



DP EPOXY GROUT HIGH FLOW

Low Exothermic High Flow, Precision Epoxy Grout

formerly DP Epoxy Grout 201

PRODUCT DESCRIPTION

Five Star® DP Epoxy Grout High Flow is an expansive, non-shrink, low exothermic, high flow epoxy grout for machinery grouting. It has enhanced working time for use in high ambient temperature environments. Five Star® DP Epoxy Grout High Flow is a three-component, 100% solids, solvent-free system formulated to provide high strength and good creep resistance combined with the highest effective bearing area. Five Star® DP Epoxy Grout High Flow meets the performance requirements of EN 1504-3 (Class R4). It exhibits positive expansion when tested in accordance with ASTM C827.

ADVANTAGES

- Permanent support for machinery requiring precision alignment
- Low exothermic properties with early strength development
- Chemically resistant
- Long working time
- Solvent-free clean up
- 95% Effective Bearing Area (EBA)
- Good creep resistance
- Excellent adhesion to steel
- Pumpable

USES

- Large volume applications
- Foundation rebuilds and skid mounted equipment
- Precision alignment under dynamic load conditions
- Vibration dampening for rotating equipment
- Support of chemical tanks, vessels and rotating equipment
- Aggressive chemical environments
- Operating temperatures up to 82°C
- Application thickness range 25 mm - 200 mm

PACKAGING AND YIELD

Five Star® DP Epoxy Grout High Flow is a three-component system consisting of partially filled containers of resin, hardener and bags of aggregate. It is offered in three packaging sizes with approximate unit yields of 10.95 L, 13.8 L, or 43.8 L 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 21°C			
Property	Test Standard	Requirement per EN 1504	FSP Result
Compressive Strength	EN 12190:1999	≥ 45 MPa (Class R4) at 28 Days	
	1 Day		80 MPa
	7 Days		90 MPa
Bond Strength	EN 1542:1999	≥ 2 MPa (Class R4)	≥ 2 MPa
Chloride Ion Content	EN 1015-17:2000	≤ 0.05%	0.01%
Modulus of Elasticity	EN 13412:2002	≥ 20 GPa	22 GPa
Freeze Thaw Cycling	EN 13687-1:2002	≥ 2 MPa	≥ 2 MPa
Tensile Strength	BS 6319 Part 7 per ASTM C 307		
	7 Days	NR ¹	14 MPa
Flexural Strength	EN 12190:1999		
	7 Days	NR	25 MPa
	28 Days	NR	30 MPa
Fire Classification	EN 1504-3 Section 5.5	Declared	Euroclass B
Dangerous Substances	EN 1504-3 Section 5.4	Declared	Complies
Working Time May be affected by colder & warmer temperatures ²	EN 13395-1	Declared per FPC ³	60 minutes
Height Change, ASTM C 827, at 32°C	NR	NR	Positive Expansion

¹ NR = Not Required

² Refer to Five Star® Technical Bulletins: *Epoxy Grouting in Cold Weather*, *Epoxy Grouting in Hot Weather*

³ FPC= Factory Production Control

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

Minimum Thickness	25 mm
Placement Depth	25 mm - 200 mm > 200 mm, call Five Star Products

PLACEMENT GUIDELINES

For optimum performance, install at temperatures between 21°C and 32°C. Maintain grout, substrate, and equipment temperatures above 21°C until grout reaches required compressive strength. Flowability and strength gain are adversely affected by lower temperatures. For hot or cold weather grouting refer to Five Star® Technical Bulletins: Epoxy Grouting in Cold Weather ; Epoxy Grouting in Hot Weather.

- 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 concrete surfaces in contact with Five Star® DP Epoxy Grout High Flow shall be dry, free of oil, grease, laitance, and other contaminants. To maximize bond, concrete surfaces should be prepared by acceptable means to coarse aggregate exposure. A 12 mm surface profile peak to valley is recommended. Remove all oxidation from exposed reinforcing steel.
- FORMWORK:** It is recommended that shoulders not exceed a maximum of 25 - 75 mm. 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.
- MIXING:** For optimum performance, all components shall be conditioned to between 21°C and 32°C prior to use. Mix one complete unit at a time. Begin by pouring all of Component B (hardener) into the pail containing Component A (resin). Mix thoroughly for 1 - 2 minutes with a paddle or with a slow speed drill. Avoid air entrapment. Pour mixed liquids (combined Components A & B) into a mortar mixer with blades not moving. Immediately add one bag of Component C (aggregate) and start the mortar mixer blades. Slowly add the remaining bags and mix only until aggregate is completely wet. Do not add solvents or water to increase flowability.
- METHODS OF PLACEMENT:** Five Star® DP Epoxy Grout High Flow may be poured or pumped into place. Placement should always be across the shortest distance. All grout shall be placed from one side to the other, maintaining contact with the bottom of the baseplate at all times. Use of a headbox is highly recommended. Grout should be poured to the bottom of the baseplate. Refer to the Five Star® Technical Bulletin Head Box and Plunger for guidelines. For grout depth greater than 200 mm and/or grout volume more than 1.7 cubic meters, or clearance conditions requiring increased flowability contact Five Star Products.
- POST-PLACEMENT PROCEDURES:** Until initial set, ensure that grout maintains continuous contact with the bottom of the baseplate and formwork remains leak-free. No wet curing is allowed. Protect from direct sun exposure until initial set. In-service operation may begin immediately after minimum required grout strength and modulus have been achieved.
- CLEAN UP:** All tools and equipment may be cleaned with soap and water before the material hardens. Sand or a similar abrasive may be used with the soap and water to aid in the clean-up.

PRIOR TO APPLICATION, READ ALL PRODUCT PACKAGING THOROUGHLY. For more detailed information contact Five Star Products at +44 (0) 7469 746101.

HEALTH AND SAFETY

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 SAFETY DATA SHEET.**

SKU / PRODUCT CODE	DESCRIPTION	UNIT SIZE
33165	Five Star® DP Epoxy Grout High Flow box kit (10.95 L)	Resin (A): 2.9 kg Hardener (B): 0.58 kg Aggregate (C): One 20 kg bag
33176	Five Star® DP Epoxy Grout High Flow kit (13.8 L) (Formerly DP Epoxy Grout 201)	Resin (A): 3.2 kg Hardener (B): 0.82 kg Aggregate (C): One 22.7 kg bag
33161	Five Star® DP Epoxy Grout High Flow kit (43.8 L)	Resin (A): 11.6 kg Hardener (B): 2.32 kg Aggregate (C): Four 20 kg bags

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