

PRODUCT DATA SHEET

SikaGrout® UW

SHRINKAGE COMPENSATED CEMENTITIOUS GROUT FOR UNDERWATER APPLICATIONS

DESCRIPTION

SikaGrout® UW is a ready to use, class A cement based grout for applications underwater. The grout, when properly mixed, will have no significant 'wash out' of the cement phase. SikaGrout® UW is a blend of Portland cement, carefully selected and graded aggregates and Sika admixtures enabling it to achieve excellent flow, non wash-out characteristics and high compressive strength.

USES

SikaGrout® UW can be used individually for underwater grouting or as a system in conjunction with Sika Pile Jacket systems or other confinement jacket repair systems for rehabilitation of concrete, steel and timber piles in marine applications.

- Bridge Column repairs.
- Piles repair.
- Slipways.
- Dams.
- Underwater grouting.

FEATURES

- Economical
- Good resistance to 'wash-out' of cement phase when placed underwater.
- Effectively displaces water.
- Shrinkage compensating properties.
- High early & 28 day strengths.
- Good impact, vibration and thermal resistance.
- Non-corrosive to steel or iron.
- Used with Sika Pile Jacket and other pile jacket systems.

CERTIFICATES AND TEST REPORTS

Department of Main Roads Qld (TMR) 2019, Product Index for Bridges and Other Structures, Section 5. Registered and Conforming Products, 5.33 Repair Materials (Concrete) – Grouts

PRODUCT INFORMATION

Composition	Cementitious powder
Packaging	20kg bag, 1000kg Bulk bag to order
Shelf life	12 months when stored in original sealed packaging in dry conditions.
Storage conditions	Store SikaGrout UW in dry conditions in un-opened original packaging.
Appearance and colour	Grey Cement powder
Maximum grain size	Maximum aggregate size approx. 2mm
Density	2,200 kg/m ³ approx.(mixed)

TECHNICAL INFORMATION

Compressive strength	1 day	~ 20 MPa	(AS 1478.2:2005)
	7 days	~ 50 MPa	
	28 days	~ 60 MPa	
	<i>Material and curing conditions at 23°C / 50% r.h. Above results based on 50x50mm cube specimens</i>		
Flexural-strength	28 days	8.0 MPa	(ASTM C348)
Splitting tensile strength	28 days	6.0 MPa	(AS 1012.10:2000)
Tensile adhesion strength	~ 2.0 MPa (<i>submerged concrete</i>)		

APPLICATION INFORMATION

Mixing ratio	3.5 - 3.7 litres of water per 20kg bag
Yield	~ 10.8 litres per 20kg bag
Layer thickness	SikaGrout® UW can be placed in thicknesses of up to 100mm above water, and 200mm underwater. Application exceeds above thicknesses should be done in stages or have aggregate added to it to reduce the exothermic heat. When adding aggregate, use SikaGrout Aggregate or smooth rounded aggregate, ranging from 2mm to 10mm. Maximum aggregate addition is 1:1 by weight to SikaGrout® UW. <i>Note: Aggregate addition will reduce the flow of the grout and site trials should be carried out before commencement.</i>
Pot Life	20 minutes approx. @20°C
Setting time	Initial - 5 hrs 30 mins @ 20°C Final - 6 hrs 15 mins @ 20°C

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.

IMPORTANT CONSIDERATIONS

- Store SikaGrout® UW in dry conditions in unopened original packaging.
- Do not apply SikaGrout® UW in temperatures below 5°C.
- Never raise the tube used to place SikaGrout® UW above the surface level of the grout.

ECOLOGY, HEALTH AND SAFETY

- Avoid contact with the skin.
- Protective gloves and clothing are recommended when mixing or using this product.
- A full Material Safety Data Sheet is available from Sika on request.

APPLICATION INSTRUCTIONS

EQUIPMENT

SikaGrout® UW must be mechanically mixed using a mechanical forced action grout mixer. It is essential

that mixing is carried out in a manner so that the grouting operation may continue without interruption.

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 scabbling.

MIXING

Always add powder to the water. Place approximately 70% of the total water content into the bucket. Add powder slowly to the water while mixing till bag is empty. Then slowly add remaining 30% of the water component is to be added while continuing to mix. The total water required for each 20kg bag of powder is 3.7 litres. Mix the grout until it appears homogenous (3 to 5 minutes). 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 can be poured or pumped through a flexible tube (minimum diameter of 50mm) 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 back pressure, however, it should never be raised above the surface level of the grout. SikaGrout® UW can be placed in thicknesses of up to 100mm above water, and 200mm underwater. Any grout pour that exceeds this should be done in stages, or have stone aggregate added to it, to reduce the exothermic heat. When adding aggregate, use smooth rounded aggregate, ranging from 2mm to 10mm. It is recommended that the maximum aggregate addition is 20kg of SikaGrout® UW.

CURING TREATMENT

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

CLEANING OF EQUIPMENT

Cleaning of uncured material with water. Cured material can only be removed by mechanical means.

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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Product Data Sheet

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