



Epoxy 500

Data Sheet

Part # E500, E500-CO

DESCRIPTION: Concrete Solutions® Epoxy 500 is a 100% solids, two component, epoxy consisting of a high performance bisphenol A epoxy resin blend combined with a cycloaliphatic curing agent. With the latest in epoxy technology this product is formulated for priming, sealing and crack repair applications. Moisture insensitivity along with low odor makes this versatile, high grade epoxy ideal for a variety of job applications.

TYPICAL USES: Concrete Solutions Epoxy 500 is designed as a crack repair material, an economical epoxy sealer for warehouse floors or a primer coat for broadcasting Color Quartz or other aggregates such as the Concrete Solutions Tuff-Grit granules. It can also be used as a primer on a step or curb edge prior to patching with the Concrete Solutions Polymer Concrete patching mix. (For this application the polymer concrete patching mix should be applied over the Epoxy 500 epoxy within 15 – 30 minutes while it is still tacky.)

FEATURES & BENEFITS:

- 100% Solids, Zero VOC
- Low viscosity
- Low odor
- Fast setting
- Adheres to damp concrete
- Self leveling
- Resistant to amine blush, resistant to exudation
- Will not crystallize, even in cold environments
- Excellent adhesion – bonds well to concrete and other substrates
- Wide variety of uses; crack repair material, economical sealer, prime coat for Concrete Solutions Polymer Concrete
- Not regulated by the DOT
- Can be applied with putty knife, trowel, brush, roller (1/4" – 3/8") or notched squeegee

CHEMICAL PROPERTIES:

	Result
Viscosity, cps	300 – 600
Weight per Gallon	9 lbs
Solids by Volume	100%
Volatile Organic Compounds	0 lbs/gal
Mix Ratio, parts per volume	2A : 1B
Pot Life @ 70°F (21°C), minutes	15 (less in warmer temperatures)
Recoat	6 – 24 hrs
Tack-free	4 – 6 hrs
Walk on Time @ 70°F (21°C), (light foot traffic)	5 hrs (faster in warmer temperatures)
Return to Service Time (vehicle traffic)	12 – 24 hrs
Full Cure	7 days
Coverage Rate per Gallon - crack repair material - sealer or prime coat	1/8" x 1/4" = approximately 400 lineal feet 75 – 150 sqft
Recommended Application Temperature (Cures faster in warmer temperatures)	≥35°F (2°C) >45°F (7°C) - <i>for best results</i>
Odor	low
Flash Point	Resin = 400°F (204°C), Hardener = 210°F (99°C)
Shelf Life - unopened containers	12 months

TYPICAL PHYSICAL PROPERTIES:

	Test	Result
Adhesion -Concrete (psi)	ASTM D-903	300
Hardness (Shore D)	ASTM D-2240	82
Tensile Strength (psi)**	ASTM D-412	7500
Flexural Modulus (psi)	ASTM D-790	11900
Elongation (%)**	ASTM D-412	4
Compressive Strength (psi)	ASTM D-695	10000
Tg	ASTM D-648	140°F (60°C)

CONCRETE SOLUTIONS® EPOXY 500 *(continued)*:

MOISTURE VAPOR TESTING: All concrete floors not poured over a proper moisture barrier, are subject to possible moisture vapor transmission or hydrostatic pressure problems which can cause a coating system to blister or fail. Before applying a coating system over a concrete floor which is on-grade or below grade, the customer should be informed of this potential problem and given the option to have a qualified moisture testing company perform calcium chloride test to give the proper recommendations. Rhino Linings Corporation does not warranty against moisture problem failures.

SURFACE PREPARATION: The surface to be sealed or coated should be thoroughly clean; free of any contaminants such as oil, grease or incompatible coating materials. Shotblasting or power scrubbing with detergent, acid washing, neutralizing and pressure washing are common surface preparation methods. It is recommended to apply Epoxy 500 over a dry surface.

MIXING INSTRUCTIONS: The mixing ratio for Epoxy 500 is 2 parts A to 1 part B. Mix thoroughly for 3 – 5 minutes using a drill motor and mixing paddle or for small quantities a stir stick can be used. Scrape the sides and bottom of the container while mixing. Mix up no more material than can be used in a 15 minute time period. For crack repair and minor patching of holes, silica sand (#30-60) can be added to Epoxy 500 to make a patching mix. After mixing part A and B together add the silica sand to achieve the consistency desired. Generally 1 part Epoxy 500 to 1 to 2 parts sand.

APPLICATION INSTRUCTIONS: Apply to a properly prepared substrate, in good weather conditions. Recoat after 6 hours and within 24 hours of the previous application to achieve a chemical bond. When applying additional coats after 24 hours of curing time it will be necessary to sand the Epoxy 500 with a 80 – 100 grit sandpaper using a floor polisher machine to slightly scratch, dull and abrad the surface. This will ensure a proper physical bond between coats.

