

**3** | 03 62 13  
Non-Metallic  
Non-Shrink Grouting

# MasterFlow<sup>®</sup> 100

General construction, mineral-aggregate non-shrink grout

FORMERLY CONSTRUCTION GROUT

## PACKAGING

50 lb (22.6 kg) multi-wall paper bags  
3,000 lb (1,360.7 kg) bulk bags

## YIELD

One 50 lb (22.6 kg) bag of MasterFlow 100 mixed with 1.07 gallons (4.03 L) of water (flowable mix) provides approximately 0.45 ft<sup>3</sup> (0.013 m<sup>3</sup>) of mixed grout.

Note: The water requirement may vary due to mixing efficiency, temperature, and other variables.

## COLOR

Concrete gray when cured

## STORAGE

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

## SHELF LIFE

50 LB BAG: 12 months when properly stored  
BULK BAG: 3 months when properly stored

## VOC CONTENT

0 g/L less water and exempt solvents

## DESCRIPTION

MasterFlow 100 is a non-catalyzed, multi-purpose construction grout containing mineral aggregate.

## PRODUCT HIGHLIGHTS

- Concrete gray color (after curing) blends in with surrounding concrete
- No accelerators, including chlorides or other similar salts, will not contribute to corrosion of reinforcing steel
- Can be extended with clean, well-graded coarse aggregate to fill large voids
- Hardens free of bleeding when properly placed and yields a high effective bearing area for proper support and load transfer

## APPLICATIONS

- Interior and exterior
- Normal loads for columns and baseplates
- Bedding grout for precast panels
- Repairing of cavities resulting from ineffective concrete consolidation
- Caulking concrete pipe
- Backfilling, underpinning foundations, and pressure grouting of slabs needing alignment
- General construction applications
- Fluid to damp pack applications

## SUBSTRATES

- Concrete

## HOW TO APPLY

### SURFACE PREPARATION

1. Substrate must be structurally sound and fully cured (28 days).
2. The surface to be grouted must be clean, SSD, strong, and roughened to a CSP of 5 – 9 following ICRI Guideline 310.2 to permit proper bond.
3. When dynamic, shear or tensile forces are anticipated, concrete surfaces should be chipped with a "chisel-point" hammer, to a roughness of (plus or minus) 3/8" (10 mm). Verify the absence of bruising following ICRI Guideline 210.3.
4. Concrete surfaces should be saturated (ponded) with clean water for 24 hours just before grouting.
5. All freestanding water must be removed from the foundation and bolt holes immediately before grouting.
6. Anchor bolt holes must be grouted and sufficiently set before the major portion of the grout is placed.
7. Shade the foundation from sunlight 24 hours before and 24 hours after grouting.

**Technical Data**

**Composition**

MasterFlow 100 is a non-catalyzed hydraulic cement-based grout containing mineral aggregate.

**Compliances**

- ASTM C 1107

**Typical Properties**

**Mixed Grout Data\* (Flowable Mix)**

| PROPERTY                                   | VALUE       |
|--|-------------|
| <b>Approximate Water</b> , gal (L)         | 1.07 (4.03) |
| <b>Initial set</b> , hrs, at 70° F (21° C) | 6           |
| <b>Final set</b> , hrs, at 70° F (21° C)   | 8           |

\*At a constant percent of water, consistency will vary with temperature. Final set takes place in approximately 8 hours at a flowable consistency and 70° F (21° C).

**Test Data**

| PROPERTY                                | RESULTS   | TEST METHOD                            |                      |                                   |                    |       |              |              |              |           |              |              |              |         |              |              |              |         |               |              |              |  |
|---|---|--|----------------------|-----------------------------------|--------------------|-------|--------------|--------------|--------------|-----------|--------------|--------------|--------------|---------|--------------|--------------|--------------|---------|---------------|--------------|--------------|--|
| <b>Compressive strength</b> , psi (MPa) |   | ASTM C 109, as modified by ASTM C 1107 |                      |                                   |                    |       |              |              |              |           |              |              |              |         |              |              |              |         |               |              |              |  |
|   | <table border="1"> <thead> <tr> <th></th> <th>Plastic<sup>1</sup></th> <th>Consistency Flowable<sup>2</sup></th> <th>Fluid<sup>3</sup></th> </tr> </thead> <tbody> <tr> <td>1 day</td> <td>3,500 (24.0)</td> <td>2,000 (13.8)</td> <td>1,500 (10.3)</td> </tr> <tr> <td>3 days</td> <td>6,000 (41.4)</td> <td>5,000 (34.5)</td> <td>3,500 (24.1)</td> </tr> <tr> <td>7 days</td> <td>8,000 (55.2)</td> <td>6,000 (41.4)</td> <td>4,500 (31.0)</td> </tr> <tr> <td>28 days</td> <td>10,000 (68.9)</td> <td>7,000 (48.0)</td> <td>5,500 (37.9)</td> </tr> </tbody> </table> |  | Plastic <sup>1</sup> | Consistency Flowable <sup>2</sup> | Fluid <sup>3</sup> | 1 day | 3,500 (24.0) | 2,000 (13.8) | 1,500 (10.3) | 3 days    | 6,000 (41.4) | 5,000 (34.5) | 3,500 (24.1) | 7 days  | 8,000 (55.2) | 6,000 (41.4) | 4,500 (31.0) | 28 days | 10,000 (68.9) | 7,000 (48.0) | 5,500 (37.9) |  |
|   | Plastic <sup>1</sup>  | Consistency Flowable <sup>2</sup>      | Fluid <sup>3</sup>   |                                   |                    |       |              |              |              |           |              |              |              |         |              |              |              |         |               |              |              |  |
| 1 day                                   | 3,500 (24.0)  | 2,000 (13.8)                           | 1,500 (10.3)         |                                   |                    |       |              |              |              |           |              |              |              |         |              |              |              |         |               |              |              |  |
| 3 days                                  | 6,000 (41.4)  | 5,000 (34.5)                           | 3,500 (24.1)         |                                   |                    |       |              |              |              |           |              |              |              |         |              |              |              |         |               |              |              |  |
| 7 days                                  | 8,000 (55.2)  | 6,000 (41.4)                           | 4,500 (31.0)         |                                   |                    |       |              |              |              |           |              |              |              |         |              |              |              |         |               |              |              |  |
| 28 days                                 | 10,000 (68.9)   | 7,000 (48.0)                           | 5,500 (37.9)         |                                   |                    |       |              |              |              |           |              |              |              |         |              |              |              |         |               |              |              |  |
| <b>Volume Change</b> , % Flowable       |   | ASTM C 1090                            |                      |                                   |                    |       |              |              |              |           |              |              |              |         |              |              |              |         |               |              |              |  |
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| 1 day                                   | 0.01  | 0.0 – 0.3                              |                      |                                   |                    |       |              |              |              |           |              |              |              |         |              |              |              |         |               |              |              |  |
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| 7 days                                  | 0.01  | 0.0 – 0.3                              |                      |                                   |                    |       |              |              |              |           |              |              |              |         |              |              |              |         |               |              |              |  |
| 28 days                                 | 0.01  | 0.0 – 0.3                              |                      |                                   |                    |       |              |              |              |           |              |              |              |         |              |              |              |         |               |              |              |  |

