

# NON-SHRINK PRECISION GROUT

PRODUCT NO. 1585-00

## DIVISION 3

Non-Shrink Grouting  
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### PRODUCT DESCRIPTION

QUIKRETE® Non-Shrink Precision Grout is a high strength, non-metallic, Portland cement based material with expansive additives designed for grouting steel columns, bearing plates, pre-cast concrete, and anchoring applications.

### PRODUCT USE

Typical applications for QUIKRETE® Non-Shrink Precision Grout include grouting of:

- All types of machinery
- Steel columns
- Bearing plates
- Precast concrete
- Other anchoring conditions that require high in-service strength

The non-shrink characteristics of Non-Shrink Precision Grout make it stable and capable of handling high load transfers.

### SIZES

- QUIKRETE® Non-Shrink Precision Grout - 50 lb (22.7 kg) bags

### YIELD

- Each 50 lb (22.7 kg) bag will yield 0.45 cu ft (12.7 L) at Flowable consistency.

### TECHNICAL DATA

#### APPLICABLE STANDARDS

ASTM International

- ASTM C109/109M Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)
- ASTM C827 Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures
- ASTM C939 Standard Test Method for Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method)
- ASTM C1090 Standard Test Method for Measuring Changes in Height of Cylindrical Specimens from Hydraulic-Cement Grout
- ASTM C1107 Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Non-shrink)
- ASTM C 1437 Standard Test Method for Flow of Hydraulic Cement Mortar



- ASTM E488 Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements
- U.S. Army Corps of Engineers (USACE) - CRD 621

### PHYSICAL/CHEMICAL PROPERTIES

QUIKRETE® Non-Shrink Precision Grout complies with the physical requirements of ASTM C1107 and CRD 621 when tested at 72 degrees F (22 degrees C).

### SURFACE PREPARATION

- The appropriate personal protective equipment should be worn.
- All grouting surfaces should be clean and free of foreign substances including corrosion present on steel if applicable.
- Remove all spalled areas and areas of unsound concrete.
- Preparation work done on the grouting surfaces should be completed by high pressure water blast, breaker, hammer, or other appropriate mechanical means to obtain a properly prepared surface.
- Saturate repair area with clean water before patching to ensure SSD condition. No standing water should be left in the repair area.
- Refer to current ICRI Guideline 310.2R for additional surface preparation information.

### MIXING

QUIKRETE® Non-Shrink Precision Grout should be mechanically mixed for a minimum of 5 minutes. Add only enough water to achieve the flow required for the application. Place the grout quickly and continuously using consolidation techniques when possible (i.e. light rodding, vibrating, tamping, etc.) to eliminate air bubbles. QUIKRETE® Non-Shrink Precision Grout can be placed in fully restrained areas from 0" to 3" thick without gravel extension.

**CURING**

A damp cure of at least 3 days is necessary to control the non-shrink characteristics and maintain strength levels.

**PRECAUTIONS**

- Additions of cement or other materials will eliminate the designed product qualities
- Water quantities may be affected by temperature, mixing method and batch size
- QUIKRETE® Non-Shrink Precision Grout should not be re-tempered
- Mix no more grout than can be placed in 25 minutes.
- Grout temperature should be maintained from 50 - 90 degrees F (10 - 32 degrees C).
- Follow ACI 305R-10 when using product in hot weather.
- Follow ACI 306R-10 when using product in cold weather.
- Use a consistent water temperature, when mixing multiple batches, to prevent performance fluctuations.

**TABLE 1**

**TYPICAL PHYSICAL PROPERTIES OF FRESHLY MIXED GROUT, ASTM C1107**

Consistency	
Plastic	
Temperature	72°F (22°C)
Compressive strength, ASTM C109 modified per ASTM C1107	
1 day	3,500 psi (24.1 MPa)
3 day	9,500 psi (65.5 Mpa)
7 days	10,000 psi (68.9 MPa)
28 days	14,000 psi (96.5 MPa)
Height change, ASTM C1090 @ 1, 3, 7 & 28 days	
	0 - 0.2%
Height change, ASTM C827	
	+ 0.6%

Consistency	
Flowable	
Temperature	72°F (22°C)
Compressive strength, ASTM C109 modified per ASTM C1107	
1 day	3,000 psi (20.7 MPa)
3 days	9,000 psi (62.1 MPa)
7 days	9,500 psi (65.5 MPa)
28 days	12,500 psi (86.2 MPa)
Height change, ASTM C1090 @ 1, 3, 7 & 28 days	
	0 - 0.2%
Height change, ASTM C827	
	+ 0.4%

Consistency	
Fluid	
Temperature	72°F (22°C)
Compressive strength, ASTM C109 modified per ASTM C1107	
1 day	2,500 psi (17.2 MPa)
3 days	5,000 psi (34.5 MPa)
7 days	6,000 psi (41.4 MPa)
28 days	8,000 psi (55.2 MPa)
Height change, ASTM C1090 @ 1, 3, 7 & 28 days	
	0 - 0.2%
Height change, ASTM C827	
	+ 0.3%
Pull-out strength, ASTM E488 <sup>1</sup>	
	35,000 lbf
<sup>1</sup> 1 1/4" (31 mm) bolts embedded 9" (225 mm) deep in 3" (75 mm) hole in 2000 psi (13.8 MPa) concrete.	

**TABLE 2**

<b>WATER REQUIREMENTS FOR 50 LB (22.7 KG) BAG</b>	
Method	Volume
Plastic	4.5 quarts (4.3L)
Flowable	5.0 quarts (4.7 L)
Fluid	5.5 quarts (5.2 L)

**WORKING TIME**

When properly mixed to a fluid consistency QUIKRETE® Non-Shrink Precision Grout will comply with all portions of ASTM C1107 and CRD 621 and retain a fluid consistency for the maximum useable working times stated in Table 3.

**TABLE 3**

<b>WORKING TIME</b>	
Temperature	Working Time
50°F (10°C)	25 min
73°F (23°C)	25 min
90°F (32°C)	15 min

**WARRANTY**

NOTICE: Obtain the applicable LIMITED WARRANTY: at [www.quikrete.com/product-warranty](http://www.quikrete.com/product-warranty) or send a written request to The Quikrete Companies, LLC, Five Concourse Parkway, Atlanta, GA 30328, USA. Manufactured under the authority of The Quikrete Companies, LLC. © 2018 Quikrete International, Inc.