

MasterCem SW 4104

Cement additive engineered for enhancement of strength and workability in mortar and concrete. Reduces grinding energy and increases cement mill throughput.

Material description

MasterCem SW 4104 is a liquid, ready-to-use cement additive designed to enhance cement performance. In addition to acting as Grinding Aid in the milling process and Flow Aid in cement conveyance, MasterCem SW 4104 improves specific cement properties by the activity of its chemical components. Products of the MasterCem SW 4000 series are specifically designed to increase strength and workability in mortar and concrete. Typical slump improvement ranges from +10 and +30% 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 SW 4104 improves the flow characteristics of cement with positive impact on cement conveyance and reduction of pack-set in storage. MasterCem SW 4104 controls air entrainment and pore structure in hardened stage, allowing better strengths in mortar and concrete.

MasterCem SW 4104 fulfils the European cement standard EN 197-1.

Fields of Application

MasterCem SW 4104 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 SW 4104 offers the following benefits to cement producers:

- **Product differentiation** and fulfilment of **applications requirements** through strength and workability improvement in mortar and concrete. Concrete produced with cement treated with MasterCem SW 4104 shows enhanced rheological properties leading to better handling, easier pumping, and faster placing in formworks.

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

Dosage

MasterCem SW 4104 can be dosed with the mill feed or injected into the mill. The recommended dosage rate is between 500 and 1,500 g per ton of cement (0.05-0.15% by 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 SW 4104 is compatible with all types of cements.

Packaging

MasterCem SW 4104 is available in bulk and 1084 KG containers (IBC).

Storage

It is recommended to store MasterCem SW 4104 at temperatures above 5°C. Pipes should be thermally isolated. If



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stored in unopened containers according to manufacturer's instructions, the shelf life is a minimum of 12 months.

Safety information

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

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.

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.

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



Technical Information	
Appearance	Light brown liquid
Specific weight (g/cm ³ at 20°C)	1.054 - 1.114
pH at 20°C	8.5 – 10.5
Chloride ion content	< 0.1%

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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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