

## 588

### Non-Shrink, Non-Ferrous, Non-Gaseous, Precision Grout

#### DESCRIPTION

588 is a Portland cement based precision grout. It is non-corrosive, non-gaseous and provides high density, high initial and ultimate flexural and compressive strengths. It can be mixed quickly, as needed, on the job-site. 588 offers exceptional workability and is easily placed by pouring or pumping. The product is designed to give non-shrink performance under various conditions, in interior or exterior applications.

#### USES

588 is suggested for precision grouting of machinery bases, generators, rolling mills, punch presses, compressors, etc.; structural grouting of precast columns, steel columns, crane rails, precast beams, etc.; anchoring of guard rails, sign posts, bridge seats, anchor bolts, guide wires, dowels, etc.

#### FEATURES AND BENEFITS

- High-flow, high-density, high initial and ultimate flexural and compressive strengths
- Non-shrink performance under various conditions, in interior or exterior applications
- Joins, supports and anchors...a multiplicity of uses
- Quickly and easily placed by pouring or pumping
- Mixes quickly on the job site as needed
- Offers exceptional workability and high grout yield...cuts overall grouting costs
- Resists most oils, gasoline, water, solvent and alkalis
- Extendable up to 50%
- Chloride-free
- No site batching required for consistent results

#### PACKAGING

50 lb. (22.7 kg) poly-lined bags

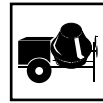
#### SPECIFICATIONS

Corps of Engineers Specification: CRD-C 621  
USDA Accepted  
ASTM C 1107, Grades A, B & C

#### YIELD

Each 50 lb. (22.7 kg) bag yields 0.43 to 0.64 cubic feet (0.0122 cubic meters) of in-place grout using the median water ratio level, dependent upon rate of extension.

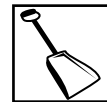
#### Application Tools



Mortar Mixer



Wheelbarrow



Shovel

#### APPLICATION

All grouting should be done using established procedures according to American Concrete Institute recommendations: ACI 351.1R-93 "Grouting for Support of Equipment and Machinery."

**Surface Preparation...** All grout surfaces must be clean and completely free of laitance, oil, grease, other coatings and any other contamination. Unsound concrete must be chipped out, leaving surface level, but rough. Grout area should be saturated with water 12-24 hours prior to grouting. Remove all excess water before placing grout. Surface should be saturated, surface dry (SSD).

**Forming...** Method of forming must provide for rapid, continuous grout replacement. For pouring, allow a minimum clearance of 3" for entry and 6" minimum grout "head". Forming must also provide for venting to avoid entrapment of air. Provide 1/2" minimum form clearance on all sides and 1" clearance for "head".

**Mixing...** Small quantities of 588 may be hand mixed in a concrete mixing pan until lump-free. For large quantities and continuous pours, mix using a mortar mixer with rubber-tipped blades or appropriate grout pump for a minimum of 3 minutes or unformed and until lump-free. Use minimum water required to produce desired placement consistency. Use 6.5 pts. (3.1 liters) of water per bag of grout for plastic consistency; 7.25 pts. (3.4 liters) for medium flow (pourable) and 8.25 pts. (3.9 liters) for high flow.

Mix in 2 steps: Add 2/3 of water requirement...add grout...after partial mixing, add remainder of water for desired consistency. Thoroughly mix total quantity for 2 to 3 minutes. Do not mix more than can be placed in 30 minutes.

