guidelines

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	Carboguard 510 may be applied using conventional concrete placement and finishing tools. Mixing should be done by a horizontal blade mortar mixer.
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Carboguard[®] 510

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Application Conditions

Condition	Material	Surface	Ambient	Humidity
Minimum	50 °F (10 °C)	50 °F (10 °C)	50 °F (10 °C)	0%
Maximum	90 °F (32 °C)	125 °F (52 °C)	110 °F (43 °C)	80%

This product simply requires the substrate temperature to be above the dew point. Special application techniques may be required above or below normal application conditions. Note: When conditions such as excessive wind and high ambient temperatures exist, cover the area with polyethylene sheeting.

Curing Schedule

Surface Temp.*	Set Time	Light Traffic	Heavy Traffic	Final Cure General
75 °F (24 °C)	12 Hours	24 Hours	48 Hours	28 Days

These times are based on 1/2" thickness at 70 °F (21 °C). Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times. Excessive humidity or condensation on the surface during curing can interfere with the cure, can cause discoloration and may result in a surface haze. Any haze or blush must be removed by water washing before recoating. During high humidity conditions, it is recommended that the application be done while temperatures are increasing. When using Carboguard 510 as an underlayment for epoxy, epoxy-novolac, or polyurethane coatings, it will be necessary to allow the Carboguard 510 to cure a minimum of 24 hours for every 2 inches of thickness. The maximum recoat time without surface preparation is 7 days at 85 °F. Always take precautions to prohibit the surface from becoming contaminated prior to application of topcoating; it will be necessary to detergent wash and abrasive blast or sand the surface if it has been contaminated.

Cleanup & Safety

- Cleanup** Use scouring pads and water. 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 SDS for this product. Employ normal workmanlike safety precautions. Use adequate ventilation and wear gloves or use protective cream on face and hands. Keep container closed when not in use.
- Ventilation** When used as a tank lining or 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. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved respirator.

Packaging, Handling & Storage

- Shelf Life** Part A & B : 24 months at 75 °F (24 °C)
*Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.
- Storage Temperature & Humidity** 50-90 °F (10-32 °C)
Do not freeze.
- Storage** Store Indoors.
- Shipping Weight (Approximate)**
- 1/2 cu. Ft. Kit - 62 lbs (28 kg)
 - 3 Gallon Kit - 27 lbs. (12 kg)
 - 15 Gallon Kit - 135 lbs. (61kg)
- * Liquid components A & B only.

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- Flash Point (Setaflash)** Part A: >200 °F (93 °C)
Part B: >200 °F (93 °C) Part C: Not applicable.



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