

PRODUCT DATA SHEET

SikaGrout[®]-311

High performance engineering grout



DESCRIPTION

SikaGrout[®]-311 is cement based, 1-component, ready to mix, expansion compensated low shrinkage engineering grout.

USES

SikaGrout[®]-311 is used as injectable or free flowing pouring mortar for layer thickness of between 3 mm and 10 mm

Suitable for grouting:

- Heavy equipment / machine bases
- Base plates
- Bedding joints in pre-cast concrete sections
- Filling cavities, gaps and recesses
- Sealing around penetrations
- Post fixings
- Suitable for structural strengthening (principle 4, method 4.2 of EN 1504-9). Installing reinforcement with an anchoring product in accordance with EN 1504-6.

FEATURES

- Fast strength development
- High final strengths
- Shrinkage compensated (both in plastic and hardening stage)
- Fluid consistency
- No segregation or bleeding
- Easy to use (ready to mix powder)
- Easy to mix, only add water
- Adjustable consistency
- Can be pumped or poured
- Non-corrosive
- A1 fire rating

CERTIFICATES AND TEST REPORTS

- CE Marking and Declaration of Performance according to EN 1504-6 - Anchoring product for strengthening concrete by installing reinforcing steel in buildings and civil engineering works

PRODUCT INFORMATION

Composition	Cement, selected fillers and aggregates, special additives
Packaging	25 kg bags
Shelf life	12 months from date of production
Storage conditions	Store properly in dry conditions in undamaged and unopened original sealed packaging
Appearance and colour	Grey powder
Maximum grain size	D _{max} :1 mm
Density	Fresh density of mortar ~2.3 kg/l
Soluble chloride ion content	≤0.05 % (EN 1015-17)

TECHNICAL INFORMATION

Effective bearing area	>85 %			
Compressive strength	1 day ~30 MPa	7 days ~45 MPa	28 days ~80 MPa	(EN 12190)
Modulus of elasticity in compression	~28 GPa			(EN 13412)
Flexural-strength	1 day ~6 MPa	28 days ~9 MPa		(EN 12190)
Tensile adhesion strength	≥2.0 MPa			(EN 1542)
Pull-out resistance	≤0.6 mm at load of 75 kN			(EN 1881)
Coefficient of thermal expansion	~12 x 10 ⁻⁶ 1 /K			(EN 1770)
Reaction to fire	Euro Class A1			(EN 1504-6)

APPLICATION INFORMATION

Consumption	This depends on the substrate roughness and thickness of the layer applied. As a guide, ~19 kg of powder per 10 mm thickness per m ²
Yield	1 bag yields approximately 12.3 liters of mortar
Layer thickness	3 – 10 mm
Ambient air temperature	min. +5 °C / max. +30 °C
Mixing ratio	3.2 to 3.4 liters water per 25 kg bag 12.8 % to 13.6 % liters water by weight of powder
Substrate temperature	min. +5 °C / max. +30 °C
Pot Life	~40 minutes at 20 °C

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.

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.

IMPORTANT CONSIDERATIONS

- Not to be used for open repair works or overlay in unconfined spaces
- Refer to the Method Statement for Cementitious Grouts for more information regarding substrate preparation, or refer to the recommendations in EN 1504-10
- Avoid application in direct sun and/or strong wind
- Do not add water under or over recommended dosage
- Apply only to sound, prepared substrate
- Do not add additional water during the surface finishing as this may cause discolouration and cracking
- Protect freshly applied material from freezing and frost
- Keep exposed surfaces to a minimum

ECOLOGY, HEALTH AND SAFETY

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

- The concrete shall be thoroughly clean, free from dust, loose material, surface contamination and materials which reduce bond or prevent suction and wetting by the grout
- Remove delaminated, weak, damaged and deteriorated concrete and where necessary, sound concrete. Remove using mechanical hand-held tools or high / ultra-high-pressure water blasting equipment
- It is recommended the concrete surface shall be continuously saturated with clean water for at least 2 hours before grouting

MIXING

SikaGrout®-311 can be mixed with a low speed (<500 rpm) hand drill mixer to avoid entraining too much air. Mix only full bags for best results.

Pour the recommended water in a suitable mixing container. While stirring slowly, add the powder to the water and mix thoroughly at least for 3 minutes, adding additional water during the mixing time if necessary up to the maximum specified amount, until the required homogeneous and lump-free consistency is achieved.

APPLICATION

Remove excess water from substrate surface with clean sponge, until surface is dark matt in appearance without glistening (saturated surface dry). Surface pores and pits shall not contain water. Let the grout stand for ~5 minutes to release air entrained by mixing. Pour grout into the prepared openings using a sufficient pressure head to maintain a continuous flow of grout. Ensure air displaced by the mortar can easily escape. For optimum use of the expansion properties, apply the grout within ~15 minutes after mixing.

CURING TREATMENT

Keep visible exposed grout surfaces to a minimum. Protect the fresh material from premature drying using appropriate curing method e.g. curing compound, moist textile membrane, polythene sheet etc.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with water immediately after use. Hardened/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

SikaGrout®-311
June 2024, Version 01.01
020201010010000004

SikaGrout-311-en-GR-(06-2024)-1-1.pdf