



# HI-FLOW GROUT

## HIGH TOLERANCE, NON-SHRINK GROUT

### DESCRIPTION

HI-FLOW GROUT is specially designed for use where high tolerance, high strength and high fluidity are required. It is formulated as a natural aggregate system with a shrinkage-compensating binder and is highly flowable without sacrificing strength or performance capabilities. HI-FLOW GROUT is formulated to provide consistent and exacting performance in critical grouting operations.

### PRIMARY APPLICATIONS

- Heavy duty grouting of machinery and equipment
- Structural columns
- Crane rails
- Bridge seats
- Bearing plates
- Anchorages

### FEATURES/BENEFITS

- Highly fluid for ease in placement
- High strength for maximum load bearing
- Non-shrink with minimum positive expansion for high-tolerance performance
- Non-bleeding and non-segregating at a fluid consistency
- Does not contain any chlorides or additives which may contribute to corrosion of base structure
- Total shrinkage compensation provides a maximum bearing surface for the greatest overall support
- Rapid strength gain to minimize turnaround time for equipment re-grouts
- Excellent working time at high ambient temperatures

### TECHNICAL INFORMATION

The following are typical values obtained under laboratory conditions. Expect reasonable variation under field conditions.

PROPERTY	FLOWABLE CONSISTENCY		FLUID CONSISTENCY	
Flow Rate (ASTM C939/CRD C621)	n/a		Initial	<30 seconds
			30 minutes	<30 seconds
			60 minutes	<35 seconds
Flow Rate (ASTM C1437)	129%		n/a	
Compressive Strength (ASTM C109 Modified*) 2 in (50 mm) cubes	1 day	3500 psi (24 MPa)	1 day	3000 psi (21 MPa)
	3 days	5250 psi (36 MPa)	3 days	4800 psi (33 MPa)
	7 days	6000 psi (41 MPa)	7 days	5000 psi (34 MPa)
	28 days	9500 psi (66 MPa)	28 days	8500 psi (59 MPa)
Volume Change (ASTM C1090/CRD C621)	1, 3, 7, and 28 days	0.02%	1, 3, 7, and 28 days	0.03%
Setting Time (ASTM C191)	Initial Set	3 hrs 50 min	Initial Set	3 hrs 50 min
	Final Set	4 hrs 50 min	Final Set	4 hrs 50 min

\* See ASTM C1107 Section 11.5

### PACKAGING/YIELD

HI-FLOW GROUT is packaged in 50 lb (22.7 kg) bags and yields 0.45 ft<sup>3</sup> (0.013 m<sup>3</sup>) of fluid grout when mixed with 1.0 gal (3.8 L) of water.

50 lb (22.7 kg) of HI-FLOW GROUT extended with 25 lbs (11.3 kg) of 3/8" (9.5 mm) pea gravel will yield approximately 0.60 ft<sup>3</sup> (0.017 m<sup>3</sup>) of flowable consistency grout.

Extend with pea gravel only for deep placements over 5" (12.7 cm) in thickness. **When extending HI-FLOW GROUT with pea gravel, the maximum allowable mixing water is 0.9 to 1.0 gal (3.4 to 3.8 L) in order to prevent segregation of aggregate during placement and initial set.**

## SHELF LIFE

6 months in original, unopened package

## SPECIFICATIONS/COMPLIANCES

- CRD C621, Corps of Engineers specification for non-shrink grout
- Shows positive expansion when tested in accordance with ASTM Specification 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)"
- Canada MTQ

## DIRECTIONS FOR USE

The contractor and engineer are encouraged to consult and review the Euclid Chemical bulletin "Cementitious Grout Application Guide". The document offers instructions detailing the general installation of Euclid Chemical manufactured cement-based grout products.

**General Information:** While HI-FLOW GROUT is designed to be fluid poured at temperatures ranging from 40°F to 100°F (4.5°C to 38°C), the product is most easily placed at temperatures of 60°F to 70°F (16°C to 21°C).

### Mixing Water Guide gal (L)/bag

Consistency	Estimated Water Content	Mix Time
Fluid	1.0 to 1.2 (3.8 to 4.5 L)	5 Min.
Flowable	0.9 to 1.0 (3.4 to 3.8 L)	5 Min.
Plastic	0.8 to 0.9 (3.0 to 3.4 L)	5 Min.

*\* Do not add water in an amount that will cause bleeding or segregation. More or less water may be required to achieve a 25 second flow or the desired placing consistency, depending on temperature and other variables. Do not add sand or cement to the grout since this action will change its precision grouting characteristics.*

When HI-FLOW GROUT will be placed at a depth over 5" (12.7 cm), up to 25 lb (11.3 kg) of pea gravel per 50 lb (22.7 kg) bag must be added to each bag of grout. **When extending HI-FLOW GROUT with pea gravel, the maximum allowable mixing water is 0.9 to 1.0 gal (3.4 to 3.8 L) in order to prevent segregation of aggregate during placement and initial set.**

**Application:** See the "Cementitious Grout Application Guide" for installation means and methods.

## CLEAN-UP

Clean tools and equipment with water before material hardens.

## PRECAUTIONS/LIMITATIONS

- Store materials in a dry place.
- Proper curing is required.
- Do not add admixtures or fluidifiers.
- Do not add sufficient water to promote bleeding of the grout.
- Do not use this product at a flow cone rate of less than 20 seconds if checking flow rate on the job site.
- Do not use material at temperatures that may cause premature freezing.
- Keep the grout from freezing until a minimum strength of 4000 psi (28 MPa) is reached.
- Do not use as a topping.
- When necessary, follow the recommendations in ACI 305R "Guide to Hot Weather Concreting" or ACI 306R "Guide to Cold Weather Concreting".
- Shoulder cracking may occur on wide shoulders, improperly cured shoulders, or at stress points such as shimpacks, bolts or plate stiffeners. These cracks are of no structural significance.
- Rate of strength gain is significantly affected at temperature extremes.
- In all cases, consult the Safety Data Sheet before use.

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