

## PRODUCT DATA SHEET

# SikaGrind®-221 Plus PH

### Efficient and Strength Enhancing Grinding Aid for the Production of Cement

#### DESCRIPTION

SikaGrind®-221 Plus PH has been specifically designed to increase the output of cement grinding plants and obtain to improved strength development for Type 1P blended cement.

#### USES

SikaGrind®-221 Plus PH is particularly used to:

- Enhance the production rate of the cement grinding system.
- Increase the strength of the cement.

#### CHARACTERISTICS / ADVANTAGES

SikaGrind®-221 Plus PH is a dispersant with the following characteristics:

- Neutralization of electrical on the surface of the cement particle.
- Separation of the cement particles.

SikaGrind®-221 Plus PH provides the following advantages in the cement production:

- Enhance grinding properties of the cement mill due to less accumulation of material on grinding balls and mill-liners.
- High separator efficiency due to improved cement particle dispersion.
- Reduced relative power consumption per ton of cement due to increased output of the grinding system (tons per hour)
- Easier achievement of the desired cement fineness (Blaine, particles fraction >32 µm, granulometry) due to reduced re-agglomeration of the sufficiently ground cement particles.
- Minimized problem with plugging due to improved powder flow characteristics.

SikaGrind®-221 Plus PH gives following advantages to the finished cement:

- Reduced quantity of "over-milled" particles in the cement granulometry.
- Easier discharge of the silos.
- Increase strengths at all ages.
- Economic design with clinker replacements.
- Reduced water for normal consistency.

#### PRODUCT INFORMATION

<b>Chemical Base</b>	Amine Base
<b>Packaging</b>	1000 Liter Bulk 210 Liter Drum
<b>Shelf Life</b>	12 months in undamaged, unopened and sealed original containers.
<b>Storage Conditions</b>	Store at temperatures between +5 °C and +35 °C. Protect from direct sunlight and contamination. Note: When delivered in bulk, the tanks and equipment used must be free from contaminants.
<b>Appearance / Colour</b>	Clear to Brown Liquid
<b>Specific gravity</b>	approximately 1.040

## APPLICATION INFORMATION

<b>Recommended Dosage</b>	Typical dosage rates of SikaGrind®-221 Plus PH are between 0.3 - 1.0 kg per ton of cement (0.03% - 0.10% of total weight=cement clinker + additions). The optimum dosage to achieve the desired characteristics shall be determined in Plant trials. Influencing factors are e.g. the properties of clinker source, type of cement and other plant variables. For consistent result SikaGrind®-221 Plus PH must accurately dispensed.
<b>Dispensing</b>	SikaGrind®-221 Plus PH is added onto the clinker feed shortly before the mill entrance or directly into the grinding mill (first or second compartment). Suitable dosage pumps with adjustable flow rates shall be used for accurate dosing. Note: Periodically, the end of the additive tube/hose shall be checked to ensure that it is not blocked.
<b>Compatibility</b>	Cement treated with SikaGrind®-221 Plus PH 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®-221 Plus PH.

## 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 Safety Data Sheet (SDS) 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.

**Sika Philippines Inc.**  
888 Marcos Alvarez Ave.,  
Talon V, Las Piñas City, Philippines 1747  
Tel. No.: +63 2 8806-2875  
Fax. No.: +63 2 8806-2883  
Website: [phl.sika.com](http://phl.sika.com)