



# **INSTANT GROUT**

Rapid Strength Gain Precision Nonshrink Grout

## **PRODUCT DESCRIPTION**

Five Star® Instant Grout is a rapid strength gain, nonmetallic, nonshrink grout for supporting machinery requiring precision alignment and quick turnaround. It is formulated with Air Release technology ideal for cold weather applications, while providing the greatest reliability. When tested in accordance with ASTM C 827, Five Star Instant Grout exhibits positive expansion. Five Star Instant Grout meets the performance requirements of ASTM C 1107-02 Grades A, B and C, ASTM C 1107-07, and CRD-C 621-93 specifications for nonshrink grout over a wide temperature range, 40°F - 90°F (4°C - 32°C).

## **ADVANTAGES**

- Air release technology per ACI 351.1 R
- Superior cold weather performance
- High four hour compressive strength
- Fast turnaround time
- 95% Effective Bearing Area (EBA) is typically achieved following proper grouting procedures
- Permanent support for machinery requiring precision alignment

## **USES**

- Low temperature placement
- Fast turnaround time
- Grouting of machinery base plates to maintain precision alignment
- Nonshrink grouting of structural steel and precast concrete
- Installation of anchors and dowels
- Support of tanks and vessels

## **PACKAGING AND YIELD**

Five Star Instant Grout is packaged in heavy-duty, polyethylene lined bags or plastic pails and is available in 55 lb (24.9 kg) units yielding approximately 0.44 cubic feet (12.5 liters) of hardened material at maximum water content.

## **SHELF LIFE**

One year in bags and two years in pails in original unopened packaging when stored in dry conditions; high relative humidity will reduce shelf life.

<b>TYPICAL PROPERTIES AT 70°F (21°C)</b>	
<b>Early Height Change, ASTM C 827</b>	0.0 to 4.0%
<b>Hardened Height Change, ASTM C 1090</b>	0.0 to 0.3%
<b>Bond Strength, ASTM C 882 / 28 Days</b>	2500 psi (17.3 MPa)
<b>Effective Bearing Area</b>	95%
<b>Compressive Strength, ASTM C 942 (C 109 Restrained)</b>	
4 Hours	4000 psi (27.6 MPa)
1 Day	5500 psi (38.0 MPa)
7 Days	6500 psi (44.9 MPa)
28 Days	7000 psi (48.3 MPa)
<b>Working Time at 70°F (21°C)</b>	10 minutes

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

## PLACEMENT GUIDELINES

1. **SURFACE PREPARATION:** All surfaces in contact with Five Star® Instant Grout shall be free of oil, grease, laitance and other contaminants. Concrete must be clean, sound and roughened to ensure a good bond. Soak concrete surfaces for 8 to 24 hours prior to application with liberal quantities of potable water, leaving the concrete saturated and free of standing water.
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 one to two inches (25 - 50 mm). Areas where bond is not desired must be treated with form oil, paste wax or similar material. Isolation joints may be necessary depending on pour dimensions. Contact the Five Star Engineering and Technical Service Center for further information.
3. **MIXING:** Mix Five Star Instant Grout thoroughly for approximately four to five minutes to a uniform consistency with a mortar mixer (stationary barrel with moving blades). A drill and paddle mixer is acceptable for single bag mixes. For optimum performance, condition between 60°F and 80°F (16°C and 27°C). Mix Five Star Instant Grout with 3 to 3 1/2 quarts potable water per 55 lb. bag. Working time is approximately 10 minutes at 70°F (21°C). Follow printed instructions on the package. Always add mixing water first to mixer followed by grout.
4. **METHODS OF PLACEMENT:** Five Star Instant Grout may be poured into place. Minimum placement thickness for Five Star Instant Grout is 1 inch (25 mm). For pours over 3 inches (75 mm) in depth Five Star Instant Grout should be extended with a clean damp coarse aggregate meeting the requirements of ASTM C 33. Refer to the Five Star Technical Bulletin "Cement Grout Aggregate Extension" for guidelines.
5. **POST-PLACEMENT PROCEDURES:** Five Star Instant Grout shall be wet cured for a minimum of two to eight hours depending on placement volume and depth. In-service operation may begin immediately after the required grout strength has been reached.

**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 Engineering and Technical Service Center at (800) 243-2206.

## CONSIDERATIONS

- At time of placement, if temperatures of equipment and surfaces are not between 35°F and 80°F (2°C and 27°C), refer to Design-A-Spec™ for extreme weather grouting procedures, or contact the Five Star Engineering and Technical Service Center at (800) 243-2206.
- Substrate shall be free of frost and ice.
- Grout shall be protected from freezing until it reaches 1000 psi (6.9 MPa).
- Never exceed the maximum water content as stated on the bag.
- Construction practices dictate concrete foundation should achieve its design strength before grouting.

## 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 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 (800) 243-2206.*

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