

ULTRA LOCK E3-G

EPOXY GROUT LOCK SYSTEM FOR EQUIPMENT BASES

Adhesives,

Admixture

Grouts & Anchors,

Concrete Repairs,

Protecting Coatings,

Industrial Flooring,

Surface Treatments

ULTRA LOCK E3-G is a high strength epoxy grout designed for grouting of machine and equipment bases of all types. Formulated to be used in both thin and thick sections, ULTRA LOCK E3-G is suitable for grouting bases of numerous configurations. This formula gives excellent strengths and resistance to many corrosive chemicals. ULTRA LOCK E3-G provides excellent bond to 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
- Large anchor bolts and keyways

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

PACKAGING / YIELD

ULTRA LOCK E3-G is available in 2 Kg packs.

Appearance

ULTRA LOCK E3-G is a two-part epoxy grout system which consists of a Part A (Hardener), Part B (Base). 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 is 1 years in original, unopened package.

SPECIFICATIONS / COMPLIANCES

- ULTRA LOCK E3-G meets the requirements of ASTM C 307, Type I, Grade II, Class A.
- ULTRA LOCK E3-G meets the thermal Compatibility with concrete requirements of ASTM C 884.

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, bush-hammer, shot-blast 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 residues 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 they should be strong and well braced. To facilitate stripping, the forms should be coated with two applications of paste wax or each piece wrapped with Polyethylene.

Anchor Bolt Holes and Block-Outs-Holes and lockouts 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 (Hardener) for 2 minutes using a drill and mixing prop. For ease of mixing, add the Part A (Hardener) to the Part-B (Base) The epoxy must be well mixed to ensure proper chemical reaction. After the epoxy has been mixed, for large jobs, use a mortar mixer for mixing. Place immediately.

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°- 90°F (4-32°C).
- Rate of strength gain is significantly affected at temperature extremes.

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Placement: Pour into anchor bolt holes and block-outs through a funnel or directly if space permits. When grouting plates, pour grout into the head-box 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 ULTRA LOCK E3-G materials as well as foundation and base-plate as close to 70°F (21°C) as possible. Cold temperatures will significantly reduce flow characteristics and will increase the difficulty of base-plate grouting. Higher temperatures will increase initial flow but cut down on working time.

Curing-ULTRA LOCK E3-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 ULTRA SOLVENT.

Clean-Up:

Tools and mixer may be cleaned with Ultra Solvent, Xylol, or Ketone Solvent.

TECHNICAL INFORMATION

Typical Engineering Data

The following results were developed under laboratory conditions.

Minimum hole depth						
Characteristic concrete strength (n/mm ²)	20	25	30	>40		
Permitted concrete shear Stress using Type one bar						
N/mm ²	1.8	2	2.2	2.5		
Bar Diameter (mm)	Yield (tons)	Hole (diameter) (mm)		Minimum hole depth		
12	5.2	20	280	250	225	200
16	9.3	20	490	445	400	355
20	14.5	25	615	555	500	440
25	22.5	32	750	675	615	540
32	37.0	38	1,035	930	845	745
40	57.8	45	1,365	1,225	1,115	980

Compressive Strength,

ASTM C-579 2" (50 mm) cubes @ 70°F (21°C)

Age Strength

1 day 6090 psi (42 N/mm²)
3 day 10,800 psi (74 N/mm²)
7 days 13,000 psi (90 N/mm²)

Creep Data, ASTM C-1181

3 days 2.8 x 10⁻⁴ in./in. (2.8 x 10⁻⁴ mm/mm)
7 days 2.9 x 10⁻⁴ in./in. (2.9 x 10⁻⁴ mm/mm)
28 days 4.0 x 10⁻⁴ in./in. (4.0 x 10⁻⁴ mm/mm)

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.

Impact Resistance: Greater than concrete.

Chemical Resistance: ASTM D-543, excellent resistance to most chemicals. Specific recommendations available upon request.

Abrasion Resistance: Greater than concrete.

Flexural Strength, ASTM C-580

1 day 3,500 psi (24 N/mm²)
3 days 3,700 psi (25 N/mm²)
7 days 3,800 psi (26 N/mm²)
28 days 4205 psi (29 N/mm²)

Modulus of Elasticity,

ASTM C 580

1 day 0.95 x 10⁶ psi (6.5 x 10³ N/mm²)
28 days 1.24 x 10⁶ psi (8.5 x 10³ N/mm²)

Tensile Strength, ASTM C 307

3 days 2,000 psi (14 N/mm²)
7 days 2,040 psi (14 N/mm²)
28 days 2,040 psi (14 N/mm²)

Gel Time, ASTM D2471 @86F (30C):90 minutes

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