

# MasterFlow 525

High flowability non-shrink cementitious precision grout, non-metallic

## MATERIAL DESCRIPTION

**MasterFlow 525** is a powder blend for easy production of a pourable to exceptionally fluid, slightly expansive, Portland cement grout by addition of potable water only.

## SPECIAL FEATURES

**MasterFlow 525** exhibits excellence in various fresh and hardened state properties:

- Excellent initial and retained fluidity.
- Cohesion and suspension of aggregates.
- Non-bleeding, void free bearing surface.
- Excellent strength development.
- Corrosion inhibition (non-chloride)
- Controlled expansion and shrinkage compensation mechanisms.
- Exceptional tortuous path flow.
- Allows for easy precise placement when difficult accessible grouting is required.

## TYPICAL USES

**MasterFlow 525** is suitable for but not limited to the grouting of:

- Structural Columns.
- Machine bases.
- Holding down bolts.
- Dowel and starter bars.
- Bridge bearings.
- Underpinning and repairs.
- Filling cavities in concrete or steel sections.

## STANDARD COMPLIANCE

**MasterFlow 525** meets the requirements of the U.S Corps of Engineers Specification CRD-C621- 82A for fluid grout and ASTM C1107-91.

## PHYSICAL PROPERTIES

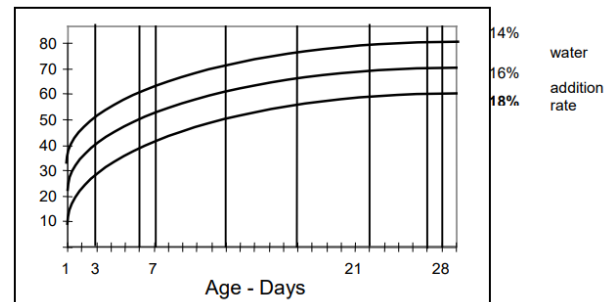
### Fresh State:

Mixed with a maximum of 3,6 litres of potable water per 20kg bag of **MasterFlow 525** powder the following properties are typical (at 25oC). Flow cone (U.S. Corps of Engineers) exits in less than 30 sec.

Initial set	4-6 hours
Final set	7-8 hours
Wet density	2190 kg/m <sup>3</sup>

### Hardened State:

**MasterFlow 525** in laboratory conditions at 25oC typically achieves:



Compressive Strength under laboratory conditions

### Flexural Strength:

2 MPa	1 day
6 MPa	7 days
8 MPa	28 days

### Expansion Phases:

Plastic – up to initial set

### Free Expansion:

Plastic - up to 0.5% (linear)  
Hardened - up to 0.5% (linear)

## INSTALLATION DETAIL

### Preparation:

All areas to be grouted must be free of grease or dirt and the concrete must be well soaked for several hours prior to grouting. Failure to do this will result in migration of grout mix water to the dry adjacent concrete.

### Shuttering:

All fluid flow grouting should be by provision of a suitable head box, pouring board and receiving reservoir to allow the flow of grout to expel entrapped air.

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### Selection of consistency:

Where access is easy, (+50mm clearance), and flow path short (up to 500mm) a flowable or pourable mix may be used. The minimum clearance for flowable applications is 30mm.

For restricted access (less than 50mm clearance), or flow of half to three metres, a fluid grout will be required. The minimum clearance for fluid applications is 15mm.

### Mixing:

The following water addition rates, per 20kg of grout powder, will produce the consistency indicated:

Plastic	2 – 2.4 l
Flowable	2.8 – 3.2 l
Fluid (very Flowable)	3.6 l

The use of a mechanical mortar mixer is recommended, in particular for large pours. Add two thirds of the required water to the mixer or wheelbarrow first and add the grout powder to the water. For fluid grouts, mix to a thick plastic consistency first to break lumps then add final amounts of water to achieve consistency required.

### Placing:

Grout should be flowed across the shortest dimension possible. The depth of the pouring headboard should be not less than 100mm above the top level of the gap to be grouted. This will suffice for most applications, but a 200mm pouring head may be needed for tortuous paths and or flow distances of 2-3 metres.

**MasterFlow 525** may be placed with diaphragm or other conventional fluid transfer pumps.

The principles of self-levelment of fluids apply to placement of **MasterFlow 525**. All blind cavities must be vented, and fresh grout must be added continuously to the pouring head to maintain hydraulic pressure and avoid entry of air.

Do not use vibrators, but chain agitation or strapping techniques are effective in breaking any tension head that might prevent free flow.

### Limitations:

Do not grout on a 5°C and falling temperature scale. Avoid excessive heat (35-40°C) especially where grout is to be placed in 100mm or more lifts. Cooling of mix water or covering of steel with wetted hessian may be necessary to reduce heat.

The maximum lift should not exceed 150mm unless precautions are taken.

Note: Consult Master Builders Solutions' technical services for advice on grouting in adverse conditions, pumping or other placing techniques.

### Curing:

All exposed areas of grout should be covered immediately after placement, until set, after which it should be coated with a good quality curing compound or kept wet for at least 7 days.

### YIELD

20kg = ± 10.7litres.

### PACKAGING

20 kilogram polylined bags.

### STORAGE

Store under cover, out of direct sunlight and protect from extremes of temperatures. Shelf life is 12 months from date of manufacture when stored in undamaged, unopened packaging.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult MB Construction Chemicals Solutions South Africa (Pty) Technical Services Department.

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## SAFETY PRECAUTIONS

As with all chemical products, care should be taken during use and storage to avoid contact with eyes mouth, skin and foodstuffs (which can also be tainted with vapour until product is fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals.

## NOTE

Technical support, where provided, does not constitute supervisory responsibility. For additional information contact your local MB Construction Chemicals Solutions South Africa (Pty) Ltd representative. MB Construction Chemicals Solutions South Africa (Pty) Ltd shall not be liable for technical advice provided.

MB Construction Chemicals Solutions South Africa (Pty) Ltd reserves the right to have the true cause of any

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## QUALITY AND RESPONSIBLE CARE

All products originating from MB Construction Chemicals Solutions South Africa (Pty) Ltd are manufactured under a management system independently certified to conform to the requirements of the quality standards ISO 9001, environmental and occupational health and safety standards.

\* Properties listed are based on laboratory controlled tests.

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