

SikaGrout® -212

High performance cementitious grout

Product Description

SikaGrout®-212 is a one part flowable shrinkage compensated cementitious grout. Meets the requirements of Class R4 of BS EN 1504-3 & BS EN 1504-6.

Uses

- General purpose grouting
 - Under stanchion plates
 - As a fluid grout on concrete, stone, mortar, steel, iron etc.
 - To grout bearings, machine foundations, columns, joints in precast construction etc.
 - Filling cavities, voids, gaps and recesses in concrete
 - Concrete repairs
 - Machine & base plates
 - For exterior and interior use
 - Steel reinforcement anchoring
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Characteristics / Advantages

- Easy to use (ready to mix powder)
 - Adjustable consistency
 - Rapid strength development
 - Expands by gas generation whilst in the plastic state of curing
 - Non-corrosive
 - Shrinkage compensated
 - Excellent flow properties
 - Pre batched for quality
 - Just add water
 - Compatible with Sika® FerroGard® corrosion inhibitors
 - High compressive strength gain
 - Contains no chloride admixtures
 - Overcoatable with Sika reprofiling/levelling mortars and coatings
 - Low shrinkage
 - Generally more durable than equivalent class of concrete
 - Does not segregate or bleed
 - Fire rating and protection properties comparable to concrete
 - Can be pumped or poured
 - Good mechanical properties
 - Grouting thickness between 10-75 mm
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Construction



Tests

Approvals / Standards

Product Data

Form

Appearance / Colour Powder Grey

Packaging 25kg bags

Storage

Storage Conditions / Shelf-Life 6 months from date of production, if stored properly in dry conditions between 5°C – 25°C in undamaged and unopened original packaging.

Technical Data

Chemical Base Cement, selected fillers, aggregates and special additives

Density (at 25°C) ~ 2.3 kg/l (density of fresh mortar)

Layer Thickness 10 mm min. / 100 mm max.

Mechanical / Physical Properties

Compressive Strength Ambient temperature: +25°C

1 day	7 days	28 days	R4 Requirements
~ 25 - 30 N/mm ²	~ 60 - 65 N/mm ²	~ 65 - 70 N/mm ²	> 45 N/mm ²

Flexural Strength Ambient temperature: +20°C

1 day	7 days	28 days
~ 5.8 N/mm ²	~ 8.3 N/mm ²	~ 12.50 N/mm ²

Tensile Strength Ambient temperature: +20°C

1 day	7 days	28 days
~ 2.6 N/mm ²	~ 4.7 N/mm ²	~ 5.4 N/mm ²

Pull-Out Resistance Displacement < 0.6mm at load of 75KN (Wet & Dry) (EN 1881)

Expansion 0.25 – 0.50%

Electrical Resistivity ~ 7.3 (Wenner Test)

System Information

Application Details

Consumption For 1 mm thickness per m² ~ 2.0 kg of powder



Substrate Quality *Concrete, mortar, stone:*
 Surfaces must be sound, clean, free from ice, oils, grease, standing water and any loose or friable particles and any other surface contaminants.
 The concrete "pull off" (tensile) strength should be > 1.0 MPa.
Steel, iron:
 Clean, free from oil or grease, rust and scale etc.
Shutter/Formwork:
 All formwork should be of adequate strength, treated with release agent and sealed to prevent leakage. Sealing can be achieved by using Sikaflex® -11FC+ sealant beneath or around formwork and between joints. Ensure formwork includes outlets for extraction of the pre-soaking water. A header box/hopper should be constructed on one side of the formwork so that a grout head of 150-200 mm can be maintained during the grouting operation.

Substrate Preparation The substrate should be prepared by suitable mechanical preparation techniques such as high pressure water jetting, breakers, blast cleaning, scabblers, etc.
 The concrete substrates should be pre-soaked with clean water continuously for 2 - 6 hours to ensure a saturated surface dry condition throughout the operation.
 Immediately before pouring remove all excess or standing water from within any formwork.

Application Conditions / Limitations

Substrate Temperature ± 5°C min. / ± 30°C max.
Ambient Temperature ± 5°C min. / ± 35°C max.

Application Instructions

Mixing Place the water into a forced action grout mixer or in a clean drum. Slowly add complete bag of SikaGrout®212 into the water and continuously mix for 2 minutes in mixer to achieve a uniform and lump free consistency. Alternatively use a slow speed drill (200-500 rpm) and helical mixer.
 Dependent on the desired consistency and flow properties, the mixing ratio can be adjusted.
 Measure the appropriate amount of water to achieve the desired grout consistency given in the table below. Heat water if necessary to achieve a temperature between 15-20°C.

