

## PRODUCT DATA SHEET

# SikaGrind® ES 2232

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

### DESCRIPTION

SikaGrind® ES 2232 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, SikaGrind® ES 2232 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 SikaGrind® ES series are specifically designed to increase early strength of cement. These benefits can be used either for achieving superior product performance or for cement optimization while maintaining the original performance level. SikaGrind® ES 2232 improves the flow characteristics of cement with positive impact on cement conveyance and reduction of pack-set in storage.

### USES

SikaGrind® ES 2232 is developed for application in the cement grinding process in :

- Ball mills (closed and open circuits)
- Vertical mills
- Other grinding systems, such as: GGBS grinding

### PRODUCT INFORMATION

<b>Packaging</b>	SikaGrind® ES 2232 is available in bulk and Intermediate Bulk Container (IBC)
<b>Appearance and colour</b>	Brown liquid
<b>Shelf life</b>	If stored in unopened containers according to manufacturer's instructions, the shelf life is 12 months
<b>Storage conditions</b>	It is recommended to store SikaGrind® ES 2232 at temperatures above 5°C. Pipes should be thermally isolated.
<b>Density</b>	1.11 – 1.15 g/cm <sup>3</sup> at 25°C

### FEATURES

SikaGrind® ES 2232 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.
- 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.
- Good working environment due to low dust generation.

### CERTIFICATES AND TEST REPORTS

SikaGrind® ES 2232 fulfils the European cement standard EN 197.1.

## APPLICATION INFORMATION

### Compatibility

SikaGrind® ES 2232 is compatible with all types of cements.

## BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## IMPORTANT CONSIDERATIONS

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.

## ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

SikaGrind® ES 2232 can be metered onto the mill feeders or injected into the mill. The recommended dosage rate is between 300 - 600 g per ton of cement. Other dosages may be required in specific situations. The optimum dosage should be evaluated in plant trials. For further information please consult Sika Technical Service Department.

Calibrated dosing equipment with an adjustable flow rate and appropriate dosage range is recommended to obtain the maximum performance of the product.

## LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

## LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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ISO 9001, 14001, 45001 – SGS  
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Sika Gulf B.S.C. (c)  
ISO 9001, 14001 – SGS  
Sika Saudi Arabia Limited  
ISO 9001, 14001 – TÜV  
Sika MB Construction Chemicals LLC  
Sika Construction Chemicals for Manufacturing LLC  
ISO 9001 – LMS  
Sika MB LLC

All products are supplied under a management system certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and ISO 45001.



### Product Data Sheet

SikaGrind® ES 2232

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