

MASTERFLOW® 555

Fluid, nonshrink, natural aggregate grout

DESCRIPTION:

MASTERFLOW® 555 grout is a fluid, nonshrink, natural aggregate grout. It is ideally suited for grouting machines or plates requiring optimum load-bearing support. MASTERFLOW 555 grout meets the requirements of ASTM C 1107 and the Army Corps of Engineers CRD C 621, Grades B and C at a fluid consistency.

RECOMMENDED FOR:

- Nonshrink grouting of:
 - Machinery and equipment - baseplates and soleplates
 - Precast wall panels, beams and columns, curtain walls, concrete systems, and other structural and nonstructural building members
 - Anchor bolts, reinforcing bars and dowel rods
- Repairing concrete, including grouting voids, rock pockets and large cracks
- Applications requiring high one-day and later-age compressive strengths
- Applications requiring nonshrink grout to achieve maximum bearing for optimum load transfer

FEATURES/BENEFITS:

- Meets ASTM C 1107 and CRD C 621, Grades B and C requirements at a fluid (30 second flow) consistency over a temperature range of 50 to 90 °F (10 to 32 °C)
- Fluid consistency and good working time provides excellent handling and placement capabilities
- Can be installed over a temperature range of 50 to 90 °F (10 to 32 °C)
- Hardens free of bleeding, segregation, or settlement shrinkage ensuring optimum performance in the hardened state
- Free of inorganic accelerators, including chlorides or other salts that are detrimental to reinforcing steel

PACKAGING:

MASTERFLOW 555 grout is packaged in 50 lb (22.7 kg) moisture-resistant bags and 3,300 lb (1,500 kg) bulk bags.

ESTIMATING:

One 50 lb (22.7 kg) bag of MASTERFLOW 555 grout mixed with approximately 8.3 lb (3.8 kg) or 1.0 U.S. gal (3.8 L) of water yields approximately 0.42 ft³ (0.012 m³) of grout.

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

PERFORMANCE DATA:

(Field Properties May Vary)

The following data was developed under controlled laboratory conditions. Reasonable variations from these results can be expected depending on jobsite or test conditions.

Typical Compressive Strengths

(ASTM C 109, Modified)

	Consistency		
	Plastic ¹ psi (MPa)	Flowable ² psi (MPa)	Fluid ³ psi (MPa)
1 day	4,200 (29)	3,700 (26)	3,000 (21)
3 days	5,800 (40)	4,500 (31)	4,200 (29)
7 days	7,300 (50)	6,500 (45)	6,200 (43)
28 days	8,500 (59)	7,500 (52)	7,000 (48)

Volume Change

(ASTM C 1090)

	% Change MASTERFLOW 555 Grout	% Change Specified by ASTM C 1107
1 day	0.05	0.0 to 0.30
3 days	0.05	0.0 to 0.30
7 days	0.10	0.0 to 0.30
28 days	0.10	0.0 to 0.30

Setting Time, Fluid Consistency³

(ASTM C 191)

Final Set (h:min):

6:00

¹ 100 to 125 % flow on flow table per ASTM C 230.

² 125 to 145 % flow on flow table per ASTM C 230.

³ 30 seconds through flow cone per ASTM C 939.

INSTALLATION:

Consult the MASTERFLOW 555 grout Installation Bulletin and the product bag for details on the installation of MASTERFLOW 555 grout.

It is recommended that the user requests the services of the local Master Builders representative for a prejob conference to plan the installation.

Mixing

MASTERFLOW 555 grout should be mixed with a mechanical mixer for at least 5 minutes. For a fluid consistency, start with 8.3 lb (3.8 kg) or 1.0 U.S. gal (3.8 L) per 50 lb (22.7 kg) bag. Adjust mixing water, as needed, to establish a fluid consistency (30 seconds through a flow cone per ASTM C 939/CRD C 611). Less mixing water will be required to achieve stiffer consistencies.

Placing

MASTERFLOW 555 grout should be placed in a continuous pour. Discard grout that becomes unworkable. Grout should be placed from one side to avoid entrapment of air. Make sure that the grout fills the entire space to be grouted and remains in contact with the plate throughout the grouting process. Straps may be used to move the grout to ensure that the entire space is filled. DO NOT VIBRATE.

Curing

Immediately after placement, wet cure the MASTERFLOW 555 grout by covering all exposed grout with clean, damp rags (not burlap). Keep moist until ground surface is ready to be finished or until final set. Following the removal of the damp rags, immediately coat with a Master Builders recommended curing compound such as a MASTERKURE® curing compound.

Jobsite Testing

If strength tests must be made at the jobsite, use 2 in. (50 mm) CUBE molds per ASTM C 109. DO NOT use cylinder molds. Testing should be controlled on the basis of the desired placing consistency rather than strictly water content. Consult with your local Master Builders representative for special procedures required when mixing and casting compressive strength tests of fluid, nonshrink grout.

LIMITATIONS:

- Ambient and initial material temperature of the grout should be in the range of 50 to 90 °F (10 to 32 °C) for both mixing and placing. Ideally, the amount of mixing water should be that which is necessary to achieve a 30 second flow per ASTM C 939 (CRD C 611) or stiffer mix. For placement outside of 50 to 90 °F (10 to 32 °C), contact your local Master Builders representative.
- For pours greater than 6 in. (150 mm) deep, consult your local Master Builders representative for special precautions and installation procedures.
- When the grout will be in contact with steel which is or will be stressed over 80,000 psi (550 MPa) use MASTERFLOW 816 cable grout.
- For precision applications, requiring a fluid consistency (25 to 30 second flow per ASTM C 939/CRD C 611) with extended working time over a temperature range of 45 to 90 °F (7 to 32 °C), use MASTERFLOW 928 grout.
- For precision applications, requiring a fluid consistency (25 to 30 second flow per ASTM C 939/CRD C 611) with extended working time over a temperature range of 45 to 90 °F (7 to 32 °C) and dynamic load bearing support, use EMBECO 885 grout.
- MASTERFLOW 555 one-component, cement-based grout is formulated for industrial and professional use only, and must be kept out of the reach of children. This product contains chemicals which may be potentially HARMFUL to your health, if not stored and used properly. Hazards can be significantly reduced by observing all precautions which are found on Material Safety Data Sheets (MSDS), product labels and technical literature. Please read this literature carefully before using product.

RELATED BULLETINS:

Installation Bulletin - MASTERFLOW 555 grout
Installation Bulletin #112665 (9I52) - Bulk Bags
Specification Bulletin - MASTERFLOW 555 grout
MSDS - MASTERFLOW 555 grout

For additional information, contact your local Master Builders representative.

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