HIGH STRENGTH 130 GROUT

High Strength Precision Non-Shrink Cementitious Grout

PRODUCT DESCRIPTION

Five Star® High Strength 130 Grout is a cement-based, non-metallic, non-shrink, highly flowable grout for supporting machinery and applications requiring precision alignment as well as high performance construction applications. It is formulated with Air Release technology that combines high performance with the greatest reliability. Since it is highly flowable, Five Star® High Strength 130 Grout is easily pumpable at long distances. When tested in accordance with ASTM C827, Five Star® High Strength 130 Grout exhibits positive expansion and meets the performance requirements of ASTM C1107-02 Grades A, B and C, ASTM C1107/C1107M-20, and CRD-C 621-93 specifications for non-shrink grout over a wide temperature range, 40°F - 95°F (4°C - 35°C).

ADVANTAGES

- High 1, 7, and 28 day compressive strengths
- 95% effective bearing area (EBA)
- Can be poured, pumped, wet set, or dry packed
- Permanent support for machinery requiring precision alignment
- Non-shrink from the time of placement
- Highly flowable for easy pumping at long distances
- Bulk bag capability for easier placement of larger volume installations

USES

- Grouting of machinery and equipment under high loads
- Non-shrink grouting of structural steel and precast concrete
- Support of tanks and vessels
- Wind turbines
- High load infrastructure
- Grouting of anchors and dowels

PACKAGING AND YIELD

Five Star® High Strength 130 Grout is packaged in heavy-duty, 50 lb. (22.7 kg) polyethylene lined bags yielding approximately 0.43 cubic feet (12.2 liters) of hardened material at maximum water content. Also available in 3000 lb. (1362 kg) bulk bags.

SHELF LIFE

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

TYPICAL PROPERTIES AT 70°F (21°C)	
Early Height Change, ASTM C827	0.0 to 4.0%
Hardened Height Change, ASTM C1090	0.00 to 0.30%
Effective Bearing Area	95%
Bond Strength, ASTM C882 / 28 Days	2,000 psi (13.8 MPa)
Compressive Strength, ASTM C942 (C109 Restrained)	
1 Day	5,500 psi (37.9 MPa)
7 Days	9,500 psi (65.5 MPa)
28 Days	13,000 psi (90 MPa)
Set Time, ASTM C953	
Initial	6 - 9 hours
Final	7 - 11 hours
Working Time at 70°F (21°C) May be affected by colder & warmer temperatures[1]	60 minutes

[1]Refer to Five Star® Technical Bulletins: Cementitious Grouting in Cold Weather ; Cementitious 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

Mixing Ratio	3¼ to 4½ qts (3.0 - 4.25 L) potable water per 50 lb. bag
Maximum In-Service Temperature	400°F (204°C)

Minimum Plate Clearance	1 in (25 mm)
Placement Depth	1 in - 6 in (25 mm - 150 mm) > 6 in, contact Five Star

PLACEMENT GUIDELINES

For optimum performance, install at temperatures between 40°F and 95°F (4°C and 35°C). Maintain grout and substrate above 40°F (4°C) until grout reaches 1,000 psi (6.9 MPa) compressive strength. Refer to Five Star® Technical Bulletins(TB) 101 and 102 *Cementitious Cold and Hot Weather Grouting* for extreme weather conditions.

1. **SURFACE PREPARATION:** Construction practices dictate a concrete foundation should achieve its design strength before grouting. All surfaces in contact with Five Star® Grout shall be clean and free of oil, grease, laitance, and other bond-inhibiting contaminants. To maximize bond, concrete surfaces should be prepared by acceptable means to coarse aggregate exposure. A minimum ½ inch (12 mm) peak to valley surface profile is recommended. Presoak concrete surfaces with potable water for a minimum of 8 hours (optimum 24 hours), continuously and consistently, via wet rags, wet burlap, ponding, or similar method to obtain a Saturated Surface Dry (SSD) condition. Any existing cracks shall be brought to the project engineer's attention prior to grout installation. Refer to Five Star® TB103 *Cementitious Grout Concrete Surface Preparation* and TB104 *Cementitious Grout Baseplate Preparation* for further details.
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 the remaining sides shall be 1 to 2 inches (25 - 50 mm). Formwork and areas where bond is not desired must be treated with form oil, paste wax, or similar material. Isolation/construction joints may be necessary depending on pour dimensions. Refer to Five Star® TB410 *Grout Formwork* for further details.
3. **MIXING:** Use of a mortar mixer (stationary barrel with moving blades) is required to completely mix the grout. A portable mixer and paddle are acceptable for single bag mixes. Start with approximately 4.0 quarts (3.8 L) potable water per 50 lb. bag. Add Five Star® High Strength 130 Grout and mix for approximately 2 – 3 minutes to a uniform consistency. To achieve desired flow, add additional potable water and mix for an additional 2 minutes. Do not exceed the maximum recommended amount of potable mixing water as directed. Do not allow the grout to segregate. For pours over 6 inches (150 mm) refer to Five Star® TB105 *Cementitious Grout Aggregate Extension* for further guidelines. Refer to Five Star® TB108 *Cementitious Grout Mixing* for further details. For bulk mixing applications, contact Five Star Products.
4. **PLACEMENT:** Five Star® High Strength 130 Grout may be dry packed, poured, or pumped into place. Placement should always be across the shortest distance. A headbox is recommended for pouring applications. Finish as necessary. Refer to Five Star® TB412 *Grout Placement* for further details. If field testing of the grout is required, refer to Five Star® TB109 *Cementitious Grouts Proper Compressive Strength Testing*.
5. **POST-PLACEMENT:** Five Star® High Strength 130 Grout shall be wet cured with potable water for a minimum of 24 hours. After initial 24-hour wet cure, grout shall be coated with an approved curing compound. If a curing compound is not used, grout shall be wet cured for an additional 48 hours totaling 3 days. During the curing process, protect the grout from direct sun and wind exposure. Do not allow grout to freeze until it reaches 1,000 psi (6.9 MPa) compressive strength. In-service operation may begin immediately after the required grout compressive strength has been reached. Refer to Five Star® TB110 Cementitious Grout Curing and Five Star® TB413 *Grout Finishing* for further details.
6. **CLEAN UP:** All tools and equipment may be cleaned with soap and water before the material hardens.

For additional Five Star® Technical Bulletins, visit FiveStarProducts.com. For further questions, or if additional information is required, contact your local Five Star® Technical Sales Representative at 1-800-243-2206.

CAUTION

Contains cementitious material and crystalline silica. International Agency for Research on Cancer has determined that there is sufficient evidence for the carcinogenicity of inhaled crystalline silica to humans. Take appropriate measures to avoid breathing dust. Avoid contact with eyes and contact with skin. In case of contact with eyes, immediately flush with plenty of water for at least 15 minutes. Immediately call a physician. Wash skin thoroughly after handling. Keep product out of reach of children. **PRIOR TO USE, REFER TO SAFETY DATA SHEET**.

SKU/PRODUCT CODE	DESCRIPTION	# UNITS/PALLET	UNIT SIZE
42300	Five Star® High Strength 130 Grout	56	50 lb. (22.7 kg) bag
42400	Five Star® High Strength 130 Grout	1	3000 lb. (1362 kg) bulk bag

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