

MasterGlenium[®] ACE 456

Essential component of ZERO ENERGY SYSTEM – A new generation of high-performance polycarboxylate ether (PCE) superplasticizers for the Precast industry.

MATERIAL DESCRIPTION

MasterGlenium ACE (Admixture Controlled Energy) **456** consists of a range of innovative superplasticizers based on newly developed polycarboxylate ether polymers. The particular molecular configuration of **MasterGlenium ACE 456** 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, as a consequence, higher strengths at very early age. The polymer structure of **MasterGlenium ACE 456** 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 456**.

TYPICAL APPLICATION

MasterGlenium ACE 456 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 456** may be used in combination with **MasterMatrix** 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.

ADVANTAGES

MasterGlenium ACE 456 offer the following benefits for the precast concrete industry:

- Production of highly flowable, robust self-compacting concrete having a low water cement ratio along with an optimal rheology
- Enhanced robustness and consistency in concrete quality with low stickiness
- Environmentally friendly, CO2 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

STANDARD

MasterGlenium ACE 456 meets the requirements of EN EN934-2 and ASTM C494 Type A, E & F.

DOSAGE

After adding **MasterGlenium ACE 456** admixture provide enough mixing time to secure a homogenous. The recommended dosage rate is 0.3 - 2.0 L/100kg 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.

PACKAGING

MasterGlenium ACE 456 is available in bulk, containers, drums or cans.

TYPICAL PROPERTIES

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

Appearance and Form	Whitish to light Brownish liquid
Specific gravity @ 25°C	1.060 typical
pH value	4.0 – 7.0
Chloride ion content	≤ 0.01%
Alkali content (Na ₂ O equivalent %)	< 3%

COMPATIBILITY

MasterGlenium ACE 456 is compatible and recommended for use with:

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

Note: **MasterGleniumACE 456** is not compatible with all admixtures of **MasterRheobuild** series.

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STORAGE

MasterGlenium ACE 456 must be stored in a place where the temperature does not drop below 5°C. In case 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. The occurrence of a surface layer with **MasterGlenium ACE 456** is normal and will have no effect on the concrete.

SAFETY PRECAUTIONS

Avoid contact with eyes and prolonged contact with skin. During application, always wear gloves and appropriate clothing to minimise contact. In case of contact with eyes, immediately flush with plenty of water for at least 15 minutes. Should skin contact occur, wash immediately with soap and water. Seek the advice of a physician should symptoms persist.

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 456** is non-flammable,

non-toxic or irritant and is not subject to special transport requirements.

NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local MBS representative.

MBS reserves the right to have the true cause of any difficulty determined by accepted test methods.

* Properties listed are based on laboratory controlled tests.

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QUALITY AND RESPONSIBLE CARE

All products originating from MB Construction Chemicals Solutions 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.

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DISCLAIMER

The technical information and application advice given in this MB Construction Chemicals Solutions Kenya 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.

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