

PRODUCT DATA SHEET

SikaGrout[®]-228

High strength shrinkage compensated cementitious grout

DESCRIPTION

SikaGrout[®]-228 is a high strength, pumpable, non-shrink, self-levelling, prebagged cementitious grouting mortar with extended working time to suit local ambient temperatures.

USES

SikaGrout[®]-228 is for grouting in the following locations with clearances of 5 mm or more:

- Machine foundations
- Columns in pre-cast construction
- Concrete anchors
- Cavities
- Gaps
- Recesses
- Rail beds

CHARACTERISTICS / ADVANTAGES

SikaGrout[®]-228 is an economical and easy to use material requiring only the addition of water. Other beneficial properties are:

- Easy to mix and apply
- Pumpable with good flow characteristics
- Very high early and ultimate strength
- Impact resistant
- Non-corrosive
- Non-toxic
- Iron and chloride free
- Dense and non-shrink (2-step expansion)
- Extended working time

PRODUCT INFORMATION

Packaging	25 kg bag
Appearance / Colour	Grey powder
Shelf Life	6 months from the date of production
Storage Conditions	Store properly in original, unopened and undamaged sealed packaging in dry conditions between +5 °C to +35 °C. Protect from direct sunlight, rain and water.
Density	
Maximum Grain Size	1.2 mm

TECHNICAL INFORMATION

Compressive Strength	1 day	> 33 N/mm ²	(EN 12190)
	7 days	> 56 N/mm ²	
	28 days	> 75 N/mm ²	
Expansion	~0.63 % (at 24 hours)		(ASTM C 940)

APPLICATION INFORMATION

Mixing Ratio	Flowable consistency	3.5–3.6 L water per 25 kg of grout		
Fresh Mortar Density	~2.2 kg/l			
Yield	Flowable consistency			
	SikaGrout®-228	1.92 kg	25 kg	77 x 25 kg bag
	Water	0.28 L	3.5–3.6 L	277 L
	Volume mortar	1 L	13.05 L	1 m ³
Layer Thickness	5 mm min. / 50 mm max. (per pour)			
Flowability	270 mm	(ASTM C305-99)		
Setting Time	4 h 20 m	(ASTM C 191)		

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.

IMPORTANT CONSIDERATIONS

- The formwork shall be constructed to be leak proof. This can be achieved by using foam rubber strips or mastic sealant beneath the formwork and between joints.
- Non-shrink grout contains additives which expands either during the plastic stage and / or the hardening stage to compensate for the shrinkage of the cementitious matrix. However, this 'non-shrink' property will be effective only if the material is not subjected to water loss.
This is confirmed by a note in ASTM C 1107- Standard Specification for packaged dry, hydraulic cement grout (non-shrinkable), which clarifies the behaviour of non-shrink grouts when subjected to some drying: "Note 1: Since all conditions of use cannot be anticipated, this specification requires non-shrink grout to exhibit no shrinkage when tested in a laboratory-controlled moist-cured environment, and requires only the reporting of the observed height change, usually shrinkage, when test specimens are subject to some degree of drying".

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

SUBSTRATE QUALITY / PRE-TREATMENT

The substrate shall be prepared by suitable mechanical preparation techniques such as high pressure water, breakers, grit blasting, scabblers, etc.

All absorbent surfaces must be well saturated with clean water, but be free of any surface water or puddles prior to the application of SikaGrout®-228.

Concrete, mortar and stone

Surfaces must be sound, clean, and free from frost, oils, grease, standing water, all loosely adhering particles and other surface contaminants.

Metal surfaces (iron and steel)

Surfaces must be clean, free from scale, rust, oil and grease.

MIXING

Place 70–80 % of the premeasured clean water (depending on consistency required - refer to 'Mix Ratio') into a clean container and gradually add the whole bag of SikaGrout®-228 into it while continuously mixing. Add the remaining water until the desired consistency is obtained. Mix for 2–3 minutes with a mixing paddle attached to a slow speed drill (500 rpm max.). Do not use a free-fall mixer.

APPLICATION

After mixing, stir lightly with a spatula for a few seconds to release any entrapped air. Pour the mortar within 10–15 minutes after mixing. When carrying out baseplate grouting, ensure sufficient pressure head is maintained to keep the mortar flowing. Exposed parts of the mortar surface should be kept as small as possible.

Any bolt pockets must be grouted prior to grouting between the substrate and the base plate. Pouring shall be from one side of the void to eliminate any air or pre-soaking water getting trapped under the baseplate. It is advisable to pour the grout across the shortest distance of travel. The grout head must be maintained at all times so that a continuous grout front is achieved.

Grouting large volumes

For sections thicker than 50 mm, it is necessary to fill the SikaGrout®-228 with graded 10 mm silt free aggregate to minimise temperature rise. The quantity of aggregate shall not exceed 1 part aggregate to 1 part SikaGrout®-228 by weight. Mixing ratio will be determined by consistency required and moisture content of aggregates used. A preliminary trial is recom-

mended.

CURING TREATMENT

On completion of the grouting operation, exposed areas shall be cured with Antisol®-E curing compound or continuous application of water and/or wet Hessian.

CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use. Hardened or cured material can only be mechanically removed.

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.

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Product Data Sheet

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