

RELATED DOCUMENTS

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 ft³ (0.013 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 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 1/2–3" (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.com/en-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	
Compressive strength, psi (MPa), conditioned 1 hour at test temp		ASTM C 579 Method B, modified, 2 by 2" cubes	
Test temp ° F (° C)	7 day cure at 73° F (23° C)	16 hours at 140° F (60° C)	
73 (23)	18,300 (126)	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)	
Tensile strength, psi (MPa), at 73° F (23° C)	2,600 (17.9)	ASTM C 307	
Flexural strength, psi (MPa), at 73° F (23° C)	6,200 (43)	ASTM C 580	
Modulus of elasticity, psi (GPa)		ASTM C 580	
Test temp, ° F (° C)			
73 (23)	2.3 x 10 ⁶ (16)		
110 (43)	2.2 x 10 ⁶ (15)		
125 (52)	2.1 x 10 ⁶ (15)		
140 (60)	2.1 x 10 ⁶ (15)		
155 (68)	2.0 x 10 ⁶ (14)		
170 (77)	1.7 x 10 ⁶ (12)		
Creep, cured according to ASTM C 579, Method B		Test Method C 1181	
Conditions	Creep at 1 year		
° F (° C) psi (MPa)	in/in (cm/cm)		
140 (60) 600 (4.1)	0.8 x 10 ⁻³ (2.03 x 10 ⁻³)		
140 (60) 900 (6.2)	1.3 x 10 ⁻³ (3.3 x 10 ⁻³)		
140 (60) 1,200 (8.3)	1.9 x 10 ⁻³ (4.83 x 10 ⁻³)		
Working time, hrs		Michigan DOT	
90° F (32° C)	1/2		
73° F (28° C)	1		
55° F (13° C)	3		
Cure rate			
Compressive strength, psi (MPa), when cured at:			
Time, hrs	55° F (13° C)	73° F (23° C)	90° F (32° C)
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)
Coefficient of thermal expansion, at 73 to 210° F (23 to 100° C), in/in/° F (cm/cm/° C)	19 x 10 ⁻⁶ (34 x 10 ⁻⁶)	ASTM C 531	
Water absorption, %	0.09	ASTM C 413	
Bond strength to steel, tensile, psi (MPa)		Michigan DOT	
° F (° C)			
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
Bond strength to steel, 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)	
Density, lb/ft³ (kg/m³)	129 (2,064)	ASTM C 905
Specific gravity	2.06	
Tensile bond strength to concrete, psi (MPa)	350 (2.4); concrete failure	
Flash points, ° 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 1/2" (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.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.

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, e-mailing your request to 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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