



FIVE STAR® FLUID EPOXY

High Performance Fluid Epoxy

PRODUCT DESCRIPTION

Five Star Fluid Epoxy is a two component, all-purpose, rapid cure fluid epoxy system. Five Star Fluid Epoxy is designed for adhesive grouting, anchoring, repair of spalls and cracks, skid resistant surfaces and setting of bolts and wedges.

ADVANTAGES

- High early strength
- Fluid, self-leveling consistency
- Excellent adhesion to steel
- Good impact resistance
- Chemically resistant
- Convenient packaging (0.20 cu.ft. units)

USES

- Anchoring machines, baseplates and other equipment
- Indoor repair of spalled and cracked concrete
- Installation of bolts, anchors and dowels
- Operating temperatures up to 150°F (65°C)
- Dynamic loads

TECHNICAL SUPPORT

Five Star Products maintains the industry's foremost Engineering and Technical Support Group:

- Over 50 years of experience in precision grouting
- Technical Center staffed with experienced engineers available for consultation
- Design-A-Spec™ for engineering specification assistance
- Experienced representatives for field service
- Corporate research laboratory available to customize products for unique applications

PACKAGING AND YIELD

Five Star Fluid Epoxy kit is a two component system consisting of a resin/aggregate preblend and hardener packaged separately inside a two gallon pail with a mixing paddle. The 21.8 lb (9.9 kg) unit yields approximately 0.20 cubic feet (5.7 liters) of hardened grout.

SHELF LIFE

Two years in original unopened packaging when stored in cool and dry conditions. Before use and for optimum performance, condition material to between 70°F and 80°F (21°C and 27°C).

TYPICAL PROPERTIES AT 73°F (23°C)

Compressive Strength, ASTM C 579 A*	<u>Compressive Strength</u>	<u>Compressive Secant Modulus</u>
6 Hours	11000 psi (75.8 MPa)	3.5 x 10 ⁵ psi (2.4 x 10 ³ MPa)
1 Day	13000 psi (89.6 MPa)	4.3 x 10 ⁵ psi (2.9 x 10 ³ MPa)
7 Days	14000 psi (96.5 MPa)	4.8 x 10 ⁵ psi (3.3 x 10 ³ MPa)
Creep, ASTM C 1181, 1 year	10 x 10 ⁻³ in/in (mm/mm) at 140°F (60°C), 400 psi (2.8 MPa)	
Tensile Strength, ASTM C 307	2500 psi (17.2 MPa)	
Flexural Strength, ASTM C 580	6800 psi (46.9 MPa)	
Flexural Secant Modulus, ASTM C 580	1.0 x 10 ⁶ psi (6.9 x 10 ³ MPa)	
Coefficient of Expansion, ASTM C 531	32 x 10 ⁻⁶ in/in/°F (57.6 x 10 ⁻⁶ mm/mm/°C)	
Bond to Concrete, ASTM C 882	Concrete Failure	

* Rate of loading 0.125 inches per minute.

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



PLACEMENT GUIDELINES

1. **SURFACE PREPARATION:** All surfaces to be in contact with Five Star Fluid Epoxy shall be free of oil, grease, laitance and other contaminants. Concrete must be clean, sound, dry and roughened to ensure a good bond. Provide a SSPC-SP6 commercial finish on all metal surfaces to ensure proper adhesion when required.
 2. **FORMWORK:** Formwork shall be constructed of rigid nonabsorbent materials, securely anchored, liquid tight and strong enough to resist forces developed during grout placement. Areas where bond is not desired must be treated with paste wax or polyethylene.
 3. **MIXING:** For optimum performance, all components should be conditioned to between 70°F and 80°F (21°C and 27°C) prior to use. Use supplied mixing paddle and a slow speed drill for all mixing procedures. Mix Component A (resin and aggregate preblend) until aggregate is completely dispersed into resin. Pour all of Component B (hardener) into pail containing resin and aggregate blend and mix until a uniform color is achieved. Use immediately after mixing. Working time is approximately 30 minutes when temperatures are at 73°F (23°C).
 4. **METHODS OF PLACEMENT:** Five Star Fluid Epoxy may be poured in place at a thickness of 1/8 inch (3 mm) to 1½ inches (38 mm). A self-leveling product, Five Star Fluid Epoxy needs little or no finishing. For placement thicknesses greater than 1½ inches (38 mm) or greater than 0.20 cubic feet (5.7 liters), call the Five Star Products Engineering and Technical Center at 800-243-2206.
 5. **POST-PLACEMENT PROCEDURES:** In-service operation may begin immediately after minimum required strength and modulus have been achieved. Where a skid resistant surface is required, broadcast sand on fresh uncured epoxy surface. Sweeping away excess sand after epoxy cures, leaves a skid resistant finish. Five Star Fluid Epoxy surfaces may be painted after abrading with a rough sandpaper.
 6. **CLEAN UP:** All tools and equipment may be cleaned with solvents or water and strong detergent solution before material hardens.
- NOTE: PRIOR TO APPLICATION, READ ALL PRODUCT PACKAGING THOROUGHLY.** For more detailed placement procedures call the Five Star Products Engineering and Technical Center at 800-243-2206.

LIMITATIONS

- Flowability and strength gain are adversely affected by lower temperatures.
- To obtain bond, concrete shall be visibly free of surface moisture.
- Color may vary from batch to batch.

Contact the Five Star Products Engineering and Technical Center for the following conditions:

- For placement temperatures below 50°F (10°C) or above 90°F (32°C).
- For placements greater than 1½ inches (38 mm), or greater than 0.20 cubic feet (5.7 liters).
- For operating temperatures exceeding 150°F (65°C).

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.**

WARRANTY: "FIVE STAR PRODUCTS, INC. (FSP) PRODUCTS ARE MANUFACTURED TO BE FREE OF MANUFACTURING DEFECTS AND TO MEET FSP'S CURRENT PUBLISHED PHYSICAL PROPERTIES WHEN APPLIED IN ACCORDANCE WITH FSP'S DIRECTIONS AND TESTED IN ACCORDANCE WITH ASTM AND FSP STANDARDS. HOWEVER, SHOULD THERE BE DEFECTS OF MANUFACTURING OF ANY KIND, THE SOLE RIGHT OF THE USER WILL BE TO RETURN ALL MATERIALS ALLEGED TO BE DEFECTIVE, FREIGHT PREPAID TO FSP FOR REPLACEMENT. THERE ARE NO OTHER WARRANTIES BY FSP OF ANY NATURE WHATSOEVER, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IN CONNECTION WITH THIS PRODUCT. FSP SHALL NOT BE LIABLE FOR DAMAGES OF ANY SORT, INCLUDING PUNITIVE, ACTUAL, REMOTE OR CONSEQUENTIAL DAMAGES, RESULTING FROM ANY CLAIMS OF BREACH OF CONTRACT, BREACH OF ANY WARRANTY, WHETHER EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR FROM ANY OTHER CAUSE WHATSOEVER. FSP SHALL ALSO NOT BE RESPONSIBLE FOR USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT HELD BY OTHERS."

For nationwide 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 Center at 800-243-2206.

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