



LV ADHESIVE

Low Viscosity Epoxy Adhesive

PRODUCT DESCRIPTION

Five Star LV Adhesive is a two component, 100% solids, moisture insensitive, structural epoxy adhesive used in filling cracks up to 1/4 inch (6 mm). Five Star LV Adhesive is a low viscosity epoxy system that can be pressure injected or gravity fed. Five Star LV Adhesive can be used as a binder for making an epoxy patching mortar. Five Star LV Adhesive meets ASTM C 881 Types I, II, IV and V, Grade 1, Classes B & C.

ADVANTAGES

- Low viscosity ensures deep penetration
- Moisture insensitive
- High modulus structural adhesive
- High strength
- Excellent adhesion to masonry, concrete, wood, steel and most structural material
- Meets USDA specification for use in food processing areas

USES

- Gravity feed cracks in horizontal concrete and masonry
- Pressure injection of cracks in structural concrete, masonry, wood and other substrates up to 1/4 inch (6 mm) wide
- Sealing tunnels, cable vaults, tanks, and basements
- Seal interior slabs and exterior above grade slabs from water and chlorides
- Installation of bolts, anchors and dowels
- Binder for epoxy patching mortar of interior horizontal surfaces

PACKAGING AND YIELD

Five Star LV Adhesive is available in a one gallon (3.7 liters) unit yielding approximately 231 cubic inches of material.

SHELF LIFE

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

TYPICAL PROPERTIES AT 70°F (21°C)	
Color	Clear Amber
Viscosity, ASTM D 2393	150 CPS
Flexural Strength, ASTM D 790	9600 psi (62.2 MPa)
Bond Strength, ASTM C 882	
2 Day Cure	2400 psi (16.6 MPa)
14 Day Cure	3600 psi (24.8 MPa)
Shrinkage, ASTM D 2566	.0021 in/in (mm/mm)
Shear Strength, ASTM D 732	9000 psi (62.1 MPa)
Heat Deflection Temperature, ASTM D 648	122°F(50°C)
Compressive Properties, ASTM D 695	
Compressive Strength	10600 psi (73.2 MPa)
Compressive Modulus	2.10 x 10 ⁵ psi (1448 MPa)
Tensile Properties, ASTM D 638	
Tensile Strength	7000 psi (48.3 MPa)
Percent Elongation at Break	2.96%
Gel Time, ASTM C 881	30 minutes

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. Blow out all surfaces with oil free compressed air.
2. **MIXING:** Material should be preconditioned to between 65°F and 85°F (18°C and 29°C) before using. Pre-mix each component thoroughly. Place two parts by volume of Component A and one part by volume of Component B into a clean pail. Mix thoroughly for three minutes with a low speed drill (400 to 600 rpm). Do not mix more material than can be placed in 30 minutes at 70°F (21°C).
To prepare an epoxy mortar, slowly add four to five parts by loose volume oven-dried aggregate to one part of the mixed Five Star LV Adhesive and mix until aggregate is uniformly wetted.
3. **METHODS OF PLACEMENT:**
Gravity Fill: Pour over V-notched cracks on horizontal surfaces. Continue placement until cracks are completely filled. Prior to filling, seal underside of cracks with Five Star RS Anchor Gel or Five Star Injection Gel where required.
Pressure Injection: Use automated equipment. Set appropriate injection ports. Seal ports and cracks with Five Star RS Anchor Gel or Five Star Injection Gel. When the epoxy adhesive seal has cured, inject Five Star LV Adhesive with steady pressure until crack is filled.
For an epoxy mortar: Prime prepared surface with neat Five Star LV Adhesive. Place prepared epoxy mortar before primer becomes tack-free. Place epoxy mortar using trowel. Compact and level with steel trowel. Finish as necessary.
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 Products 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 flowability 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 1/4 inch (6 mm), call Five Star's Engineering and Technical Service Center at (800) 243-2206.
- Material is a 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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Five Star Products, Inc.
Corporate Headquarters
750 Commerce Drive
Fairfield, CT 06825 USA
Tel: 203-336-7900 • Fax: 203-336-7930
<http://www.fivestarprouducts.com>



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