

MasterGlenium[®] ACE 437

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

DESCRIPTION

MasterGlenium ACE 437 (Admixture Controlled Energy) consists of a range of innovative superplasticizers based on latest generation polycarboxylate ether polymers. The particular molecular configuration of

MasterGlenium ACE 437 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 437** is specially designed to improve the rheology of precast concrete, making it flowable and less viscous even at very low water/cement ratios. Robustness is a distinctive feature precast concrete produced with **MasterGlenium ACE 437**.

TYPICAL APPLICATIONS

MasterGlenium ACE 437 is suitable for making precast concrete elements with highly-fluid concrete without segregation at low water cement ratios with consequently high early and ultimate strengths. **MasterGlenium ACE 437** may be used in combination with **MasterMatrix** for producing advanced Self Compacting Concrete (SCC) or Smart Dynamic Concrete (SDC) without the aid of vibration, for economic, ecological and ergonomic precast production.

ADVANTAGES

MasterGlenium ACE 437 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 or reduction 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 437 is available in bulk or drums.

STANDARDS

MasterGlenium ACE 437 meets the requirements of EN EN934-2 and ASTM C494 Type A & F.

TYPICAL PROPERTIES*

Appearance and Form	Clear to light brown liquid
Specific gravity @ 25°C	1.076 – 1.092
pH-value @ 25°C	4.0 - 7.0
Chloride ion content	“Chloride Free” to EN 934

APPLICATION GUIDELINES

MasterGlenium ACE 437 is a ready to use liquid admixture that is added to the concrete at the time of batching.

The maximum effect is achieved when the **MasterGlenium ACE 437** is added after the addition of 70% of the water.

MasterGlenium ACE 437 must not be added to the dry materials.

Thorough mixing is essential and a minimum mixing cycle, after the addition of the **MasterGlenium ACE 437**, of 60 seconds for forced action mixers is recommended.

The recommended dosage rate of **MasterGlenium ACE 437** is 0.5 to 2.0 L/100kg of total cementitious material.

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

MIXING

MasterGlenium ACE 437 is compatible and recommended for use with:

- **MasterMatrix** to modify the viscosity of SCC.
- **MasterAir**, air entraining admixture to improve freeze-thaw resistance.
- **MasterFinish**, demoulding agent for easy formwork removal and improved finish.
- **MasterKure**, user friendly curing compound for highly efficient water retention.

MasterGlenium ACE 437 is suitable for mixes containing all types of Portland cement and cementitious materials as follows:

- Microsilica
- Fly Ash (PFA)
- GGBS (ground granulated blast furnace slag)

Note: **MasterGlenium ACE 437** is not compatible with **MasterRheobuild** superplasticizers.

STORAGE AND SHELF LIFE

MasterGlenium ACE 437 should be stored above 5°C in closed containers or storage tanks to protect from evaporation and extreme temperatures. The shelf life is 12 months when stored as above.

The occurrence of a surface layer with **MasterGlenium ACE 437** is normal and will have no effect on the performance of the product.

HEALTH AND SAFETY

MasterGlenium ACE 437 contains no hazardous substances requiring labelling. For further information refer to the Material Safety Data Sheet.

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.

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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

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