

PRODUCT DATA SHEET

SikaGrind®-421 NG

Grinding aid and quality improver for the production of cement

DESCRIPTION

SikaGrind®-421 is a chloride free liquid additive to allow easier grinding of cement and enhance the quality of all types of cement. SikaGrind®-421 has been specifically developed to obtain cements with increased early and final strengths.

USES

SikaGrind®-421 is used in the grinding of cement to:

- Increase the production rate
- Improve the efficiency of the mill and separator
- Enhance the quality of the cement

FEATURES

SikaGrind®-421 is a very effective dispersant with the following characteristics:

- Neutralisation of electrical charges on the surface of the cement particles
- Separation of the cement particles

SikaGrind®-421 provides the following advantages in the cement production:

- Higher efficiency of the plants (tons per hour) due to reduced grinding time per ton
- Higher separator efficiency due to improved dispersion
- Faster achievement of the desired cement fineness
- Reduced particle fraction $> 32\mu$ of the ground cement
- Reduced re-agglomeration of the cement particles
- Less accumulation of material on grinding equipment (grinding balls and mill)
- Cost savings due to a lower power consumption per ton
- Easier handling and minimized problems with “plugging” due to improved flow characteristics
- Improved self-levelling of the cement in the silo

SikaGrind®-421 gives the following advantages to the finished cement:

- Reduced handling costs especially on pneumatic conveying systems
- Reduced risk of hydration in the silo
- Easier discharge of the silos
- Optimum cement granulometry (reduced quantity of “over-milled” particles)
- Increased strengths
- Allows economic cement design with clinker replacements
- Low water demand
- Uniform air entrainment in the stated dosage range
- Reduced brown or yellow discolorations

SUSTAINABILITY

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September 2024, Version 01.03

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PRODUCT INFORMATION

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| Composition | Blend of Amines and Glycols |
| Packaging | 200 kg drum 1000 kg IBC Bulk upon request |
| Shelf life | At least 12 months in undamaged, unopened and sealed original containers when stored at temperatures between +5°C and +35°C. Protect from frost, direct sunlight and contamination. |
| Storage conditions | When delivered in bulk, the tanks and equipment used must be free from contaminants. |
| Appearance and colour | Dark Brown |
| Density | 1.08 +/- 0.03 |
| pH-Value | 13.2 +/- 1 |
| Recommended dosage | Typical dosage rates of SikaGrind®-421 are between 0.2 - 0.8 kg per ton of cement (0.02% - 0.08% of total weight = cement clinker + additions). The optimum dosage, which changes according to the properties of each clinker source, type of cement and other plant variables, should be determined in Plant trials according to the desired properties of the cement. For consistent results, SikaGrind®-421 must be accurately dispensed. |
| Dispensing | SikaGrind®-421 is added into the grinding mill (first or second compartment), onto the clinker feeding channel or sprinkled / dropped onto the clinker (raw material) on the conveyor belt. Suitable dosage pumps with adjustable flow rates should be used for accurate dosing. Note: Periodically, the end of the additive tube should be checked to ensure, that it is not blocked with cement clinker/dust. |
| Compatibility | Cements treated with SikaGrind®-421 are compatible in concretes produced with all commercial admixtures including air entrainers, water reducers, retarders and superplasticizers. The performance of concrete admixtures is not adversely affected by the use of SikaGrind®-421. |

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.

ECOLOGY, HEALTH AND SAFETY

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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