

# PRODUCT DATA SHEET

## SikaGrout®-318

HIGH PERFORMANCE ENGINEERING GROUT



### DESCRIPTION

SikaGrout®-318 is cement based, 1-component, ready to mix, free flowing expansion compensated low shrinkage engineering grout.

### USES

SikaGrout®-318 is used as free flowing pouring mortar for layer thickness of between 25 mm and 80 mm Suitable for the engineered grouting of:

- 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 restoration work by recasting (Principle 3, method 3.2 of EN 1504-9). Repairing spalling and damaged concrete in buildings, bridges, infrastructure and superstructure works.
- Suitable for structural strengthening (principle 4, method 4.4 of EN 1504-9). Increasing the bearing capacity of the concrete structure by adding mortar
- Suitable for preserving or restoring passivity (principle 7, method 7.1 and 7.2 of EN 1504-9). Increasing cover with additional mortar and replacing contaminated or carbonated concrete.

### CHARACTERISTICS / ADVANTAGES

- Fast strength development
- High final strength
- 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

### APPROVALS / CERTIFICATES

1-component, pourable, structural CC mortar (R4 category) for floor repairs, repairs of concrete elements, anchoring and grouting, meeting the requirements of EN 1504-6 and EN 1504-3, according to principles 3,4 and 7- methods 3.2, 4.2, 4.4, 7.1 and 7.2 of EN 1504-9:2008. Conforming to Annex ZA, Table ZA.1 Declaration of Performance No. 02 02 01 01 001 0 000006 1180, certified by Factory Production Control Body No.1020, certificate 020025682, and provided with CE-mark

### PRODUCT INFORMATION

<b>Chemical base</b>	Cement, selected fillers and aggregates, special additives
<b>Packaging</b>	25 kg bags
<b>Appearance / Colour</b>	Grey powder
<b>Shelf life</b>	12 months from date of production
<b>Storage conditions</b>	Store properly in dry conditions in undamaged and unopened original sealed packaging.

Density	Fresh density of mortar ~2.3 kg/l
Maximum Grain Size	D <sub>max</sub> : 8 mm
Soluble Chloride Ion Content	≤ 0.05 % (EN 1015-17)

## TECHNICAL INFORMATION

Compressive Strength	Class R4				
	<b>1 day</b>	<b>7 days</b>	<b>28 days</b>		(EN 12190)
	~30 MPa	~45 MPa	~80 MPa		
Modulus of Elasticity in Compression	~30 GPa				(EN 13412)
Effective Bearing Area	> 85 %				
Tensile Strength in Flexure	<b>1 day</b>	<b>28 days</b>			(EN 12190)
	~6 MPa	~9 MPa			
Restrained Shrinkage / Expansion	≥ 2.0 MPa				(EN 12617-4)
Tensile Adhesion Strength	≥ 2.0 MPa				(EN1542)
Thermal Compatibility	≥ 2.0 MPa (Part 1: Freeze- Thaw)				(EN 13687-1)
Coefficient of Thermal Expansion	~12 x 10 <sup>-6</sup> 1/K				(EN 1770)
Reaction to Fire	Euro Class A1				(EN 1504-6)
Capillary Absorption	≤ 0.5 kg/(m <sup>2</sup> h <sup>0.5</sup> )				(EN 13057)
Carbonation Resistance	dk ≤ control concrete (MC(0.45))				(EN 13295)

## APPLICATION INFORMATION

Mixing Ratio	2.8 to 3.1 litres water per 25 kg bag 11.2% to 12.4% litres water by weight of powder
Consumption	This depends on the substrate roughness and thickness of layer applied. As a guide, ~19 kg of powder per 10 mm thickness per m <sup>2</sup>
Yield	1 bag yields approximately 12.2 litres of mortar
Layer Thickness	minimum 25 mm/ maximum 80 mm
Ambient Air Temperature	+5°C minimum / +30°C maximum
Substrate Temperature	+5°C minimum / +30°C maximum
Pot Life	~40 minutes at 20°C

## 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 by the grout. Delaminated, weak, damaged and deteriorated concrete and where necessary sound concrete shall be removed by suitable means.

It is recommended the concrete surface shall be continuously saturated with clean water for at least 2 hours before grouting.

### MIXING

SikaGrout®-318 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 within the mixing time if necessary to the maximum specified amount to adjust the grout to the required consistency.

### APPLICATION

Remove excess water from substrate surface e.g. 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 suf-

ficient 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 geotextile membrane, polythene sheet etc

#### CLEANING OF TOOLS

Removal of fresh remnants from tools and application equipment can be carried out using water immediately after use. Hardened/cured material can only be mechanically removed.

#### LIMITATIONS

- Not to be used for open repair works or overlay in unconfined spaces
- Refer to the Method Statement for Cementitious Grouts for more information
- For use as concrete repair refer to EN 1504-10 or Method Statement for Repairing Concrete
- When using as concrete repair, apply on similar strength host substrate
- 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

## 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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