BUILDING TRUST

PRODUCT DATA SHEET

SikaGrout®-340+

CEMENTITIOUS HIGH STRENGTH PRECISION GROUT WITH REDUCED CARBON FOOTPRINT

PRODUCT DESCRIPTION

SikaGrout®-340+ is a cementitious, 1- part, ready to mix, low shrinkage, high performance, free flowing, pumpable precision grout. Suitable for machine bases, bedding joints, void filling and anchoring. SikaGrout®-340+ meets the class R4 requirements of EN 1504-3 and can be also used for fluid repairs. Application thickness: 10 to 500 mm.

USES

- Precision Grouting of heavy equipment / machine bases.
- Bedding joints in pre-cast concrete sections.
- Filling voids, cavities, gaps and recesses.
- Sealing around penetrations.
- Post fixings.
- Suitable for installing reinforcement with an anchoring product in accordance with EN 1504-6.
- Suitable for structural and non-structural repairs of concrete in buildings and civil engineering works in accordance with EN 1504-3.

CHARACTERISTICS / ADVANTAGES

- High performance
- Fast early strength development
- High final strength
- Sulphate resistant
- Adjustable consistency
- Shrinkage compensated
- Fluid consistency
- No segregation or bleeding
- Easy to use and mix
- Can be pumped long distances
- Improved sustainability, significantly reduced carbon footprint (compared to average grouting products)

ENVIRONMENTAL INFORMATION

- Significantly reduced carbon footprint (compared to average cement-based grouts).
- Increased health and safety during application.
- Meets LEED v4 requirements.

APPROVALS / STANDARDS

- CE Marking and Declaration of Performance to EN 1504-6 - Anchoring of reinforcing steel bar
- CE Marking and Declaration of Performance to EN 1504-3 - Structural and non-structural repair product for concrete for use in buildings and civil engineering works

PRODUCT INFORMATION

Packaging	25 kg paper bag	
Appearance / Colour	Grey powder.	
Shelf Life	6 months from date of production.	
Storage Conditions	Product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C.	
Maximum Grain Size	~3 mm	
Total Chloride Ion Content	≤ 0.05 %	(EN 1015-17)

TECHNICAL INFORMATION

Compressive Strength	1 day	~45 MPa	(EN 12190)
	7 days	~80 MPa	
	28 days	~95 MPa	
	56 days	~105 MPa	
	28 days (150 x 300 mm cylinder)	~90 MPa	(EN 12390-3)
	All data determined at +20 °C with a mixing ratio of 12 % water.		
Modulus of Elasticity in Compression	~38 GPa		(EN 13412)
Flexural Strength	1 day	~7 MPa	(EN 12190)
	7 days	~10 MPa	
	28 days	~18 MPa	
	56 days	~19 MPa	
	All data determined at +20 °C with a mixing ratio of 12 % water.		
Pull-Out Resistance	Displacement at load 75 KN	≤ 0.6 mm	(EN 1881)
Shrinkage	~570 µm/m	(EN 12617-1)	
Tensile adhesion strength	28 days	~2.6 N/mm²	
Coefficient of Thermal Expansion	18.8 µm/m K		(EN 1770)
Reaction to Fire	Class A1		(EN 13501-1)
Freeze Thaw De-Icing Salt Resistance	Adhesion to Concrete after Freeze-Thaw (50 cycles with salt)	~2.5 N/mm²	(EN 13687-1)
Capillary Absorption	≤ 0.5 kg·m^{-2}·h$^{-0.5}$	(EN 13057)	
Carbonation Resistance	dk ≤ reference concrete	(EN 13295)	
Service Temperature	-30 °C to +80 °C		

APPLICATION INFORMATION

Fresh mortar density	~2,3 kg/l
Consumption	Approx. 2,000 kg powder is needed to prepare 1 m³ of fresh mortar. 25 kg of powder will yield approximately 12.1 litres of mortar.
Layer Thickness	10 to 500 mm
Ambient Air Temperature	+5 °C to + 35 °C

Mixing Ratio	2.8 – 3.2 litres water per 25 kg bag.
Substrate Temperature	+5 °C to + 35 °C
Pot Life	~90 min (at +20 °C)
Initial set time	~180 min (at +20 °C)
Final set time	~220 min (at +20 °C)
Waiting time	Earliest removal of formwork after ~12 hours (at +20 °C).
Applied Product Ready for Use	Earliest operation of grouted machinery after ~24 hours (at +20 °C).

