

MasterFlux 201 (formerly BluCem HS200A)

Post-tension cable grout additive

Material Description

MasterFlux 201 is a high-performance additive designed for civil engineering applications, formulated to create an ultra-flow cementitious grout. This one-component powder requires the addition of cement powder and water to produce a pumpable, high-strength grout suitable for critical applications, including post-tension cable grouting.

It incorporates advanced superplasticisers and suspension agents, ensuring a fluid grout that delivers full duct encapsulation without bleed, segregation, or voids.

Areas of Application

- Post-tension cable grouting - ensures complete encapsulation and protection of steel cables.
- Rock bolting - provides reliable anchorage in rock stabilization projects.
- General grouting - suitable for filling voids and enhancing structural integrity.
- Soil and rock grouting - improves ground stability and reduces permeability.
- Rock fissure grouting - effectively seals fractures in rock formations.
- Precast grouting - ensures strong, durable connections in precast concrete construction.
- Sand permeation - used for consolidating loose sandy soils.

Characteristics and Benefits

- One-component additive - combines with cement and water to form a high-strength grout.
- Protects high-tensile steel elements - ensures full encapsulation and corrosion resistance for post-tension cables.
- Rapid strength gain - fast curing times ideal for time-sensitive projects.
- Zero bleed and low viscosity - provides excellent pumpability and stability without water separation.
- Durability - suitable for structures requiring up to 100 years of service life.
- Environmentally friendly - free from harmful additives like aluminum and methocel.

Properties

Tested Characteristic / Standard	Result
Compressive strength AS 1478.2- Appendix A	Liter Water per 210 kg 63 L 69 L
24 hours: MPa	40 30
7 days: MPa	90 80
28 days: MPa	100 90
Bond Strength (by pull off)	0.5 - 1.0MPa unprimed concrete 0.8 - 1.5MPa primed concrete
Chloride Content AS 1012.20	<0.01%
Expansion ASTM C940	<0.2% @ 30% water
Change in Height ASTM C1090	<0.18% @ 28 days
Bleeding ASTM C940	Zero @ 30% water
Setting Time AS 1012.18	Initial set – 240 minutes Final set – 300 minutes
Fresh Wet Density AS1012.5	2100kg/m ³ @ 30% water 2000kg/m ³ @ 36% water
Flow Characteristics AS1478.2 Appendix C	5-20 seconds (flow cone)
Change in Flow Characteristics AS 1478.2 Appendix C	<3.0 seconds change in 45 minutes
Modulus of Elasticity AS 1012.17	22.4 GPa
Post Tensioning Requirements RMS R64	Complies

Application Properties	Results
Water addition	63 litres for 30% water 69 litres for 33% water 76 litres for 36% water 80 litres for 38% water
Yield	128 litres per 210kg @ 30% water 135 litres per 210kg @ 33% water 140 litres per 210kg @ 36% water 144 litres per 210kg @ 38% water
Pump Life (Refer to Master Builders Solutions for advice and approval on pour thicknesses)	60-120 minutes @ 20°C
Maximum particle size	45 microns

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Application

For information about application, please obtain a copy of the "Cementitious Grouts MasterFlux range" application guide from your local Master Builders Solutions Technical Sales Representative or download a copy from the website.

MasterFlux 201 may be poured or pumped into place. Check ducts and forms for leaks prior to mixing and application of grout. Mix at low speed during pumping and placement to maintain work life. High speed mixing should be avoided during placement to prevent temperature rise of the mixed grout.

Mixing

Measure and place approximately 90% of the desired water into the approved mixing vessel. Start mixer and slowly add 50% cement powder.

Add **MasterFlux 201** Powder and mix for approximately 1 minute. Slowly add the remaining 50% of cement and 10% water.

Additional water can be added to a total volume not exceeding the total allowable limit. Mix for a further 3 - 4 minutes to adequately dissolve the **MasterFlux 201** additive and achieve flowable consistency.

Pumping

Once the grout has been mixed you need an effective pumping method to deliver it to the area of application. Various models of batch mixers and continuous mixers are available for use, all with varying specifications. It is important to match your application's specifics with the capabilities of the mixer and pump. Master Builders Solutions are able to recommend the right mixer for your project.

Prior to pumping grout, rinse the mixer and charge the pump hopper with sufficient water to flush and cool the pump and all grout lines thoroughly. Check to ensure that all lines and hoses are clear and unobstructed. Once grout is mixed, it is important to keep it agitated continuously prior to pumping. Although, this product has a long pot life, if the grout is allowed to sit then it will 'gel' and may become more difficult to pump. Once the site is ready for grout placement, commence pumping. It is important to pump continuously and avoid the formation of cold joints.

Application Temperatures

The mix water's temperature should be kept as low as possible to prevent the grout from hydrating too rapidly.

As with the water temperature, the higher the air temperature the more quickly the grout hydrates and sets. Master Builders Solutions specify mixing times and set times at an ambient temperature of 20°C. These times vary with temperature fluctuations, and adjustments will be required to compensate for this. Exposing the pumping hoses to the sun on a hot day accelerates the product's set time. In some cases it may be necessary to cool the material, the mix water, or even the hose itself during the process and pre-planning the storage of all materials to keep the temperature as low as possible.

High-shear mixing can add 1 to 2°C per minute of mixing. In order to minimise this effect, add all ingredients to the mixer as quickly as possible and minimise prolonged batch-mixing procedures.

Estimating Data

One 10kg bag of MasterFlux 201 added to 200 kg of GP cement will yield approximately 63-80 litres :

MasterFlux 201			
210kg powder	Thickness in mm /m ²	m ³	bags /m ³
30% water	12.8	0.128	8
33% water	13.5	0.135	8
36% water	14.0	0.14	7
38% water	14.4	0.144	7

Packaging

MasterFlux 201 is available in 10kg bags.

Storage & Shelf Life

Store in cool and dry warehouse conditions. Shelf life in these conditions is 12 months in unopened original bags.

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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.

Specification Clause

PT CABLE GROUT ADDITIVE - The ultra flow cementitious grout shall comprise of cement powder and powder additive which requires only the addition of water to form a durable ultra flow product. The additive shall be a pre-blended product that has independent testing to validate the performance outlined in the technical data table on the following pages. The additive shall be free of aluminium and metallic expansion agents and methocel additives. MasterFlux 201 manufactured by Master Builders Solutions or equivalent shall be accepted.

Disclaimer

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