

MasterLife GF 300

Expanding plasticizing agent for cement based grouts, mortars and concrete

DESCRIPTION

MasterLife GF 300 is a dry powder type, chloride free additive designed to impart high fluidity to ordinary sand-cement grout mixes at a low water cement ratio. It is shrinkage compensated in the plastic state to counter the mild plastic shrinkage normally associated with site batched grouts.

RECOMENDED FOR

MasterLife GF 300 is recommended for use where site batched grout mixes are preferred or necessary due to site conditions. Typical applications are :

- grouting of cable ducts in post tensioning work.
- filling gaps between prefabricated wall panels.
- underpinning work.
- pre-packed grouting of cavities.
- grouting of rock strata.
- grouting for soil stabilisation.
- grouting voids difficult to access.

MasterLife GF 300 is not recommended for grouting applications where consistently high strengths and total shrinkage compensation are critical requirements. Refer to **Master Builders Solutions** for recommendations from the **Masterflow** range of precision grouts.

FEATURES AND BENEFITS

Shrinkage compensated	Retains filled volume by compensating for any mild plastic shrinkage.
Increases fluidity of the mix	Enables complete filling of even narrow voids.
Lowers water demand	Denser grout. Increased strength properties.

PERFORMANCE DATA

Compressive strength (typical)

Strength depends on the quality, type and proportion of cement used in the mix. For a given mix and fluidity, the grout mix incorporating **MasterLife GF 300** will have a superior strength than the one without.

Fluidity

Depends on the quality and grading of the sand, together with the types and proportions of the cementitious materials in the mix. For a given mix and a water cement ratio, **MasterLife GF300** improves the fluidity substantially.

Shrinkage compensation

The extent of effective shrinkage compensation depends on the type and proportion of cementitious materials in the mix and the grading of sand.

Setting times

Depends on the type and quality of cement used. **MasterLife GF 300** slightly retards the setting time of the grout mix.

PROPERTIES

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

APPLICATION

Preparation

Ensure that the sand used for grouting is clean, well graded and dry. If the sand is wet, its moisture content in every supply lot should be checked before using. Keep sufficient quantity of **MasterLife GF 300**, sand, cement and other cementitious materials such as fly ash, if required, on hand before commencing grouting. Clean all the substrate surfaces free from dust and loose particles. In case of grouting cable ducts, 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. The formwork can be made from

timber, steel, or any other suitable material depending on the circumstances. 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 **MasterLife GF 300** 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 (approx. 600 rpm) drill fitted with a grout paddle or helical stirrer.

Prepare trial mixes and check for segregation. Alter the proportion of the mix or use finer sand to prevent segregation.

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Mix **MasterLife GF 300** with about 80% of the water required for the batch. Keeping the mixer running, add the sand and cement in the desired proportions. Mix until a homogeneous mixture is obtained. Add the remaining 20% water until the desired fluidity is achieved.

Dosage : Add **MasterLife GF300** at the rate of 0.2 to 1 kg for every 100 kg of cementitious materials used in the mix.

Note : *If the height of the grout column is going to be more than 100 mm (e.g. Bolt holes), mix 12 mm down, clean pea gravel or crushed aggregates by up to 100 % of the weight of total mix to reduce the heat of hydration, in which case, do not sieve the grout through any screen.*

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.

CURING

Cure all exposed grout surfaces as soon as the grout 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.

ESTIMATING DATA

The consumption of **MasterLife GF 300** is entirely dependent on the volume of the void to be grouted, the types and proportions of cementitious materials used in the mix.

PACKING

MasterLife GF 300 is supplied in 10 kg, multi-ply paper sacks and in a box of 40 sachets of each 0.2 kg.

SHELF LIFE

MasterLife GF 300 can be stored in tightly sealed original packing for 12 months, if kept in a dry place.

PRECAUTION

Health : **MasterLife GF 300** is non toxic but alkaline like normal cement. The skin of some people may be sensitive to alkalis in cement. Wear gloves and face masks while handling the product. Take all precautions normally taken while handling cement.

Fire : **MasterLife GF 300** is not flammable.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this Master Builders Solutions publication is 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 commonwealth or State legislation. The owner, his representative or the contractor is responsible for checking the suitability of products for their intended use.

NOTE

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