

EPX50LT-OVERLAY

COLD WEATHER, LOW-MODULUS, EPOXY URETHANE CO-POLYMER

DESCRIPTION

EPX50LT-OVERLAY is a moisture-insensitive, low-modulus, epoxy urethane co-polymer overlay resin, designed to be applied in late season cold conditions down to 30 °F and rapid return to service applications.

APPLICATIONS

EPX50LT-OVERLAY is an engineered overlay system impervious to water and deicing chemicals, while also providing a skid-resistant surface for bridges, elevated slabs and PCCP. In addition, EPX50LT-OVERLAY can be used for High Friction Surface Treatments and as a binder in epoxy repair mortars used for patching concrete.

ADVANTAGES

- Epoxy urethane technology
- Excellent bond strength
- Moisture insensitive
- May be installed as low as 30 °F
- Nonflammable
- Easy to mix - 1:1 ratio
- Part A and Part B - Color coded pails
- >20% elongation at 40 °F
- No primer required
- Designed for automated pump or hand mix application

COMPLIANCES

- ASTM C881*/AASHTO M235* Type III Grade 1 & 2 Class A, B & C *With exceptions
- AASHTO T277 (0 Coulombs)
- ZERO VOC
- 100% solids

PACKAGING

2-gallon unit

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

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 - Yellow

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 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, <40 °F or >85 °F, will require special considerations. Please contact E-Chem for technical guidance.

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
High Friction Surface Treatment	1 gallon/26-32 ft ²	18+ lbs./yd ²

*HSFT aggregate amount will vary depending on the required mil thickness of application.

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	30-34	35-39	40-49	50-59	60-69	70-79
Course 1	3.75 hr	3.5 hr	3 hr	2.75 hr	2.5 hr	1.5 hr
Course 2	5 hr	4.5 hr	4.25 hr	4 hr	3.75 hr	2.75 hr

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

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INSTALLATION

Bonding Skid-Resistant Overlays

Surface Preparation: Repair delamination, potholes and cracks with EP-PATCH or EPC-OVERLAY. Clean surface by shot blasting to remove all contaminants, ICRI Level 5 minimum. Remove dust and debris by blowing off with oil-free compressed air.

Mixing:

HAND MIX: Mechanically mix Component A with Component B 1:1 by volume with Jiffy Mixer or similar and a low speed variable drill at 300 rpm for a minimum of 3 minutes. Mix only the quantity that may be used within its gel time.

BULK MIX: For bulk mixing, a positive displacement pump incorporating a static mixing wand and meter is recommended.

Placement: Apply neat EPX50LT-OVERLAY by 3/16" to 1/4" notched squeegee at the specified rate. Spread material rapidly at lower temperatures, as the material will thicken as it cools. 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 of epoxy and aggregate at specified rate. Remove excess aggregate. Allow to cure following the 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 when used on exterior slabs on grade subject to freezing
- Consult E-Chem for project specific directions when using as Binder for Epoxy Mortar used for patching concrete
- EPX50LT-OVERLAY is a vapor barrier after curing.
- Substrate temperatures must be ≥ 30 °F prior to installation and maintained for the entire curing

period - See curing guidelines stated above for proper cure

- Consult E-Chem 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 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: Corrosive
- Product is a strong sensitizer - safety goggles and chemical resistant gloves are recommended
- Use in a well-ventilated area and avoid breathing vapors
- For inadequate ventilation, E-Chem recommends installer to use NIOSH/MSHA organic vapor respirator
- Avoid skin contact

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 details, 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	1,400 - 2,000	
Gel Time (75 °F)		Minutes	10-15	
Shore D Hardness	ASTM D2240	Shore D	70 - 80	
Absorption	ASTM D570	%	0.10	
Flexural Strength	ASTM D790	psi	>5,000	
Bond Strength (14-day cure)	ASTM C882		>2,500	
Compressive Modulus (Neat)	ASTM D695		<130,000	
Compressive Strength (3 hours w/sand)	ASTM C579		>4,000	
Compressive Strength (24 hours w/sand)			>8,000	
Tensile Strength (75 °F)	ASTM D638		>2,800	
Tensile Strength (40 °F)			>2,000	
Tensile Elongation (75 °F)			%	40 - 60
Tensile Elongation (40 °F)			20 - 30	
Adhesion to Concrete	C1583/D7234 ACI 503R		psi	>450 (concrete failure)
Cure Rate (75 °F)	ASTM D1640	Hours	~ 1.25	
Cure Rate (40 °F)			~ 2.5	
Cure Rate (30 °F)			~ 3.0	
Chloride Ion Permeability	AASHTO T277	Coulombs	0	
Shrinkage	ASTM C883	Pass/Fail	Pass	
Thermal Compatibility	ASTM C884	Pass/Fail	Pass	
Percent Solids	Calculated	%	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.