



TIMM- CEM 11/090

Cement additive engineered for reduction of unit grinding energy and increase of mill throughput

Description of Product

TIMM-CEM 11/090 is a liquid, ready-to-use Grinding Aid for cement. It neutralizes the agglomeration forces between fractured crystalline cement particles that are produced during the milling process. The resulting dispersion effect improves grinding and separation efficiency, thus, promoting the development of fineness and cement powder flowability. These benefits can be used for lowering unit grinding energy cost and for increasing mill throughput. Typical grinding efficiency improvement is in the range of +10-25% 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.

TIMM-CEM 11/090 improves the flow characteristics of cement with positive impact on cement conveyance and reduction of packset in storage silos.

Fields of Application

TIMM-CEM 11/090 is developed for application in the cement grinding process in:

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

Features and Benefits

TIMM-CEM 11/090 offers the following benefits to cement production:

- Cost reduction due to lower unit grinding energy (kWh/t) and decreased specific maintenance cost. Use of low-cost energy tariffs and transfer of production to more efficient mills.
- Capacity extension due to higher mill throughput. Flexibility to satisfy peak market demands. Postponing or avoidance of investments for grinding capacity increase.
- 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.

Technical Data

Appearance: Brownish liquid
Density 20°C: 1.04 3+/- 0.02 g/cm³
pH-value 20°C: 8.5 +/- 1
Chloride ion content: < 0.1%

Dosing

TIMM-CEM 11/090 can be metered onto the mill feed or injected into the mill. The recommended dosage rate is between 300 and 1500 g per ton of cement (0.03-0.15% 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

TIMM-CEM 11/090 is compatible with all types of cements.

Standards

TIMM-CEM 11/090 fulfils the European cement standard EN 197.1.

Packaging

TIMM-CEM 11/090 is available in bulk, 1'000 l containers (IBC) and 208 l drums.

Storage

It is recommended to store TIMM-CEM 11/090 protected from freezing; pipes should be thermally isolated. At temperatures below zero degrees the viscosity of the liquid additive will increase. If stored in unopened containers according to manufacturer's instructions, the shelf life is a minimum of 12 months.

Handling and Transportation

TIMM-CEM 11/090 does not require a hazard warning label in accordance with EC Directives and it is not classified as a dangerous good under transport regulations. However, the general rules for handling of chemical products should be respected (e.g. use of gloves and goggles). Spillages can be absorbed with suitable materials. Please refer to the Materials Safety Data Sheet for more detailed information.

Technical Service

TIMM 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.