HP EPOXY GROUT HIGH FLOW

High Performance Precision Grout

PRODUCT DESCRIPTION

Five Star® HP Epoxy Grout High Flow is a high-performance expansive, non-shrink, epoxy system for supporting equipment requiring precision alignment. Five Star® HP Epoxy Grout High Flow is a three component, 100% solids, solvent-free system formulated to exhibit high early strength. Five Star® HP Epoxy Grout exhibits positive expansion when tested in accordance with ASTM C 827.

ADVANTAGES

- Permanent support for machinery requiring precision alignment
- High early strength
- Start-up in 16 hours or less
- Solvent-free clean up
- Adjustable flow for various conditions
- Expansive, non-shrink per ASTM C 827
- Chemically resistant
- 95% Effective Bearing Area (EBA) is typically achieved following proper grouting procedures
- Excellent adhesion to steel

USES

- High performance machinery grouting
- Crane rail grouting
- Precision alignment under dynamic load conditions
- Vibration dampening filler for rotating equipment
- Support of chemical tanks, vessels and rotating equipment
- Aggressive chemical environments
- Installation of anchors and dowels
- Wind turbine baseplates

PACKAGING AND YIELD

Five Star® HP Epoxy Grout High Flow is a three-component system consisting of partially filled containers of resin, hardener and aggregate. Each 4-Bag Kit comes with four 22.7 kg bags of aggregate for yields approximately 50 Liters of hardened material. The 1-Bag kit comes with one 22.7 kg bag of aggregate and yields approximately 12.5 Liters of hardened material.

SHELF LIFE

Two years in original unopened packaging when stored in dry conditions; high relative humidity will reduce shelf life.

TYPICAL PROPERTIES AT 25°C	
Height Change, ASTM C 827, at 32°C	Positive Expansion
Effective Bearing Area (EBA) @ 25°C	95%
Tensile Strength, ASTM C307	14 MPa
Flexural Strength, ASTM C580	30 MPa
Coefficient of Expansion, ASTM C531	32 x 10^{-6} mm/mm/°C
Bond to Concrete, ASTM C882	Concrete Failure
Compressive Strength, ASTM C 579 B[1]	
1 Day	97 MPa
7 Days	110 MPa
Post-cured at 60°C	117 MPa
Working Time @ 25°C May be affected by colder & warmer temperatures[2]	45 minutes

[1] Materials tested per ASTM C 579 B. Rate of loading 0.25 inches per minute.
[2] Refer to Five Star® Technical Bulletins: Epoxy Grouting in Cold Weather; Epoxy Grouting in Hot Weather.

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

APPLICATION INFORMATION

Placement Depth	25 mm - 100 mm > 100 mm, call Five Star Products

PLACEMENT GUIDELINES

For optimum performance, install at temperatures between 20°C and 35°C. Maintain grout, substrate, and equipment temperatures above 15°C until grout reaches required compressive strength. Flowability and strength gain are adversely affected by lower temperatures. Components can be mixed at temperatures between 15°C and 50°C; however, results will vary. Product will be thicker and mixing more difficult at temperatures below 20°C. Thicker product may require minimum clearances greater than 25 mm. When mixed at warmer temperatures, working time will be significantly reduced. For hot or cold weather grouting refer to Five Star® Technical Bulletins: Epoxy Grouting in Cold Weather; Epoxy Grouting in Hot Weather.

1. **SURFACE PREPARATION:** Construction practices dictate concrete foundation should achieve its design strength before grouting. Epoxy grouting on green concrete (>5% moisture) is not recommended. All surfaces to be in contact with Five Star® HP Epoxy Grout High Flow shall be dry and free of oil, grease, laitance and other contaminants. To maximize bond, concrete surfaces should be prepared by acceptable means to coarse aggregate exposure. Remove all oxidation from exposed steel. If necessary, for coated surfaces it is recommended to remove a minimum of two-thirds of the coating to a clean metal finish for optimum bond.
2. **FORMWORK:** Formwork should be constructed 24-hours prior to the pour. 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 to be placed between the edge of the baseplate and the form. The clearance for remaining sides shall be 25 - 50 mm. Formwork and areas where bond is not desired must be treated with grease, paste wax, or similar material. Isolation/construction joints should be used on pours of larger dimensions/volumes; contact Five Star Products for details.
3. **MIXING: Mortar Mixer** (stationary barrel with moving blades): 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 mixer large enough to accommodate the total mix. While mixing, slowly add multiple bags of Component C (aggregate) and mix only until aggregate is completely wet. Note: Component C (aggregate) should be added immediately after mixing Component A (resin) and Component B (hardener). Working time is approximately 45 minutes when temperatures are at 25°C. **DO NOT MIX WITH WATER.**

   Single Bag Mixing Drill and Paddle: 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 vessel large enough to accommodate the total mix. While mixing, slowly add 1 bag of Component C (aggregate) and mix only until aggregate is completely wet. Note: Component C (aggregate) should be added immediately after mixing Component A (resin) and Component B (hardener). Working time is approximately 45 minutes when temperatures are at 25°C. **DO NOT MIX WITH WATER.**
4. **METHODS OF PLACEMENT:** Five Star® HP Epoxy Grout High Flow may be poured or pumped into place. All grout shall be placed from one side to the other, maintaining contact with the bottom of the baseplate at all times. When possible, use of a headbox is suggested. For clearances greater than 100 mm or volumes more than 570 liters, call Five Star Products. When pumping Five Star® HP Epoxy Grout High Flow, the use of a peristaltic pump may produce best results.
5. **POST-PLACEMENT PROCEDURES:** Final finishing should ensure material is flush with the bottom edge of baseplate. 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.

PRIOR TO APPLICATION, READ ALL PRODUCT PACKAGING THOROUGHLY. *For more detailed information contact Five Star Products.*

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, and 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 SAFETY DATA SHEET.**

SKU / PRODUCT CODE	DESCRIPTION	UNIT SIZE (WEIGHT | VOLUME - A & B)
31615	Five Star® HP Epoxy Grout High Flow 1-bag kit	Resin (A): 3.3 kg | 3.00 L Hardener (B): 0.57 kg | 0.58 L Aggregate (C): One 22.7 kg Bag
31610	Five Star® HP Epoxy Grout High Flow 4-bag kit	Resin (A): 13.0 kg | 11.82 L Hardener (B): 2.2 kg | 2.24 L Aggregate (C): Four 22.7 kg Bags

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Specifications Subject to Change.
For most current version of datasheet, go to FiveStarProducts.com

ISO 9001:2015 CERTIFIED

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