

Sto Epoxy Binder LM

CR630

Division 3

low-modulus
crack filler
broadcast overlay
epoxy patching mortar
binder for concrete overlay

**epoxy-based, using
proprietary StoPoxy technology**

Sto Epoxy Binder LM is a solvent-free, moisture-insensitive, low-modulus, two-component, 100% solids epoxy binder meeting ASTM C-881 Type III Classes B & C, Grade 1 for multiple uses.



Technical Data

REPORT	TEST METHOD	RESULTS	SPECIFICATION
Mix Ratio (by volume)		1 to 1	none
Compressive Modulus	ASTM D-695	100,000	130,000 max.
Tensile Elongation (%)	ASTM D-638	50	None
Tensile Strength (psi)	ASTM D-638	2,500	30 min.
Bond Strength (psi)	ASTM C-882	1,600	1500 min.
Absorption (%)	ASTM D-570	0.84	1.0 max.
Gel Time (minutes)	ASTM C-881	30	30 min.
Brookfield Viscosity (cps)	ASTM C-881	1500	2000 max.
Shrinkage	ASTM C-883	Pass	Pass
Thermal Compatibility	ASTM C-884	No delamination	No delamination
Meets or exceeds Task Force #34 Specifications			
GROUT PROPERTIES (sand to resin/3.5 to 1 by volume)			
Compressive Strength (psi)	ASTM C-579 (3 hrs.)	1,100	None
Compressive Strength (psi)	ASTM C-579 (24 hrs.)	7,500	None
Compressive Strength (psi)	ASTM C-579 (48 hrs.)	6,900	None
Moist Cure			

* Typical values for material cured at 73° F (23° C) and 50% R.H.
Note: To convert psi to megapascal (MPa) multiply by 0.0069.

Coverage

POLYMER CONCRETE (broadcast overlay): Apply first coat with notched squeegee at approximately 25 sq. ft. per gallon (0.6 m²/L) depending on aggregate size specified. Second coat to be applied with notched squeegee at approximately 13 sq. ft. per gallon (0.3 m²/L) depending on aggregate size.

MORTAR BINDER: Combine 1 gallon of mixed Sto Epoxy Binder LM mixed with 5 gallons of dried silica sand; yields 808 cubic inches epoxy mortar, or 1 gallon of neat mixed Sto Epoxy Binder LM yields 231 cubic inches epoxy resin.

Packaging

2 gal (7.6 L) unit: 1 gal A, 1 gal B;
10 gal (3.8 L) unit: 5 gal A, 5 gal B;
110 gal (418 L) unit: 55 gal drum A, 55 gal drum B

Shelf Life

12 months in original, unopened, properly stored container.

Storage

Store in a dry area, between 50° F (10° C) and 85° F (29° C). Protect from direct sunlight, extreme heat 90° F (32° C), and freezing.

Features	Benefits
1 Moisture-insensitive	Before and after cure bonds to dry or damp substrates
2 Low viscosity	Easy self-leveling
3 1:1 ratio between components	Easy to mix
4 Excellent bond strength	Tenacious bond to concrete, steel and most construction materials
5 Low modulus	Provides shock absorbing qualities

Surface Preparation

Remove loose and deteriorated concrete by shot-blasting to obtain a fractured aggregate, open profile surface. Make sure surfaces are sound, clean and free of all bond-inhibiting material including grease, asphalt, rubber, laitance and standing water.

Mixing

Pre-mix each component thoroughly. Place 1 part by volume of Component A and 1 part by volume of Component B into a clean pail. Mix thoroughly with low-speed drill (400-600 rpm) until uniformly blended. Mix only the quantity that can be used within its 30 minute pot life.

Application

Primer Sealer

Apply neat mixed epoxy with a flat squeegee, roller, or brush onto the prepared substrate. To achieve uniform appearance apply at a rate of approximately 10 to 20 mils (80 to 160 sq. ft. per gallon [1.9 to 3.8 m²/L]). A light dusting of oven-dried aggregate may be sprinkled onto the surface and back rolled to provide a skid-resistant surface. Allow sufficient cure prior to exposure to traffic.

Self-Leveling Mortar

Apply over a primed substrate mixing 1 part of mixed epoxy to 1 part of oven-dried aggregate. Apply mortar with a $\frac{3}{16}$ inch (5 mm) V-notch squeegee, material will start to self-level. While the material is still wet, porcupine (spike roller) the mortar so as to level the surface and remove entrapped air from the mortar. Allow sufficient cure prior to exposure to traffic.

Broadcast

Apply neat mixed epoxy with $\frac{3}{16}$ inch (5 mm) notched squeegee. Broadcast aggregate after epoxy has leveled allowing it to settle into the epoxy. Aggregate (depending on the specification) should be applied at 2 pounds per square foot (9.9 kg/m²). After epoxy has cured, sweep off excess aggregate and apply either second application or seal coat as specified.

Limitations

- Apply only when the surface and ambient temperatures are 40-50° F (7-10° C) and rising. Ambient temperature will affect pot life: hot temperatures will shorten it; cold temperatures will extend it.
- Do not thin with solvents.
- Use only oven-dried sand when making a mortar or broadcasting.
- Not for use on exterior on-grade slabs subject to freezing.
- Material is a vapor barrier after curing.
- Concrete must achieve 28 days cure prior to application (< 4% moisture content).
- Sections over 1.5 inch (38 mm) thick not recommended for exterior use.

How It's Used

Use Sto Epoxy Binder LM as neat epoxy binder for polymer concrete (broadcast) overlays on bridges and elevated slabs. Use in epoxy mortar for patching. Can be used as a low-modulus crack filler.

Health And Safety

Health Precautions

Component A is an irritant. Prolonged skin and eye contact may cause sensitization. Contact with skin or eyes may cause severe burns. As with any chemical construction product, exercise care when handling.

Safety Precautions

Use adequate ventilation. Safety goggles and protective gloves are recommended.

First Aid

SKIN CONTACT: Wash thoroughly with soap and water.

EYE CONTACT: Flush immediately with water for at least 15 minutes and contact a physician.

RESPIRATORY PROBLEMS: Remove affected person to fresh air immediately and contact a physician.

HYGIENE: Wash hands immediately after use. Wash clothing before reuse.

Spills

Collect in an appropriate container. Uncured material may be removed with water.

Disposal

Dispose of in accordance with local, state, or federal regulations.

Warning

KEEP CONTAINERS CLOSED WHEN NOT IN USE. KEEP OUT OF THE REACH OF CHILDREN. NOT FOR INTERNAL CONSUMPTION. FOR INDUSTRIAL USE ONLY. Consult the Material Safety Data Sheet for further health and safety information.

LIMITED WARRANTY

THIS PRODUCT IS SUBJECT TO A WRITTEN LIMITED WARRANTY WHICH CAN BE OBTAINED FREE OF CHARGE FROM: Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, GA 30331; Tel: 404-346-3666; Fax: 404-346-3119

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