

E³-X

EPOXY GROUT FOR EXTREME APPLICATIONS

DESCRIPTION

E³-X high performance, highly fluid epoxy grout sets a new performance standard for epoxy grouts. E³-X is formulated from a new resin technology. Furthermore, an added proprietary aggregate blend has created a grout which exceeds all current performance standards. This product is characterized by an ultimate bearing surface, low creep and excellent flowability. E³-X is clearly the choice for the toughest and most extreme epoxy installations where bond to the foundation and machinery is critical.

PRIMARY APPLICATIONS

- Turbines, compressors or stamping machines with dynamic loading
- Quick re-grouts and start-ups
- Industrial areas requiring maximum bond to foundation with maximum bearing
- Windmill bases

FEATURES/BENEFITS

- Fast return to service
- High chemical resistance
- Excellent bond of machinery to foundation
- Low creep
- Superior flowability
- Excellent bearing
- Superior stability under elevated service temperatures of up to 220°F (105°C)

TECHNICAL INFORMATION

PROPERTY	TEST METHOD	SPECIFICATION (AT 7 DAYS)	RESULT
Compressive Strength 2 in. (5 cm) cubes @ 73°F (23°C)	ASTM C 579	> 10,000 psi (69 MPa)	4 hours: 2,700 psi (19 MPa)
			8 hours: 10,800 psi (74 MPa)
			12 hours: 13,300 psi (92 MPa)
			1 day: 16,000 psi (110 MPa)
			7 days: 18,000 psi (124 MPa)
			28 days: 19,000 psi (131 MPa)
Creep @ 400 psi (3 MPa), 73°F (23°C)	ASTM C 1181	NA	3 days: 1.8 x 10 ⁻⁴ in/in (mm/mm)
			7 days: 2.5 x 10 ⁻⁴ in/in (mm/mm)
			28 days: 2.7 x 10 ⁻⁴ in/in (mm/mm)
Linear Shrinkage	ASTM C 531	<0.025%	7 days: 0.007%
			14 days: 0.02%
Coefficient of Thermal Expansion @ 212°F (100°C), 16 hours	ASTM C 531	<2.0 x 10 ⁻⁵ in/in/°F (3.6 x 10 ⁻⁵ mm/mm/°C)	2.0 x 10 ⁻⁵ in/in/°F (3.7 x 10 ⁻⁵ mm/mm/°C)
Flexural Strength	ASTM C 580	>3,600 psi (25 MPa)	1 day: 4,200 psi (29 MPa)
			28 days: 4,500 psi (31 MPa)
Modulus of Elasticity	ASTM C 580	< 2,100,000 psi (14,480 MPa)	1 day: 1,300,000 psi (8,960 MPa)
			28 days: 1,280,000 psi (8,800 MPa)
Tensile Strength	ASTM C 307	>2,100 psi (14.5 MPa)	1 day: 2,600 psi (18 MPa)
			7 days: 2,450 psi (17 MPa)
			28 days: 2,500 psi (17.2 MPa)
Gel Time @ 73°F (23°C)	ASTM D 2471	< 4 hours	83 minutes
Peak Exotherm	ASTM D 2471	< 150°F (65°C)	106°F (41°C) @ 92 minutes



The Euclid Chemical Company

19218 Redwood Rd. • Cleveland, OH 44110
 Phone: [216] 531-9222 • Toll-free: [800] 321-7628 • Fax: [216] 531-9596
www.euclidchemical.com

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APPEARANCE

E³-X is a three-part system that consists of a Part A, Part B, and Part C. After mixing and placing, the color is similar to that of concrete, though the grout may always appear somewhat darker than the surrounding concrete.

SHELF LIFE

2 years in original, unopened package

PACKAGING

E³-X is packaged in 1.65 ft³ (0.047m³) kits. **Resin Part A:** 2.88 gal (10.9L) **Hardener Part B:** 0.72 gal (2.73L) **Aggregate Filler Part C:** 3/60 lb (27.2 kg) bags Also available in a 0.55 ft³ (0.016m³) kit

COVERAGE

One 1.65 ft³ (0.047m³) unit of E³-X will grout approximately 19.8 ft² (1.84m²) when placed at an average depth of 1 inch (2.5cm).

DIRECTIONS FOR USE

Surface Preparation: New concrete must be a minimum of 28 days old. The concrete must be clean and rough. All oil, dirt, debris, paint and unsound concrete must be removed. The surface must be prepared mechanically using a scabber, bushhammer, shotblast or other suitable equipment which will give a surface profile of a minimum 1/8" (3 mm) and expose the coarse aggregate of the concrete. The final step in cleaning should be the complete removal of all residue with a vacuum cleaner or pressure washing. **Acid etching is acceptable only when mechanical preparation is impractical.** It is recommended that only contractors experienced in the acid etching process use this means of surface preparation. The salts of the reaction must be thoroughly pressure washed away. Allow the concrete to completely dry. **Note:** Even with proper procedures, an acid etched surface may not provide as strong a bond as mechanical preparation procedures. All concrete must possess an open surface texture with all curing compounds and sealers removed.

Form Preparation: Forms must be liquid tight to prevent leakage and should be strong and well braced. To facilitate stripping, the forms should be coated with two applications of a paste wax or each form should be wrapped with polyethylene. Forms should be set slightly higher than the bottom of the baseplate.

Mixing: Mix parts A & B (resin & hardener) separately for 2 minutes using a drill and mixing prop. For ease of mixing, add the part B to the part A (not the reverse). The epoxy must be well mixed to ensure proper chemical reaction. After the epoxy has been mixed, add part C (aggregate) and mix for 2 to 3 minutes more until the aggregate is completely wetted out. For large jobs, use a mortar mixer. Place immediately.

Placement: Pour into anchor bolt holes and blockouts through a funnel or directly if space permits. When grouting plates, pour grout into the headbox and allow to flow under the plate. Straps pre-placed under the plate will aid in working the grout across. Grout should be placed at a minimum of 1" (25 mm) thick and a maximum of 6" (152 mm) per lift when placed in a large mass. **Note:** Bring all E³-X materials as well as the foundation and baseplate as close to 70°F (21°C) as possible. Cold temperatures will significantly reduce flow characteristics and will increase the difficulty of baseplate grouting. Higher temperatures will increase initial flow but reduce working time.

Curing: E³-X requires no special curing procedures. **Finish:** If a smooth finish is desired, the surface of the grout may be brushed and troweled with a light application of EUCO SOLVENT.

CLEAN-UP

Tools and mixer may be cleaned with EUCO SOLVENT or acetone.

PRECAUTIONS/LIMITATIONS

- Wear protective gloves and eye glasses when handling epoxies.
- Do not use over frost covered or frozen concrete.
- Store material at room temperature before use.
- Grout should be placed at ambient temperatures of 50°F to 90°F (10°C to 32°C).
- Rate of strength gain is significantly slowed at temperature extremes.
- In all cases, consult the Material Safety Data Sheet before use.

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