



TECHNICAL DATA SHEET

DURALCRETE® GEL

High Modulus Epoxy Paste Adhesive

03930

CONCRETE REHABILITATION
CONCRETE

1. **DESCRIPTION:** DURALCRETE GEL is a two part, 100% solids, low odor, 1:1 mix ratio, moisture insensitive epoxy resin compound with a non-sag, paste consistency.

FEATURES AND BENEFITS

- *High Strength*
- *High Modulus*
- *Provides Load Transfer*
- *Virtually No Odor*
- *1:1 Mix Ratio*
- *Outstanding Adhesion to Concrete*
- *Moisture Insensitive*
- *Non-Sag Paste*

APPLICATIONS

- *Dowel Bar, Anchor Bolt & Re-Bar Adhesive*
- *Hardened Concrete Adhesive*
- *Vertical and Overhead Applications*
- *Rigid Pick-Proof Sealant for Windows, Doors, Joints, etc.*
- *Capseal for Crack Injection*
- *Repair Concrete Defects*

2. **COMPLIANCE:** DURALCRETE GEL meets or exceeds the following standards:

- ASTM C881-90, Type I, II, IV & V
- Grade 3, Class B & C
- AASHTO M-235

3. **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. Following surface preparation, the cleaned surface should pull concrete when tested with a pull tester, or an elcometer (ASTM D4541).

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.

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MATERIAL PROPERTIES	
75°F	
Color, Part A	Lt. Gray
Color, Part B	Tan
Color (Mixed)	Lt Gray
Solids, %	100
Mixing Ratio (Parts A:B) by volume	1:1
Pot Life, (2 gal unit), mins	15-25
Gel Time, mins	30
Consistency	Non Sag Paste
Compressive Strength (ASTM D695), psi	
1 Day (neat resin), minimum	8,000
7 Days (neat resin), minimum	10,250
Compressive Modulus (ASTM D695), psi	
7 Days (neat resin)	325,000
Compressive Strength (ASTM C109), psi	
7 Days (mortar)	11,350
Tensile Properties (ASTM D638)	
Ultimate Strength @ 14 days, psi	7,050
Elongation at break, %	2.5
Modulus, psi	460,049
Bond Strength (ASTM C882), psi	
Hardened to Hardened Concrete	
2 Days (moist cure)	2015
14 Days (moist cure)	2236
14 Days (dry cure)	3250
Heat Deflection Temp. (ASTM D648)	124°F
Water Absorption (ASTM D570)	
7 day, 24 hour immersion, %	0.31

Data presented are typical laboratory values.

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

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5. **APPLICATION TECHNIQUES:** Application and surface temperatures should be at least 40°F and rising.

Bonding hardened to hardened concrete: Apply mixed DURALCRETE GEL by spatula, brush or trowel. Ensure the surfaces to be joined have uniform coatings of DURALCRETE GEL. For optimum results the bond line should not exceed 1/8". Join surfaces and hold or clamp firmly. Ideally a small amount of adhesive should exude from the joint. Surfaces must be mated while the adhesive is still tacky.

Bonding anchor bolts, dowels, pins: DURALCRETE GEL can be used neat or with an aggregate to anchor horizontal bolts. The anchor bolt hole should be free of all debris before grouting. The optimum hole size is 1/8" inch annular space or 1/4" larger diameter than bar diameter. Depth of embedment is typically 10-15 times bolt diameter

Vertical and Overhead Repairs: Apply DURALCRETE GEL neat as a scrub coat to the prepared concrete surface. Mix the DURALCRETE GEL mortar epoxy mortar and apply to the area by trowel or spatula in lifts of 1 to 1 1/2". Allow each lift to reach initial set set before applying subsequent lifts.

Capseal & Set Ports for Pressure Injection: Place a small amount of the mixed DURALCRETE GEL to the back of the port and carefully place over the crack. Be careful to not fill the hole of the injection port. Place neat mixed DURALCRETE GEL to the cracks to be pressure injected and around each injection port. Allow sufficient cure time before pressure injection.

6. **COVERAGE:** For anchoring, 1 neat gal yields 231 cu.in. of grout. 1 gal neat DURALCRETE GEL with 1 gal dry 20/40 mesh silica sand will yield approximately 410 cu. in. of mortar. Coverage will vary depending on surface texture, porosity and temperature.
7. **CLEAN-UP INSTRUCTIONS:** 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 GEL will require mechanical abrasion for removal.
8. **PACKAGING:** 4 gallon case, 10 gal unit.
Storage: 50°-90°F (10°-32.2°C), protected from moisture.
Shelf Life: 2 years, unopened, proper storage.

9. **ENVIRONMENTAL SAFETY PRECAUTIONS (Industrial Use Only): Component "A":** Contains epoxy resin. Vapors can cause respiratory irritation. Skin and eye irritant. Can cause sensitization after prolonged or repeated exposure. Use of safety goggles and chemical resistant gloves is recommended. Use only with adequate ventilation.

Component "B": Is corrosive. Contains amines. Contact with eyes or skin may cause severe burns. Can cause sensitization after prolonged or repeated use. Use of safety goggles and chemical resistant gloves is highly recommended. Use only with adequate ventilation.

First Aid: In case of skin contact, wash immediately and thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes. Consult physician immediately. For respiratory problems, remove person to fresh air.

Disposal: Collect with absorbent material. Dispose of in accordance with current local, state and federal regulations.

10. **TECHNICAL SERVICE:** For application procedures or surface conditions not specified above, please contact:

TAMMS INDUSTRIES
3835 State Route 72, Kirkland IL 60146
800-862-2667; FAX: 815-522-3257
www.tamms.com

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