



SP EPOXY GROUT

Superior Performance, Precision Non-shrink Grout

PRODUCT DESCRIPTION

Five Star® SP Epoxy Grout is the next generation in ultra-high performance epoxy grout. Five Star® SP Epoxy Grout has extremely high compressive strength, is expansive non-shrink, with ultra-low creep and outstanding Effective Bearing Area (EBA). Available both in standard and pump grade, Five Star® SP Epoxy Grout is a 100% solid epoxy grout system for high performance machinery and equipment.

ADVANTAGES

- Ultra-high 1 day & 7 day strengths
- Very low creep
- Available in standard grade and pump grade
- Excellent chemical resistance
- 95% Effective Bearing Area (EBA)
- Expansive and non-shrink per ASTM C 827
- Simple soap and water clean-up

USES

- Wind turbine bases and crane rails
- Compressors and turbo-machinery
- Presses and stamping machines
- Pumps and rotating equipment
- Skid-mounted equipment
- High dynamic load applications

PACKAGING

Five Star® SP Epoxy Grout is a three component system consisting of partially filled containers of resin, hardener and polyethylene lined bags of aggregate. Five Star® SP Epoxy Grout is available in a unit yielding approx. 1.85 ft³ (53.2 liters) for Standard Grade and 1.75 ft³ (49.6 liters) for Pump Grade.

SHELF LIFE

Two year shelf life if in original, unopened packaging when stored under dry conditions: high humidity storage space will reduce shelf life.

TYPICAL PROPERTIES AT 70°F (21°C)

	Standard Grade	Pump Grade
Early Height Change, ASTM C 827	Positive Expansion	Positive Expansion
Effective Bearing Area (EBA)	95%	95%
Creep, ASTM C 1181, 1 Year 400 psi @ 140° F	0.5 x 10 ⁻³ in/in	1.0 x 10 ⁻³ in/in
Tensile Strength, ASTM C 307	2,000 psi (13.8 MPa)	2,300 psi (15.9 MPa)
Flexural Strength, ASTM C 580	5,000 psi (34.5 MPa)	5,500 psi (37.95 MPa)
Coefficient of Expansion, ASTM C 531	16 x 10 ⁻⁶ in/in/°F (28.8 x 10 ⁻⁶ mm/mm/°C)	17 x 10 ⁻⁶ in/in/°F (30.6 x 10 ⁻⁶ mm/mm/°C)
Compressive Strength, ASTM C 579 B*		
1 Day	16,500 psi (113.8 MPa)	16,500 psi (113.8 MPa)
7 Day	17,500 psi (120.7 MPa)	17,500 psi (120.7 MPa)
28 Days	20,000 psi (138.0 MPa)	20,000 psi (138.0 MPa)
Post Cure	22,000 psi (151.7 MPa)	22,000 psi (151.7 MPa)
Working Time at 70° F (21° C)	30 Minutes	30 Minutes

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

*ASTM C 579 load rate II (0.25 inches per minute).

PLACEMENT GUIDELINES

1. **SURFACE PREPARATION:** All surfaces to be in contact with Five Star® SP Epoxy Grout shall be free of oil, grease, laitance and other contaminants. Concrete must be clean, sound, dry and roughened to ensure a good bond. An SSPC-SP6 commercial finish on all metal surfaces will optimize bond development to steel.
2. **FORMWORK:** Formwork shall be constructed of rigid non-absorbent materials, securely anchored, liquid-tight and strong enough to resist forces developed during grout placement. The clearance between formwork and baseplate shall be sufficient to allow for a headbox. The clearance for remaining sides shall be 1" to 2" (25 - 50 mm). Areas where bond is not desired must be treated with paste wax or polyethylene. Isolation joints should be incorporated into pours at 4' to 6' intervals. Contact the Five Star Products, Inc. Engineering and Technical Service Center at 1-800-243-2206 for further information.
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. Pour all Component B (hardener) into pail containing Component A (resin). Mix thoroughly by hand with a paddle or with a slow speed drill and paddle mixer to avoid air entrapment. Pour mixed liquids into mortar mixer (stationary barrel with moving blades). While mixing, slowly add Component C (aggregate) and mix only until aggregate is completely wet. Add Component C (aggregate) immediately after mixing Component A (resin) and Component B (hardener). Working time is approximately 30 minutes when temperatures are at 70°F (21°C).
4. **METHODS OF PLACEMENT:** Five Star® SP Epoxy Grout may be poured (standard grade) or pumped (pump grade) into place. All grout shall be placed from one side to the other, maintaining contact with the bottom of the base plate at all times. When possible, use of a head box is highly recommended (refer to the Five Star® Technical Bulletin "Head Box and Plunger" for guidelines). For pumping applications use a peristaltic pump. For clearances less than 1 inch (25 mm) or greater than 4" (100 mm) or volumes exceeding 12 ft³ (339 liters), call the Five Star Products, Inc. Engineering and Technical Center at 1-800-243-2206.
5. **POST-PLACEMENT PROCEDURES:** Final finishing should ensure material is flush with bottom edge of base plate. Finishing of exposed surfaces is aided by using a solvent wiped trowel just before material becomes unworkable. In-service operation may begin immediately after minimum required grout strength and modulus have been achieved.
6. **CLEAN UP:** All tools and equipment may be cleaned with a water and strong detergent solution before material hardens. Sand may be used as an abrasive. A suitable solvent is required for clean up of material after hardening.

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, Inc. Engineering and Technical Service Center at 1-800-243-2206.

CONSIDERATIONS

- Flow ability and strength gain are adversely affected by lower temperatures.
- For placement temperatures below 55°F (13°C) or above 90°F (32°C), refer to Design-A-Spec™.
- To obtain bond, concrete shall be visibly free of surface moisture.
- Do not exceed recommended placement volumes or depths in a single pour. For installation assistance contact the Five Star Products, Inc. Engineering and Technical Service Center at 1-800-243-2206.
- Do not add solvents to increase flow ability.
- For continuous operating temperatures exceeding 250°F (120°C), contact the Five Star Products, Inc. Engineering and Technical Service Center at 1-800-243-2206.
- Construction practices dictate concrete foundation should achieve its design strength before grouting.

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 and appropriate respiratory protection in case of contact with eyes, flush repeatedly with water and contact a physician immediately. 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 1-800-243-2206.

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, EXPRESS 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."

Specifications Subject to Change.

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