

MasterGlenium[®] ACE 8538

New generation superplasticising admixture

DESCRIPTION

MasterGlenium ACE 8538 is a new generation superplasticiser for concrete containing poly carboxylate ether polymers, developed primarily for use in ready-mix and precast concrete industry. The ability to work with low water cement ratio and still obtain extended slump retention allows for the manufacture of high quality concrete.

MasterGlenium ACE 8538 is free of chloride and has been formulated to comply with the requirements of ASTM C494 for Types A and F admixtures. **MasterGlenium ACE 8538** is compatible with all cements meeting recognised international standards.

Chemistry and Mechanism of Action

MasterGlenium ACE 8538 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.

RECOMMENDED USES

MasterGlenium ACE 8538 is suitable for work with normal to low water/cement ratios. The high water reduction, early strength and slump retention make **MasterGlenium ACE 8538** the ideal admixture for the ready-mix and precast concrete industry. The use of **MasterGlenium ACE 8538** also allows the manufacture of high performance concrete with high early (18-24 hours) and final strength.

FEATURES AND BENEFITS

- **High water reduction** - High early and ultimate strengths. Low permeability, high durability concrete.
- **High flowability** - Ease of placing and compaction. Less vibration required even in case of steel reinforcement congestion. Less workmanship required.
- **Superior workability** – Improves concrete finish. Excellent surface appearance and texture.
- **Reduced slump loss** – No retempering. Ease of delivery to point of placement.
- **Low shrinkage and creep** – Improved dimensional stability. Reduced risk of cracks.
- **Superior cohesion** – Ease of pumping.
- **Minimal bleed water** – Improved surface quality.

TYPICAL PERFORMANCE DATA

MasterGlenium ACE 8538 improves early and final strength considerably. **MasterGlenium ACE 8538** also improves slump retention and workability of concrete more than traditional superplasticisers.

APPLICATION

Dispensing

MasterGlenium ACE 8538 is a ready-to-use admixture that is added to the concrete at the time of batching.

The maximum effect is achieved when **Master Glenium ACE 8538** is added after the addition of 50 to 70% of water. **MasterGlenium ACE 8538** must not be added to the dry materials. A separate dispenser and feed line must be used.

DOSAGE

Dosage of **MasterGlenium ACE 8538** depends on the mix design, ambient conditions and degree of water reduction and workability required. **MasterGlenium ACE 8538** is dispensed at a rate of 400ml to 1,300ml per 100 kg of cementitious material. Other dosages may also be used depending on the specific working conditions. Trial mixes should be made with job materials to determine the optimum dosage required for a specified job requirement.

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PACKAGING

MasterGlenium ACE 8538 is available in bulk and 205L drums.

SHELF LIFE

MasterGlenium ACE 8538 can be stored for 12 months if stored at a temperature above 0°C and in tightly sealed original containers. If frozen, thaw it and completely reconstitute by mild agitation. Do not use compressed air.

PRECAUTIONS

Health: **MasterGlenium ACE 8538** 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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