

MasterFlow 700

Cementitious general purpose non shrink construction grout

Material description

MasterFlow 700 is a ready-to-use pumpable, natural aggregate, general purpose grout which undergoes controlled expansion in the plastic state. **MasterFlow 700** is a Class A grout as defined by AS 1478.1-2000, Appendix E, section E5.1. **MasterFlow 700** may be placed in dry (damp) packed, plastic or fluid consistency and is generally used in applications requiring a grout thickness between 10mm and 100mm.

Areas of application

All general purpose grouting operations with clearances of 10mm to 100mm including:

- Steel column and stanchion bases.
- An in-fill grout for cavity block walls.
- In caulking of joints and pipes.
- Between and under pre-cast panels and other joints
- Underpinning where a grout similar in appearance to concrete is required.

MasterFlow 700 is not suited for use under rotating / vibrating mechanical equipment – consider **MasterFlow 870** or **MasterFlow Epoxy Grouts** for this.

MasterFlow 700 should not be used under highly stressed concrete members or in areas where significant load bearing is encountered

Characteristics and benefits

- Ready to use - premixed grout requires only the addition of mixing water on site.
- Low water/cement ratio - reduces drying shrinkage and increases durability.
- Damp packable - can be applied without slumping.
- Complete void filling - resulting from controlled fluid-phase expansion.
- Non staining grout - similar in appearance to plain concrete.
- Economical - relatively low in-place cost due to its ease of use and flowable properties.
- No added chlorides – does not contribute to chloride load.

Properties

The strength of the grout is often the determining factor in deciding when loads can be put on structural members or machinery that have been grouted. The strength of the grout is dependent on the amount of mixing water, temperature (ambient, grout, substrate), curing and age of the hardened grout. Typical compressive strength of **MasterFlow 700** grout at 20°C is:

Compressive Strength (MPa):

Age	Consistency		
	Dry (damp) Packed	Plastic	Flowable
1 day	30	22	12
3 days	50	39	30
7 days	55	44	41
28 days	66	55	50

(Tested in accordance with AS1478.2 Appendix A using 50mm cubes, moist cured and restrained during setting). In applications where a higher strength grout is required, refer to MasterFlow 810, MasterFlow 870 or MasterFlow 4600.

Flexural Strength (MPa):

Age	Consistency		
	Dry (damp) Packed	Plastic	Flowable
7 days	10	7.5	7
28 days	11	9.5	9

(Tested as 160mmx40mmx40mm prisms)

Setting Times and Bleed:

Temp. @ 23°C	Consistency		
	Dry (damp) Packed	Plastic	Flowable
Initial Set (hr:min)	3:30	6:00	6:30
Final Set (hr:min)	4:10	7:00	7:45
Bleed (%)	0	0	1.5

The performance data is typical and based upon controlled laboratory conditions. Actual performance on the job site may vary from these values based on actual site conditions.

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Water demand

Actual amount of water will depend on the desired consistency for the job and temperature (both ambient and grout). For any given consistency more water will be required at high temperatures and less at low temperatures. As a guide 20kg of grout mixed at 20°C requires the following amount of water to achieve the consistency indicated:

Consistency	Litres per 20kg bag
Dry (damp) packed	2.1
Plastic	3.0
Flowable	3.6

DO NOT use water in an amount or at a temperature that will cause the mixed grout to bleed excessively or segregate.

VOC content: 7g/L	Test method: SCAQMD 304-91
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Application

Preparation

The foundations should be clean, well roughened (CSP4) and pre-saturated with water for a minimum of 4 hours, preferably overnight or 24 hours. Eliminate external sources of vibration until the grout hardens.

Mixing

For large quantities use a paddle type mortar mixer. For smaller quantities mix in a 20-25 litre pail using a heavy duty electric drill (e.g. Festo) fitted with a helical paddle (Jiffy). When using a mortar mixer add approximately 70% of the required mixing water before adding any **MasterFlow 700**. Add only as much water as necessary to provide required consistency. Too much water may adversely affect expansion characteristics and strength development. Mix until grout appears homogeneous, about 2 minutes. When using a helical mixer add all the required water before adding any **MasterFlow 700**. Mix for 1-2 minutes. Do not use grout from damaged bags.

Placing

Place grout within 30 minutes of mixing. Place grout by hand and ram (damp-pack) or rod into place (plastic). **MasterFlow 700** may be placed at a flowable consistency by pouring from one side only into a formed area using a suitable header box. Avoid entrapping air.

To facilitate grout movement, gently strap or rod the grout during pouring. 10mm minimum thickness is recommended.

Application

For information about application, please obtain a copy of the "Application Guide for "MasterFlow General Purpose Grouts" or "Dry-packing MasterFlow Cementitious Grouts" from your local Master Builders Solutions Technical Sales Representative or our website.

Prevent grout from drying out. Protect from sun, wind and draughts. Preferably moisture cure all exposed shoulders for 24 hours then apply a suitable Master Builders Solutions curing compound such as **MasterKure 404** or **MasterKure 402**. If unable to moisture cure then apply a suitable Master Builders Solutions curing compound such as **MasterKure 404** or **MasterKure 402** to all exposed shoulders immediately after final finishing.

Estimating data

A 20kg bag of **MasterFlow 700** mixed with 3 litres of water yields approximately 10.5 litres (0.0105m³).

MasterFlow 700				
L	Thickness in mm /m ²	m ³	bags /m ³	m ² /mm thickness
10.5	10.5mm	(0.0105)	95	10.5 m ²

Packaging

MasterFlow 700 is packaged in moisture resistant 20kg bags.

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Storage & Shelf Life

MasterFlow 700 has a shelf life of 12 months. Store out of direct sunlight, clear of the ground on pallets protected from rainfall.

Precautions

For the full health and safety hazard information and how to safely handle and use this product, make sure that you obtain a copy of the Safety Data Sheet (SDS) from our office or website.

Disclaimer

MasterFlow-700-ANZ-VI I -0523

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MB Solutions Australia Pty Ltd

ABN 69 634 934 419
 Unit 102, 2 Burbank Place
 Norwest NSW 2153

Freecall: 1300 227 300

www.master-builders-solutions.com/en-au

MB Solutions New Zealand Ltd

45C William Pickering Drive
 Albany, Auckland
 New Zealand

Phone: +64 9 414 7233

Emergency Advice:

1300 954 583 within Australia (24hr)
 0800 001 607 within New Zealand

