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Technical Data Guide

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MasterFlow 678 Installation Guide

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Epoxy
Grouting

MasterFlow® 678

Deep-pour multiple-use epoxy grout

FORMERLY MASTERFLOW 678 DP PLUS

PACKAGING

MasterFlow 678 is packaged in convenient premeasured units.

1 Unit consists of the following:

- 16.0 lb (7.257 kg) pail Part A
- 8.0 lb (3.629 kg) bottle Part B
- 4 x 54 lb (24.5 kg) bags Part C

YIELD

1.8 ft³ (0.05 m³)

STORAGE

Store in unopened containers at 60 to 80° F (16 to 27° C) in clean, dry conditions

SHELF LIFE

2 years (for both resin and hardener) when properly stored

VOC CONTENT

0 g/L less water and exempt solvents

DESCRIPTION

MasterFlow 678 is a low-exotherm, three-component epoxy grout for use where deep sections of epoxy grout must be placed with low heat generation.

PRODUCT HIGHLIGHTS

- Long working time helping to facilitate proper placement
- Excellent creep resistance, even at high temperatures increasing product performance over a wider temperature range
- Low exotherm resulting in minimal heat generation
- Positive expansion to help fill minor gaps and voids in forming
- Superior adhesion for positive bonding characteristics to concrete and steel
- Can be placed in lifts of up to 18" thick without reinforcement making it ideal for deep pours
- Pumpable for maximum productivity on large grout installations

APPLICATIONS

- Deep-pour baseplate grouting
- Grouting of pump bases
- Setting of baseplates
- Grouting of compressors and drive motors
- Grouting of anchors, bars and dowels
- Rebuilding deteriorated curbs, bases and columns
- Repair of spalled concrete

HOW TO APPLY

DO NOT INSTALL THIS PRODUCT WITHOUT READING AND REFERENCING THE COMPANION MASTERFLOW 678 INSTALLATION GUIDE.

MIXING

1. Aggregate must be completely dry.
2. Precondition all components to 70° F (21° C) for 24 hours before using.
3. Pour the hardener (Part B) into a pail of grout resin (Part A) and stir by hand, using a spatula or paint stirring paddle, until well mixed to a uniform amber color.
4. Pour the mixed liquids into a horizontal shaft mortar mixer or a Kol type mixer without delay.
5. Add the grout aggregate, one bag at a time, and mix only until aggregate is completely wetted out to avoid air entrapment. Caution: Always add aggregate to the mixer after the premixed liquids have been poured in.
6. Pour the grout into a wheelbarrow or buckets for transporting to pour-site. Remove it from the wheelbarrow within 15 minutes.
7. After the pour is complete, remove uncured epoxy from the mixer, wheelbarrow and tools with soap and water or a citrus degreaser. Cured material must be removed mechanically

Technical Data

Composition

MasterFlow 678 is a low-exotherm three-component epoxy.

PROPERTY	VALUE
Resin/hardener ratio, by weight	2 to 1
Density, lbs/ft ³ (kg/m ³)	125 (2,000)
Working time, min, 70° F (21° C) 90° F (32° C)	90 75

Test Data

PROPERTY	RESULTS	TEST METHOD
Initial set, hrs	6	Vicat, ASTM C 953
Final set, hrs	7.5	Vicat, ASTM C 953
Expansion	Passes	ASTM C 827
Effective Bearing Area (EBA)	>95%	ASTM C 1339
Compressive strength, psi (MPa) 1 day 7 days 28 days	70° F (21° C) 8,000 (55) 13,000 (89) 14,000 (96)	ASTM C 579, modified
Adhesion to concrete, psi (MPa)	2,500 (17)	Michigan DOT
Adhesion to steel, psi (MPa)	4,000 (28)	Michigan DOT
Coefficient of thermal expansion, in/in/° F	20.0 x 10 ⁻⁶	ASTM C 531
Tensile strength, psi (MPa)	1,900 (13)	ASTM C 307
Flexural strength, psi (MPa)	3,900 (27)	ASTM C 580
Creep, in/in/° F 1 day 28 days	@ 90° F (32° C) 1,200 psi (8.2 MPa) 2.9 x 10 ⁻³ 2.9 x 10 ⁻³ @140° F (60° C) 600 psi (4.1 MPa) 2.9 x 10 ⁻³ 3.5 x 10 ⁻³	ASTM 1181
Peak exotherm, ° F (° C) 1,000 g, adiabatic conditions	93 (34)	

Test results are averages obtained under laboratory conditions. Expect reasonable variations.
Unless otherwise noted, test samples were cured 7 days at 73° F (23° C) and 50% relative humidity.

FOR BEST PERFORMANCE

- Do not add solvent, water, or any other material to the grout.
- Do not alter the resin or hardener proportions.
- Contact your local representative for a pre-job conference to plan the installation.
- For guidelines on specific anchor-bolt applications, contact Technical Service.
- Substrate temperature must be greater than 50° F (10° C).
- Cold material will exhibit decreased flowability and reduced strength development.
- Minimum placement thickness is 1" (25 mm). Consult your BASF representative before placing lifts more than 6" (152 mm) in depth.
- Chamfering the concrete edge helps reduce thermal cracking. Following proper installation procedures also reduces the potential for cracking.
- For information on pumping MasterFlow 678 Grout, contact Technical Service.
- For professional use only; not for sale to or use by the general public.
- Make certain the most current versions of product data sheet and SDS are being used; visit www.master-builders-solutions.BASF.us to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

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.basf.us, e-mailing your request to basfbcst@basf.com or calling 1(800)433-9517. Use only as directed.

**For medical emergencies only,
call ChemTrec® 1(800)424-9300.**

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