

MasterCem[®] LS 3111

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

DESCRIPTION

MasterCem LS 3111 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 LS 3111** 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 3000** series are specifically designed to increase late 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 late strength improvement is +5-15% at 28 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 LS 3111 improves the flow characteristics of cement with positive impact on cement conveyance and reduction of pack-set in storage.

TYPICAL APPLICATIONS

MasterCem LS 3111 is developed for application in the cement grinding process in:

- Ball mills (closed and open circuits)
- Vertical mills
- Other cement grinding systems

ADVANTAGES

MasterCem LS 3111 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.

- **Sustainability** due to reduced clinker factor and specific CO₂ emissions. Gain of carbon credits.
- **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 logistics. Reduction of plant stops and optimized storage in silos.

PACKAGING

MasterCem LS 3111 is available in bulk and 1,100kg containers (IBC).

STANDARDS

MasterCem LS 3111 fulfils the European cement standard EN 197.1.

TYPICAL PROPERTIES*

Colour	Yellowish liquid
Density at 20°C	1.050 – 1.110 g/cm ³
pH value	7.5 – 9.5

APPLICATION GUIDELINES

MasterCem LS 3111 can be metered onto the mill feed or injected into the mill. The recommended dosage rate is between 200 and 600 g per ton of cement (0.02-0.06% mass). 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.

MIXING

MasterCem LS 3111 is compatible with all types of cements.

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STORAGE AND SHELF LIFE

It is recommended to store **MasterCem LS 3111** 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 LS 3111** 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).

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

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NOTE

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