

DURAL FAST SET GEL

RAPID-SETTING, HIGH MODULUS EPOXY BONDING ADHESIVE

DESCRIPTION

DURAL FAST SET GEL is a two-component, 100% solids, moisture insensitive, rapid-setting epoxy adhesive and binder for numerous applications. This high modulus, structural gel is perfect for bonding applications that require a quick turn-around. DURAL FAST SET GEL can be used in temperatures as low as 35°F (2°C) and rising.

PRIMARY APPLICATIONS

- Bonding of concrete, masonry, steel, or wood
- Anchoring bolts, dowels, or pins
- Rapidly seal cracks and set ports prior to injection
- Mix with sand to create a repair mortar

FEATURES/BENEFITS

- Exceptional adhesion to construction materials
- Perfect for vertical and overhead bonding
- Easy to use 1:1 mix ratio
- DOT Not Regulated
- Moisture insensitive
- Rapid strength gain in a wide temperature range

TECHNICAL INFORMATION

The following information was obtained under laboratory conditions:

PROPERTY	RESULT
Mixed Viscosity	Consistency/Flow: 0.125 in (0.32 cm)
Pot Life, minutes AASHTO T-237	9
Compressive Strength, psi (MPa) ASTM C 109	10,150 (70.0)
Compressive Modulus, psi (MPa) ASTM C 695	3.02 x 10 ⁵ (2,083)
Slant Shear, psi (MPa) ASTM C 882	14 days: 5,386 (37.1)
Tensile Strength, psi (MPa) ASTM D 638	7 days: 6,878 (47.4)
Water Absorption @ 24 hours, % ASTM D 570	< 0.4
Appearance/Color	Light Gray

REINFORCING STEEL				THREADED ROD			
Rebar Diameter	Hole Diameter	Embedment Depth	Pull-Out Strength*	Rod Diameter	Hole Diameter	Embedment Depth	Pull-Out Strength*
#4: 1/2" (13 mm)	5/8" (16 mm)	4.5" (11.4 cm)	20513 lbf (91 kN)	3/8" (10 mm)	1/2" (13 mm)	3.5" (8.9 cm)	8722 lbf (39 kN)
#5: 5/8" (16 mm)	3/4" (19 mm)	5.5" (14.0 cm)	30591 lbf (136 kN)	1/2" (13 mm)	5/8" (16 mm)	4.5" (11.4 cm)	20851 lbf (93 kN)
#6: 3/4" (19 mm)	7/8" (22 mm)	6.5" (16.5 cm)	42912 lbf (191 kN)	5/8" (16 mm)	3/4" (19 mm)	5.5" (14.0 cm)	33072 lbf (147 kN)
#7: 7/8" (22 mm)	1" (25 mm)	7.5" (19.1 cm)	55180 lbf (245 kN)	3/4" (19 mm)	7/8" (22 mm)	6.5" (16.5 cm)	42092 lbf (187 kN)
#8: 1" (25 mm)	1 1/8" (29 mm)	9" (22.9 cm)	67395 lbf (300 kN)	7/8" (22 mm)	1" (25 mm)	7.5" (19.1 cm)	59520 lbf (265 kN)
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*Direct tension pull-out strengths were obtained in accordance with ASTM E488-10.



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An **RPM** Company



PACKAGING

DURAL FAST SET GEL is packaged in 4 gal (15 L) and 10 gal (38 L) units and cases of 12/22 oz. (650 ml) and 24/10 oz. (300 ml) cartridges. The mix ratio is 1:1 by volume.

SHELF LIFE

2 years in original, unopened containers

SPECIFICATIONS/COMPLIANCES

Complies with ASTM C 881-10 Types I and IV, Grade 3, Class A,B and C
Canadian MTQ
DOT Not Regulated

COVERAGE/YIELD

For anchoring, one neat gal (3.8 L) yields 231 in³ (.004 m³) of epoxy. One gal (3.8 L) of neat DURAL FAST SET GEL epoxy mixed with 1 gal (3.8 L) of dry 20/40 mesh silica sand will yield approximately 368 in³ (.006 m³) of mortar.

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 per ICRI Guideline 310.2. Oil contaminated surfaces should be degreased. Remove defective concrete down to sound material. Following surface preparation, the cleaned surface should pull concrete when tested with a pull tester, or an elcometer (ASTM D 4541). **Steel:** All oils, grease, 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 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 minutes. Scrape the sides and bottom of mixing container while mixing. Do not whip or aerate while mixing. **Mortar:** Gradually add clean, dry 20/40 mesh silica sand to mixed epoxy. 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.

Application: Application and surface temperatures should be at least 35°F (2°C) and rising. **Bonding hardened to hardened concrete:** Apply mixed DURAL FAST SET GEL by spatula, brush or trowel. Ensure the surfaces to be joined have uniform coatings of DURAL FAST SET GEL. For optimum results the bond line should not exceed 1/8" (3.2 mm). Join surfaces and hold or clamp firmly until adhesive gels. Ideally a small amount of adhesive should exude from the joint. Surfaces must be mated while the adhesive is still tacky. **Anchoring bolts, dowels, pins:** DURAL FAST SET 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" (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. **Vertical and overhead repairs:** Mix DURAL FAST SET GEL into an epoxy mortar with the appropriate amount of clean and dried silica sand. Apply neat DURAL FAST SET GEL as a primer coat to the prepared concrete surface. Quickly apply the prepared mortar to the area by trowel or spatula in lifts of 1" to 1 1/2" (25 to 38 mm) prior to the primer coat becoming tack-free. Allow each lift to reach initial set before applying subsequent lifts. **Capseal & set ports for pressure injection:** Place a small amount of the mixed DURAL FAST SET 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 DURAL FAST SET GEL to the cracks to be pressure injected and around each injection port. Allow sufficient cure time before pressure injecting with Dural Fast Set LV, Dural 452 LV or Dural Injection Gel.

CLEAN-UP

Clean tools and application equipment immediately after use with EUCO SOLVENT or acetone while still wet.

PRECAUTIONS/LIMITATIONS

- Store at temperatures between 50°F to 90°F (10°C to 32°C)
- Do not thin
- Protect from moisture
- Surface and ambient temperatures must be 35°F (2°C) and rising at time of use
- In all cases, consult the Material Safety Data Sheet before use

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