

# MasterFlow<sup>®</sup> 4510

Cementitious high strength non-shrink deep pour precision grout

## DESCRIPTION

**MasterFlow 4510** is a non-shrink, PCE plasticised natural aggregate precision grout with excellent high early and ultimate strengths. It is specially formulated to provide extended working time even at high ambient temperatures when mixed and placed at any flowable consistency. **MasterFlow 4510** is normally placed at a flowable consistency to completely fill voids between 35mm and 500mm.

## RECOMMENDED USES

**MasterFlow 4510** is used for all precision, non-shrink grouting applications with clearances of 35mm or more, including:

- critical equipment baseplates, soleplates & columns up to 500 mm thick,
- precast wall panels, beams, columns, structural building members and curtain walls,
- underpinning,
- applications requiring high early compressive strengths and high ultimate compressive strengths.

## FEATURES AND BENEFITS

- **High early strength** – ensures rapid commissioning of new equipment and structures
- **High ultimate strength** – ensures permanence of the installation under static and moderate repetitive loads
- **Extended working time** – facilitates grouting of large or difficult placements in a single pour, often without the use of a pump
- **Dense, non-shrink grout** – hardens free of bleeding, settlement and drying shrinkage, ensuring tight contact with all grouted surfaces
- **Easy to use** – requires no special mixing equipment, it can be mixed in a standard grout pump with 6mm particle capability or in a pail using a grout stirrer
- **Compliance with codes** – meets the non-shrink requirements of ASTM C1090 and CRD-C 621, Corps of Engineers Specification for Non Shrink Grout; tested to the requirements of AS1478.2 “Methods of sampling and testing admixtures for concrete, mortar and grout”.

## PROPERTIES

Typical performance properties indicated below, for grout mixed at a flowable consistency.

### Compressive Strength (MPa)

Age	23+/-2°C
1 day	30
3 days	50
7 days	60
28 days	80

Test Method: AS1478.2 Appendix A

### Volume Change

Age	23+/-2°C
1 day	Positive
3 days	Positive
7 days	Positive
28 days	Positive

Test Method: AS 2350-13 (modified)

### Flow Retention

Age	23+/-2°C
Initial	100%
After 1 hour	90%

AS 1478.2 - 2005

### Bleeding, Plastic Density and Setting Time

Temp.	Bleeding (%)	Plastic Density (kg/m <sup>3</sup> )	Setting Time	
			Initial (hours)	Final (hours)
23+/-2°C	0	2300	3	4

Test Method: Bleeding AS1012.6; Plastic density AS1012.5; Setting time ASTM C191

**Water Demand** – Actual water demand will depend on consistency required and temperature (both ambient and grout). As a guide, the following table indicates the approximate quantity of water required to mix **MasterFlow 4510** to a flowable consistency.

Temperature	Flowable <sup>1</sup>
23+/-2°C	2.3 Litre per 20kg 115 litres per 1000kg

40- 55cm flow trough ASTM 1478.2



We create chemistry

# MasterFlow<sup>®</sup> 4510

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. Field and laboratory tests should be conducted on the basis of the desired placing consistency rather than strictly on indicated water demand. If the project requires strength tests be made on site do not use cylinder moulds. Do not add any sand, cement or other materials to the grout.

## ESTIMATING DATA

**MasterFlow 4510** mixed according to directions to a flowable consistency will yield the following at 20°C:

### Yield

1000kg Bag	485 Litre approx.
20kg Bag	9.7 Litre approx

MasterFlow 4510				
L	Thickness in mm /m <sup>2</sup>	m <sup>3</sup>	bags /m <sup>3</sup>	m <sup>2</sup> /mm thickness
9.7	9.7mm	(0.0011)	103	9.7 m <sup>2</sup>
485	485mm	(0.0011)	2.06	485 m <sup>2</sup>

As a guide, the following table indicates the approximate quantity of water required to mix **MasterFlow 4510** to a flowable consistency.

### Water addition

Temperature	Flowable <sup>1</sup>
23+/-2°C	2.3 Litre per 20kg 115 litres per 1000kg

## APPLICATION

For information about application, please obtain a copy of the BASF "Application Guide for **MasterFlow** Cementitious Precision Grouts" from your local representative.

## PACKAGING

**MasterFlow 4510** is packaged in 20 kg bags and 1000Kg bulk bags.

## SHELF LIFE

**MasterFlow 4510** has a shelf life of 12 months when stored in a cool dry environment.

## PRECAUTIONS

For detailed Health, Safety and Environmental Recommendations, please consult and follow all instructions on the product BASF Safety Data Sheet (SDS) from our office or our website.

MasterFlow-4510-ANZ-V10-0818

### STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this BASF publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

### NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by BASF either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not BASF, are responsible for carrying out procedures appropriate to a specific application.

**BASF Australia Ltd**  
ABN 62008437867  
Level 12  
28 Freshwater Place  
Southbank VIC 3006  
**Freecall: 1300 227 300**  
www.master-builders-solutions.basf.com.au

**BASF New Zealand Ltd**  
Level 4, 4 Leonard Isitt Drive  
Auckland Airport 2022  
Auckland, New Zealand  
**Freecall: 0800 334 877**  
www.master-builders-solutions.basf.co.nz

**BASF Emergency Advice:**  
1800 803 440 within Australia (24hr)  
0800 944 955 within New Zealand