GROUTS

Master Format #: 03 63 00

E³-FLOWABLE

HIGH FLOW EPOXY GROUT WITH DL TECHNOLOGY™ AGGREGATE

EUCLID CHEMICAL

PACKAGING

1.53 ft³ (0.043 m³) kit (1 pail, 5 bags)
Code: 040F 10

1.35 ft³ (0.038 m³) kit (1 pail, 4 bags)
Code: 040F 13

0.30 ft³ (0.008 m³) kit (1 pail)
Code: 040F 5

APPROXIMATE YIELD

1.53 ft³ (0.043 m³) kit (Standard): One 5 gallon pail containing both part A (resin) and B (hardener), and five 30 lb (13.6 kg) bags containing Part C (aggregate). Yields 1.53 ft³ (0.043 m³).

1.35 ft³ (0.038 m³) kit (High Flow): One 5 gallon pail containing both part A (resin) and B (hardener), and four 30 lb (13.6 kg) bags containing Part C (aggregate). Yields 1.35 ft³ (0.038 m³).

0.30 ft³ (0.008 m³) kit: One 6 gallon pail containing all three components. Part A resin, 4.4 lb (2 kg), Part B hardener, 1.14 lb (0.52 kg), and Part C aggregate, one 30 lb (13.6 kg) bag. Yields 0.30 ft³ (0.008 m³). A maximum of 6 lbs of aggregate can be removed from this unit to achieve the high flow mix.

CLEAN UP

Tools and mixer may be cleaned with soap and water.

SHELF LIFE

2 years in original, unopened package

DESCRIPTION

E³-FLOWABLE is a three-component, high flow, high strength, expansive epoxy grout designed for large plates and narrow configurations where flowability is critical. Additionally, our patented DL Technology™ aggregate greatly reduces the amount of dust released into the environment during mixing and handling.

PRODUCT CHARACTERISTICS

FEATURES/BENEFITS

- DL Technology™ aggregate greatly reduces dust
- Positive effective bearing
- High early strengths, fast return to service
- User friendly placing characteristics
- > 95% effective bearing
- High chemical resistance
- Clean tools with soap and water

PRIMARY APPLICATIONS

- Large or wide plates requiring precision grouting
- Machinery, equipment or structural elements needing maximum bearing support
- Rail grouting, keyways and inverted baseplates
- Narrow clearance situations including anchor bolts
- Precision alignment of generators, compressors, electric motors and pumps

TECHNICAL INFORMATION

The following are typical values obtained under laboratory conditions. Expect reasonable variation under field conditions.

Test Method	Test Property	Standard Unit	High Flow Mix
ASTM C579 2 in (50 mm) cubes Method B @ 73 °F (23 °C)	Compressive Strength	1 day . . . . 10,000 psi (69.4 MPa) 7 days . . . . 12,000 psi (83.3 MPa) 28 days. . . . 12,500 psi (86.8 MPa) Post Cure* . . . 14,500 psi (100.7 MPa)	1 day . . . . . 9,500 psi (65.5 MPa) 7 days . . . . 11,500 psi (80.0 MPa) 28 days. . . . 12,000 psi (83.3 MPa) Post Cure* . . . 13,500 psi (93.8 MPa)
ASTM C1181 400 psi (2.8 MPa) @ 140 °F (60 °C)	Compressive Creep	28 days . . . . 6.4 x 10^{-3} in/in/°F	28 days . . . . 5.8 x 10^{-3} in/in/°F
ASTM C580	Flexural Strength	1 day . . . . . 3,900 psi (27.0 MPa) 7 days . . . . . 4,000 psi (27.7 MPa) 28 days. . . . . 4,300 psi (30.0 MPa) Post Cure* . . . . 4,500 psi (31.3 MPa)	1 day . . . . . 3,500 psi (24.3 MPa) 7 days . . . . . 3,700 psi (25.7 MPa) 28 days. . . . . 3,900 psi (27.0 MPa) Post Cure* . . . . 4,000 psi (27.7 MPa)
ASTM C307	Tensile Strength	1 day . . . . . 1,500 psi (10.4 MPa) 7 days . . . . . 1,700 psi (11.8 MPa) 28 days. . . . . 1,900 psi (13.2 MPa)	1 day . . . . . 1,100 psi (7.6 MPa) 7 days . . . . . 1,500 psi (10.4 MPa) 28 days. . . . . 1,900 psi (13.2 MPa)
ASTM C882	Bond Strength	1 day . . . . . N/A 7 days . . . . . 3,000 psi (20.8 MPa) 28 days. . . . . 3,500 psi (24.3 MPa)	1 day . . . . . N/A 7 days . . . . . 2,800 psi (19.4 MPa) 28 days. . . . . 3,300 psi (23.0 MPa)
ASTM C531 7 Days	Coefficient of Thermal Expansion	16.0 x 10^{-6} (74 to 210 °F) (23 to 99 °C)	17.0 x 10^{-6} (74 to 210 °F) (23 to 99 °C)
ASTM C1339	Effective Bearing Area	> 95%	> 95%
ICRI Protocol	Working Time	95 minutes at 73 °F (23 °C)	68 minutes at 73 °F (23 °C)
ASTM D2471	Peak Exotherm	84 °F (29.3 °C) at 140 minutes	96 °F (35.0 °C) at 162 minutes
	Chemical Resistance	Excellent resistance to most industrial chemicals	
	Abrasion Resistance	Greater than concrete	

*Post Cure Procedure: Demold specimens after 24 hours; place in oven @140 °F (60°C) for 18 hours; remove from oven for 24 hours; perform test.

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 suitable equipment to give a surface profile of at least a CSP 5-7 in accordance with ICRI Guideline 310.2, exposing the coarse aggregate of the concrete. The final step in cleaning should be the complete removal of all dust and residue with a vacuum cleaner followed by pressure washing. Then, vacuum all water up and allow to dry completely. **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 Blockouts: Holes and blockouts 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) separately using a drill and mixing prop. Then, pour the Part B into the Part A container. Mix for 2-3 minutes, scraping the bottom and sides of the container, to ensure proper chemical reaction. Do not whip air into the epoxy while mixing. After the epoxy has been mixed, directly pour all of the mixed resin into a horizontal shaft mortar mixer. Add Part C (aggregate) to the mixture one bag at a time and mix for 2 to 3 minutes until the aggregate is completely wetted out. 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 can be placed at a minimum of 1/2" (12 mm) thick to a maximum of 6" (150 mm) per lift when placed in a large mass. **Note:** Bring all E^3-FLOWABLE materials as well as foundation and baseplate as close to 75 °F (23 °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-FLOWABLE does not require 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.

PRECAUTIONS/LIMITATIONS

- Wear proper PPE when handling epoxies.
- Do not use over frost covered or frozen concrete.
- Store all materials at 75 °F (23 °C) for at least 24 hours 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 affected at temperature extremes.
- Do not remove, or add more aggregate, than stated on this technical data sheet.
- In all cases, consult the Safety Data Sheet before use.