

# MasterFlow® 559

Versatile high strength, non shrink cementitious construction grout

## DESCRIPTION

**MasterFlow® 559** is a ready to use product in powder form, which requires only the on-site addition of water to produce a non-shrink flowable grout.

## APPLICATIONS

**MasterFlow® 559** is a ready to use product in powder form, which requires only the on-site addition of water to produce a non-shrink grout of predictable performance.

## APPLICATIONS

**MasterFlow® 559** is formulated for use at flowable or plastic consistency. It may be used with confidence for bedding, grouting and void filling operations with clearance of greater than 20 mm, such as but not limited to:

- Void filling between old and new concrete
- Anchor bolts
- Floor patching
- Foundation for machinery
- Filling void between pipe & concrete in manholes/water tanks
- Suitable for pumping & pouring applications
- Low VOC & Emission



Anchor Bolts



Rail/ Post to Slab



Heavy Equipment Machinery Base

### Key

■ MasterFlow 559

## ADVANTAGES

- Double expansion
- Adjustable consistency
- High bond strength to steel and concrete
- High early strength development even at flowable consistency
- Impermeable
- Formulated for middle east weather conditions

## PACKAGING

**MasterFlow® 559** is supplied in 25kg bags and 30 Kg bags.

## Standards

ASTM C-109; ASTM C-940  
Complies with ASTM C-1107

## TYPICAL PROPERTIES

Water addition	Flowable – 25 kg/ 3 L water Flowable – 30 kg/ 3.6 L water
Density	Flowable – 2350 kg/m <sup>3</sup>
Free expansion : 1 to 4%	
Restrained expansion : 0 to 0.4%	
Compressive Strength (N/mm <sup>2</sup> )	Flowable
1 Day	>30.00
3 Days	>40.00
7 Days	>50.00
28 Days	>60.00
Flexural Strength (N/mm <sup>2</sup> )	
7 Days	>8
28 Days	>10
Tensile Strength (N/mm <sup>2</sup> )	
7 Days	>2
28 Days	>3
VOC (SCAQMD Rule 1113)	< 1g/l
CDPH (emission rate)	< 10µg/m <sup>2</sup> *h

\*Properties listed are based on laboratory-controlled tests.

\*Above properties are typical results when 25 kg/ 3 L water ratio is used

## APPLICATION PROCEDURE

### SURFACE PREPARATION:

All surfaces in contact with the material must be sound, dense and clean. All laitance and any unsound material should be removed by light sweep blast, light scaping

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or vigorous wire brushing (Note: heavy scabbling, creating deep troughs or high peaks is unsuitable). Surfaces must be pre-wetted to thoroughly dampen the concrete, but any free surface water must be removed before **MasterFlow® 559** is placed.

Particular attention should be paid to bolt holes to ensure that these are water-free. Use oil free compressed air to blow out bolt holes and pockets as necessary. Base plates, bolts, etc. must be clean and free of oil, grease and paint. Set and align equipment. If shims are to be removed after the grout has set, then lightly grease them for easy removal.

Ensure formwork is secure and watertight to prevent movement and leaking during the placing and curing of the grout.

## MIXING:

Damp down the inside of the grout mixer with water prior to mixing the initial batch of **MasterFlow® 559**. Ensure the mixer is damp but free of standing water. Add the pre-measured quantity of water. Slowly add the **MasterFlow® 559**, mixing continuously. Mix for 3-5 minutes until a smooth, uniform, lump free consistency is achieved. A slow speed drill with heavy duty paddle can be employed for 1 or 2 bag mixes

## PLACING:

Place immediately after mixing, into the prepared area in such a manner that the grout has the shortest distance to flow. Pour the grout continuously maintaining a constant hydrostatic head wherever possible. MASTERFLOW grouts are suitable for use with most types of pumping equipment. Immediately after **MasterFlow® 559** grout is placed, cover all exposed grout with clean wet hessian and keep moist until grout surface is ready to be finished, or until final set. Alternatively, consider the use of a curing membrane from the MASTERKURE range.

## STORAGE

Store out of direct sunlight, clear of the ground on pallets protected from rainfall. Avoid excessive compaction. Storage life is approximately 12 months when stored in ideal conditions in original sealed bags.

## PRECAUTIONS

The temperature of both the grout and elements coming into contact with the grout should be in the range of +5°C to +35°C. Do not use water in an amount or at a temperature that will produce a consistency more than recommended or cause mixed grout to bleed or segregate

**MasterFlow® 559** is formulated for high thicknesses applications up to 150 mm, however it is suitable for use at a minimum thickness of 20 mm.

For thickness > 150 mm **MasterFlow® 559** shall be mixed with 10kg of 6-10 mm washed aggregate per 25 kg bag (12 Kg per 30 Kg bag).

For applications below 20 mm consult Master Builders Solution's Technical Services Department for advice.

Note:

- To simulate on-site conditions, it is necessary to restrain cubes for the first 24 hours immediately after casting.
- Do not Overwork and avoid using Mechanical vibration.
- Under no circumstances should **MasterFlow® 559** be retempered by the later addition of water.

Use a mechanically powered grout mixer for optimum properties. A slow speed drill and mixing paddle may be used for 1 or 2 bag mixes. Do not mix less than 1 bag or attempt to mix by hand.

## YIELD / CONSUMPTION

Pack Size	Consistency	Density	Bag s	Water	Yield/ Cove rage
25 Kg	Plastic	2350 kg/³	84	252 Liters	1 m³
30 kg	Plastic	2350 kg/³	70		

## NOTE:

For precision grouting of heavy machinery use **MasterFlow® 928T/980** or in critical operating conditions **MasterFlow® 950**.

When a very rapid set is required in areas subject to chemical spillage or contamination, use epoxy grouts **MasterFlow® 400 / MasterFlow® 648**.

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For additional information on **MasterFlow® 559** grout or other non-shrink grouting materials, contact your Master Builders Solutions representative.

## SAFETY PRECAUTIONS

As with other products containing Portland cement, the cementitious material in **MasterFlow® 559** grout may cause irritation. In case of contact with eyes, immediately flush with plenty of water for at least 15 minutes. Call a physician. In case of contact with skin, wash skin thoroughly.

## NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local Master Builders Solutions representative.

Master Builders Solutions reserves the right to have the true cause of any difficulty determined by accepted test methods.

## QUALITY AND CARE

All Master Builders Solutions Products are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health and safety standards of ISO 9001 and Master Builders Solutions ESHQ recommendations.

\* Properties listed are based on laboratory controlled tests.

® = Registered trademark of the MBCC-Group in many countries

## CONTACT

Should you require any further information, please do not hesitate to contact us:

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### Disclaimer:

In view of widely varying site conditions and fields of application of our products, this technical data sheet is meant to provide general application guidelines only. This information is based on our present knowledge and experience. The customer is not released from the obligation to conduct careful testing of suitability and possible application for the intended use. The customer is obliged to contact the technical help-line for fields of application not expressly stated in the technical data sheet under "Fields of Application". Use of the product beyond the fields of application as stated in the technical data sheet without previous consultation with Master Builders Solutions and possible resulting damages are in the sole responsibility of the customer.

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