

## EPOXY POLYMER CONCRETE OVERLAY SYSTEM

### DESCRIPTION

EPC-OVERLAY is an all-in-one, 100% solids, solvent-free, moisture-insensitive, high-performance, multi-purpose epoxy polymer concrete overlay system. This next generation system is easy-to-use and cost-effective, combining a low-modulus epoxy resin system with a high-quality engineered blend of graded aggregate to achieve the optimal set of characteristics for a concrete overlay system.

### APPLICATIONS

EPC-OVERLAY is designed for use in high-stress applications that involve overlaying, patching, repairing, & rehabilitating concrete. Ideal uses include:

- Bridge deck overlays / Parking deck overlays
- Joint headers / Joint edges
- Concrete spalls
- Grade correction / Rut filling
- Concrete floors / Loading docks

### ADVANTAGES

- All-in-one, easy-to-use system
- Pave from ¼"-10" cross-sections
- Waterproof paving system
- Rapid cure: Open to traffic in < 3 hours (@75°F)
- High tensile strength coupled with high tensile elongation for superior rutting resistance
- 100% solids
- High early strength, high bond strength
- Non-shrink, outstanding workability
- Moisture insensitive
- High oil and chemical resistance
- Easy-to-apply system with pre-measured units
- No field chemistry required

### COMPLIANCES

- VOC compliant, 0 g/L
- Made in America

### PACKAGING

0.67 cu. ft. unit

- Component A: (1) 1-gallon can (partial fill)
- Component B: (1) 1-gallon can (partial fill)
- Component C: (1) 50 lb. sand & 25 lb. stone

1.34 cu. ft. unit

- Component A: (1) 2-gallon can (partial fill)
- Component B: (1) 1-gallon can (partial fill)
- Component C: (1) 100 lb. sand & 50 lb. stone

Bulk (For Volumetric Mixer)

- Component A: (1) 250-gallon tote
- Component B: (1) 250-gallon tote
- Component C: (1) 3,000 lb. super sacks (stone & sand)

**Appearance of Components:** A - Clear, B - Dark Amber

**Shelf Life:** 2 years in original unopened container

**Storage Temperature:** 50°F to 95°F in dry and dark conditions

**Temperature Considerations:** **IMPORTANT!** Epoxy resins are temperature sensitive and care should be taken to condition all

11/30/2020

components (including Component C-Aggregate) to between 65°F to 85°F for a minimum of 24 hrs. prior to mixing and placement. Temperatures colder than stated range increase viscosity of resins and inhibit mixing and flow of materials. Temperatures warmer than stated range decrease viscosity of resins, hasten the cure and reduce the working time. Mixing and curing at less than ideal temperatures, <60°F or >95°F, will require special considerations.

### YIELD

- 1 cubic foot = ~1.6-gallons of epoxy + 111 to 114 lbs. of aggregate

### CURE TIME

Use the table below to determine minimum cure times based on the temperature of the materials and substrate.

	Average Temperature of Materials & Substrate (°F)					
Cure Temp	60-64	65-69	70-74	75-79	80-84	85+
Cure Time	4.5 hrs	4 hrs	3 hrs	2.5 hrs	2 hrs	1.5 hrs

\*Set times are merely averages, site conditions will dictate actual cure response for open to traffic time.

### INSTALLATION

**Surface Preparation:** Shot-blasting, sandblasting, scarifying, chipping, hydro-demolition or other cleaning processes are required to provide proper surface preparation for a long-lasting polymer overlay and/or patching system. The final surface should be clean, free of oils, dirt, curing compounds, and other materials to create a surface profile of exposed sound aggregate that will provide a strong bond surface for the EPC-OVERLAY system. Unsound concrete areas should be located and removed until a sound concrete base is established. All metal surfaces in contact with EPC-OVERLAY should be sandblasted to white metal finish and wiped clean with solvent.

**Application of Primer (Patch or Overlay):** Clean surface as directed above. Mechanically mix Component A with Component B (2:1 by volume) with Jiffy type mixer for 3 minutes or use calibrated pump/static mix equipment. Mix only the amount that can be used within material gel time. Apply primer as recommended by E-Chem at 125-150 sq. ft. per gallon. Distribute mixed resin with a flat squeegee, broom, roller or paint brush. Remove excess or puddled material. Begin placing EPC-OVERLAY while primer is tacky. Tack time will depend on temperature of the surface, application method and site-specific conditions. If primer gels or loses its tack prior to placement of EPC-OVERLAY, re-apply primer.

**Mixing Pre-Measured Units:** EPC-OVERLAY can be supplied in pre-measured units. Mix these products **ONLY** in complete units. **DO NOT THIN** or add any solvents prior to mixing. Pour Component B (Hardener) and Component A (Resin) into an appropriate mixing vessel and mix thoroughly for 3 minutes with a Jiffy type mixer on low-speed (300 rpm) until material is a uniform consistency. **NOTE:** Keep mixer at bottom of mixing vessel to avoid introducing air. After liquid components are mixed, pour liquids into mortar mixer, making sure to remove all resins from sides and bottom of pail with spatula or similar tool.

