

PRODUCT DATA SHEET

SikaGrout[®]-925

Ultra high performance cementitious mix (UHPC)

DESCRIPTION

SikaGrout[®]-925 (formerly NaX[®] Q125-F) is supplied as a dry powder component for use with Sikacrete[®]-625 Steel Fibres to form a cement-based fiber-reinforced system. On mixing with controlled amount of potable water, followed by addition of Sikacrete[®]-625 Steel Fibres, the result is a flowable, cohesive ultra-high performance cementitious (UHPC) mix, which develops high compressive strength in short period of time. With proper curing, the hardened product has a unique combination of superior technical characteristics including ductility, strength, and durability, while providing highly moldable high-quality surface aspect. This fiber-reinforced system possesses superior mechanical strengths and stiffness with higher cracking resistance, compared to high-performance concrete (HPC). Unlike HPC, which is weak in tension with no ductility, the product is designed for high tensile strength and possesses tensile ductility with stain hardening behavior, such that the ultimate strength is higher than the plain material strength (first-crack strength). This enables traditional volume of reinforcing steel bars to be reduced, or in some cases, eliminating them. Furthermore, the UHPC mix is designed for good flowability with high inherent cohesiveness to facilitate material placement in narrow formworks without segregation, enabling production of thin shell structure and slimline architectural profiles. SikaGrout[®]-925 is based upon an advanced nano-engineered binder technology, which is composed of special blends of Portland cements, pozzolan cements and special cements, to produce a high quality structural cementitious material. SikaGrout[®]-925 is chloride-free, shrinkage-compensated and exhibits low water permeability and high resistance to aggressive ion penetration.

USES

SikaGrout[®]-925 is suitable for structural repairs to marine structures, bridges, columns, etc. It is also conducive for use in the following repair works where single placing is in excess of 10 mm thickness:

- Bridge columns and beams
- Jetty piles
- Concrete piling
- Spillways
- Dams

SikaGrout[®]-925 can be applied by gravity pour or mechanical pumping.

CHARACTERISTICS / ADVANTAGES

- Tensile ductility with stain hardening
- Good flowability
- High early strength
- Shrinkage compensated
- High Young's modulus
- Excellent fatigue resistance
- No segregation or bleeding

PRODUCT INFORMATION

Packaging	SikaGrout®-925 <ul style="list-style-type: none"> ▪ 25 kg bag ▪ 966 kg bulk bag Sikacrete®-625 Steel Fibres <ul style="list-style-type: none"> ▪ 7 kg bag ▪ 17 kg bag
Shelf Life	SikaGrout®-925 25 kg bag _____ 6 months from date of production 966 kg bulk bag _____ 12 months from date of production Sikacrete®-625 Steel Fibres 5 years from date of production
Storage Conditions	SikaGrout®-925 Pre-blend bags must be protected from moisture, freezing, and always kept dry in its original packaging. When stored under high temperature and high humidity conditions, the shelf life may be reduced. Sikacrete®-625 Steel Fibres Store in dry conditions and away from direct sunlight.

TECHNICAL INFORMATION

Compressive Strength	1 day	> 65 MPa	(EN 12390-3, ASTM C109, EN 1015-11) Based on 75 mm & 50 mm cube, 40 × 40 × 160 mm prism
	3 days	> 85 MPa	
	7 days	> 110 MPa	
	28 days	> 135 MPa	
	56 days	> 140 MPa	
Modulus of Elasticity in Compression	~47 GPa		(EN 12390-13)
Tensile Strength in Flexure	First crack	~17 MPa	(EN 1015-11)
	Ultimate	~24 MPa	Based on 40 × 40 × 160 mm prism
Tensile Strength	~8.0 MPa		(ASTM C307)
Shrinkage	< 0.15 ‰ at 91 days		(ASTM C1090)
Reaction to Fire	Class A1 (Non-combustibility & Heat of combustion)		(EN 13501-1)
Chloride Ion Diffusion Resistance	< 200 Coulomb (Very low penetrability)		(ASTM C1202)
Porosity	Air content < 2.5 %		(EN 1015-7)
Chloride Diffusion Coefficient	DC ≤ 0.1 × 10 ⁻¹² m ² /s at 90 days		(BS EN 12390-11:2015)

APPLICATION INFORMATION

Mixing Ratio	Approx. 10.0–11.1 % by mass of powder, depending on temperature during application		
Consumption	SikaGrout®-925	25 kg × 8 bags	966 kg bulk bag × 1
	Sikacrete®-625 Steel Fibres	7 kg × 1 bag	17 kg × 2 bags
Layer Thickness	Minimum	10 mm	
	Maximum	300 mm	
Substrate Temperature	The temperature of walls and spaces where the material is to be placed should be between 15 °C and 35 °C for optimum results. If application temperature is outside of above range, please consult Sika for technical sup-		

	port.		
Flowability	Initial	290–310 mm	(ASTM C1437) no drops
	1 hour	270–290 mm	
Initial Set Time	4–5.5 hours		(EN 196-3)
Final Set Time	5–7 hours		(EN 196-3)
Fresh Mortar Density	2.39–2.45 ton/m ³		(EN 12390-7)

SYSTEM INFORMATION

System Structure	This product system is composed of SikaGrout®-925 (cementitious pre-blend) and Sikacrete®-625 Steel Fibres , along with the site addition of water / ice. No other additives may be added.
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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

MIXING

SikaGrout®-925 is to be mixed in an adequate paddle mixer. The powder is added into mixer followed by potable water and mixed for 3 to 5 minutes, depending on effectiveness of the mixer. When mix has achieved flowable consistency, Sikacrete®-625 Steel Fibres may be added into the mixer, and continue mixing for 1 to 2 minutes, until a uniform flowing mixture is obtained. Total mixing duration should be at least 7 minutes at ambient temperature of 20 °C to 30 °C. Longer mixing time is required at lower temperature. Amount of water required depends on ambient temperature and varies from 10.0 % to 11.5 % by mass of powder. Water demand is higher with higher temperature.

SikaGrout®-925 can be mixed and used within ambient temperature from 10 °C to 30 °C. This product is a special cementitious material that shall only be applied by trained, qualified and professional personnel.

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Product Data Sheet

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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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