



NSG GROUT

General Purpose Non-Shrink Cement Grout

PRODUCT DESCRIPTION

Five Star® NSG Grout is a cement-based, non-shrink, non-metallic grout ideal for general construction grouting applications. Five Star® NSG Grout can be installed over a wide temperature range, 50°F - 90°F (10°C - 32°C) and can be mixed from dry pack to flowable consistency. It meets the performance requirements of specification ASTM C1107 and CRD-C 621 Grade B.

ADVANTAGES

- Non-shrink, no loss of volume
- Non-corrosive, will not attack reinforcement
- Pumpable for easier placement
- Drypack to flowable consistency
- Meets ASTM C 1107 specification for non-shrink grout

USES

General construction grouting applications such as

- Pipe sleeves
- Racking and handrails
- Non-load bearing column baseplates
- Block fill
- Stair landing and utility (valve, conduit, instrument) supports
- Small miscellaneous platforms
- Drains
- Miscellaneous bearing devices used for static loading

PACKAGING AND YIELD

Five Star® NSG Grout is packaged in heavy-duty polyethylene lined bags and is available in 50 lb. (22.7 kg) units yielding approximately 0.44 cubic feet (12.4 liters) at maximum water.

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)

Compressive Strength, ASTM C942 (C109 Restrained)	Flowable	Dry Pack / Plastic
1 Day	2,000 psi (13.8 MPa)	3,500 psi (24.1 MPa)
7 Days	4,500 psi (31.0 MPa)	6,000 psi (41.4 MPa)
28 Days	6,000 psi (41.4 MPa)	7,500 psi (51.7 MPa)
Hardened Height Change, ASTM C 1090	0.0 to 0.3%	0.0 to 0.3%
Working Time at 70°F (21°C)	30 minutes	20 minutes

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.

PLACEMENT GUIDELINES

- SURFACE PREPARATION:** All surfaces in contact with Five Star® NSG Grout shall be free of oil, grease, laitance and other contaminants. Surface 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 surface saturated and free of standing water.
- 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 1 to 2 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 Five Star Products for further information.
- MIXING:** With the mixer running, add pre-measured potable water to the mixer; total water content is 3.0 to 4.5 quarts (2.8 to 4.3 liters) potable water per 50 lb. unit; dry pack may require less. Add Five Star® NSG Grout and mix thoroughly for approximately 2 to 4 minutes to a uniform consistency with a mortar mixer (stationary barrel with moving blades) or drill and paddle mixer. Adjust consistency if necessary, but do not exceed maximum water content stated on the package or an amount that will cause segregation. For optimum performance, maintain grout at ambient temperatures between 50°F and 90°F (10°C and 32°C). Use heated or chilled water to help adjust working time. Do not mix more material than can be placed in 30 minutes. Follow printed instructions on the package.
- METHODS OF PLACEMENT:** Five Star® NSG Grout may be dry packed, poured, or pumped into place. Minimum placement thickness for Five Star® NSG Grout is 1 inch (25 mm). For pours over 6 inches (150 mm) in depth Five Star® NSG Grout should be extended with a clean, damp coarse aggregate meeting the requirements of ASTM C33.

Estimated Depth of Pour	Aggregate Extension Percentage	Aggregate Extension Weight
12" (305 mm)	30%	15 lb
18" (457 mm)	50%	25 lb

- POST-PLACEMENT PROCEDURES:** Five Star® NSG Grout shall be wet cured for a minimum of three days, or coated with an approved curing compound after a minimum 24-hour wet cure. 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, call Five Star Products at 1-800-243-2206.

CONSIDERATIONS

- Never exceed the maximum water content stated on the package or add an amount that will cause segregation.
- For critical, structural, engineered processes requiring precision grout applications, such as equipment and machinery baseplates, contact Five Star Products for product recommendations.
- Grout must attain a minimum 1,000 psi (6.9 MPa) before being exposed to freezing temperatures.
- 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 evaluated 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.**

For worldwide availability, additional product information and technical support, contact your local Five Star® distributor, local sales representative, or visit www.FiveStarProducts.com.

SKU / PRODUCT CODE	DESCRIPTION	UNIT SIZE
58200	NSG Grout	50 lb. (22.7 kg) Bag

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, EXPRESS 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."

Five Star Products, Inc.

Corporate Headquarters

2 Enterprise Drive, Suite 303
Shelton, CT 06484 USA

Tel: +1 203-336-7900 • Fax: +1 203-336-7930

FiveStarProducts.com

Specifications Subject to Change.



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