



FIVE STAR FOUNDATION SYSTEM® 2

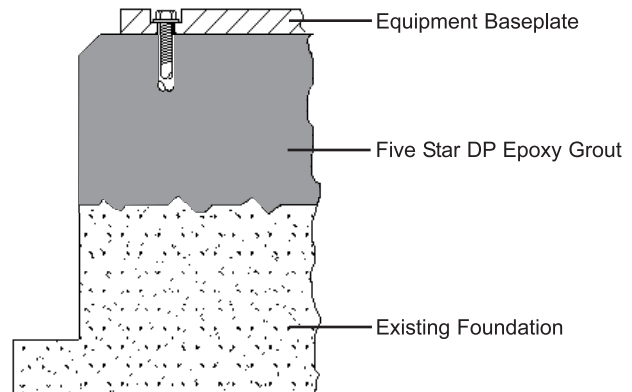
Single Lift - Epoxy

PRODUCT DESCRIPTION

Five Star Foundation System 2 consists of Five Star® DP Epoxy Grout, an expansive, nonshrink, low exotherm epoxy grout. This system achieves both foundation repairs and equipment grouting in a single application. A 90 minute working time allows for deep pours to facilitate equipment rebuilds in 10 to 24 hours. Five Star Foundation System 2 is ideal for high impact vibrating machinery and chemical environments.

LARGE VOLUME POURS

TURNAROUND TIMES: 10 to 24 Hours



ADVANTAGES

- Fast turnaround
- Expansive, nonshrink per ASTM C 827
- 95% Effective Bearing Area (EBA)
- Up to five cubic yard pours
- Repair and grouting combined in a single pour
- Reduced labor and construction costs
- Long working time
- Chemically resistant

USES

- Grouting machine baseplates to maintain precision alignment under high impact and vibration
- Foundation rebuilds and skid mounted equipment
- Chemical environments

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

TYPICAL PROPERTIES AT 73°F (23°C)

Compressive Strength, ASTM C 579 B*	<u>Compressive Strength</u>	<u>Compressive Modulus</u>
1 Day	11000 psi (75.9 MPa)	1.5 x 10 ⁶ psi (10.4 x 10 ³ MPa)
7 Days	14000 psi (96.6 MPa)	2.0 x 10 ⁶ psi (13.8 x 10 ³ MPa)
Height Change, ASTM C 827	Positive Expansion	
Effective Bearing Area	95%	
Creep, ASTM C 1181, 1 year	3.7 x 10 ⁻³ in/in (mm/mm) at 140°F (60°C), 400 psi (2.8 MPa)	
Tensile Strength, ASTM C 307	2100 psi (14.4 MPa)	
Flexural Strength, ASTM C 580	3800 psi (26.2 MPa)	
Coefficient of Expansion, ASTM C 531	17 x 10 ⁻⁶ in/in/°F (30 x 10 ⁻⁶ mm/mm/°C)	
Bond to Concrete, ASTM C 882	Concrete Failure	
Peak Exotherm, ASTM D 2471		
6 x 12 inch cylinder	96°F (36°C)	

* Rate of loading 0.25 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 DP 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. Provide a SSPC-SP6 commercial finish on all metal surfaces to ensure proper adhesion when required.
 2. **FORMS AND ISOLATION JOINTS:** 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. Isolation joints should be placed on four to six foot (1.2 m to 1.8 m) centers.
 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 paddle or slow speed mixer to avoid air entrapment. Pour mixed liquids into mortar mixer. While mixing, slowly add five bags of 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 90 minutes when temperatures are at 73°F (23°C).
 4. **METHODS OF PLACEMENT:** Five Star DP Epoxy Grout may be poured into place. For placement thicknesses of less than one inch (25 mm), or greater than 18 inches (450 mm), call the Five Star Products Engineering and Technical Center at 203-336-7900.
 5. **POST-PLACEMENT PROCEDURES:** In-service operation may begin immediately after minimum required grout strength and modulus have been achieved. Final finishing of exposed surfaces is aided by using a solvent wiped trowel just before material becomes unworkable.
 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.
- NOTE: PRIOR TO APPLICATION, READ ALL PRODUCT PACKAGING THOROUGHLY.** For more detailed placement procedures, refer to Design-A-Spec™ or call the Five Star Products Engineering and Technical Center at 203-336-7900.

LIMITATIONS

- Flowability and strength gain are adversely affected by lower temperatures.
- For placement temperatures below 70°F (21°C) or above 90°F (32°C), refer to Design-A-Spec™.
- To obtain bond, concrete shall be visibly free of surface moisture.
- For placements thinner than one inch (25 mm), greater than 18 inches (450 mm), or greater than 54 cubic feet (1.5 cu m), contact the Five Star Products Engineering and Technical Center.
- Do not reduce aggregate loading or add solvents to increase flowability.
- For operating temperatures exceeding 180°F (82°C), contact the Five Star Products Engineering and Technical Center.
- 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. 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 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 Center at 800-243-2206.

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