DURALCRETE® LV

Low Viscosity Epoxy Injection Resin and Binder

Description

DURALCRETE LV is a low viscosity, two part, 100% solids, low odor, 2:1 mix ratio, moisture insensitive epoxy resin compound.

Primary Applications

- Concrete crack injection
- Gravity feed horizontal crack repair
- Vertical anchor bolt grouting
- Binder for horizontal concrete repairs

Features/Benefits

- High strength
- Provides load transfer
- Virtually no odor
- 2:1 mix ratio
- Tenacious bond
- Moisture insensitive
- Deep penetration
- Can contribute to LEED points.

Technical Information

Material Properties 75°F	
Color (mixed)	Clear Amber
Solids, %	100
Mixing ratio (Parts A:B) by volume	2:1
Gel time, mins	40 to 45
Viscosity, cps	300 to 500
Compressive Strength ASTM D 695, psi (MPa)	
1 day (neat resin),	8,600 (59.3)
7 days (neat resin),	11,200 (77.2)
Compressive Modulus ASTM D 695, psi (MPa)	
7 days (neat resin)	265,000 (1827)
Compressive Strength ASTM C 109, psi (MPa)	
7 days (mortar)	10,300 (71.0)

Tensile Properties ASTM D 638 @ 14 days	
Ultimate strength, psi (MPa)	7,125 (49.1)
Elongation at break, %	2.3
Modulus, psi (MPa)	286,000 (1972)
Bond Strength ASTM C 882, psi (MPa)	
Hardened to hardened concrete	
2 days (moist cure)	2,150(14.8)
14 days (moist cure)	2,550 (17.6)
14 days (dry cure)	2,825 (19.5)
Heat Deflection Temp. ASTM D 648	126°F (52°C)
Water Absorption ASTM D 570	
7 day, 24 hour immersion, %	0.34

Data presented are typical laboratory values.

Packaging

DURALCRETE LV is packaged in 15 gal (56.78 L) unit and 3 gal (11.36 L) case.

Shelf Life

2 years in original, unopened package.

Specifications/Compliances

ASTM C 881, Type I & IV Grade 1, Class B & C

Coverage

For anchoring, 1 neat gal yields 231 in^3 of grout. One gallon of DURALCRETE LV mixed with 4 gal (15.14 L) of dry 20/40 mesh silica sand will yield approximately 0.45 ft^3 (.01 m^2) of mortar. Coverage will vary depending on surface texture, porosity and temperature.

Directions for Use

Surface Preparation: Concrete: The surface must be structurally sound, dry, free of grease, oils, coatings, dust, curing compounds and other contaminants. Surface laitance must be removed. The preferred method of surface preparation is abrasive blasting or other mechanical means. Oil contaminated surfaces should be degreased. Remove defective concrete, honeycombs, cavities, joint cracks, voids and other defects by routing to sound material.

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Fo preparation, the cleaned surface should pull concrete when tested with a pull tester, or an elcometer (ASTM D 4541). **Steel:** All oils, greases, dirt, old coatings and chemical contaminants must be removed. The surface should be blasted to a near white metal finish (SSPC SP10) using clean dry aggregate.

Mixing: Premix Part A and B with a slow speed motor and "Jiffy" mixer. Pour two parts by volume of Part A and one part by volume of Part B into a clean, dry container and mechanically mix for 3 to 5 minutes. Scrape the sides and bottom of mixing container while mixing. Do not whip or aerate while mixing. DURALCRETE LV Mortar: Gradually add clean, dry 20/40 mesh silica sand to mixed binder. Blend thoroughly. The mix ratio of aggregate to binder is approximately 4:1 by volume but may vary depending upon the desired consistency of the mortar.

Application: Application and surface temperatures should be at least 45°F (7°C) and rising. **Horizontal Patching:** Prime surface with neat DURALCRETE LV. Trowel the DURALCRETE LV mortar into the prepared surface before the prime coat becomes tack free. **Bonding anchor bolts, dowels, pins:** DURALCRETE LV can be used neat or with an aggregate to anchor vertical bolts. The anchor bolt hole should be free of all debris before grouting. The optimum hole size is 1/8" (3.2 mm) annular space or 1/4" (6.4 mm) larger diameter than bar diameter. Depth of embedment is typically 10 to 15 times bolt diameter. **Pressure Grouting: Vertical Cracks:** Install injection ports at appropriate intervals using DURALCRETE GEL or DURAL FAST SET EPOXY. Seal the surface of the crack with DURALCRETE GEL or DURAL FAST SET EPOXY. Pump DURALCRETE LV into the crack with two component pressure injection equipment, starting at the bottom of the crack and working up. Cracks should be clean and dry prior to injection. **Horizontal Cracks**: "Vee-cut" cracks and ensure that prepared crack is dry and free of all debris. Pressure injection technique is the same as for Vertical Cracks. If gravity feeding, pump DURALCRETE LV until cracks are filled.

Clean-Up

Clean tools and application equipment immediately after use with methyl ethyl ketone, or xylene. Clean overspray or drips while still wet with solvent. Dried DURALCRETE LV will require mechanical abrasion for removal.

Precautions/Limitations

- Not intended for use on moving (active) cracks.
- Do not use on cracks greater than 1/4" (6.4 mm) width.
- This product is not intended for use on cracks subjected to water under hydrostatic pressure at time of injection.
- Do not thin with solvents.
- Concrete should be cured for 28 days.
- Store at tempatures between 50°F to 90°F (10°C to 32°C).
- Protect from moisture.
- In all cases, consult the Material Safety Data Sheet before use.