Construction

SikaGrout® -295 ZA

High performance, ultra high strength cementitious grout

Product Description

SikaGrout®-295 ZA is a one component, ultra-high strength, cement based grout, with high mechanical strengths, specifically designed for use in the renewable energy field, under metal bases and concrete structures.

Uses

SikaGrout®-295 ZA may be used in areas where high mechanical strengths are required, such as :

- Under Wind turbine bases
- Under bearing plates
- Between precast concrete segments
- Anchors in bases, concrete posts and precast constructions columns.
- Cracks, gaps and large voids.

Characteristics / Advantages

- Easy mixing and placing
- Rapid strength development
- Good flow properties
- Pumpable
- Free from chlorides and metallic particles
- Protects metallic parts against corrosion, due to its high pH level.
- Expansive properties
- Very high mechanical strengths.
- Excellent adhesion to concrete, mortar or steel
- Provides good resistance to shock and vibration.
- Water and oil resistant.
- Not corrosive or toxic

Product Data

Form

Appearance / Colour	Powder	Grey
Packaging	25kg bags	

Storage

Storage Conditions / Shelf-Life	6 months from date of production, if stored properly in dry conditions between 5°C – 25°C in undamaged and unopened original packaging.

Technical Data

Chemical Base	Cement, selected fillers, aggregates and special additives
Density	~ 2.2 kg/l (density of fresh mortar)
Layer Thickness	10 mm min. / 120 mm max.

Mechanical / Physical Properties

Compressive Strength

Ambient temperature: +25°C (40 x 40 x 160mm prisms)

24 hours	48 hours	3 Days	7 Days	14 Days	28 Days
~ 50 N/mm^2	~ 65 N/mm^2	~ 70 N/mm^2	~ 90 N/mm^2	~100 N/mm^2	~ 110 N/mm^2

Flexural Strength

Ambient temperature: +25°C

1 day	7 days	28 days
~ 3.5 N/mm^2	~ 8.0 N/mm^2	~ 9.00 N/mm^2

Tensile Strength

Ambient temperature: +25°C (Splitting tensile)

1 day	7 days	28 days
~ 2.6 N/mm^2	~ 3.8 N/mm^2	~ 4.8 N/mm^2

System Information

Application Details

Yield	*12.5 ltr per 25kg bag*
Consumption	*For 1 mm thickness per m^2* ~ 2.0 kg of powder
Substrate Quality	*Concrete, mortar, stone:* Surfaces must be sound, clean, free from ice, oils, grease, standing water and any loose or friable particles and any other surface contaminants. The concrete “pull off” (tensile) strength should be > 1.0 MPa. *Steel, iron:* Clean, free from oil or grease, rust and scale etc.
Substrate Preparation	The substrate should be prepared by suitable mechanical preparation techniques such as high pressure water jetting, breakers, blast cleaning, scabblers, etc.. The concrete substrates should be pre-soaked with clean water continuously for 2 - 6 hours to ensure a saturated surface dry condition throughout the operation. Immediately before pouring remove **all** excess or standing water from within any formwork.

Application Conditions / Limitations

Substrate Temperature	±5°C min. / ±30°C max.
Ambient Temperature	±5°C min. / ±35°C max.

Application Instructions

Mixing ratio	13% - 3.25 litres per 25 kg bag / 65 litres per 500 kg
Mixing Time	Mixing is critical to the performance of this product and the time required for mixing, from the moment all the powder is in the mixing pot is 3-4 minutes minimum.
Mixing Tools	Festo type mixers, forced action or stand type mixers. Add the required amount of water and then add SikaGrout® -295 ZA slowly, using a low speed (max. 500 rpm) electric drill to avoid entraining too much air. Dependent on the desired consistency and flow properties, the mixing ratio can be adjusted.
Application Method	SikaGrout®-295 ZA is applied manually using traditional pouring techniques or for large applications using suitable pumping device. (refer to Sika technical department for advice). It is recommended to check the material after pumping. Apply the material shortly after mixing to take advantage of the expansion properties. Ensure formwork is strong enough to hold the fresh mortar and sealed to prevent leakage. Cure exposed surfaces immediately with protective sheet or membrane. Shield the fresh mortar from direct sun, wind and frost. Finish exposed surface as desired as soon as the mortar has started to stiffen. Do not add additional water on surface. Do not over work surface as this may cause surface cracking.
Cleaning of Tools	Clean all tools and application equipment with water immediately after use. Hardened/cured material can only be mechanically removed.

Potlife

Conditions	Time
+23°C / 50% r.h.	90 minutes

The temperature will affect the pot life.
Application at temperatures above +23°C will reduce the pot life and the working time. Temperatures below +23ºC will increase the pot life and extend the working time.

Notes on Application / Limitations

- High or low temperatures will affect the performance of the product
- Use only on clean, sound substrate
- Do not apply when there is a risk of frost
- Keep exposed surface to the strict minimum
- Take precaution to protect application from direct sun and/or strong wind
- Do not add water under or over recommended dosage

Curing Details

Curing Treatment	Keep any visible, exposed grout surfaces as small as possible and protect from premature drying out by suitable measures (keep moist, cover with wet Hessian etc.).

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Notes	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.
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.
Health and Safety Information	
Protective Measures	Cement containing material may cause skin irritation. Wear gloves and goggles or apply barrier cream to hands while working with the mortar.
Ecology	
Transportation Class	
Important Notes	Residues of material must be removed according to local regulations. Fully cured material can be disposed of as household waste under agreement with the responsible local authorities. Detailed health and safety information as well as detailed precautionary measures e.g. physical, toxicological and ecological data can be obtained from the Material Safety Data Sheet.
Toxicity	
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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