

MasterGlenium 199

High range water reducing admixture for concrete - EN 934-2: T3.1 & T3.2

DESCRIPTION

MasterGlenium 199 is a unique blend of powdered superplasticizers based on modified polycarboxylic ether.

THE CHEMISTRY

What differentiates MasterGlenium 199 from other generations of polycarboxylic ether is a unique mechanism of action that greatly improves the effectiveness of cement dispersion. The sulphonic groups of the polymer chains increase the negative charge of the cement particle surface and disperse these particles by electrical repulsion.

This electrostatic mechanism causes the cement paste to disperse and has the positive consequence of requiring less mixing water to obtain a given concrete workability. MasterGlenium 199 has a different chemical structure from the traditional superplasticizers. It consists of a carboxylic ether polymer with long side chains.

At the beginning of the mixing process it initiates the same electrostatic dispersion mechanism as the traditional superplasticizers, but the side chains linked to the polymer backbone generate a steric hindrance, which greatly stabilises the cement particles' ability to separate and disperse.

Steric hindrance provides a physical barrier (alongside the electrostatic barrier) between the cement grains. With this process, flowable concrete with greatly reduced water content is obtained.

FIELDS OF APPLICATION

- Powdered superplasticiser for use in dry silo systems.
- Higher consistence obtained compared to a control mix with the same water/cement ratio..
- Higher strength concretes obtained by reducing water/cement ratios.

FEATURES AND BENEFITS

MasterGlenium 199 offers the following benefits:

- Flowable concrete with the lowest water/cement ratio without segregation or bleeding.

MasterGlenium 199 increases:

- Initial and final compressive strength.
- Initial and final flexural and tensile strength.

MasterGlenium 199 decreases:

- Risk of shrinkage and creep.

DOSAGE

Depending on specific mix design and requirements, the normally recommended dosage rate of MasterGlenium 199 is 0.05% - 1.00% by weight of cement.

The dosage rates given above are for typical usages, they are not meant as absolute limits, as other dosages may be utilised in special cases according to specific job conditions. If required consult our Technical Services Department for advice. Trial mixes should be carried out to ensure optimum dosage and effect. Where the concrete is to be machine finished by utilising power float or power trowelling methods, we recommend that you contact the Technical Services Department for dosage rate guidance.

MIXING

MasterGlenium 199 is a ready to use powdered admixture that can be added to the concrete mix as a separate component.

Optimal concrete plasticizing effect (and thus maximum mixing water reduction) is obtained if MasterGlenium 199 is added into the concrete after the first 50-70% of the water has been mixed.

Avoid adding the admixture to the dry aggregate or sand. In all cases it is important to add MasterGlenium 199 first and the other admixtures subsequently.

COMPATIBILITY

MasterGlenium 199 can be used with all types of EN 197 Cements. For use with other special cements, contact our Technical Services Department.

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MasterGlenium 199 is compatible for use in concrete mixes also containing:

- Air entraining agents (such as MasterAir range) to optimise frost/thaw resistance.
- Silica fume for higher density.
- Expanding agents (such as for controlled shrinkage).
- Synthetic and steel fibres.

When complimentary admixtures are required it is important that trials are performed, prior to any supply, to determine the respective dosages of any complimentary admixture, and the suitability, in the fresh and hardened state, of the resultant concrete. In these circumstances we recommend that you consult our Technical Services Department for further advice.

PACKAGING

MasterGlenium 199 is supplied in 500-kilo sacks.

CONTACT DETAILS

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Product Data	
Appearance:	Light yellow powder
Alkali content (%):	≤ 10.00 by mass
Chloride content (%):	≤ 0.10 by mass
Corrosion behaviour:	Contains only components according to BS EN 934-1:2008, Annex A.1
Air Content:	Fulfilled
Water reduction:	≥ 112% of Reference mix
Increase in consistence:	Increase of ≥ 120mm from initial slump or ≥ 160mm from initial flow
Retention of consistence:	At 30 mins ≥ Reference mix at initial
Compressive strength:	Fulfilled
Durability:	NPD
Dangerous substances:	NPD
Logistics	
Shelf life:	12 months if stored according to manufacturer's instructions in unopened container.
Storage conditions:	Store in original sealed containers and at temperatures between 5°C and 30°C. Store under cover, out of direct sunlight and protect from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.
Handling and transportation:	Refer to MasterGlenium 199 Safety Data Sheet
Disposal:	Refer to MasterGlenium 199 Safety Data Sheet



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Declaration of Performance can be found at www.master-builders-solutions.com/en-gb

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MasterGlenium 199, Master Builders Solutions UK Ltd, Version 5

Health and Safety

*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

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

Spillage

Chemical products can cause damage; clean spillage immediately.

DISCLAIMER

"Master Builders Solutions UK Ltd" (the Company) endeavours to ensure that advice and information given in Product Data Sheets, Method Statements and Material Safety Data Sheets (all known as Product Literature) is accurate and correct. However, the Company has no control over the selection of its products for particular applications. It is important that any prospective customer, user or specifier, satisfies him/her-self that the product is suitable for the specific application. In this process, due regard should be taken of the nature and composition of the background/base and the ambient conditions both at the time of laying/applying/installing the material and when the completed work is to be brought into use.

Accordingly, no liability will be accepted by the Company for the selection, by others, of a product, which is inappropriate to a particular application.

Products are sold subject to the Company's standard conditions of sale and all customers, users and specifiers, should ensure that they examine the Company's latest Product Literature.