CRACK REPAIR MATERIAL WITH AND WITHOUT SAND: Use Epoxy 500 without sand to fill fine cracks or to coat the crack edges prior to the repair. For cracks which are wider than 1/16", prime the clean, sound edges of the cracks with Epoxy 500 using a paintbrush or catsup bottle. Next, immediately fill the cracks with a mixture of Epoxy 500 epoxy and #60 silica sand using a stiff 5" wide putty knife. Mix 1 part Epoxy 500 epoxy with 1 to 2 parts sand using a stir stick to achieve the consistency desired. Press the Epoxy 500 sand mix into the cracks using a stiff putty knife to fill the cracks as deep as possible. Scrape the excess material off the surface and allow to dry.

CRACK REPAIR PRIOR TO CONCRETE SOLUTIONS COLOR FLAKE APPLICATION: Once the cracks have been filled smooth with the surrounding surface, proceed with the Color Flake application. For this application Epoxy 500 and sand is all that is needed in the cracks. See Color Flake instruction Booklet for step by step instructions with pictures.

CRACK REPAIR PRIOR TO CONCRETE SOLUTIONS POLYMER CONCRETE APPLICATION: Once the cracks have been filled with the Epoxy 500 sand mix and scraped smooth with the surrounding surface, the next step is to cover the crack repairs with Elastomeric Basecoat and the Crack Repair 4" Reinforcement Fabric. Brush the Elastomeric Basecoat over the Epoxy 500 approximately 5" wide just a few feet at a time. Immediately lay the Crack Repair 4" Reinforcement Fabric into the wet Elastomeric Basecoat and brush another thin coat of Elastomeric Basecoat over the fabric. Continue this process until all the cracks have been repaired. When dry to touch apply the desired Concrete Solutions Polymer Concrete Application. See the Crack Repair Instructions for step by step procedure with pictures.

SEALER OR BASECOAT FOR COLOR QUARTZ OR TUFF-GRIT GRANULES: Epoxy 500 makes an excellent sealer over warehouse floors, factory floors, manufacturing facilities, etc. to provide a durable, chemical resistant finish. Because of its self leveling properties it provides a high build, smooth, glossy finish with excellent resistance to heavy foot traffic and fork lift traffic. Apply by 1/4" – 3/8" nap roller to the thickness desired. It can also be spread by a regular or notched squeegee and then immediately back rolled to provide an even finish. If desired aggregate such as Color Quartz or Tuff-Grit granules (available through Rhino Linings Corp. or many Concrete Solutions distributors) can be broadcast into the Epoxy 500 to provide a more durable, slip resistant finish. Broadcast the granules to achieve a light, medium or heavy saturation. When dry, remove any loose granules and apply a topcoat seal of Epoxy 600 and/or HP or SB Urethane.

BASECOAT FOR CONCRETE SOLUTIONS POLYMER CONCRETE: Epoxy 500 can be used as a basecoat before applying a Concrete Solutions Polymer Concrete patching mix to provide extra bond strength when needed. It is recommended when patching the vertical corners and edges of curbs, steps, joints, etc. First, brush a thin coat of Epoxy 500 without sand over the area to be repaired. Within 15 – 30 minutes while the Epoxy 500 is still wet or tacky, patch over it with the polymer concrete patching mix. The polymer concrete and Epoxy 500 will cure together and achieve a superior bond to the substrate. Do not apply polymer concrete over dry Epoxy 500.

NOT RECOMMENDED FOR: Concrete less than 28 days old.

CONCRETE SOLUTIONS® EPOXY 500 *(continued)*:

CHEMICAL RESISTANCE: When chemical resistance is a factor, it is recommended to do a test to determine suitability.

Excellent resistance to the following reagents:

Xylene, 1,1,1, 70% Sulfuric Acid	5% Detergent Solution JP-4, 5, 7, 8	Synthetic Gasohol Skydrol
50% Sodium Hydroxide	Mogas	Diesel (No. 2 and 3) oils
10% Hydrochloric Acid	Diethylene Glycol	Monomethyl Ether

Good resistance to the following:

Toluene	MEK	EB
Ethyl Alcohol	Methyl Alcohol	10% Acetic Acid

COLOR OPTIONS: Clear and 5 Standard Colors: light gray, medium gray, dark gray, mojave sand and adobe tan

HOW SUPPLIED: Epoxy 500, 100% solids coating is available in 1.5 gallon and 3 gallon kits

SAFETY PRECAUTIONS: Health Considerations: Consult the Rhino Linings® Safety Data Sheets (SDS)

Chemical systems require the use of proper safety equipment and procedures. Please follow the Rhino Linings® product SDS and Safety Manual for detailed information and handling guidelines.

For Your Protection: The information and recommendations in this publication are, to the best of our knowledge, reliable. Suggestions made concerning the products and their uses, applications, storage and handling are only the opinion of Rhino Linings Corporation. Users should conduct their own tests to determine the suitability of these products for their own particular purposes and of the storage and handling methods herein suggested. The toxicity and risk characteristics of products made by Rhino Linings Corporation will necessarily differ from the toxicity and risk characteristics developed when such products are used with other materials during a manufacturing process. The resulting risk characteristics should be determined and made known to ultimate end-users and processors.

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