

PRODUCT DATA SHEET

SikaGrout[®]-214 MM

MULTI-PURPOSE DUAL SHRINKAGE COMPENSATED CEMENTITIOUS GROUT

DESCRIPTION

SikaGrout[®]-214 MM is a dual-shrinkage compensated self-levelling, premixed cementitious grout with extended working time to suit local ambient temperatures.

USES

SikaGrout[®]-214 MM is suitable for the following grouting works with clearance of 10 mm or more:

- Machine foundations
- Columns in precast constructions
- Concrete anchors
- Bridge bearings
- Cavities
- Gaps
- Recesses
- Rail beds

CHARACTERISTICS / ADVANTAGES

SikaGrout[®]-214 MM is an economical and easy to use material requiring the simple addition of water. Other beneficial properties are:

- Easy to mix and apply
- Good flow characteristics
- Rapid strength development
- High 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
Shelf life	6 months from date of production
Storage conditions	Store properly in original, unopened and undamaged sealed packaging in dry conditions between +10 °C to +35 °C. Protect from direct sunlight, rain and water.
Appearance and colour	Grey premixed powder
Maximum grain size	3.3 mm

TECHNICAL INFORMATION

Compressive strength	Flowable consistency		
	24 hours	> 20 N/mm ²	(ASTM C 109)
	7 days	> 50 N/mm ²	
	28 days	> 60 N/mm ²	

Expansion	At 24 hours		
	Flowable consistency	Pourable consistency	Stiff consistency (ASTM C940)
	0.70%	0,30%	0.07%
Reaction to fire	Class A1		(EN 13501-1)

APPLICATION INFORMATION

Mixing ratio	Consistency	Water per 25 kg of grout			
	Flowable	4.0–4.4 L			
	Pourable	3.6–4.0 L			
	Stiff	3.0–3.4 for special application such as anchoring starter bars			
Fresh mortar density	~2.2 kg/l (depending on consistency and temperature)				
Yield	Flowable consistency				
	SikaGrout®-214MM	1.8 kg	25 kg	72 x 25 kg	
	Water	0.3 L	4.2 L	302 L	
	Volume mortar	1 L	13.9 L	1 m ³	
	Pourable consistency				
	SikaGrout®-214MM	1.9 kg	25 kg	76 x 25 kg	
	Water	0.3 L	4.0 L	303 L	
	Volume mortar	1 L	13.2 L	1 m ³	
	Layer thickness	100 mm max. per pour / 10 mm min. per pour			
	Flowability	Flowable consistency	Pourable consistency	Stiff consistency (BS Cone)	
300mm * after 15 strokes		270mm	180mm*		
Ambient air temperature	+10 °C min. / +40 °C max.				
Substrate temperature	+10 °C min. / +40 °C max.				
Setting time	Flowable consistency	Pourable consistency	Stiff consistency (ASTM C191)		
	4 h : 30m	3 h : 40m	3 h : 00m		

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.

LIMITATIONS

At temperatures +20 °C and below, setting time and strength development will be slower. Non-shrink grout contains additives which expand 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 the ASTM C 1107 Stand-

ard Specification for packaged dry, hydraulic cement grout (non-shrinkable), which clarifies the behaviour of the non-shrink grout 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

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.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

The substrate should 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®-214 MM.

Concrete, mortar and stone

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

Metal surfaces (iron and steel)

Surfaces should 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®-214 MM into it while continuously mixing. Add the remaining water until the desired consistency is obtained.

Mix for 2 – 3 minutes with a low speed drill (500 rpm max.).

APPLICATION

Use SikaGrout®-214 MM for grouting only. After mixing, stir lightly with a spatula for a few seconds to release any entrapped air. The grout is then poured immediately into the prepared formwork. When carrying out baseplate grouting, ensure sufficient pressure head it maintained for uninterrupted mortar flow. For formwork repair, the prepared formwork must be firmly in place and kept watertight. When placing grout over a large area, it is important to maintain a continuous flow throughout. Work sequence must be properly organised to ensure an uninterrupted flow.

For sections thicker than 100 mm or for grouting large areas, it is necessary to mix SikaGrout®-214 MM with graded 10 mm silt free aggregates to minimise temperature rise generated during curing stage. The quantity of aggregates should not exceed 1 part aggregates to 1 part SikaGrout®-214 MM by weight. Other precautions such as the use of chilled water, insulation of the formwork or baseplate may be required. Please consult our Technical Service Department for assistance.

To further ensure that air entrapped during mixing is allowed to fully escape, it may be necessary to make breather holes. Use steel rods or chains to assist the flow of grout where necessary.

CLEANING OF EQUIPMENT

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

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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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