

MasterCem ES 2101

Cement additive engineered for enhancement of cement early&late strength and reduction of unit grinding energy / increase of cement mill throughput. Chloride free.

DESCRIPTION

MasterCem ES 2101 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 2101 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 LS 3000 series are specifically designed to increase early and 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 early strength improvement is +10-25% at 1-2 days vs. plain control and 10-15% for late strength versus control sample. 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 2101 improves the flow characteristics of cement with positive impact on cement conveyance and reduction of pack-set in storage.

FIELDS OF APPLICATION

MasterCem ES 2101 is developed for application in the cement grinding process in:

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

FEATURES AND BENEFITS

MasterCem ES 2101 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.
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- **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. Very low dust generation during application and therefore a good working environment.

DOSING

MasterCem ES 2101 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 (0.03-0.06% 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.

COMPATIBILITY

MasterCem ES 2101 is compatible with all types of cements.

STANDARDS

MasterCem ES 2101 fulfils the European cement standard EN 197.1

PACKAGING

MasterCem ES 2101 is available in bulk and 1'000 kg containers (IBC)

STORAGE

It is recommended to store MasterCem ES 2101 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.

HANDLING AND TRANSPORTATION

Refer to MasterCem ES 2101 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

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Product Data	
Appearance:	Brownish liquid
Density @ 20°C:	1.080 - 1.140 g/cm ³
pH-value @ 20°C:	9-11

goggles).

TECHNICAL SERVICE

Master Builder 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.

HEALTH AND SAFETY

*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapor until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

SPILLAGE

Chemical products can cause damage; clean spillage immediately.

DISCLAIMER

"Master Builders Solutions Yapı Kimyasalları Sanayi ve Ticaret Ltd.Şti." (the Company) endeavors to ensure that advice and information given in Product Data Sheets, Method Statements and Material Safety Data Sheets (all known as Product Literature) is accurate and correct. However, the Company has no control over the selection of its products for particular applications. It is important that any prospective customer, user or specifier, satisfies him/her-self that the product is suitable for the specific application. In this process, due regard should be taken of the nature and composition of the background/base and the ambient conditions both at the time of laying/applying/installing the material and when the completed work is to be brought into use. Accordingly, no liability

will be accepted by the Company for the selection, by others, of a product, which is inappropriate to a particular application. Products are sold subject to the Company's standard conditions of sale and all customers, users and specifiers, should ensure that they examine the Company's latest product literature.

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