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MasterGlenium® ACE 8111

New generation high range water reducing admixture

DESCRIPTION

MasterGlenium ACE 8111 is a new generation high range water reducing admixture, based on chains of modified polycarboxylate ether technology.
MasterGlenium ACE 8111 is free of chloride, meets ASTM C 494 requirements for Type A and Type F and it is also compatible with all cements meeting the ASTM standards. The new chemistry of **MasterGlenium ACE 8111** What differentiates **MasterGlenium ACE 8111** from the traditional high range water reducing with good workability is a new, unique mechanism of action that greatly improves the effectiveness of cement dispersion. Traditional high range water reducing like melamine and naphthalene sulfonates are based on polymers, which are absorbed by the cement granules. They wrap around the granules surface areas at the very early stage of the concrete mixing process. 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. Hydration however starts as soon as the cement particles get in contact with mixing water. The rapid growth of hydration crystals will change the surface mechanical of the particles and thus of set the free dispersion of them. **MasterGlenium ACE 8111** has a different chemical structure
from the traditional high range water reducing. It consists of polycarboxylate ether poerlym with long side chains. At the beginning of the mixing process it initiates the same electrostatic dispersion mechanism as the traditional high range water reducing, but the side chains linked to the polymer backbone generate a steric hindrance, which greatly stabilises the cement particles ability to separate and disperse. With this process, flowable concrete with greatly reduced water content is obtained. The mechanism allows obtaining, compared to traditional high range water reducing admixtures, considerably reduction of mixing water content and higher early strengths.

RECOMMENDED FOR

MasterGlenium ACE 8111 is especially suitable for concrete used in the construction of precast elements which requires good workability and high early and final strengths, such as:

- Production of load bearing precast elements (e.g. bridge girders, piles, concrete housing)
- Self compacting concrete for precast concrete
- Low slump concrete
- Structures constructed using travelling forms and slip forms
- Hot weather concreting
- Insitu casting of structural elements

FEATURES AND BENEFITS

High workability	Short placement. Saves times and labour
High water reduction	High impermeability and strength.
Superior cohesion	No segregation even at high workability. Excellent concrete quality.
High early strength	Early demoulding. Shorter steamcuring cycles.
High elastic modulus	Superior load bearing capacity
Low shrinkage	Better dimensional stability and creep.

QUANTITY TO USE

The normally recommended dosage rate is approximately 0.8 – 2.0 litre per 100 kg of cementitious material. Other dosages may be recommended in special cases according to specific job site conditions (consult our Technical Service Department for advice).

DIRECTION FOR USE

MasterGlenium ACE 8111 is a ready-to-use admixture to be added to the concrete mix as a separate component. Optimal mixing water reduction is obtained if **MasterGlenium ACE 8111** is poured into the concrete mix right after the addition of the mixing water. Avoid adding the admixture to the dry aggregates.

RATE OF HARDENING

Setting time is influenced by the chemical and physical composition of the basic ingredients of the concrete, temperature of the concrete and climatic condition. Trial mixes should be made with job materials to determine the optimum dosage required for a specified setting time and a given strength requirement.

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PACKAGING & STORAGE

MasterGlenium ACE 8111 is available in 205 litre drums, IBC 1,000 L, and in bulk delivery.
MasterGlenium ACE 8111 is not compatible with naphthalene sulphonate superplasticizers.

SHELF LIFE

MasterGlenium ACE 8111 can be stored for 6 month if stored at temperature above 0°C.

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