<sup>1</sup> 100 – 125% flow on flow table per ASTM C 1437

<sup>2</sup> 125 – 145% flow on flow table per ASTM C 1437

<sup>3</sup> 20 – 30 seconds through flow cone per ASTM C 939

This data was developed under controlled laboratory conditions. Expect reasonable variations.

### FORMING

1. Forms should be liquid tight and nonabsorbent. Seal forms with putty, sealant, caulk or polyurethane foam.
2. Moderately sized equipment should utilize a head form sloped at 45 degrees to enhance the grout placement. A moveable head box may provide additional head at minimum cost.
3. Side and end forms should be a minimum 1" (25 mm) distant horizontally from the object grouted to permit expulsion of air and any remaining saturation water as the grout is placed.
4. Leave a minimum of 2" between the bearing plate and the form to allow for ease of placement.
5. Use sufficient bracing to prevent the grout from leaking or moving.
6. Eliminate large, non-supported grout areas wherever possible.
7. Extend forms a minimum of 1" (25 mm) higher than the bottom of the equipment being grouted.
8. Expansion joints may be necessary for both indoor and outdoor installation. Consult your local Master Builders Solutions field representative for suggestions and recommendations.

### MIXING

By using the minimum amount of water to provide the desired workability, maximum strength will be achieved. Whenever possible, mix the grout with a horizontal shaft mortar mixer or an electric drill with a paddle. Put the measured amount of potable water into the mixer, add grout, then mix till a uniform consistency is attained. Do not use water in an amount or a temperature that will cause bleeding or segregation.

Note: The water requirement may vary due to mixing efficiency, temperature, and other variables.

### APPLICATION

1. Place MasterFlow 100 in a continuous pour. Discard grout that becomes unworkable. Place grout from one side to avoid entrapment of air. Make sure that the grout fills the entire space being grouted and remains in contact with the plate throughout the grouting process. Straps may be used to move the grout to ensure the entire space is filled. DO NOT VIBRATE.
2. Immediately after placement, trim the surfaces with a trowel and cover the exposed grout with clean wet rags (not burlap). Maintain moisture for 5 – 6 hours.
3. The grout should offer stiff resistance to penetration with a pointed mason's trowel before the grout forms are removed or excessive grout is cut back.
4. To further minimize the potential moisture loss within the grout, cure all exposed grout with an approved membrane curing compound (compliant with ASTM C 309 or preferably ASTM C 1315) immediately after the wet rags are removed.
5. For placements greater than 6" (152 mm) in depth, product should be extended with aggregate. Aggregate extension is dependent upon the grout type, placement, application requirements, and is typically required for placement depths beyond the limitation of the neat material. The aggregate should be washed, graded, saturated, surface-dry (SSD), high-density, free from deleterious materials, and comply with the requirements of ASTM C 33. Consult Master Builders Solutions Technical Service for additional guidance.

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### FOR BEST PERFORMANCE

- Contact your local representative for a pre-job conference to plan the installation.
- MasterFlow 100 should be placed at a 50 to 90° F (10 to 32° C) application temperature range. Use cold and hot weather concreting practices (ACI 305 and ACI 306) when grouting within 10° F (6° C) of these minimum and maximum temperature ranges.
- Beveling of grout shoulders will reduce cracking.
- Minimum placement depth is 1" (25 mm).
- Do not use MasterFlow 100 where it will come in contact with steel designed for stresses above 80,000 psi (550 MPa).
- Do not add plasticizers, accelerators, retarders, or other additives. Where precision alignment and severe service, such as heavy loading, rolling, or impact resistance are required, use metallic-reinforced, non-catalyzed MasterFlow 885 grout. If the amount of impact resistance needed is not great enough to require metallic reinforcement, use natural-aggregate, MasterFlow 928.
- 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.

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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 [mbsbcst@mbcc-group.com](mailto:mbsbcst@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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