

PRODUCT DATA SHEET

SikaGrout®-312 RFA

1 COMPONENT, FIBRE REINFORCED, POURABLE (SCC) STRUCTURAL CC MORTAR FOR FLOORING REPAIR, REPAIR OF CONCRETE ELEMENTS, ANCHORING AND GROUTING.



DESCRIPTION

SikaGrout®-312 RFA is one component cement-based, pourable consistency SCC multipurpose mortar for the reconstruction industrial floors, reconstruction or increase of cross sections of concrete structures, precision grouting and anchoring.

The consistency of the mortar can be varied by changing the amount of mixing water according to instructions.

USES

- SikaGrout®-312 RFA (Repair - Flooring - Anchoring) is suitable for indoors and outdoors industrial flooring repairing and restoration, for concrete restoration by recasting with mortar into formworks (beams, columns, bridge decks), for precision grouting under base plate or heavy machinery and for anchoring.
- Suitable for restoration work (Principle 3, method 3.1 & 3.2 of EN 1504-9:2008). Repair of spalling and damaged concrete in buildings, bridges, infrastructure and superstructure works.

- Suitable for structural strengthening (Principle 4, Method 4.4 of 1504-9:2008). Increasing the bearing capacity of the concrete structure by adding mortar;
- Suitable for preserving or restoring passivity (Principle 7, Method 7.1 & 7.2 of 1504-9:2008). Increasing cover with additional mortar or concrete or replacing contaminated or carbonated concrete.

CHARACTERISTICS / ADVANTAGES

- No bleeding, no segregation.
- SCC consistency with Sika® Viscocrete® technology.
- Very easy to mix and use.
- High mechanical and wearing resistance.
- Good workability.
- No shrinkage.

SUSTAINABILITY

- Conformity with LEED v4 MRc 2 (Option 1): Building Product Disclosure and Optimization – Environmental Product Declarations

APPROVALS / CERTIFICATES

SikaGrout®-312 RFA fulfills the minimum performance required for the class R4 of EN 1504-3:2005, of EN 1504-6:2006 and for the class CT-C60-F10-AR0.5 of EN 13813:2002, DoP 02 02 01 01 001 0 000176 1026; certificate of conformity of the factory production control 0546, certificate 18774 and provided with the CE marking.

PRODUCT INFORMATION

Packaging	25 kg pre-batched paper bags
Appearance / Colour	Grey powder with fibers
Shelf life	12 months from date of production
Storage conditions	Store the product in original sealed packaging, complying with all usual cement product storage requirements.

Density	Fresh mortar density	~ 2.25 kg/L	(UNI 8995)
	Bulk density of the powder	1.42 ± 0.05 kg/L	

Maximum Grain Size	D _{max} = ~ 2.5 mm	
Soluble Chloride Ion Content	< 0.003%	(EN 1015-17)

TECHNICAL INFORMATION

Abrasion Resistance	AR0.5	(EN 13813)
	40 µm	(EN 13892-4)
Compressive Strength	Class R4	(EN 1504-3)
	Class C60	(EN 13813)
	~ 69 MPa	(EN 12190)
	24 hours	7 days
	~ 34 MPa	~ 57 MPa
Modulus of Elasticity in Compression	~ 27 GPa	(EN 13412)
Tensile Strength in Flexure	Class F10	(EN 13813)
	~ 10.3 MPa	(UNI 196-1)
Pull-Out Resistance	~ 0.51 mm	(EN 1881)
Tensile Adhesion Strength	~ 2.1 MPa (type B/C)	(EN 1542)
Thermal Compatibility	Freeze-thaw cycles (50 cycles): ~ 2.2 MPa	(EN 13687-1)
Reaction to Fire	Euroclass A1	(EN 13501-1)
Capillary Absorption	~ 0.28 kg m ⁻² h ^{-0.5}	(EN 13057)
Chloride Ion Ingress	< 0.04%*	(EN 13396)
	* Value after 6 months at 10 mm depth.	
Carbonation Resistance	Pass	(EN 13295)

APPLICATION INFORMATION

Mixing Ratio	14 ÷ 16% of water by weight (3.5 L ÷ 4.0 L per 25 kg bag).		
Consumption	~ 2000 kg of product per m ³ of mixture.		
Layer Thickness	Min. 10 mm - Max. 50 mm (for flooring or concrete restoration applications)		
Flowability	Without shake	~ 300 mm	(UNI 7044-72)
	By Abrams cone	Initial: ~ 89 cm After 20 min.: ~ 88 cm	(EN 206)
Product Temperature	+5°C min. / +35°C max.		
Ambient Air Temperature	+5°C min. / +35°C max.		
Substrate Temperature	+5°C min. / +35°C max.		
Pot Life	~ 30 min. at +20°C		

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Preparation of substrate for floors

Prepare the floor by removing loose particles, dirt, oil and grease, etc. in order to obtain a clean and sound substrate.

The floor surfaces need to be grinded before the application of the SikaGrout®-312 RFA even though the surface already appears rough and uneven. Prewet the surface, the surface shall not be allowed to dry before application of the concrete repair mortar.

The surface shall achieve a dark matt appearance without glistening and surface pores and pits shall not contain water.

Preparation of substrate for concrete repair

The substrate must be prepared by suitable mechanical preparation techniques, such as high-pressure water cleaning or sandblasting.

Cleaning methods free from vibration are preferable. The aggregates must be clearly visible on the surface of the prepared area.

The edges of the area affected by the intervention will have to be cut perpendicular (90 degrees) up to a minimum depth of 5 mm.

Dampen the surface up to saturation. The surface shall achieve a dark matt appearance without glistening and surface pores and pits shall not contain water.

MIXING

Gradually pour the powder in the mixing water. Mix thoroughly for 3 minutes at least to get a completely homogeneous mortar. The mixing should be carried out with a drill at low speed or with mixer for mortars preferably with vertical axis, taking care not to entrap air in the mix. Use a whole pack of SikaGrout®-312 RFA for the mix; avoid partial mixing, which could cause a non homogenous particle size distribution of the product.

APPLICATION

The product should be poured directly on the wet mat substrate or inside the formwork prepared for the casting. Using more than one mixer you can pour on the fresh material reducing construction joints. The product can be pumped with suitable equipment. Protect the applied product from the sun and wind in the early hours of curing. Protect from water for at least 24 hours. Due to its SCC consistency, SikaGrout®-312 RFA doesn't need vibration when poured into the formwork. In case of floor casting, spread the product in order to achieve an even surface.

CLEANING OF EQUIPMENT

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

IMPORTANT CONSIDERATIONS

- In case of floors castings that may exceed 50 mm in thickness, please consult our Technical Department.
- Mixing must always be performed with mechanical means: hand mixing does not allow to obtain the optimum workability.
- Do not add water to the mortar after the mixing.
- Keep moist and protected the surface of the applied mortar for 24 hours at least after its application.
- In case of floor casting, especially outdoors, avoid too rapid drying of the product in the early days of curing. Protect the applied product from direct sunlight and wind in the early hours of curing and hardening of the product.
- Do not cast floors in bad weather conditions, which could last in the early stages of maturation, such as imminent rain or frost, strong winds, direct sunlight, etc.

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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