

PRODUCT DATA SHEET

SikaGrout®-9970

(formerly NaX® B210)

Advanced, ultra high performance cementitious (UHPC) grout with excellent flowability and suitability for offshore installations

DESCRIPTION

SikaGrout®-9970 is a ready-to-use special cement dry powder that, when mixed with water, produces a flowable, cohesive, and impermeable ultra-high performance cementitious (UHPC) grout with rapid development of high compressive strength. Designed with good flowability, inherent cohesiveness, and anti-washout properties, SikaGrout®-9970 is ideal for narrow constrictions such as annulus filling in pipe-in-pipe systems or hollow sections in offshore structures where extreme loads occur. Advanced nano-engineered binder technology, incorporating Portland, pozzolan, and special cements, ensures superior structural performance. Additionally, SikaGrout®-9970 is chloride-free, shrinkage-compensated, and features low water permeability with high resistance to aggressive ion penetration.

USES

SikaGrout®-9970 has been especially formulated for;

- Grouted connections for offshore marine infrastructure where extreme loads are transferred over short structural lengths.

Contact Sika Technical Department regarding any application required not mentioned here.

CHARACTERISTICS / ADVANTAGES

- Ultra-high Young's modulus for exceptional stiffness which is more than twice of concrete and 40 % of steel (and similar to metallic gold, silver & aluminum)
- Ultra-high long-term strength exceeding 200 MPa which is 2.5 times of high-strength concrete (G80)
- Good flowability
- High early strength
- Shrinkage compensated
- No segregation or bleeding

PRODUCT INFORMATION

Packaging	SikaGrout®-9970 is supplied in special 500, 1000 kg watertight big bags
Shelf Life	12 months from date of production
Storage Conditions	Product must be stored in original, unopened and undamaged sealed packaging in dry conditions away from direct sunlight and heat, not exceeding 40 °C. When stored under high temperature and high humidity conditions, the shelf life may be reduced.
Density	2.75–2.85 ton/m ³ (EN 12390-7)

TECHNICAL INFORMATION

Compressive Strength	1 day	> 90 N/mm ²	(ASTM C109/C109M)
	3 days	> 160 N/mm ²	
	7 days	> 180 N/mm ²	
	28 days	> 210 N/mm ²	
	91 days	> 220 N/mm ²	
	at 25 °C		
Modulus of Elasticity in Compression	≥ 76.000 N/mm ²		(EN 12390-13)
	Poisson's ratio:	0.19	(ASTM C469)
Tensile Strength in Flexure	> 25.0 N/mm ²		(EN 1015-11)
Tensile Strength	> 11.0 N/mm ²		(ASTM C307)
Shrinkage	at 91 days	< 0.15 ‰	
Splitting Tensile Strength	> 18.0 N/mm ²		(EN 12390-6)
Chloride Ion Diffusion Resistance	< 100 (Negligible penetrability)		(ASTM C1202)

APPLICATION INFORMATION

Mixing Ratio	7.0 % to 8.2 % water / powder ratio		
Consumption	Approximately 390 liters per ton material		
Layer Thickness	40–600 mm		
Product Temperature	+2 °C min. / +35 °C max.		
Ambient Air Temperature	+2 °C min. / +35 °C max.		
Substrate Temperature	+2 °C min. / +35 °C max.		
Pot Life	2 hours		
Flowability	Flow table	280–315 mm	(ASTM C1437)
	Flow through	> 550 mm	(EN 13395-2)
Setting Time	Initial	Final	
	7 hours	10 hours	

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.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

NOTES ON INSTALLATION

- SikaGrout®-9970 has been especially formulated for use in specific applications. As such SikaGrout®-9970 should be installed by experienced fully trained contractors.
- Sands or other products that could affect the products properties must not be added.
- SikaGrout®-9970 which will be exposed to strong drying conditions, e.g. mortar which is directly exposed to heavy wind and/or direct sunlight, should be protected using appropriate curing agents.

EQUIPMENT

Mixer type	Paddle mixer
Mixing time	Approximately 6 minutes
Application method	One continuous pour

MIXING

SikaGrout®-9970 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 satisfactory before full project application. Put most of the water required in the mixer and add slowly the grout material. Mix until a homogeneous mortar (3 to 4 minutes), add the remaining water and continue mixing for at least another 2 minutes until the required fluid or flowable consistency is obtained. Mix with potable water only. Do not add more water than the maximum specified.

CLEANING OF TOOLS

Tools and spillages can be cleaned with water while SikaGrout®-9970 is still uncured. Once hardened, the material can only be removed mechanically.

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.

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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