

PRODUCT DATA SHEET

Sikacrete[®]-911 W

High performance cementitious mix (HPC) in white colour

DESCRIPTION

Sikacrete[®]-911 W is part of the Colour Grout series and features a smooth off-white colour tone after mixing with potable water. The product is based upon an advanced nano-engineered binder technology, which is composed of premium white Portland cement and cementitious pozzolans of finest quality together with a proprietary blend of modern chemical additives. It is supplied as a ready to use cement-based dry powder system. After mixing, the product is a flowable, cohesive and impermeable high performance cementitious (HPC) grout, which develops high early and final compressive strength. Under standard ambient temperature of 25 °C, it can achieve more than 50 % of ultimate strength in 24 h, and 80 % of ultimate strength in a week.

Sikacrete[®]-611 PVA Fibres have to be added during mixing to achieve the product's ductility performance. Due to its high flowability, Sikacrete[®]-911 W is easily placed using pump or open placement and assures complete filling of any formwork and mould systems with narrow constrictions down to 10 mm gaps. The product is chloride-free, exhibits low water permeability and high resistance to aggressive ion penetration. With proper curing, it has a long-life expectancy due to its dense and stable structure.

USES

With above combinations, this grout is ideal for applications demanding for aesthetic flexibility, high structural performance and long-lasting durability requirements.

CHARACTERISTICS / ADVANTAGES

- White colour for decorative element casting
- Good flowability for easy application
- Pump application possible
- No segregation or bleeding
- Can be applied in narrow constrictions down to 10 mm and up to 300 mm thickness
- High early strength
- Final strength exceeding 110 MPa
- Durable performance

PRODUCT INFORMATION

Packaging	Sikacrete [®] -911 W is supplied in 25 kg paper bags or coated jumbo FIBC bags with any weight between 1000 and 1500 kg (customised).
Appearance / Colour	Off-white powder
Shelf Life	<ul style="list-style-type: none"> ▪ 12 months for 1000 to 1500 kg FIBC bags after date of production. ▪ 6 months for 25 kg paper bags after date of production.
Storage Conditions	Store in a sheltered and dry place in its original packaging away from direct sunlight and heat over +38 °C. If stored at high temperature and high humidity conditions, the shelf life will be reduced.

TECHNICAL INFORMATION

Mortar Mix Design	All technical data refer to a mix of Sikacrete®-911 W with 0.62 % Sikacrete®-611 PVA Fibres by weight and a water amount of approx. 12 % by weight. All values determined at +25 °C.		
Compressive Strength	1 day	≥ 60 MPa	(ASTM C109/C109M)
	7 days	≥ 90 MPa	
	28 days	≥ 110 MPa	
	91 days	≥ 115 MPa	
Modulus of Elasticity in Compression	Static Modulus of Elasticity	~40 GPa	(EN 12390-13)
Tensile Strength in Flexure	28 days	~18 MPa	(EN 1015-11)
Tensile Strength	7.0 MPa		(ASTM C307)
Shrinkage	28 days	0.08 %	(ASTM C1090/C1090M)
Expansion	28 days	0.00 %	(ASTM C1090/C1090M)
Reaction to Fire	Class A1		(EN 13501-1)
Service Temperature	-30 °C to +80 °C		
Dry Fibre Modulus of Elasticity in Tension	0.20		(ASTM C469)
Chloride Ion Diffusion Resistance	< 300 Coulomb (Very Low Penetrability)		(ASTM C1202)

APPLICATION INFORMATION

Mixing Ratio	Sikacrete®-911 W needs to be mixed with 0.62 % of Sikacrete®-611 PVA Fibres and 11.5 to 13.0 % of water (depending on ambient temperature and desired consistency). Mix examples: <ul style="list-style-type: none"> ▪ 20 bags of 25 kg Sikacrete®-911 W + one 3.1 kg bag of Sikacrete®-611 PVA Fibres ▪ 1 Bigbag of 1334 kg Sikacrete®-911 W + two 4.1 kg bags of Sikacrete®-611 PVA Fibres 		
Consumption	~2,100 kg of powder are required for 1 m ³ of mortar. ~2.1 kg of powder are required per mm thickness per m ² area.		
Yield	One 25 kg bag will yield ~11.8 l of mortar. One ton of powder will yield ~470 l of mortar.		
Layer Thickness	10 to 300 mm		
Ambient Air Temperature	+15 °C to +30 °C		
Substrate Temperature	+10 °C to +35 °C		
Flowability	Initial (no drop): 300–350 mm		(ASTM C1437)
Fresh Mortar Density	~2.37 kg/l		

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

- Avoid application in direct sun and/or strong winds.
- Do not add water over recommended dosage.
- Do not add additional water during the surface finishing as this might cause cracking.
- Protect freshly applied material from rain, wind and sun.

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

For professional use only!

SUBSTRATE PREPARATION

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 must also be cleaned of all debris.

Shutter Formwork Where formwork is to be used, all formwork must be of adequate strength, treated with release agent and sealed to prevent leakage of pre-wetting water and grout. Ensure formwork includes outlets for removal of the pre-soaking water. As a guide leave a gap of approximately 15 cm on one side and 5 cm on the opposite side. A header box or hopper should be constructed on one side of the formwork so that a grout head of 150–200 mm can be maintained during the grouting operation.

MIXING

Sikacrete®-911 W is to be mixed in an adequate paddle mixer. Add the powder into the mixer followed by potable water and mix for 5 to 7 minutes, depending on effectiveness of the mixer. When the mix has achieved flowable consistency, add the Sikacrete®-611 PVA Fibres into the mixer, and continue mixing for 3 minutes, until a uniform, flowing mixture is obtained. Total mixing duration should be at least 8 minutes at ambient temperature of +20 °C to +30 °C. Longer mixing time is required at lower temperature. The water amount required depends on ambient temperature and varies from 11.5 % to 13.0 % by mass of powder. Water demand is higher at higher temperature.

APPLICATION

The temperature of walls and spaces where the grout is to be placed should be between +10 °C and +35 °C for optimum results.

Apply the material directly after mixing. Pour or pump the mixed grout into the header box or hopper ensuring continuous grout flow during the complete grouting operation to avoid trapping air. For large volume placement, grout pumps are recommended. Equipment trials must be considered to ensure product can be pumped satisfactorily.

Surface finishing Finish exposed grout surfaces to the required surface texture as soon as the grout has started to stiffen. Do not add additional water on the surface. Do not overwork surface as this may cause cracking. After the grout has initially hardened, remove formwork and trim edges while the mortar is still 'green'.

CURING TREATMENT

Protect the fresh material from premature drying and cracking using an appropriate curing method e.g. curing compound, moist geo-textile membrane, hessian, polythene sheet etc.

CLEANING OF TOOLS

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