

# PRODUCT DATA SHEET

## SikaGrout<sup>®</sup>-553

FLOWABLE SHRINKAGE COMPENSATED CEMENTITIOUS GROUT According to DAfStb Guideline, CE marking according to EN 1504-3 and EN 1504-6

### DESCRIPTION

SikaGrout<sup>®</sup>-553 is one part flowable shrinkage compensated cementitious grout with a maximum aggregate size of 3 mm. Meets the requirements of class R4 according to EN 1504-3.

### USES

SikaGrout<sup>®</sup>-553 is used as grouting mortar for concrete repair:

- Concrete Restoration (Principle 3, Methods 3.1 and 3.2)
- Structural Strengthening (Principle 4, Methods 4.2 and 4.4)
- Preserving / Restoring Passivity (Principle 7, Methods 7.1 and 7.2)
- Grouting of rail support systems

SikaGrout<sup>®</sup>-553 is not designed for thin and flat coatings.

### CHARACTERISTICS / ADVANTAGES

- Ready to use (just add water)
- High flowability at low w/c ratio
- Fast early strength development
- High final strength
- Can be pumped or poured
- Self-compacting properties
- Self-levelling
- Low shrinkage
- Resistant to freeze-thaw according to CDF
- Expansion compensated
- Does not segregate or bleed

### APPROVALS / CERTIFICATES

- Meets the requirements of guideline DAfStb-Richtlinie "Herstellung und Verwendung von zementgebundenem Vergussbeton und Vergussmörtel"
- CE Marking and Declaration of Performance to EN 1504-3 - Concrete repair product for structural repair
- CE Marking and Declaration of Performance to EN 1504-6 - Anchoring of reinforcement steel bar

### PRODUCT INFORMATION

<b>Composition</b>	Cement, selected fillers and aggregates, special additive	
<b>Packaging</b>	Bag:	25 kg
	Palett:	42 x 25 kg = 1.050 kg
<b>Appearance / Colour</b>	Grey powder	
<b>Shelf life</b>	12 months from date of production	
<b>Storage conditions</b>	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions. Always refer to packaging.	
<b>Maximum Grain Size</b>	D <sub>max</sub> = 3 mm	

## TECHNICAL INFORMATION

<b>Compressive Strength</b>	Compressive Strength Class C60/75 Early Strength $\beta_{24h} \geq 40$ N/mm <sup>2</sup> (class A) $\beta_{12h} \geq 5$ N/mm <sup>2</sup> (20 °C) $\beta_{18h} \geq \sim 4$ N/mm <sup>2</sup> (10 °C)  Permissible exposure classes: X0 / XC 1-4 / XD 1-3 / XS 1-3 / XF 1-3 / XA 1-2 / WA (EN 206-1 / DIN 1045-2)	(EN 206-1 / DIN 1045-2) (DAfStb Guideline)
<b>Tensile Strength in Flexure</b>	$\sim 6$ N/mm <sup>2</sup> (after 24 hours) $\sim 9$ N/mm <sup>2</sup> (after 28 days)	
<b>Shrinkage</b>	Shrinkage class SKVM II	(DAfStb Guideline)
<b>Expansion</b>	> +0,1 Vol.-% (after 24 hours)	

## APPLICATION INFORMATION

<b>Mixing Ratio</b>	$\sim 3,4 - 3,6$ litres of water per 25 kg bag at temperatures between +5 °C and +30 °C	
<b>Fresh Mortar Density</b>	2,307 kg/l (+20 °C)	
<b>Yield</b>	$\sim 11$ litres per 25 kg bag	
<b>Layer Thickness</b>	15 mm minimum / 75 mm maximum	
<b>Flowability</b>	f2 (650 - 740 mm)	(DAfStb Guideline)
<b>Ambient Air Temperature</b>	+5 °C minimum / +35 °C maximum	
<b>Pot Life</b>	$\sim 90$ minutes at +20 °C	

## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY / PRE-TREATMENT

Substrate must be sound, free from oil, grease, loose and friable particles. Laitance, delaminated, weak, damaged and deteriorated concrete must be removed by suitable mechanical preparation.

Where formwork is to be used, all formwork should be 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.

Before pouring SikaGrout®-553, pre-wet the substrate, but remove standing water.

### MIXING

Place the correct amount of water into a suitable clean mixing container. Slowly add complete bag of SikaGrout®-553 into the water and continuously mix for 3 minutes by using a mortar mixer or compulsory mixer to achieve a uniform and lump free consistency. Do not add more water than the maximum specified.

### APPLICATION

Pour the mixed grout into the header box / hopper ensuring continuous grout flow during the complete grouting operation to avoid trapping air.

For large volume placement, usual mortar or concrete pumps are recommended.

### CURING TREATMENT

After pouring the surface must be protect against water evaporation and frost exposure until the sufficient strength has been achieved.

Suitable curing treatment:

- Water spray
- Foil covers with jute strips, thermal foils or moisturing cover strips
- Sika® Nachbehandlungsmittel NB 100

### CLEANING OF EQUIPMENT

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

## IMPORTANT CONSIDERATIONS

- Not suitable for hand mixing
- Do not use vibrating pokers
- Do not apply when there is a risk of frost
- Pour or pump from one side only

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- Do not apply in direct sunlight and strong winds

## BASIS OF PRODUCT DATA

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

## 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.

## ECOLOGY, HEALTH AND SAFETY

## 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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