**CONTINUED ON REVERSE SIDE...**

**TECHNICAL DATA\***

Evaluations made in accordance with CRD-C 621 '80 \*\*

Consistency per <u>ASTM C 827-95a</u>	Plastic	Flowable	Fluid
Mix Ratio per 50 lb. Bag	6.5 Pints (3.07 Liters)	7.25 Pints (3.43 Liters)	8.25 Pints (3.89 Liters)
Flow per <u>ASTM C 230-90</u> 5 Drops/Flow Table	110%	130%	
Flow per ASTM C 939-94a Flow Cone			20 Secs.
SET TIME per ASTM C 192-92 Initial Set Final Set	1 hr. 3 hrs.	3 hrs. 5 hrs.	5 hrs. 7 hrs.
<b>EXPANSION</b> Age: 24 hours 3 days 7 days 28 days	0.13% 0.16% 0.17% 0.17%	0.10% 0.13% 0.13% 0.14%	0.02% 0.04% 0.05% 0.06%
<b>SHRINKAGE %</b>	NONE	NONE	NONE
<b>COMPRESSIVE STRENGTH</b> AGE 1 day 3 days 7 days 28 days	psi (MPa) 4,400 (30.3) 6,500 (44.8) 8,750 (60.3) 11,000 (75.8)	psi (MPa) 3,800 (26.2) 5,250 (36.2) 7,200 (49.6) 9,800 (67.6)	psi (MPa) 2,000 (13.8) 4,400 (30.3) 6,250 (43.1) 7,800 (53.8)
* All technical data is typical information, but may vary due to testing methods, conditions and procedures. ** These values should only be used as a guide for determination of suitability by qualified persons.			

**Pullout and Torque Tests**

	Test Method	Result
<b>Reinforcing Bar Pullout</b>	No. 6 deformed rebars grouted in 2.25" (57.2mm) diameter and 6" (152.4mm) deep core in 4,000 psi (27.6MPa) concrete. Load applied at a rate of 0.25"/min. (6.35mm/min.).	Average load: 18,000 lbs. (124.2 MPa) for concrete failure after 7 day cure
<b>Machine Bolt Pullout</b>	3/4" (19mm) diameter machine bolts (without washers) grouted in 2.25" (57.2mm) diameter and 6" deep core in 4,000 psi (27.6 MPa) concrete. Load applied at a rate of 0.25"/min. (6.35mm/min.).	Average load: 20,630 lbs. (142.3 MPa) for concrete failure after 7 day cure
<b>Machine Bolt Torque</b>	3/4" (19mm) diameter machine bolts (without washers) grouted in 2.25" (57.2mm) diameter and 6" deep core in 4,000 psi (27.6 MPa) concrete. Load applied at a rate of 0.25"/min. (6.35mm/min.).	Average torque values in excess of 425 ft./lbs. (5.8 x 10 <sup>3</sup> x m/kn)

**Placement...** 588 can be easily placed by pouring or pumping; compaction can be accomplished by rodding or light vibrating. Place grout on one side, flowing to opposite and adjacent sides to avoid entrapment of air. When necessary, provide vent holes. Grout "head" and excess grout may be removed after initial set.

**Curing...** 588 should be cured in accordance with ACI 308. If a membrane curing compound is used, we suggest using CS-309™ -25 or VOCOMP®-25 Curing & Sealing Compounds from W. R. MEADOWS.

Cost reductions are realized by extending with clean, 3/8" (9.5mm) pea gravel. In applications where grout thickness is to be 2" to 4" (50 to 100mm), up to 25% of aggregate, based on weight of grout, may be added. For thicknesses over 4" (100mm) up to 50% of aggregate may be added. Such additions may be made to the flowable mix.

**PRECAUTIONS**

Do not use as a repair mortar. (Please contact W. R. MEADOWS for specific repair mortar recommendations). Read and follow application information and precautions. Refer to Material Safety Data Sheet for complete health and safety information.

**FOR THE MOST CURRENT PRODUCT INFORMATION, VISIT OUR WEBSITE:  
[www.wrmeadows.com](http://www.wrmeadows.com)**

**LIMITED WARRANTY**

"W. R. MEADOWS, INC. warrants at the time and place we make shipment, our material will be of good quality and will conform with our published specifications in force on the date of acceptance of the order." Read complete warranty. Copy furnished upon request.

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