

PRODUCT DATA SHEET

SikaGrout®-215

HIGH EARLY STRENGTH, PUMPABLE, SHRINKAGE COMPENSATED, CEMENTITIOUS GROUT

DESCRIPTION

SikaGrout®-215 is a high early strength, pumpable, dual-shrinkage compensated, self-levelling, prebagged cementitious grout with extended working time to suit local ambient temperatures. Complies to ASTM C1107

USES

SikaGrout®-215 is suitable for repairs to concrete structures and grouting works with clearance of 10 mm or more:

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

CHARACTERISTICS / ADVANTAGES

- High early strength
- High ultimate strength
- Extended working time
- Dense, non-shrink
- Non-toxic, non-corrosive
- Chloride and iron-free
- High final strength

PRODUCT INFORMATION

Packaging	25 kg bag
Appearance / Colour	Grey powder
Shelf Life	12 months from the date of production
Storage Conditions	Store properly in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +35 °C. Protect from direct sunlight.
Density	~2.2 kg/l (depending on consistency and temperature)
Maximum Grain Size	1.2 mm

TECHNICAL INFORMATION

Compressive Strength	Flowable	Pourable	Stiff
	1 day	28-38 MPa	31-41 MPa
7 days	45-55 MPa	51-61 MPa	55-65 MPa
28 days	60-70 MPa	61-71 MPa	63-73 MPa
(ASTM C 109)			

Tensile Strength in Flexure	Flowable	Pourable	(EN 196-1)
	7 days	~7.0 N/mm ²	~7.5 N/mm ²
28 days	~7.5 N/mm ²	~8.0 N/mm ²	

APPLICATION INFORMATION

Mixing Ratio	Consistency	Water (L) per 25 kg of grout
	Flowable	3.9–4.2
	Pourable	3.5–3.8
	Stiff	3.0 (for special applications such as anchoring of starter bars)

Yield	Flowable consistency		
		1.84 kg	25 kg
Water	0.31 L	4.2 L	309 L
Volume mortar	1 L	13.6 L	1 m ³
	Pourable consistency		
		1.90 kg	25 kg
Water	0.3 L	4 L	303 L
Volume mortar	1 L	13.2 L	1 m ³

Layer Thickness	5 mm min. / 50 mm max. per pour		
Flowability	Flowable	Pourable	Stiff
	Flow cone	~280 mm	~180 - 260 mm

Ambient Air Temperature	+10 °C min. / +40 °C max.
Substrate Temperature	+10 °C min. / +40 °C max.

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 free of any surface water or puddles prior to the application of SikaGrout®-215.

Concrete, mortar and stone

Surfaces must be sound, clean, 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.

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 free of any surface water or puddles prior to the application of SikaGrout®-215.

MIXING

Place about 70–80 % of the pre-measured clean water (depending on consistency required - refer to "Mix Ratio") into a clean container and gradually add the whole bag of SikaGrout®-215 into it while continuously mixing. Add the remaining water and continue mixing until the desired consistency is obtained. Mix for 2 to 3 minutes with a slow speed drill and paddle (~500 rpm).

For large quantities mixing, the use of a forced-action mixer of rotating pan, paddle or trough type is preferred. Free fall mixers should not be used.

APPLICATION

Use SikaGrout®-215 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 is 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 unin-

errupted flow. In large areas, SikaGrout®-215 may be pumped using heavy duty diaphragm pumps. Screw feed and piston pumps may also be used.

Specific Areas of Application

- Grouting under baseplate - pourable consistency
- Formwork grouting (example deep honeycombs, column reinforcements, etc.
pouring method - flowable / pourable consistency
prepacked method - flowable consistency.
- Grouting anchor bolts - stiff consistency
- Grouting large volumes - for sections thicker than 50 mm, it is necessary to fill SikaGrout®-215 with graded 10 mm silt free aggregates to minimise temperature rise generated during the curing stage. The quantity of aggregates should not exceed 1 part aggregates to 1 part SikaGrout®-215 by weight. For such mixes, a conventional concrete mixer and pump may be used. 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 the grout where necessary.

CURING TREATMENT

If formwork type repair is used, leave the formwork in place for at least 3 days. Upon removal of the formwork, cure the exposed surfaces immediately with Antisol®-E curing compound or use other approved curing methods.

CLEANING OF TOOLS

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

LIMITATIONS

- At temperatures below +20°C, 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 Standard 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."

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.

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.

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.

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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