

MasterCem LS 3104

Cement plant admixture to increase the compressive strength of cement at long curing times, reduce grinding energy and increase mill output.

Material description

MasterCem LS 3104 is a cement grinding admixture that belongs to the group of performance enhancers. These products, in addition to their performance as grinding aids, enhance the performance and properties of cement through the action of specific components that modify the characteristics of the clinker by improving its hydraulic properties.

The MasterCem LS 3000 line was developed to increase the compressive strength of cement at long curing times. These benefits can be used to improve cement performance or, for equal performance, to enable optimisation of the formulation.

MasterCem LS 3104 is a grinding aid that also makes cement easier to handle.

Typical performance in terms of compressive strength can be increased by up to 15% at 28 days compared to a non-additive reference and, compared to other additives, promotes reduced setting times at low temperatures (parameters highly dependent on the type of materials used, the characteristics of the equipment used for grinding, the process conditions and the type of cement to be produced).

To obtain the best benefits from the use of grinding aids, the process parameters of the mill and separator may need to be adjusted.

The use of MasterCem LS 3104 also improves the "pack-set" making it easier to handle the cement powder, both in the grinding mill and in the conveyor lines to packaging and storage, thus avoiding powder bundling.

Fields of Application

MasterCem LS 3104 is primarily intended as a grinding aid in ball mills but can also be used for vertical mills or other grinding systems.

Features and benefits

MasterCem LS 3104 offers the cement manufacturer the following benefits:

- **reduction in costs** due to less energy absorbed (kWh/t) during grinding operations;
- **increased production capacity** due to higher grinding efficiency and recipe optimisation;
- **product differentiation** due to the higher performance of the cement obtained;
- **greater production efficiency** due to less wear on the mill and lower maintenance costs. Reduced plant downtime and faster transfer of cement to storage and packaging operations lead to cost optimisation;
- **environmental sustainability** through reduced CO₂ emissions due to a lower clinker-to-cement ratio. The use of smaller quantities of clinker in cement production extends the utilisation time of quarries.

Dosage

The recommended dosage varies between 200 and 500 g/ton of cement (0.02 - 0.05% by mass).

Different dosages are possible depending on the specific working conditions.

In any case, preliminary trials and pilot tests are recommended to determine the optimal dosage to be used.

Compatibility

MasterCem LS 3104 is compatible with all types of cements.

Packaging

MasterCem LS 3104 is available in 1,030 kg tanks and loose in tankers.

Storage

We recommend storing the product at a temperature not below +5°C and in any case protected from frost.

If stored correctly, the product has a shelf life of 12 months.



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Technical Information	
Appearance	Light brown liquid
Specific weight (g/ml at 20°C)	1.010 - 1.050
pH at 20°C	9.8 – 11.8

Handling and transportation

Refer to MasterCem LS 3104 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).

Scan QR code to visit the product page and download the latest version of this technical data sheet and any additional documentation.



Safety information

For information on the correct and safe use, transport, storage and disposal of the product, consult the most recent Safety Data Sheet.

Other services

For additional technical information, brochures, references, technical reports and technical support please visit www.master-builders-solutions.com/it-it or alternatively contact infomac@masterbuilders.com.

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Disclaimer

Since 16/12/1992, Master Builders Solutions Italia Spa has been operating under a Certified Quality System compliant with the UNI EN ISO 9001 Standard. Furthermore, the Environmental Management System is certified according to the UNI EN ISO 14001 Standard and the Safety Management System is certified according to the UNI ISO 45001 Standard.

For further information, please consult the local Technician of Master Builders Solutions. The technical advice on how to use our products, either written or verbally given, are based on the current state of our scientific and practical expertise, and does not imply the assumption of any guarantee and/or responsibility for the final results of works executed using our products.

Therefore, the customer is not exempted from the exclusive task and responsibility of verifying the suitability of our products for the intended use and purposes.

This version supersedes all the previous ones.

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