Water addition rate per 25 kg bag	
Pourable consistency	2.3 – 3.9 litres
Flowable consistency	2.3 – 3.9 litres

Consistency	Volume Yield Per 25kg bag
Flowable	12.5 litres
Dry Pack	11.5 litres

Mixing Time 3 minutes minimum

Mixing Tools Festo type mixers, forced action or stand type mixers.
 Add the required amount of water and then add SikaGrout® -212 slowly using a low speed (max. 500 rpm) electric drill to avoid entraining too much air.
 Dependent on the desired consistency and flow properties, the mixing ratio can be adjusted.



Application Method**Under base plates**

Pour grout immediately after mixing into the prepared openings. Ensure, that air displaced by the mortar can easily escape, otherwise entrapped air will prevent full contact grouting. Wet porous substrates to saturated surface dry condition.

When grouting base plates etc., ensure that a continuous and sufficient head of pressure is maintained to keep the grout flowing. To make optimum use of the products expansion properties, apply the grout as quickly as possible (within max. 15 minutes).

Anchor bolts

The correct quantity of SikaGrout® -212 required to completely fill the annular gap between the bolt and the sides of the hole, should be determined before installation is attempted. (In most cases the bolt hole should not be more than, 15mm larger in diameter than the bolt) Place the pre-determined quantity of SikaGrout® -212 directly into the bolt hole. Push the anchor bolt into the hole and press it gently to the bottom, displacing the SikaGrout® -212 and filling the annulus around the bolt. A slight agitation of the bolt will assist the SikaGrout® -212 to fill the annulus gap evenly. Centre or locate the bolt in the desired position, using shims if necessary and then leave undisturbed until the SikaGrout® -212 has set.

If the SikaGrout® -212 does not fill the annular gap evenly during bolt insertion, withdraw the bolt and insert additional grout and re-insert the bolt. Do not attempt to add additional SikaGrout® -212 with the bolt in place.

Bulking

SikaGrout® -212 can be used to fill voids up to 100mm in depth. For voids up to 200mm it is necessary to bulk SikaGrout® -212 with a suitable well graded aggregate ranging in size from 3 mm up to 15 mm. The quantity of aggregate added should not exceed one (1) part of aggregate to one (1) part of SikaGrout® - 212 by weight.

Note: Only clean, dry aggregate may be used for bulking. The following chart is an indicator of what may be achieved.

	Un-Bulked SikaGrout- 212 (4.0 litre)	Bulked 5.0 litre 9.5 mm stone	Bulked 10.0 litre 9.5 mm stone	Bulked 15.0 litre 9.5 mm stone
Slump ±	+300mm	+300mm	+250mm	+150mm
Consistency	Flowable	Flowable	Plastic	Plastic
Yield (litres)	12.6 litres	15.2 litres	17.9 litres	20.3 litres

Cleaning of Tools

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

Pot Life

~ 25 minutes at +20°C

Notes on Application / Limitations

- Do not exceed water addition
- Not to be used for patch repair works
- Do not use vibrating pokers
- Use only on clean, sound substrate
- Do not apply when there is a risk of frost
- Pour or pump from one side only
- Keep exposed surfaces to a minimum

Curing Details

Curing Treatment

Keep any visible, exposed grout surfaces as small as possible and protect from premature drying out by suitable measures (keep moist, cover with wet Hessian etc.).

Notes

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.



Health and Safety Information

Protective Measures Cement containing material may cause skin irritation. Wear gloves and goggles or apply barrier cream to hands while working with the mortar.

Ecology

Transportation Class

Important Notes Residues of material must be removed according to local regulations. Fully cured material can be disposed of as household waste under agreement with the responsible local authorities.

Detailed health and safety information as well as detailed precautionary measures e.g. physical, toxicological and ecological data can be obtained from the Material Safety Data Sheet.

Toxicity

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 or accessed on the Internet under <https://eth.sika.com>



Sika Abyssinia Chemicals Manufacturing PLC
Sebeta, Welete
500m on the Street in front of TOTAL Gas Station
P.O. Box 1596-1110,
Ethiopia

Phone: +251 113679748
+251 116182605
e-mail: sika@et.sika.com
Website: www.eth.sika.com