



ULTRA E₃-GP

GENERAL PURPOSE EPOXY GROUT

E₃-GP high flow epoxy grout is the performance standard for flow-able epoxy grouts. A special resin and hardener formulation plus proprietary aggregate filler allows E₃-GP to travel through a standard grout box in less than a minute. Designed with excellent engineering properties, this product provides high bearing and ease of place-ability. E₃-GP was specially designed for applications involving the grouting of large plates and narrow configurations.

PRIMARY APPLICATIONS

- Large or wide plates requiring precision grouting
- Machinery, equipment or structural elements needing maximum bearing support
- Rail grouting, keyways and inverted base-plates
- Narrow clearance situations including Anchor bolts
- Chemical resistant Pile top waterproofing

FEATURES / BENEFITS

- Fast return to service
- User friendly placing characteristics
- Excellent bond, machinery to foundation
- Maximum possible bearing
- High chemical resistance
- Exceptional strengths including flexural and tensile

SPECIFICATIONS/COMPLIANCES

- E₃-GP meets the requirements of ASTM C 307 Type I, Grade II, Class A.
- E₃-GP meets the thermal compatibility with concrete requirements of ASTM C 884.

TECHNICAL INFORMATION

Typical Engineering Data

The following results were developed under laboratory conditions.

Usable Life: 2 hours @ 25°c
1 hour @ 35°c

Maximum Flow 100 mm: 1,000 mm with 35mm gap width
Head @35°C 1,800 mm with 70mm gap width

Waterproofing: 100%

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

Age Strength

3 days 10,875 psi (75 N/mm²)
7 days 12,325 psi (85 N/mm²)
28 days 13,050 psi (90 N/mm²)

Coefficient of Thermal Expansion, ASTM C-531 2.70 x 10⁻⁵ in./in./oF (4.9 x 10⁻⁵ mm/mm/°C)

Bond to Concrete: Exceeds tensile and shear strength of 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
3 days 3,600 psi (25 N/mm²)
7 days 3,800 psi (26 N/mm²)
28 days 3,900 psi (27 N/mm²)

Modulus of Elasticity,

ASTM C 580
3 days 1.16 x 10⁶ psi (8.0 x 10³ N/mm²)
7 days 1.21 x 10⁶ psi (8.3 x 10³ N/mm²)
28 days 1.46 x 10⁶ psi (10.1 x 10³ N/mm²)

Tensile Strength, ASTM C 307
3 days 2,100 psi (14 N/mm²)
7 days 2,150 psi (15 N/mm²)
28 days 2,225 psi (15 N/mm²)

Gel Time, ASTM D 2471 @ 73°F (23°C): 70 minutes

Peak Exothermic,

ASTM D 2471

91°F (33°C) @ 230 minutes 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 maximum of 3" (75 mm) per lift when placed in a large mass.

Note: Bring all E₃-GP materials as well as foundation and baseplate as close to 70oF (21°C) as possible.

PACKAGING /YIELD

E₃-GP is packaged in 8 kg Pack.

CHEMICAL RESISTANCE

Acetic Acid, 10%.....	excellent
Acetone	non-resistance
Alkali's	excellent
Ammonia ...10%.....	excellent
Battery Acid	good
Beer	excellent
Bleach	excellent
Brake Fluid	good
Butanol	good
Citric acid	excellent
Diesel Fuel	excellent
Ethanol	poor
Ethylene Glycol.....	excellent
Gasoline	excellent
Hydraulic Oil.....	excellent
Hydrochloric Acid, 50%	excellent
Industrial Methylated spirits	good
Lactic acid 10%	Excellent
MEK.....	excellent
Methylene Chloride	poor
MIBK	poor
Nitric Acid, 25%	excellent
Oil	excellent
Power Steering Fluid.....	excellent
Phosphoric Acid, 50%.....	Good
Skydrol.....	good
Sugar Solution St.....	excellent
Sodium Hydroxide 50%.....	excellent
Sulphuric acid..... 80%	excellent
Transmission Fluid.....	excellent
Toluene.....	good
Urine.....	excellent
Xylene.....	excellent



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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-E3-GP 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, xylene or toluene solvents.

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 40-130°F (4-50°C).
- Rate of strength gain is significantly affected at temperature extremes.

Appearance

E3-GP is a three part epoxy grout system which consists of a Part A (resin), Part B (hardener) and Part C (aggregate). 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.

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 block-outs must 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.

Mixing-Mix parts A & B (resin & hardener) 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 2-3 minutes more until the aggregate is completely wetted out. For large jobs, use a mortar mixer for mixing in the Part C aggregate. Place immediately.

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. To avoid air entrainment, continue poring until required quantity is placed

Storage:

Avoid to place direct to sun light and always store in shady areas.

ISO Certification:

Our production facility at Pakistan is ISO 9001:2008 ISO 14001:2004 by BUREAU VERITAS and UKAS Management

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