

# MasterGlenium<sup>®</sup> ACE 8318

## High-range superplasticizer for precast manufacturing

### DESCRIPTION

**MasterGlenium ACE 8318** is an innovative polycarboxylic ether (PCE) based superplasticiser ideally suited for precast industry. Due to a specifically tailored formulation, this admixture shows excellent dispersion of cement at low water binder ratio and is able to maintain good workability for a considerable period. As a result, **MasterGlenium ACE 8318** provides exceptional good early strength development.

The combination of early strength, slump retention and final strength development allows **MasterGlenium ACE 8318** to be considered ideally for precast application under difficult conditions. It is formulated to comply with ASTM C494 for Type F admixtures and BS-EN 934-2.

**MasterGlenium ACE 8318** is compatible and recommended for use with:

- Viscosity Modifying Agents to produce SCC
- MasterAir, air entraining admixture, to improve freeze-thaw resistance

**MasterGlenium ACE 8318** is not compatible with the MasterRheobuild superplasticisers.

### CHEMISTRY AND MECHANISM

**MasterGlenium ACE 8318** 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 8318** offers the following benefits for the precast concrete industry:

- High impermeability and strength
- Improve durability of precast concrete elements
- Excellent concrete quality
- Produce Rheoplastic concrete with a low w/c ratio
- Eliminate energy required for placing, consolidation and heat curing
- Reduced slump loss to avoid retempering of concrete
- Improve surface appearance
- Improve engineering properties such as early and ultimate strength as compared to traditional superplasticisers

### APPLICATION

**MasterGlenium ACE 8318** 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 of **MasterGlenium ACE 8318** is 0.6 to 1.5 litres per 100kg 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 8318** is available in bulk and 1000L IBC.

### SHELF LIFE

**MasterGlenium ACE 8318** can be stored for 12 months if stored at a temperature above 5°C and in tightly sealed original containers.

### PRECAUTIONS

Health: **MasterGlenium ACE 8318** 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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® = registered trademark of MBCC Group member in many countries of the world

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**STATEMENT OF RESPONSIBILITY**

The technical information and application advice given in this MBCC Group 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.

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**NOTE**

Field service where provided does not constitute supervisory responsibility. Suggestions made by MBCC Group either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not MBCC Group, are responsible for carrying out procedures appropriate to a specific application.

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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](http://www.master-builders-solutions.com/en-asiapacific)