VALUE BASE

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

LIMITATIONS

- Not to be used as a leveling mortar for flooring works or overlays in unconfined spaces.
- For base plate grouting: reduce exposed surfaces / shoulders to a minimum.
- Avoid application in direct sun and/or strong wind or take the nessary protective measures.
- Use only on clean, sound substrate.
- The substrate must be free of ice.
- Do not exceed water addition.
- Do not use vibrating pokers.
- Do not use continuous mixing equipment.
- Pour or pump from one side only.
- Do not add additional water during the surface finishing as this will cause discoloration and cracking.
- To avoid cracking in warm temperatures, keep bags cool & use cold water for mixing.
- Avoid exposure during rainfall and prior to final set.

ECOLOGY, HEALTH AND SAFETY

Local safety regulations must be observed and it advisable to wear PPI when working with this product with particular attention paid to cutting and handling. Transportation Class: The product is not classified as hazardous good for transport. Disposal: The material is recyclable. Disposal must be according to local regulations. Please contact your local Sika sales organisation for more information.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Concrete
The concrete must be structurally sound, thoroughly clean, free from oil, grease, dust, loose material, surface contamination and materials which will impair the grout flow or reduce adhesion strength. Laitance, delaminated, weak, damaged and deteriorated concrete and where necessary sound concrete must be removed by suitable mechanical preparation as directed by the engineer or supervising officer. Any pockets or holes for structural fixings must also be cleaned of all debris.

Shutter Formwork
Where formwork is to be used, all formwork must be of adequate strength, treated with release agent and sealed to prevent leakage of pre-wetting water and grout. Ensure formwork includes outlets for removal of the pre-soaking water. As a guide leave a gap of approximately 15 cm on one side and 5 cm on the opposite side. A header box or hopper should be constructed on one side of the formwork, so that a grout head of 150 to 200 mm can be maintained during the grouting operation.

MIXING

Drill and Spiral Mixer (for small mortar quantities)
Pour the correct amount of water into a suitable clean mixing container. While stirring slowly with drill and spiral mixer (200 – 500 rpm), add the complete bag of powder into the water. Mix continuously for 3 minutes to achieve a uniform and lump free smooth consistency. Do not add more water than the maximum specified.

Grout mixer / Forced action mixer (for large mortar quantities)
SikaGrout®-340+ must be mixed using suitable grout mixing equipment combined with agitator for continuous large volume mixing. Volume capacity of equipment must be applicable to the volume of material being mixed for a continuous operation. Equipment trials must be considered to ensure product can be mixed satisfactory.
Pour the minimum water ratio in the correct proportion into the grout mixer. While stirring the water, slowly add the powder to the water. Add more water within the mixing time up to the maximum allowed until the desired consistency is achieved.

Mix continuously for a minimum of 3 minutes. For larger mixes the mixing time must be extended to approximately 5 minutes or as necessary until the grout achieves a lump free smooth consistency. Do not add more water than the maximum specified.
Note: Do not use continuous mixing equipment.

APPLICATION

Reference must be made to further documentation where applicable, such as relevant method statement, application manual and installation or working instructions.

Pre-wetting
The prepared concrete substrate must be thoroughly saturated with clean water for a recommended 12 hours before application of the grout. The surface must not be allowed to dry within this time. Prior to application of the grout, all water must be removed from within formwork, cavities or pockets and the final surface must achieve a dark matt appearance (saturated surface dry) without glistening.

Placing
Apply the material shortly after mixing to take advantage of the expansion properties. Immediately after mixing pour or pump the mixed grout into the header box or hopper ensuring continuous grout flow during the complete grouting operation to avoid trapping air. For large volume placement, grout pumps are recommended. Equipment trials must be considered to ensure product can be pumped satisfactory.

Surface finishing
Finish exposed grout surfaces to the required surface texture as soon as the grout has started to stiffen. Do not add additional water on the surface. Do not over work surface as this may cause surface discolouration and cracking. After the grout has initially hardened, remove formwork and trim edges while mortar is still ‘green’.

Cold weather working
Consider using warm water for mixing to assist with achieving strength gain and maintaining physical properties.

Hot weather working
Keep bags cool and use cold water for mixing to avoid the pot life of the mixed grout becoming too short.

CURING TREATMENT

Protect the fresh material from premature drying and cracking using an appropriate curing method e.g. curing compound, moist geo-textile membrane, hessian, polythene sheet etc. In cold weather apply insulated blankets to maintain a constant temperature to prevent surface damage from freezing and frost.

CLEANING OF TOOLS

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

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for the exact product data and uses.

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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