

MasterCem[®] ES 2232

Cement additive engineered for enhancement of cement early strength and reduction of unit grinding energy / increase of cement mill throughput

DESCRIPTION

MasterCem ES 2232 is a liquid, ready-to-use cement additive designed to enhance cement performance. In addition to acting as a Grinding Aid in the milling process and a flow aid in cement conveyance, **MasterCem ES 2232** improves specific cement properties by the activity of its chemical components. These act in the modification of clinker characteristics and in the enhancement of its hydraulic properties.

Products of the **MasterCem ES 2000** series are specifically designed to increase early strength of cement. These benefits can be used either for achieving superior product performance or for cement optimization while maintaining the original performance level. Typical early strength improvement is +10-25% at 1-2 days vs. plain control. However, product performance is dependent on grinding equipment characteristics, process conditions, raw material properties and cement type. To best benefit from cement additives, mill and separator process parameters may need to be adapted.

MasterCem ES 2232 improves the flow characteristics of cement with positive impact on cement conveyance and reduction of pack-set in storage.

TYPICAL APPLICATIONS

MasterCem ES 2232 is developed for application in the cement grinding process in :

- Ball mills (closed and open circuits)
- Vertical mills
- Other grinding systems, such as: GGBS grinding

ADVANTAGES

MasterCem ES 2232 offers the following benefits to cement producers:

- **Cost reduction** due to lower unit grinding energy (kWh/t) and optimization of cement fineness and composition while maintaining cement properties
- **Capacity extension** due to higher mill throughput and optimized cement recipe

- **Product differentiation** due to enhanced cement performance and improved properties for the final application
- **Improved cement handling** due to faster cement conveyance through the plant and in the distribution
 Reduction of plant stops and optimized storage in silos. Very low dust generation during application and therefore a good working environment

PACKAGING

MasterCem ES 2232 is available in bulk and 1,200kg IBC.

STANDARDS

MasterCem ES 2232 fulfils the European cement standard EN 197.1.

TYPICAL PROPERTIES*

Appearance	Brownish Liquid
Density @ 25°C	1.11 - 1.15 g/cm ³
pH value	8-10

APPLICATION GUIDELINES

MasterCem ES 2232 can be metered onto the mill feeders or injected into the mill. The recommended dosage rate is between 300-600g per ton of cement. Other dosages may be required in specific situations. The optimum dosage should be evaluated in plant trials.

For further questions please consult our Technical Service.

Calibrated dosing equipment with an adjustable flow rate and appropriate dosage range is recommended to obtain the maximum performance of the product.

COMPATIBILITY

MasterCem ES 2232 is compatible with all types of cements.

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STORAGE AND SHELF LIFE

It is recommended to store **MasterCem ES 2232** at temperatures above 5°C. Pipes should be thermally isolated. If stored in unopened containers according to manufacturer's instructions, the shelf life is a minimum of 12 months.

HEALTH AND SAFETY

Refer to **MasterCem ES 2232** Safety Data Sheet. In any case it is recommended to apply the general rules for handling of chemical products (e.g. use of gloves and goggles).

TECHNICAL SERVICE

Master Builders Solutions assists customers in all phases of cement additives implementation in cement manufacturing. This starts with the assessment of the customer's needs and the technical limitations, continues with lab and field grinding trials, and ends with a comprehensive performance evaluation of the added value of cement additives.

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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