



The Chemical Company

MASTERFLOW[®] 816 CONCENTRATE

Cementitious cable grout additive

DESCRIPTION

MASTERFLOW 816 CONCENTRATE is a chloride free, powder additive designed to be mixed with cement and water to produce a fluid, high strength grout, which is dual shrinkage compensated and suitable for grouting narrow gaps.

The grout produced with **MASTERFLOW 816 CONCENTRATE** meets the requirements of CRD - C621 and ASTM C1107 for compressive strength and non-shrink requirements at fluid consistency.

RECOMMENDED FOR

MASTERFLOW 816 CONCENTRATE is recommended for use where the grouting gaps are more than 5 mm but less than 25 mm. Typical applications are:

- grouting of post tensioned cables.
- cable ends and anchor rods in rock anchors.
- pressure grouting of honeycombs.
- grouting of rock strata.
- grouting below base plates with gaps max. 25 mm.

FEATURES AND BENEFITS

- **Dual shrinkage compensated** – Retains filled volume by compensating for shrinkage. Continued support to bearing area.
- **Free from Aluminium** – No risk of hydrogen embrittlement of post tensioned cables.
- **High initial and final strengths** – Early stressing of cables or transfer of loads. Saves project time.
- **Contains silica fume** – Produces dense, impermeable grout. Durable.
- **Increase fluidity of the mix** – Enables complete filling of narrow voids. Cables protected from corrosive water ingress.

Compressive strength (typical)

PERFORMANCE DATA

Strength depends on the quality, type and proportion of water used in the mix. For a given mix and fluidity, the grout mix incorporating **MASTERFLOW 816 CONCENTRATE** will have a superior strength than the one without.

Typical strengths of up to 60 N/mm in 28 days can be achieved without sacrificing fluidity.

Fluidity

Depends on the fineness of the cement and the water content used.

Grouts produced using OPC (ASTM Type I, II or III), with **MASTERFLOW 816 CONCENTRATE** and a water content of 17.5 L to 22.5 L will typically have an efflux time of 20 - 30 sec. from CRD-C611 Flow Cone or 6 - 9

sec from Japanese J- Cone.

Shrinkage compensation

The extent of effective shrinkage compensation depends on the proportion of water in the mix.

Setting times

Depends on the type and quality of cement used. **MASTERFLOW 816 CONCENTRATE** could slightly retard the setting time of the grout mix especially at temperatures lower than 15°C.

PROPERTIES

Supply form	: power
Colour	: cement grey
Storage temperature	: 10-40°C
Application temperature	: >10°C

ESTIMATING DATA

The consumption of **MASTERFLOW 816 CONCENTRATE** is entirely dependent on the volume of the void to be grouted.

APPLICATION

Preparation

Prepare trial mixes to ascertain the water demand of the site cement with **MASTERFLOW 816 CONCENTRATE**, to achieve the required fluidity. Clean all the substrate surfaces free from dust and loose particles. In case of cable duct grouting, flush the duct with water followed by pumping in compressed air. Seal any serious breakage in the duct to prevent grout leakage later.

Ensure the area to be grouted is well saturated with clean water before commencing work.

Formwork

Proper design of formwork, wherever required, to suit the geometry of the space being grouted is essential for effective grouting. It must be grout tight, strong, and well braced to withstand the fluid pressure of the grout until it sets. Before erecting, coat the inner surfaces with a suitable release agent for easy release.

Seal all the gaps in formwork, and those between formwork and concrete surface with a suitable joint sealant or using mortar mixed with **MASTERFLOW 816 CONCENTRATE** to a stiff consistency. Before commencing the grouting operation, blow clean the grouting area with oil-free compressed air.

Mixing

Mechanical mixing is necessary. For a large batch use an approved grout mixer and for a small batch (up to about 50 kg at a time), use a heavy duty slow speed

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(approx. 600 rpm) drill fitted with a grout paddle or helical stirrer.

Mix **MASTERFLOW 816 CONCENTRATE** with about 80% of the water required for the batch. Keeping the mixer running, add cement slowly. Mix until a homogeneous mixture is obtained. Add the remaining 20% water until the desired fluidity is achieved.

Dosage : Add **MASTERFLOW 816 CONCENTRATE** at the rate of 5 kg for every 50 kg of cement.

Water requirement : 17.5 - 22.5 L per 50 kg cement.

Placing

Place the mixed grout within 15 minutes after mixing. The placing should be without interruptions until completion. While grouting vertical sections start from the lowest point.

For more information about application, please obtain a copy of the BASF "Application Guide for Masterflow Cable Grouts" from your local representative.

CURING

Cure any exposed grout surface, as soon as it reaches touch hard state, with a uniform coat of MASTERKURE 181.

EQUIPMENT

Mixing : Grout mixer or heavy duty slow speed drill with a grout paddle or helical type stirrer.

Placing : Double diaphragm air operated pump or a hand operated diaphragm type grout pump.

CLEANING

Clean tools and equipment with water, before the grout hardens.

PACKAGING

MASTERFLOW 816 CONCENTRATE is supplied in 5 kg, multi-ply paper sacks.

SHELF LIFE

MASTERFLOW 816 CONCENTRATE can be stored in tightly sealed original packing for 12 months, if kept in a dry place.

PRECAUTIONS

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

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STATEMENT OF RESPONSIBILITY

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