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Slowly add Component C (Aggregate). Mix on low speed until all aggregate is wetted out, stop mixer. DO NOT OVER MIX!

**Application as Patching:** Saw cut a minimum ¾" depth shoulder around the edge of the prepared area, chip out and remove delaminated area. Blow off or sweep away dust from saw cutting operations. Prime the spall with mixed EPC Resin (Component A & Component B) as directed above. Mix EPC-OVERLAY. Immediately place patch. Set screeds or float to desired level, strike off, thoroughly compact and finish the surface. Broadcast finished surface with specified sand, broom or tine finish.

**Mixing Bulk:** EPC-OVERLAY can be mixed in volumetric mix truck using a calibrated pump/static mix/meter system. The Component A & Component B are 2:1 ratio by volume. The resin to aggregate ratio is 11.5%-12.5% by weight.

**Application as Overlay:** EPC-OVERLAY materials may be placed using a vibratory screed or a slip form paver. A mechanical tining device can be arranged on a slip form paving machine to achieve a uniform tined surface for superior skid resistance. Longitudinal tines or transverse tines are acceptable. EPC-OVERLAY should be mixed and vibrated to produce a polymer concrete material with a slight excess bleed resin coming to the surface, bleed resin can be addressed by broadcasting topical aggregates. Resin content may be adjusted to accommodate the proper amount of bleed resin.

**Additional Notes:** EPC-OVERLAY may be placed at thicknesses of ¾" - 10" in a single pass to account for grade adjustments necessary on rehabilitation projects. The mix design may be adjusted to handle super elevation and still remain placeable. Wood forms, steel pipe, and slip form devices may be used to set final grade.

Typical work time is 45 minutes, depending on temperature. EPC-OVERLAY is best used at temperatures between 65°F and 85°F. Trial batches are recommended to determine work times and set times based on anticipated application temperatures, conditions, and lane closure timing.

### LIMITATIONS

- For professional use only
- Do not thin with solvents
- Compressed air equipment must have an oil/air separator.
- Minimum age of concrete must be 28 days before applying as an overlay.
- EPC-OVERLAY is a vapor barrier after curing.
- For placements > 10" and/or structural applications, please contact an E-Chem representative.
- Substrate temperatures must be 50°F and rising prior to installation; 50°F must be maintained minimum of 8 hours post installation or meet curing guidelines stated above for proper cure.
- Consult E-Chem representative when mixing or placing outside of the temperature recommendations listed.

### CLEAN UP

**EQUIPMENT:** Uncured material can be removed with C-CLEAN100 or approved solvent. Cured material can only be removed mechanically.

**MATERIAL:** Collect with absorbent material. Flush area with water. Dispose of in accordance with local, state and federal disposal regulations.

### CAUTIONS

#### **READ SDS PRIOR TO USING PRODUCT!**

- Component A: Irritant
- Component B: Corrosive
- Product is a strong sensitizer. Use of safety goggles and chemical resistant gloves are recommended.
- Use in a well-ventilated area and avoid breathing vapors
- Use of a NIOSH/MSHA organic vapor respirator is recommended if ventilation is inadequate.
- Avoid skin contact

### FIRST AID

**EYE CONTACT:** Flush immediately with water for at least 15 minutes. Contact physician immediately.

**RESPIRATORY CONTACT:** Remove person to fresh air.

**SKIN CONTACT:** Remove any contaminated clothing. Remove epoxy immediately with a dry cloth or paper towel. Solvents should not be used as they carry the irritant into the skin. Wash skin thoroughly with soap and water.

**IF INGESTED:** Do not induce vomiting. If swallowed give water to drink. Seek medical treatment immediately.

**GENERAL:** Remove contaminated soaked clothing immediately. In the event of persistent symptoms receive medical treatment.

**CURED EPOXY RESINS ARE INNOCUOUS.**

### WARRANTY

This product is warranted and guaranteed to be of good quality. Manufacturer, as its sole and exclusive liability hereunder, will replace material if proved defective. This warranty and guarantee are expressly in lieu of all others, express or implied, including any implied warranty of merchantability or fitness for a particular purpose and may not be extended by representatives or any persons, written sales information, or drawing in any manner whatsoever. While the manufacturer recommends uses for the product based on tests believed reliable, no warranties, express or implied, or guarantees can be given as to particular methods of use or application, nor can performance be warranted, expressly or impliedly, or guaranteed under special conditions. Distributors, salespersons or company representatives are not authorized to extend or vary any warranties or guarantees beyond those outlined herein, nor may the manufacturer's or seller's limitation of liability be waived or altered in any manner whatsoever.