

MasterGlenium[®] ACE 415

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

DESCRIPTION

MasterGlenium ACE 415 (Admixture Controlled Energy) consists of a range of innovative superplasticizers based on newly developed polycarboxylic 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, as a consequence, 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**.

TYPICAL APPLICATIONS

MasterGlenium ACE 415 is suitable for making precast concrete elements with normal, high slump or highly-fluid concrete without segregation with a low water cementitious ratio, consequently, high early and final strengths are achieved. **MasterGlenium ACE 415** can also be used in combination with **MasterMatrix** for producing advanced self-compacting concrete such as Smart Dynamic Concrete (SDC, latest type SCC), without the aid of vibration giving economic, ecological and ergonomic precast production.

ADVANTAGES

MasterGlenium ACE 415 offers 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.
- Improved surface appearance.
- Durable precast concrete elements as per EN 206-1.
- Elimination or reduction 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 bulk or in 210 L drums.

STANDARDS

EN 934-2 and ASTM C494 Type A & F.

TYPICAL PROPERTIES*

Appearance and Form	Whitish to light Brownish liquid
Specific gravity @ 25°C	1.030 typical
pH value	4.0 - 7.0
Chloride ion content	"Chloride Free" to EN 934
Alkali content (Na ₂ O equivalent %)	< 3%

APPLICATION GUIDELINES

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.

The recommended dosage rate is 0.5 - 2.0 L/100kg of the cementitious binder. Other dosages may be used in special cases according to specific production conditions. In this case please consult our Technical Services Department.

MasterGlenium[®] ACE 415

MIXING

MasterGlenium ACE 415 is compatible and recommended for use with:

- **MasterMatrix** to modify the viscosity of SCC mixes.
- **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: **MasterGlenium ACE 415** is not compatible with all admixtures of **MasterRheobuild** series.

STORAGE AND SHELF LIFE

MasterGlenium ACE 415 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.

HEALTH AND SAFETY

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.

QUALITY AND CARE

All products originating from Master Builders Solutions Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001 and ISO 14001.

* Properties listed are based on laboratory controlled tests.

® = Registered trademark of the MBCC Group in many countries.

MBS_CC-UAE/GI_ACE415_12_09/v1/11_13/v2/05_19/v3/01_23

STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this Master Builders Solutions 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.

NOTE

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

Master Builders Solutions
Construction Chemicals LLC
P.O. Box 37127, Dubai, UAE
Tel: +971 4 8090800
www.master-builders-solutions.com/en-ae



A brand of
MBCC GROUP

Disclaimer: the TUV mark relates to certified management system and not to the product mentioned on this datasheet