

PRODUCT DATA



531 GROUT High Performance Precision Nonshrink Grout

PRODUCT DESCRIPTION

531 Grout is the industry's leading cement-based, nonmetallic, non-shrink grout for supporting machinery and equipment. It is formulated with Air Release technology that combines high performance with the greatest reliability. When tested in accordance with ASTM C 827, 531 Grout exhibits positive expansion. 531 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 non-shrink grout over a wide temperature range, 40°F - 90°F (4°C - 32°C).

ADVANTAGES

- Air release technology per ACI 351.1 R
- Provides placement versatility: pour, pump or dry pack
- 95% Effective Bearing Area (EBA) is typically achieved following proper grouting procedures
- 45 minute working time
- Permanent support for machinery requiring precision alignment
- Does not contain gas generating additives, such as aluminum powder
- Nonshrink from the time of placement

USES

- Nonshrink grouting of structural steel and precast concrete
- Support of tanks and vessels
- Grouting of machinery and equipment to maintain precision alignment
- Grouting of anchors and dowels
- Available for Nuclear Safety Zone Applications¹

PACKAGING AND YIELD

531 Grout is packaged in heavy-duty, polyethylene lined bags and is available in 50 lb. (22.7 kg) units yielding approximately 0.5 cubic feet (14.1 liters), or 100 lb (45.4 kg) units yielding approximately 1.0 cubic foot (28.3 liters) of hardened material at maximum water content.

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 C 827	0.0 to 4.0%	
Hardened Height Change, ASTM C 1090	0.0 to 0.3%	
Effective Bearing Area	95%	
Bond Strength, ASTM C 882, 28 Days	2000 psi (13.8 MPa)	
Pull-out Strength, Tension, #5 threaded bar, 7 Days	2400 psi (16.6 MPa)	
Compressive Strength, ASTM C 942 (C109 Restrained)	Minimum Water psi (MPa)	Maximum Water psi (MPa)
1 Day	4000 psi (27.6 MPa)	2500 psi (17.3 MPa)
3 Days	5500 psi (38.0 MPa)	3500 psi (24.1 MPa)
7 Days	6500 psi (44.9 MPa)	5000 psi (34.5 MPa)
28 Days	8000 psi (55.2 MPa)	6500 psi (44.9 MPa)
Working Time at 70°F (21°C)	45 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 531 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 StonCor Group for further information.

3. **MIXING:** Mix 531 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, maintain grout at ambient temperatures between 40°F and 90°F (4°C and 32°C). Use heated or chilled water to help adjust working time. Mix 531 Grout with 7 - 11 quarts potable water per 100 lb. bag (3-1/2 to 5-1/2 quarts per 50 lb. bag). Do not exceed maximum recommended amount of mixing water as stated on the package or add an amount that will cause segregation. Working time is approximately 45 minutes at 70°F (21°C). Follow printed instructions on the package. Always add mixing water first to mixer followed by grout.
4. **PLACEMENT PROCEDURES:** 531 Grout may be dry packed, poured or pumped into place. Minimum placement thickness for 531 Grout is 1 inch (25 mm). For pours over 6 inches (150 mm) in depth 531 Grout should be extended with a clean, damp coarse aggregate meeting the requirements of ASTM C 33. Refer to the Five Star Products, Inc. Technical Bulletin "Cement Grout Aggregate Extension" for guidelines.
5. **POST-PLACEMENT PROCEDURES:** 531 Grout shall be wet cured for a minimum of three days, or coated with an approved curing compound meeting the requirements of ASTM C 309 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, refer to Design-A-Spec™ installation guidelines or call StonCor at (800) 263.3112.

CONSIDERATIONS

- If temperatures of equipment and surfaces are not between 40°F and 90°F (4°C and 32°C) at time of placement, refer to Design-A-Spec™ for cold and hot weather grouting procedures, or call StonCor at (800) 263.3112.
- Never exceed the maximum water content as stated on the bag or add an amount that will cause segregation. 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 sales representative, or call StonCor at (800) 263.3112.

SKU / PRODUCT CODE	DESCRIPTION	UNIT SIZE
25500	531 Grout	50 lb. Bag
20000	531 Grout	100 lb. Bag
25500N ¹	531 Grout for Nuclear Safety Zone	50 lb. Bag
20000N ¹	531 Grout for Nuclear Safety Zone	100 lb. Bag

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95 Sunray Street • Whitby, Ontario • L1N 9C9 • Tel: 800.263.3112 • Fax: 800.786.6329

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