

## PRODUCT DATA SHEET

# SikaGrout®-3500 WP

High performance offshore wind turbine engineered grout

## DESCRIPTION

SikaGrout®-3500 WP is a 1-part, cementitious, free flowing grout with high early and final strengths. Specifically designed for offshore wind turbine foundation joint filling.

## USES

Grouted joints on the following foundations:

- Monopiles
- Jackets
- Tripods

SikaGrout®-3500 WP is suitable for the following concrete exposure classes:  
X0, XC 1-4, XD 1-3, XS 1-3, XF 1-4, XA 1-2, WA

## CHARACTERISTICS / ADVANTAGES

- Rapid strength development
- Long workability
- Good flowability ensuring complete filling of joints
- Good stability including under water
- Volume stable
- Low temperature application

## APPROVALS / CERTIFICATES

- Applicability of the Fatigue Verification CEB-FIP Model Code 90, fib-Model Code 2010 and DNV-OS-C502, SikaGrout®-3500 WP, Leibniz Universität Hannover, Expert's report
- Fatigue Behaviour Under Pure Compression Tested Under Water CEB-FIP Model Code 90, fib-Model Code 2010 and DNV-OS-C502, SikaGrout®-3500 WP, Leibniz Universität Hannover, Expert's report
- Production and Application of Cement Based Grout DAfStb Guideline, SikaGrout®-3500 WP, kiwa, Test report No. 16/0281-1/LA

## PRODUCT INFORMATION

Composition	Cement, selected fillers and aggregates, special additives
Packaging	25 kg, 1000 kg, 1500 kg bags
Appearance / Colour	Grey powder
Shelf life	12 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. Always refer to packaging.
Maximum grain size	D <sub>max</sub> : ~ 5 mm

## TECHNICAL INFORMATION

Compressive strength	Early strength: class A, to Guideline DAfStb. 100 mm cubes			
	<b>Temperature</b>	<b>Curing Time</b>		(EN 12390)
		<b>24 hours</b>	<b>28 days</b>	
	+20 °C	> 50 MPa	~115 MPa	
	+5 °C	> 20 MPa		
	+3 °C	> 10 MPa		
				Equivalent to class C 100/115 concrete (150 × 300 cylinders) (EN 206-1)
Shrinkage	Shrinkage class SVKB 0 according to DAfStb Guideline			
Expansion	> 0,1 % volume after 24 hours.			

## APPLICATION INFORMATION

Mixing ratio	81–85 L of water for 1000 kg of powder at +20 °C 83–87 L of water for 1000 kg of powder at +2 °C
Fresh mortar density	~2,3 kg/l
Yield	1000 kg of powder yields ~516 litres of mortar
Layer thickness	50 mm min. / 200 mm max.
Flowability	a2 (> 550 mm diameter) after 4 hours (DAfStb 2011)
Ambient air temperature	+2 °C min. / +30 °C max.
Pot Life	~4 hours at temperatures in the range from +2 °C to +30 °C

## 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.

## ECOLOGY, HEALTH AND SAFETY

GISCODE: ZP 1

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. Further notes and information data sheets on product safety and disposal can be found on the Internet at [www.sika.de](http://www.sika.de).

# APPLICATION INSTRUCTIONS

## SUBSTRATE QUALITY / PRE-TREATMENT

### 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 should also be cleaned of all debris.

### MIXING

SikaGrout®-3500 WP 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 satisfactorily.

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 7 minutes until the grout achieves a lump free smooth consistency. Do not add more water than the maximum specified.

## APPLICATION

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

### Placing: Grout pump application

Equipment trials must be considered to ensure product can be pumped satisfactorily.

## CLEANING OF EQUIPMENT

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

## 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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