

# PRODUCT DATA SHEET

## SikaGrout® UW id

### SHRINKAGE COMPENSATED CEMENTITIOUS GROUT FOR UNDERWATER APPLICATION

#### DESCRIPTION

SikaGrout® UW id is a ready to use, cementitious grout that can be used for applications underwater. The grout, when properly mixed, will have no significant 'wash out' of the cement phase.

SikaGrout® UW id is a blend of Portland cement, carefully selected and graded aggregates, and Sika admixtures, enabling it to achieve excellent flow, and non-wash out characteristics.

#### USES

SikaGrout® UW id can be used for free flowing or pumped grout applications underwater, for reinstating concrete, such as:

- Bridge columns
- Pillars
- Piles
- Spillways
- Dams

#### CHARACTERISTICS / ADVANTAGES

- There is no significant 'wash-out' of cement phase when placed underwater
- Effectively displaces water
- Shrinkage compensating properties
- Does not segregate or bleed
- Good impact, vibration and thermal resistance
- Non-corrosive to steel or iron

#### PRODUCT INFORMATION

<b>Packaging</b>	20 kg bag
<b>Appearance / Colour</b>	Powder / Grey
<b>Shelf life</b>	9 months from the date production if stored in undamaged and unopened original sealed packaging.
<b>Storage conditions</b>	Stored in dry condition between +10 °C - +30 °C.
<b>Density</b>	Wet: ~1.95 kg/L (at +20 °C)

#### TECHNICAL INFORMATION

<b>Compressive Strength</b>	3 days	~20.0 N/mm <sup>2</sup>	(ASTM C-109)
	7 days	~25.0 N/mm <sup>2</sup>	
	28 days	~40.0 N/mm <sup>2</sup>	

## APPLICATION INFORMATION

<b>Mixing Ratio</b>	5.0 L for each 20 kg bag of powder.		
<b>Yield</b>	~12.8 L per 20 kg bag.		
<b>Flowability</b>	Flow cone (mm)	~200 mm	(ASTM C230/230M)
<b>Product Temperature</b>	< +30 °C, max.		
<b>Substrate Temperature</b>	< +35 °C, max.		
<b>Setting Time</b>	3 days (under water) 1 day (at +23 °C)		

## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY / PRE-TREATMENT

All surfaces must be clean, sound and free from oils, grease or other surface contaminants. If the concrete surface is defective, or has laitance, it must be cut back to a sound base. Permanently immersed substrates should be prepared by sand blasting or high pressure water jet. Non-permanently immersed substrates can also be prepared this way, or by scrubbing.

### FORMWORK

The formwork used must be leak proof to allow SikaGrout® UW id to be free flowing.

### MIXING

Put measured quantity of water (depend on the required consistency) into a mixing vessel. Add slowly the total contents of SikaGrout® UW id while mixing.

Mix continuously for 3 minutes to achieve even consistency. Use a mechanically low speed drill (400 - 600 rpm) with mixing paddle or appropriately sized mortar mixer.

Mix the grout until it appears homogenous.

Allow to stand so any entrapped air can escape.

Do not add more water to increase flow of grout if a mix has stiffened due to time delays.

If grout is unworkable, discard.

### APPLICATION

SikaGrout® UW id can be poured or pumped through a flexible tube (minimum diameter of 50 mm) to the lowest section of the form.

The grout flow must be restricted during the pour so that the water is not entrapped.

The flexible tube can be raised to reduce pressure; however, it should never be raised above the surface level of the grout.

### CURING TREATMENT

Curing will not be required in submerged situations. Grout cast above the water should be cured using suitable methods such as plastic sheeting, wet hessian, or Antisol® liquid membranes.

### CLEANING OF EQUIPMENT

Clean all tools and application equipment with hot water immediately after use.

Hardened / cured material can only be mechanically removed.

## IMPORTANT CONSIDERATIONS

- Minimum application thickness : 10 mm.
- Recommended thickness of SikaGrout® UW id in one pour is 20 mm to 200 mm (underwater), if above water maximum thickness must be 100 mm. Any grout pour that exceeds this should be done in stages, or have stone aggregate added to it, to reduce the exothermic heat.
- If the application thickness exceeds 100 mm (above water) or 200 mm (under water), special procedure must be taken to anticipate temperature rise. Iced water, add coarse aggregate to the mix (max. 40% by powder weight), or both of them may be used to eliminate temperature rise.
- Do not apply a grout as a patch repair or overlay in unconfined areas (horizontal, free applications).
- Do not add water over the maximum recommended dosage.
- Variations in cement could cause shade differences in colour of the mortar.
- Avoid application in direct sun and/or strong winds.
- Do not apply SikaGrout® UW id in temperatures below 5°C.
- Never raise the tube used to place SikaGrout® UW id above the surface level of the grout.

## 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

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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