NON-SHRINK PRECISION GROUT

PRODUCT NO. 1585-00

DIVISION **3**

Non-Shrink Grouting
03 62 00

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 or void filling conditions that require high 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 (22.6 kg) bags

YIELD

- Each 50 lb (22.6 kg) bag will yield 0.45 ft^3 (12.7 L) at flowable consistency

TECHNICAL DATA

APPLICABLE STANDARDS

- ASTM C109 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 C1437 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
- ACI 305R Guide to Hot Weather Concreting
- ACI 306R Guide to Cold Weather Concreting
- ACI 310.2R Guide for Selecting and Specifying Materials for Repair of Concrete Surfaces

PHYSICAL/CHEMICAL PROPERTIES

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

INSTALLATION

SURFACE PREPARATION

The appropriate personal protective equipment should be worn.
All grouting surfaces should be clean and free of foreign substances including corrosion, if present on steel. 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 grouting 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

WEAR IMPERVIOUS GLOVES, such as nitrile when handling product.
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 proper 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 up to 3 inches (75 mm) 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 30 minutes
- Grout temperature should be maintained from 50 to 90 ºF (10 to 32 ºC)
- Follow ACI 305R when using product in hot weather
- Follow ACI 306R when using product in cold weather
- Use a consistent water temperature, when mixing multiple batches, to prevent performance fluctuations

TABLE 1 TYPICAL WATER DEMAND PER 50 lb (22.6 kg) BAG

Consistency	Volume
Plastic	4-1/2 qt (4.3 L)
Flowable	5 qt (4.7 L)
Fluid	5-1/2 qt (5.2 L)

WARRANTY

NOTICE: Obtain the applicable **LIMITED WARRANTY** at www.quikrete.com/product-warranty or send a written request to The Quikrete Companies, LLC, Five Concourse Parkway, Atlanta, GA 30328, USA. Manufactured by or under the authority of The Quikrete Companies, LLC.

TABLE 3 TYPICAL PHYSICAL PROPERTIES AT 72 ºF (22 ºC)

Consistency	Plastic
Compressive Strength, ASTM C109 (Modified)	
Age	*PSI (MPa)*
1 day	3,500 (24.1)
3 days	9,500 (65.5)
7 days	10,000 (68.9)
28 days	14,000 (96.5)
Height change, ASTM C1090	
@ 1, 3, 7 & 28 days	0 to 0.2%
Height change, ASTM C827	
	0.3%
Consistency	Flowable
Compressive Strength, ASTM C109 (Modified)	
Age	*PSI (MPa)*
1 day	3,000 (20.6)
3 days	9,000 (62.0)
7 days	9,500 (65.0)
28 days	12,500 (86.2)
Height change, ASTM C1090	
@ 1, 3, 7 & 28 days	0 to 0.2%
Height change, ASTM C827	
	0.4%
Consistency	Fluid
Compressive Strength, ASTM C109 (Modified)	
Age	*PSI (MPa)*
1 day	2,500 (17.2)
3 days	5,000 (34.4)
7 days	6,000 (41.3)
28 days	8,000 (55.1)
Height change, ASTM C1090	
@ 1, 3, 7 & 28 days	0 to 0.2%
Height change, ASTM C827	
	0.6%
Pull-Out Strength, ASTM E488[1]	
	35,000 lbf

[1] 1-1/4 in (32 mm) bolts embedded 9 in (225 mm) deep in 3 in (75 mm) hole in 2000 psi (13.7 MPa) concrete.

** Refer to www.quikrete.com for the most current technical data and SDS*

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