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## Technical Data Guide

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MasterFlow 668 Technical Data Guide

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Epoxy  
Grouting

# MasterFlow® 668

Epoxy chock grout for mounting equipment

#### PACKAGING

One 59.7 lb (27.5 kg) unit consists of the following:

- 8.33 lb (3.78 kg) can  
Part A (Resin)
- 1.37 lb (0.62 kg) bottle  
Part B (Hardener)
- 50 lb (22.68 kg) bag  
Part C (Aggregate)

#### YIELD

0.47 ft<sup>3</sup> (0.013 m<sup>3</sup>)

#### 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 668 Chock Grout is a three-component modified epoxy resin-based grout. It is used where high performance properties are required in less-accessible spaces subject to thermal shock and high vibrations. It can be placed from ½–3" (12.5–76 mm) thick on a base grout pour, directly to the concrete or steel to steel.

#### PRODUCT HIGHLIGHTS

- Highly flowable to conform to worn or irregular surfaces.
- Excellent physical properties at a wide temperature range.
- May be used to replace metal chocks, eliminating costly milling.
- Low creep over a wide temperature range minimizes deformation under sustained loads.

#### APPLICATIONS

- Precision grouting of machinery
- Grouting of reciprocating gas compressors
- Grouting of steam and gas turbines
- Steel-to-steel chock grouting
- Where conventional epoxy grouts cannot be used due to limited access

#### HOW TO APPLY

**DO NOT INSTALL THIS PRODUCT WITHOUT READING AND REFERENCING THE COMPANION MASTERFLOW 668 INSTALLATION GUIDE.**

#### SURFACE PREPARATION

##### GENERAL APPLICATION INSIGHTS

1. Chock size should be determined by a mechanical or structural engineer, based on anticipated stresses and grout capabilities.
2. Most chock grout applications involve the placement of epoxy chocks on a base grout pour. Please see the Masterflow 648 grout product data sheet, or visit [www.master-builders-solutions.basf.us](http://www.master-builders-solutions.basf.us) for other epoxy grouting options.
3. Typical epoxy chock thickness should be from 2–3" (51–76 mm).
4. The base grout pour should cure sufficiently before the chock grout application.

#### 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.

Technical Data

Composition

MasterFlow 668 Chock Grout is a three-component modified epoxy-resin-based grout.

Test Data

PROPERTY	RESULTS	TEST METHOD
<b>Compressive strength</b> , psi (MPa), conditioned 1 hour at test temp		
<b>Test temp</b> <b>° F (° C)</b>		
73 (23)	<b>7 day cure at 73° F (23° C)</b> 18,300 (126)	<b>16 hours at 140° F (60° C)</b> 18,900 (130)
140 (60)	13,100 (90)	14,700 (101)
170 (77)	13,100 (90)	13,800 (95)
235 (113)	8,000 (55)	8,400 (58)
<b>Tensile strength</b> , psi (MPa), at 73° F (23° C)	2,600 (17.9)	ASTM C 307
<b>Flexural strength</b> , psi (MPa), at 73° F (23° C)	6,200 (43)	ASTM C 580
<b>Modulus of elasticity</b> , psi (GPa)		
<b>Test temp, ° F (° C)</b>		
73 (23)	2.3 x 10 <sup>6</sup> (16)	
110 (43)	2.2 x 10 <sup>6</sup> (15)	
125 (52)	2.1 x 10 <sup>6</sup> (15)	
140 (60)	2.1 x 10 <sup>6</sup> (15)	
155 (68)	2.0 x 10 <sup>6</sup> (14)	
170 (77)	1.7 x 10 <sup>6</sup> (12)	
<b>Creep</b> , cured according to ASTM C 579, Method B		
<b>Conditions</b>		
<b>° F (° C)</b> <b>psi (MPa)</b>		
140 (60)	600 (4.1)	<b>Creep at 1 year</b> <b>in/in (cm/cm)</b> 0.8 x 10 <sup>-3</sup> (2.03 x 10 <sup>-3</sup> )
140 (60)	900 (6.2)	1.3 x 10 <sup>-3</sup> (3.3 x 10 <sup>-3</sup> )
140 (60)	1,200 (8.3)	1.9 x 10 <sup>-3</sup> (4.83 x 10 <sup>-3</sup> )
<b>Working time</b> , hrs		
90° F (32° C)	1/2	Michigan DOT
73° F (28° C)	1	
55° F (13° C)	3	
<b>Cure rate</b>		
<b>Compressive strength</b> , psi (MPa), when cured at:		
<b>Time, hrs</b> <b>55° F (13° C)</b> <b>73° F (23° C)</b> <b>90° F (32° C)</b>		
8	—	14,500 (100)    18,600 (128)
16	9,500 (66)	17,000 (117)    19,000 (131)
24	14,000 (97)	18,000(124)    19,200 (132)
48	15,300 (106)	18,800 (130)    19,200 (132)
<b>Coefficient of thermal expansion</b> , at 73 to 210° F (23 to 100° C), in/in/° F (cm/cm/° C)	19 x 10 <sup>-6</sup> (34 x 10 <sup>-6</sup> )	ASTM C 531
<b>Water absorption</b> , %	0.09	ASTM C 413
<b>Bond strength to steel</b> , tensile, psi (MPa)		
<b>° F (° C)</b>		
73 (23)		5,300 (36)
140 (60)		3,500 (24)
170 (77)		3,200 (22)
235 (113)		1,200 (8)

#### Test Data

PROPERTY	RESULTS	TEST METHOD
<b>Bond strength to steel</b> , shear, psi (MPa)		Michigan DOT
° F (° C)		
73 (23)	4,500 (31)	
140 (60)	3,600 (25)	
170 (77)	3,600 (25)	
235 (113)	1,200 (8)	
<b>Density</b> , lb/ft <sup>3</sup> (kg/m <sup>3</sup> )	129 (2,064)	ASTM C 905
<b>Specific gravity</b>	2.06	
<b>Tensile bond strength to concrete</b> , psi (MPa)	350 (2.4); concrete failure	
<b>Flash points</b> , ° F (° C)		Pensky-Martens Closed Cup
MasterFlow 668 Chock Grout Resin	> 230 (110)	
MasterFlow 668 Chock Grout Hardener	210 (99)	

Test results are averages obtained under laboratory conditions. Expect reasonable variations.

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 10 minutes.
7. After the pour is complete, clean the mixer and tools with acetone, MEK, or lacquer thinner. Exercise caution when using flammable solvents for cleaning.

#### FOR BEST PERFORMANCE

- Minimum placement thickness is ½" (13 mm).
- 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.
- Cold material will exhibit decreased flowability and decreased strength development.
- 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](http://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.

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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.basf.us](http://www.master-builders-solutions.basf.us), e-mailing your request to [basfbcst@basf.com](mailto: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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