

MasterGlenium[®] ACE 8109

Polycarboxylate ether based superplasticising admixture

DESCRIPTION

MasterGlenium ACE 8109 is a new generation superplasticiser for concrete containing polycarboxylate ether polymers, developed primarily for use in the precast concrete industry. The ability to work with low water cement ratio with reasonable workability retention allows for the manufacture of high quality concrete.

MasterGlenium ACE 8109 is free of chloride and has been formulated to comply with the requirements of ASTM C494 for Types A and F admixtures. **MasterGlenium ACE 8109** is compatible with all cements meeting recognised international standards.

Chemistry and Mechanism of Action

MasterGlenium ACE 8109 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 8109 offers the following benefits for the precast concrete industry:

- Produce Rheoplastic Concrete with a low w/c ratio
- Optimize curing cycle by shortening curing time or decreasing curing temperature
- Eliminate heat curing

- Eliminate energy required for placing, consolidation and curing
- Increase productivity
- Improve surface appearance
- Produce durable precast concrete elements
- As compared to the traditional superplasticisers, improve engineering properties such as early and ultimate compressive and flexural strengths.

APPLICATION

Dispensing

MasterGlenium ACE 8109 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 50 to 70% of the total water.

DOSAGE

The normally recommended dosage rate is 0.8 to 1.8 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 MBCC Group representative.

PACKAGING

MasterGlenium ACE 8109 is available in bulk and 1000L IBCs.

SHELF LIFE

MasterGlenium ACE 8109 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 8109 does not contain any hazardous substances requiring labelling.

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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Master Builders Solutions Malaysia Sdn Bhd
No. 8, Jalan Keluli 2, Kawasan Perindustrian Bukit Raja,
41050 Klang, Selangor, Malaysia.
Tel : +603 3082 1000

www.master-builders-solutions.com/en-asiapacific