



INJECTION GEL

Epoxy Gel Adhesive

PRODUCT DESCRIPTION

Five Star Injection Gel is a multi-purpose, two component, 100% solids, moisture insensitive, structural epoxy adhesive used in filling cracks up to 1/2 inch (13 mm). Five Star Injection Gel is a smooth, nonabrasive gel that can be pressure injected or hand applied. Five Star Injection Gel meets ASTM C 881 Types I, II, IV and V, Grade 3, Classes B & C; and also meets USDA specifications for use in food processing areas.

ADVANTAGES

- VOC compliant
- Excellent adhesion to masonry, concrete, wood, steel and most structural materials
- High strength
- Gel consistency ideal for vertical, overhead and non-mating surfaces
- Moisture insensitive
- Convenient 1:1 mixing ratio
- Unique nonabrasive texture permits applications with automated pressure-injection equipment

USES

- Structural crack repairs to 1/4 inch (6 mm) width
- Pressure injection of cracks in structural concrete, masonry, wood and other substrates
- Surface repair of non-moving cracks on new or existing structures
- Anchoring of bolts, dowels, pins and special fasteners
- A pick-proof sealant around windows, doors, lock-ups and inside correctional facilities
- General purpose gel adhesive

PACKAGING AND YIELD

Five Star Injection Gel is available in one gallon (3.7 liters) units yielding approximately 231 cubic inches of material.

SHELF LIFE

Two years in original unopened packaging when stored in dry conditions at 45°F to 90°F (5°C - 35°C).

TYPICAL PROPERTIES AT 70°F (21°C)	
Color	Gray
Viscosity	Gel
Flexural Strength, ASTM D 790	5500 psi (38.0 MPa)
Water Absorption, ASTM D 570	0.10%
Bond Strength, ASTM C 882	
2 Day Cure	2600 psi (17.9 MPa)
14 Day Cure	4600 psi (31.7 MPa)
Shrinkage, ASTM D 2566	0.0007 in/in (mm/mm)
Shear Strength, ASTM D 732	3500 psi (24.2 MPa)
Compressive Properties, ASTM D 695	
Compressive Strength	10000 psi (68.9 MPa)
Compressive Modulus	2.80 x 10 ⁵ psi (1930 MPa)
Gel Time, ASTM C 881	40 minutes

The data shown above reflects typical results based on laboratory testing under controlled conditions. Reasonable variations from the data shown may result. Test methods are modified where applicable.

PLACEMENT GUIDELINES

1. **SURFACE PREPARATION:** Surface must be clean and sound. For best results surfaces should be dry. Remove dust, laitance, grease, curing compounds, impregnations and waxes. Concrete may be sandblasted or prepared by other approved mechanical means. Steel should be sandblasted to an SSPC-SP6 commercial finish.
2. **MIXING:** Material should be preconditioned to between 70°F and 80°F (21°C and 26°C) before using. Pre-mix each component thoroughly. Proportion equal parts by volume of Component A and Component B into a clean pail. Mix thoroughly for three minutes with a low speed drill (400-600 rpm) to avoid air entrapment. Do not mix more material than can be placed in 40 minutes at 70°F (21°C).
3. **METHODS OF PLACEMENT:**

Pressure Injection: Use automated equipment. Set appropriate injection ports based on system used. Seal ports and cracks with Five Star Injection Gel or Five Star RS Anchor Gel. When the epoxy adhesive seal has cured, inject Five Star Injection Gel with steady pressure until crack is filled.

Structural Adhesive: Apply Five Star Injection Gel to the mating or non-mating prepared substrates. Work into the substrates for positive adhesion. Secure the bonded unit firmly into place until the adhesion has cured. Glue line should not exceed 1/8 inch (3 mm).

Anchor bolts, dowels, pins and plates: Annular space around bolt should not exceed 1/8 inch (3 mm); depth of embedment is typically 10 to 15 times the bolt diameter. Place material in hole, starting from the rear to avoid air pockets. For best results, coat anchor with adhesive, insert and rotate slowly into hole.

Pick-proof sealant: Use proper equipment to dispense an appropriate size bead around area being sealed. Tool material into joint to create seal.
4. **CLEAN-UP:** Use an appropriate solvent to clean uncured material. Cured material can only be removed mechanically.

NOTE: PRIOR TO APPLICATION, READ ALL PRODUCT PACKAGING THOROUGHLY. For more detailed placement procedures, refer to Design-A-Spec™ installation guidelines or call the Five Star Engineering and Technical Service Center at (800) 243-2206.

CONSIDERATIONS

- Minimum application temperature of substrate is 40°F (4°C) and rising. Low temperatures adversely affect consistency and strength gain.
- Cold temperatures lengthen gel time, hot temperatures decrease gel time.
- Do not thin with solvents.
- Do not inject moving or leaking cracks.
- Minimum age of concrete must be 21 to 28 days, depending on curing and drying conditions prior to application.
- For cracks over 1/2 inch (12 mm), call Five Star's Engineering and Technical Service Center at (800) 243-2206.
- Material is vapor barrier after cure.

CAUTION

Irritant, toxic, strong sensitizer. Contains epoxy resin and amine. This product may cause skin irritation. Do not inhale vapors. Provide adequate ventilation. Protect against contact with skin and eyes. Wear rubber gloves, long sleeve shirt, goggles with side shields. In case of contact with eyes, flush repeatedly with water and contact a physician. Areas of skin contact should be promptly washed with soap and water. Do not take internally. Keep product out of reach of children. PRIOR TO USE, REFER TO MATERIAL SAFETY DATA SHEET.

For worldwide availability, additional product information and technical support, contact your local Five Star distributor, local sales representative, or you may call Five Star's Engineering and Technical Service Center at (800) 243-2206.

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