BUILDING TRUST

PRODUCT DATA SHEET

SikaGrind®-421 Optimizer PK

Grinding aid and quality improver for the production of cement

DESCRIPTION

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

USES

SikaGrind®-421 Optimizer PK 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

CHARACTERISTICS / ADVANTAGES

SikaGrind®-421 Optimizer PK 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 Optimizer PK 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 > 32ì 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

SikaGrind®-421 Optimizer PK 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 early and final strengths
- Improved final strengths
- Allows economic cement design with clinker replacements
- Reduced water demand
- Uniform air entrainment in the stated dosage range
- Consistent setting times
- Reduced brown or yellow discolorations

PRODUCT INFORMATION

Chemical Base	Blend of amines and glycol
Packaging	05 ltr jerry can 20 ltr plastic can 200 ltr drum 1000 ltr IBC Bulk supply in tanker is possible on demand
Appearance / Colour	Clear brown liquid
Shelf Life	12 months shelf life from date of production if stored properly in undamaged, unopened, original sealed packaging.
Storage Conditions	Store in undamaged, unopened, original sealed packaging in dry conditions at temperatures between +5 °C and +35 °C. Protect from direct sunlight and frost.
pH-Value	≥ 8
Specific gravity	1.075 ± 0.02

APPLICATION INFORMATION

Recommended Dosage	Typical dosage rates of SikaGrind®-421 Optimizer PK 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 Optimizer PK must be accurately dispensed.
Compatibility	Cements treated with SikaGrind®-421 Optimizer PK are compatible in concretes produced with all commercial admixtures including air entrainers, water reducers, retarders and super plasticizers. The performance of concrete admixtures is not adversely affected by the use of SikaGrind®-421 Optimizer PK Please consult our Technical Services Department.
Dispensing	SikaGrind®-421 Optimizer PK 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.

BASIS OF PRODUCT DATA

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

ECOLOGY HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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