

# MasterGlenium ACE 415

**A new generation high-performance polycarboxylic ether-based superplasticizer for the Precast industry**

## MATERIAL DESCRIPTION

**MasterGlenium ACE 415** (Admixture Controlled Energy) consists of a range of innovative superplasticizers based on newly developed polycarboxylate ether polymers. The particular molecular configuration of **MasterGlenium ACE 415** accelerates the cement hydration by exposing increased surface of the cement grains to react with water. As a result, it is possible to obtain earlier development of the heat of hydration, rapid development of the hydration products and, therefore, higher strengths at very early age.

The polymer structure of **MasterGlenium ACE 415** is specially designed to improve the rheology of precast concrete, making it very flowable and low viscous even at very low water/cement ratios, without increasing stickiness. Robustness is a distinctive feature of the precast concrete produced with **MasterGlenium ACE 415**.

## FIELD OF APPLICATION

**MasterGlenium ACE 415** is suitable for making precast concrete elements with highly-fluid concrete without segregation, but low water cement ratio and, consequently, high-early and final strengths.

**MasterGlenium ACE 415** may be used in combination with **MasterMatrix 110** for producing advanced self-compacting concrete like Smart Dynamic Concrete (SDC, latest V- type SCC), without the aid of vibration, for economic, ecological and ergonomic precast production.

## FEATURES AND BENEFITS

**MasterGlenium ACE 415** offer the following benefits for the precast concrete industry:

- Production of highly flowable, robust selfcompacting concrete having a low water cement ratio along with an optimal rheology.
- Enhanced robustness and consistency in concrete quality with low stickiness.
- Environmentally friendly, CO<sub>2</sub> reduced mix- design optimization.
- Elimination of heat curing.
- Improved surface appearance.
- Durable precast concrete elements as per EN 206-1.
- Elimination of the energy required for placing, compaction and curing.
- Optimization of the curing cycles by reducing curing time or curing temperature.
- Increased productivity.

## PACKAGING

**MasterGlenium ACE 415** is available in a 1000 litre IBC's or in bulk.

## STANDARDS

EN EN934-2 and ASTM C494 Type A & F.

## TYPICAL PROPERTIES\*

Properties listed are for guidance and are not a guarantee of performance.

Appearance	Whitish to Yellowish liquid
Specific gravity @25°C	1.040 -1.070
pH value	5.0 – 7.0
Chloride Content	"Chloride-free" to EN 934-2
Alkali content (Na <sub>2</sub> O equivalent %)	<3%

# MasterGlenium ACE 415

**A new generation high-performance polycarboxylic ether-based superplasticizer for the Precast industry**

## DIRECTIONS FOR USE

**MasterGlenium ACE 415** is a liquid admixture to be added to the concrete during the mixing process. The best results are obtained when the admixture is added to the mixing water that is used for the concrete mix after all the other components are already in the mixer and after the addition of at least 80% of the total water.

Avoid adding the admixture to the dry aggregates. After adding **MasterGlenium ACE 415** admixture provide enough mixing time to secure a homogenous dispersion. Continue mixing and adjust the water content to obtain the required workability.

## DOSAGE RATE

The recommended dosage rate is 0.5 to 2.0 litres per 100 kg of the binder.

Other dosages may be used in special cases according to specific production conditions. In this case please consult our Technical Services Department.

## COMPATIBILITY

**MasterGlenium ACE 415** is compatible and recommended for use with:

- **MasterMatrix 110** to modify the viscosity of SCC.
- **MasterAir 100**, air-entraining admixture, to improve freeze-thaw resistance (exposure class XF1 to XF4, EN 206-1)
- **MasterFinish 302**, demoulding agent for easy formwork removal and improved finish.
- MasterKure, curing compound for highly efficient water retention and friendly use.

**MasterGlenium ACE 415** is not compatible with all admixtures of MasterRheobuild series.

## STORAGE

**MasterGlenium ACE 415** must be stored in a place where the temperature does not drop below 5°C. In case

## DISCLAIMER

The technical information and application advice given in this MB Construction Chemicals Solutions South Africa (Pty) Ltd 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.

of freezing, warm up and homogenise the admixture solution before using. If stored in unopened containers according to manufacturer's instructions, the shelf life is 12 months from date of manufacture.

## HANDLING AND TRANSPORTATION

No special requirements must be observed while the product is used. Protection gloves and glasses are recommended. Do not eat, drink or smoke during the application. **MasterGlenium ACE 415** is not-flammable, non-toxic or irritant and are not subject to special transport requirements.

## NOTE

Technical support, where provided, does not constitute supervisory responsibility. For additional information contact your local MB Construction Chemicals Solutions South Africa (Pty) Ltd representative. MB Construction Chemicals Solutions South Africa (Pty) Ltd shall not be liable for technical advice provided.

MB Construction Chemicals Solutions South Africa (Pty) Ltd reserves the right to have the true cause of any difficulty determined by accepted test methods. Undertaking such tests is not, and shall not be deemed to be, an admission of liability or an assumption of any risk, loss, damage or liability.

## QUALITY AND RESPONSIBLE CARE

All products originating from MB Construction Chemicals Solutions South Africa (Pty) Ltd are manufactured under a management system independently certified to conform to the requirements of the quality standards ISO 9001, environmental and occupational health and safety standards.

\* Properties listed are based on laboratory controlled tests.