

PRODUCT DATA SHEET

SikaGrout[®]-312

Multi purpose high performance engineering grout



DESCRIPTION

SikaGrout[®]-312 is a cement based, 1-component, dust reduced, ready to mix, expanding, shrinkage compensated, high precision grout from 6 to 125 mm layer thickness.

USES

- Grouting heavy equipment / machine bases, base plates, bedding joints in pre-cast concrete sections, filling cavities, gaps and recesses, sealing around penetrations, post fixings
- Concrete protection and repair (principle 3, method 3.1 and 3.2 of EN 1504-9)
- Structural strengthening (principle 4, method 4.2 and 4.4 of EN 1504-9)
- Preserving or restoring passivity (principle 7, method 7.1 and 7.2 of EN 1504-9)

CHARACTERISTICS / ADVANTAGES

- Easy to use (ready-to-mix powder)
- Easy to mix, only add water
- Dust reduced
- Expansion $\geq 0,1\%$
- VOC-free
- Free of quartz sand

- Non-corrosive
- Very low shrinkage
- High sulfate resistance
- High compressive strength
- High early strength after 24 hours
- Good early strength at +5 °C
- High freeze-thaw resistance with de-icing salts (XF4)

SUSTAINABILITY

SikaGrout[®]-312 is complying the conformity with LEED v4 VOC emissions specifications in LEED EQ credit "Low-emitting products" in regard of:

- the requirements of CDPH-IAQ (California Department of Public Health); an TVOC below 0.5 mg/m³ in both office and class room
- the requirements of SCAQMD rule 1188 (2005)

APPROVALS / CERTIFICATES

- Initial test in accordance with ÖNORM B 3329, MPA Hartl, Austria
- CE-Mark initial test in accordance with EN 1504-3 and EN 1504-6, MPA Hartl, Austria
- Sulfate resistance in accordance with ÖNORM B 3309, MPA Hartl, Austria
- BE-II acc. to SN 640464 – classification high
- AAR resistance
- A1 fire rating

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

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Maximum grain size	D_{\max} : 2 mm
Density	Fresh mortar density ~ 2.3 kg/litre
Soluble chloride ion content	≤ 0.05 %

TECHNICAL INFORMATION

Effective bearing area	> 85 %		
Compressive strength	<u>1 day</u> ~ 40 MPa	<u>7 days</u> ~ 70 MPa	<u>28 days</u> ~ 90 MPa (EN 12190)
Modulus of elasticity in compression	~ 29 GPa		(EN 13412)
Tensile strength in flexure	<u>1 day</u> ~ 6 MPa	<u>28 days</u> ~ 9 MPa	(EN 12190)
Tensile adhesion strength	≥ 2.5 MPa		(EN 1542)
Pull-out resistance	≤ 0.6 mm at load of 75 kN		(EN 1881)
Shrinkage	< 1.0 mm (after 91 days)		
Expansion	≥ 0.1 % (after 24 hours)		
Thermal compatibility	≥ 2.5 MPa	Part 1 - freeze-thaw with de-icing salts	(EN 13687-1)
Capillary absorption	≤ 0.5 kg · m ⁻² · h ^{-0.5}		
Carbonation resistance	$dk \leq$ control concrete (MC(0.45))		(EN 13295)
Reaction to fire	Euro Class A1		(EN 1504-6)

APPLICATION INFORMATION

Mixing ratio	3.3 – 3.4 litres of water per 25 kg bag
Consumption	Depends on the substrate roughness and thickness of layer applied. As a guide, ~ 20 kg of powder per 10 mm thickness per m ²
Yield	1 bag yields approximately 12.3 litres of mortar
Layer thickness	minimum 6 mm / maximum 125 mm
Ambient air temperature	+5 °C minimum / +30 °C maximum
Substrate temperature	+5 °C minimum / +30 °C maximum
Pot Life	~ 45 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.

IMPORTANT CONSIDERATIONS

- 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
- Not to be used for open repair works or overlay in unconfined spaces
 - Refer to 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

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 concrete shall be thoroughly clean, free from dust, loose material, surface contamination and materials which reduce bond or prevent suction or wetting of the grout. Delaminated, weak, damaged and deteriorated concrete and where necessary sound concrete shall be removed by suitable means.

MIXING

SikaGrout®-312 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 quantity of 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 within the mixing time if necessary to the maximum specified amount to adjust the grout to the required consistency.

APPLICATION

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

CURING TREATMENT

Keep visible exposed grout surfaces to a minimum. Protect fresh material from premature drying using appropriate curing methods 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 declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data.

LEGAL NOTES

Any information or suggestions for use concerning Sika's products, which we either in writing or orally have given buyers or end-users of the product, have been given in good faith based on our own experiences and based on approved praxis and the technological and scientific knowledge on the time of giving such suggestions and information, which are given without any type of guarantees, and which do not lead to any further responsibility from Sika Danmark A/S, besides what is stated in the sales agreement in question. The buyer or end-user should themselves investigate or otherwise make sure, that our products are suitable for the use in question and further make sure that the products are kept and used correct and in agreement with the published rules and considering the actual conditions in order to avoid damages or less satisfactory results. Any order is accepted and any deliverance is affected according to the general terms of sales and delivery from Sika Danmark A/S, which are considered known and accepted, and which could be handed out when asked for. Our catalogues are not up-dated automatically. The present product data sheet is only for use in Denmark. Values stated in the present product data sheet should be seen as recommended, unless stated otherwise.

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