

MasterGlenium[®] ACE 8590

New high-range superplasticiser for precast application

MATERIAL DESCRIPTION

MasterGlenium ACE 8590 is a polycarboxylic ether (PCE) based superplasticiser developed for high early strength development suited to precast manufacturing requirements. **MasterGlenium ACE 8590** provides superior water reduction while offering good workability under hot weather condition.

The rapid development of early strength of **MasterGlenium ACE 8590** allows for zero or minimum application of heating curing processes. The combination of early strength, slump retention and late strength development meet often conventional allows **MasterGlenium ACE 8590** to demanding concreting requirements, exceeding the performance of superplasticisers.

MasterGlenium ACE 8590 is not compatible with MasterRheobuild range of superplasticisers.

CHEMISTRY AND MECHANISM

MasterGlenium ACE 8590 is differentiated from conventional superplasticisers in that it is based on a unique polycarboxylate ether polymer with long lateral chains. This greatly improves cement dispersion. Conventional superplasticisers, such as those based on sulphonated melamine and naphthalene formaldehyde condensates, at the time of mixing, become absorbed onto the surface of the cement particles. This absorption takes place at a very early stage in the hydration process. The sulphonic groups of the polymer chains increase the negative charge on the surface of the cement particle and dispersion of the cement occurs by electrostatic repulsion.

At the start of the mixing process the same electrostatic dispersion occurs as described previously, but the presence of the lateral chains, linked to the polymer backbone, generate a steric hindrance, which stabilises the cement particles capacity to separate and disperse. This mechanism provides flowable concrete with greatly reduced water demand.

FEATURES AND BENEFITS

MasterGlenium ACE 8590 offers the following benefits:

- High water reduction capacity over conventional superplasticisers
- Low permeability and high durability concrete
- Flowability for ease of placement and compaction
- Optimize curing cycle by shortening curing time or decreasing curing temperature
- Eliminate energy required for placing, consolidation and curing
- Improved surface appearance and concrete quality

APPLICATION

MasterGlenium ACE 8590 is a liquid admixture to be added to the concrete during the mixing process. The best results are obtained when the admixture is added after all the other components are already in the mixer and after the addition of at least 80% of the total water.

DOSAGE

The normally recommended dosage rate is 0.7 to 1.2 litres per 100 kg of binder. Other dosages may be used in special cases according to specific job site conditions. In this case please consult our Master Builders Solutions representative.

PACKAGING

MasterGlenium ACE 8590 is available in bulk and 205L drums.

SHELF LIFE

MasterGlenium ACE 8590 must be stored in a place where the temperature is not below 0°C. In case the product freezes, increase the temperature of the product to 30°C and remix.

PRECAUTIONS

Health: **MasterGlenium ACE 8590** does not contain any hazardous substances need to be labelled. It is safe for use with standard precautions followed in the construction industry, such as use of hand gloves, safety goggles, etc. For detailed health, safety and environmental recommendations, please consult and follow all instructions on the product Material Safety Data Sheet.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this Master Builders Solutions 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 Master Builders Solutions either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Master Builders Solutions, are responsible for carrying out procedures appropriate to a specific application.

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