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Non-Metallic  
Non-Shrink Grouting

## MasterFlow<sup>®</sup> 1205UW EX

Non-Shrink, Fluid, Underwater Cementitious Grout

### PACKAGING

55 lb (25 kg) multi-wall paper bags  
2500 lb (1,134 kg) bulk bags

### YIELD

.55 ft<sup>3</sup> per 55 lb bag (0.16 m<sup>3</sup>/25kg)  
25 ft<sup>3</sup> per 2,500 lb of grout  
(0.016 m<sup>3</sup>/25 kg)

### SHELF LIFE

55 lb bag: 6 months  
BULK BAG: 3 months when properly stored

### STORAGE

Store in unopened containers in a cool, clean, dry area

### VOC CONTENT

0 g/L less water and exempt solvents

### DESCRIPTION

MasterFlow 1205UW EX is specially designed for use in underwater grouting applications.

### PRODUCT HIGHLIGHTS

- Contains an anti-washout additive to allow underwater application
- High compressive strengths
- Hardens without settlement, segregation, shrinkage or formation of voids
- Minimum 1 hour pumpability at 90 °F (32 °C)
- Easy to pump, pour or tremie for ease of placement
- Can be pumped and/or recirculated
- Can be used over a wide range of placement temperatures

### APPLICATIONS

- Underwater grouting
- Underwater formed repairs

### SUBSTRATES

- Concrete
- Timber

### HOW TO APPLY

#### SURFACE PREPARATION

Surface preparation for underwater conditions should be carried out by a diver professionally trained to execute the work. Surfaces should generally be structurally sound, clean and free of contaminants such as oxidation, scale, oil, marine growth/organisms, and other loose particles.

#### CONCRETE

1. Concrete must be structurally sound and fully cured (28 days).
2. For repair areas, refer to current ICRI Guideline no. 310.2R for surface prep requirements to permit proper bond.

#### TIMBER

1. Surfaces should be free of loose or soft wood and rot.

#### FORMWORK

Proper design of formwork is essential for effective grouting. The formwork can be made out of timber, steel, fiberglass (including MasterBrace<sup>®</sup> 6060 FR fiberglass forms), or other suitable material. The forms must be watertight, strong, and well braced to resist grout pressures until the grout sets. Forms should be designed to allow for means of grout placement (adequate room for tremie pipes, injection ports, or other means as appropriate). Seal all gaps in the formwork using a suitable underwater setting material such as MasterBrace<sup>®</sup> 6061 UW epoxy paste.

#### MIXING

1. A horizontal shaft, forced action mixer is the preferred mixing equipment for MasterFlow 1205UW EX.
2. MasterFlow 1205UW EX is a ready-to-use product requiring only the addition of potable

water. Normal mixing water content should be from 17 to 22% of water or 1.12 to 1.45 gallons (4.25 to 5.5 liters) of water per 55 lbs (25 kg) of grout. An initial flow of 11 and 45 seconds (ASTM C 939 Modified) should produce a pumpable consistency. Exceeding the recommended water addition may induce bleeding. For additional detail regarding bulk mixing, refer to Document MB-15 entitled Bulk Bag Installation of Repair Materials and Consult your Master Builders Solutions representative for special mixing instructions.

3. Have one or more mixers available with the capacity to allow mixing and pumping to proceed simultaneously and continuously.
4. Place water in the mixer first, then steadily add the grout with mixer operating. Mix the grout until homogeneous for approximately 3–4 minutes when using a horizontal shaft, forced action mixer or 5 minutes when using a high speed drill. Scrape all of the dry material from the mixer sides. Convey the mixed grout into the pump surge hopper and pass through a screen with 0.125–0.188" (3–5 mm) openings to catch possible lumps; then start pumping grout, after verifying grout efflux.

**PLACEMENT**

Place the mixed grout within 1-hour of mixing. Grout should be placed by tremie method or by pumping. Grout should be placed at the

lowest depth of the formwork it will fill working up to the top of the form. Place the grout slowly and continuously into the formwork until fully placed. Slight vibration of the formwork by hammer tapping or other means will help in consolidating grout fully. It is advisable to inspect formwork for any leaks during and immediately following placement.

**TEMPERATURE**

The recommended temperature of the mixed grout should be 40 to 90 °F (4 to 32 °C). Ambient, substrate, and water temperatures ranging from 40° to 100 °F (4° to 38 °C) are possible when grout is pre-conditioned to 70 °F (21 °C). Follow special precautions for hot or cold weather. Higher temperatures increase the amount of mixing water needed for a given fluidity and limit working time. Lower temperatures retard set, and impede early strength gain, but permit reducing the mixing-water content for a given fluidity and increase ultimate strength.

**FOR BEST PERFORMANCE**

- Contact Technical Service for detailed questions related to underwater grouting or repair applications.
- Do not add plasticizers, accelerators, retarders, or other additives.

- The water requirement may vary with mixing efficiency, temperature, and other variables.
- Hold a pre-job conference with your local representative to plan the installation. Hold conferences as early as possible. Conferences are important for applying the recommendations in this product bulletin to a given project, and they help ensure a placement of highest quality and lowest cost.
- Master Builders Solutions is not responsible for corrosion caused by ingredients in the flushout, saturation, or mixing water or by contaminants in the space being grouted or in other materials used in the system.
- Make certain the most current versions of product data sheet and SDS are being used; visit [www.master-builders-solutions.com/en-us](http://www.master-builders-solutions.com/en-us) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by Master Builders Solutions personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

**TECHNICAL DATA**

**COMPOSITION**

MasterFlow 1205UW EX is a hydraulic, cement-based, pumpable grout with specially graded aggregate.

**Physical Properties**

PROPERTY	RESULTS	TEST METHOD
Compressive Strength, psi (MPa)		ASTM C 942
1 day	2,000 (14)	
3 day	3,600 (25)	
7 day	5,500 (38)	
28 day	7,000 (48)	
Flow, sec		ASTM C 939 Modified*
Immediately after mixing	11-45	
30 Minutes after mixing with 30 sec remix	15-55	
Volume Change,		ASTM C 1090
%1 day	> 0.02	
28 days	> 0.0 and < 0.2	
Final set, hrs	< 10	ASTM C 953

Note: Testing done with 21% water and using a hobart mixer.

\*As modified in PTI Specification M55.1-12, Section 4.4.5.2

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#### HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting [www.master-builders-solutions.com/en-us](http://www.master-builders-solutions.com/en-us), e-mailing your request to [mbsbscst@mbcc-group.com](mailto:mbsbscst@mbcc-group.com) or calling +1 (800) 433-9517. Use only as directed.

**IN CASE OF EMERGENCY: Call CHEMTEL +1 (800) 255-3924 or if outside the US or Canada, +1 (813) 248-0585.**

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