EP50-OVERLAY

LOW-MODULUS EPOXY POLYMER

DESCRIPTION

EP50-OVERLAY is a solvent-free, moisture-insensitive, 100% solids, low-modulus, two-component polymer designed primarily for bonding skid-resistant overlays.

APPLICATIONS

- Bridge Decks
- Elevated Slabs
- PCCP
- Parking Decks
- Roadway curves/slopes for high friction surface applications
- Concrete Patching Mortar

ADVANTAGES

- Excellent bond strength
- Moisture insensitive
- Nonflammable
- Easy to mix - 1:1 ratio
- High early strength
- Low modulus
- Low viscosity
- Epoxy polymer
- No primer required
- Designed for automated pump or hand mix application

COMPLIANCES

- ASTM C881 / AASHTO M235 Type III Class B & C
- ZERO VOC

PACKAGING

2-gallon unit

- Component A: (1) 1-gallon pail
- Component B: (1) 1-gallon pail

10-gallon unit

- Component A: (1) 5-gallon pail
- Component B: (1) 5-gallon pail

110-gallon unit

- Component A: (1) 55-gallon drum
- Component B: (1) 55-gallon drum

500-gallon unit

- Component A: (1) 250-gallon tote
- Component B: (1) 250-gallon tote

Appearance of Components: A - Clear, B - Amber
Shelf Life: 2 years in original unopened containers
Storage: 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 components between 65 °F to 95 °F for a minimum of 24 hours 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 <50 °F or >95 °F will require special considerations.

COVERAGE

Minimum Coverage Rates (3/8" overlay):

	Epoxy	Aggregate
Course 1	1 gallon/40 ft^2	10 lbs./yd^2
Course 2	1 gallon/20 ft^2	14 lbs./yd^2

CURE TIME

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

	Average Temperature of Materials & Substrates (° F)					
Cure Temp	60-64	65-69	70-74	75-79	80-84	85+
Time*	4 hr	3 hr	2.5 hr	2 hr	1.5 hr	1 hr

*Set times are averages. Site conditions will dictate actual cure response for sweeping of 1st & 2nd layers as well as open to traffic time.

INSTALLATION

Surface Preparation: Repair delaminations and potholes prior to installation of EP50-OVERLAY. Polymer patching, such as E-Chem's EP-PATCH, may be used with no delays to the installation of EP50-OVERLAY. Treatment of visible/moving cracks may be required prior to installation of EP50-OVERLAY--refer to E-Chem representative for recommendations. Clean surface by shot-blasting to ICRI level 5 minimum to remove all contaminants, tar, pavement markings, etc. Remove dust and debris by blowing off with oil-free compressed air. Tape all joints and drains to prevent resin from entering. Run tape down center line between the lanes and between layers.

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Mixing:
Hand Mixing: Mix Component A with Component B 1:1 by volume with Jiffy Mixer or similar, using a low-speed variable drill at 300 rpm for a minimum of 3 minutes. Mix only the quantity that may be used within the gel time.
Mechanical Mixing: Mix components using a positive displacement pump that is capable of heating, metering and dispensing polymer resin via a static mixer.

Placement: Apply neat EP50-OVERLAY by notched squeegee at the specified rate. Broadcast select aggregate to refusal. The aggregate should be angular grain or fractured Flint, Basalt or Bauxite having less than 0.2% moisture and free of dirt, clay, etc. The aggregate should have a minimum MOHS scale hardness of 7 unless otherwise approved. After initial cure of first course, remove excess aggregate. Apply second course and aggregate at specified rate. Remove excess aggregate. Allow both courses to cure following the Cure Time table above. Open to traffic.

LIMITATIONS

- For professional use only
- Do not thin with solvents
- Minimum age of concrete must be 28 days before applying as an overlay, unless otherwise approved by E-Chem
- Consult E-Chem representative when used on exterior slabs on grade subject to freezing or for project specific directions when using as binder for epoxy mortar
- EP50-OVERLAY is a vapor barrier after curing
- Substrate temperatures must be 50 °F and rising prior to installation and 50 °F must be maintained during the entire curing period-see curing guidelines
- Consult E-Chem representative when mixing or placing outside of the temperature recommendations listed

CLEAN UP

Equipment: Uncured material may be removed with C-CLEAN100 or approved solvent. Cured material may 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: Irritant
- Product is a strong sensitizer - wear chemical resistant gloves, protective clothing, eye protection and face protection
- 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 manufacturers or seller's limitation of liability be waived or altered in any manner whatsoever. For additional information, please refer to the Terms and Conditions.

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PHYSICAL PROPERTIES[1,2,3]

Property	Standard	Units	Values
Viscosity (75 °F)	ASTM C881	cP	1,500 - 3,300
Gel Time (75 °F)		Minutes	20 - 35
Shore D Hardness	ASTM D2240	Shore D	65 - 75
Absorption	ASTM D570	%	0.10
Flexural Strength	ASTM D790	psi	>3,000
Bond Strength (14-day cure)	ASTM C882		>2,000
Compressive Modulus (Neat)	ASTM D695		<130,000
Compressive Strength (3 hours w/sand)	ASTM C579		>1,000
Compressive Strength (24 hours w/sand)			>5,000
Compressive Strength (7 days w/sand)			>7,000
Tensile Strength (75 °F)	ASTM D638		>2,700
Tensile Elongation (75 °F)		%	35 - 50
Adhesion to Concrete	C1583/D7234 ACI 503R	psi	>450 (concrete failure)
Cure Rate (75 °F)	ASTM D1640	Hours	~ 4
Chloride Ion Permeability	AASHTO T277	Coulombs	0
Thermal Compatibility	ASTM C884	Pass/Fail	Pass
Percent Solids	ASTM D2369	%	100

1. Product testing results based on representative lot(s). Average results will vary according to the tolerances of the given property.
2. Full cure time is listed above to obtain the given properties for each product characteristic.
3. Results may vary due to environmental factors such as temperature, moisture and type of substrate.

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