E³-G

High Strength, General Purpose Epoxy Grout

Description

E³-G is a high strength epoxy grout designed for grouting machine and equipment bases of all types. Formulated to be used in both thin and thick sections, E³-G is suitable for grouting bases of numerous configurations. This formula gives excellent strengths and resistance to many corrosive chemicals. E³-G provides excellent bond to the foundation and provides maximum bearing for long lasting grouting projects.

Primary Applications

- Pumps, compressors and fans
- Deep fill machine bases
- All high strength applications including crane rails
- Tanks, turbines and housings
- Can be used as an epoxy repair mortar
- Pour-backs for post tension projects

Features/Benefits

- Fast setting/quick return to service
- High chemical resistance
- Excellent bearing
- Excellent bond foundation to base plate
- Stable in deep or thick sections

Technical Information

Property	1 day	3 days	7 days	28 days
Compressive Strength ASTM C 579, 2 in (50 mm) cubes @ 70°F (21°C)	8,000 psi (55 MPa)	10,800 psi (74 MPa)	11,900 psi (82 MPa)	13,000 psi (90 MPa)
Creep ASTM C 1181	--	0.00028 in/in (0.00028 mm/mm)	0.00029 in/in (0.00029 mm/mm)	0.00040 in/in (0.00040 mm/mm)
Modulus of Elasticity ASTM C 580	0.95 x 10^6 psi (6.5 x 10^3 MPa)	--	--	1.24 x 10^6 psi (8.5 x 10^3 MPa)
Flexural Strength ASTM C 580	3,500 psi (24 MPa)	3,700 psi (25 MPa)	3,800 psi (26 MPa)	3,900 psi (27 MPa)
Tensile Strength ASTM C 307	2,000 psi (14 MPa)	--	--	2,040 psi (14 MPa)

Coefficient of Thermal Expansion ASTM C 531	2.6 x 10^{-5} in/in/°F (4.5 x 10^{-5} mm/mm/°C)
Bond to Concrete	Exceeds tensile and shear strength of concrete
Chemical Resistance	Excellent resistance to most industrial chemicals
Abrasion and Impact Resistance	Greater than concrete
Gel Time ASTM D 2471	172 minutes at 73°F (23°C)
Peak Exotherm ASTM D 2471	91°F (33°C) at 320 minutes
Appearance	Dark gray

Coverage

One 0.5 ft^3 (0.014 m^3) unit of E³-G will cover approximately 6 ft^2 (0.6 m^2) when placed at a depth of 1" (25 mm).

One 2.0 ft^3 (0.057 m^3) unit of E³-G will cover approximately 24 ft^2 (2.2 m^2) when placed at a depth of 1" (25 mm).

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Packaging

E^3-G is packaged in 0.5 ft^3 (0.014 m^3) and 2.0 ft^3 (0.057 m^3) kits.

0.5 ft^3 (0.014 m^3) Kit	*2.0 ft^3 (0.057 m^3) Kit*
Resin, Part A:	
0.86 gal (3.3 L)	3.43 gal (13.0 L)
Hardener, Part B:	
0.11 gal (0.4 L)	0.44 gal (1.67 L)
Aggregate, filler Part C:	
60 lb (27.2 kg)	4/60 lb (27.2 kg) bags

E^3-G aggregate can be adjusted for flowability:

Aggregate Loading	Yield
4.00 bags	2.00 ft^3 (0.057 m^3)
3.75 bags	1.89 ft^3 (0.054 m^3)
3.50 bags	1.78 ft^3 (0.050 m^3)
3.25 bags	1.67 ft^3 (0.047 m^3)
3.00 bags	1.56 ft^3 (0.044 m^3)

Shelf Life

2 years in original, unopened package

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 scabbler, 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 wrapped with polyethylene.

Anchor Bolt Holes and Blockouts: Holes and blockouts should be cleaned of all dust, dirt and debris and allowed to dry. If the sides are smooth, roughen the hole with a stiff bristle wire brush or with a rotary brush hammer if access permits.

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 the 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 E^3-G 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**: E^3-G 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, xylene, or acetone.

Precautions/Limitations

- Wear protective gloves and eye glasses when handling epoxies.
- Do not use over frozen concrete.
- Store material at room temperature before use.
- Grout should be placed at ambient temperatures of 40°F to 90°F (4°C to 32°C).
- Rate of strength gain is significantly affected at temperature extremes.
- In all cases, consult the Material Safety Data Sheet before use.

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