Construction

SikaGrout®-3200

Fatigue Certified OnShore Wind Tower Precision Grout

Product Description	SikaGrout®-3200 is a fast hardening, high early strength, high final strength, 1-component, shrinkage compensated, free flowing cementitious grout for structural filling of joints and under grouting base plates.
Uses	High performance precision grouting of vertical or horizontal joints for onshore steel and pre-cast concrete wind towers
Characteristics / Advantages	■ Fatigue tested and certified ■ Fast early strength development ■ High final strength ■ Fluid consistency ■ Can be pumped ■ Shrinkage compensated ■ Application thickness 10 to 150 mm ■ High adhesion to concrete ■ CE Certification

Tests

Approval / Standards	EN 1504-6: 2006: Anchoring of a reinforcing bar Fatigue tested and certified (According to Fib Model Code 2010)

Product Data

Form

Appearance / Colour	Grey powder
Packaging	25 kg valve bags and big bags on request

Storage

Storage Conditions / Shelf-Life	6 months from date of production if stored properly in undamaged original sealed packaging, in dry cool conditions.

Technical Data

Chemical Base	Special cement, quartz aggregates and additives
Density	Fresh mortar density: ~ 2.3 kg/l
Grading	D_{max}: ~3 mm
Linear Shrinkage	-0.544mm/m (28d) (EN 12617-4)
Layer Thickness	10 mm min / 150 mm max.
Expansion	> 0.4 % after 24 hours

Mechanical / Physical Properties

Compressive Strength	At 23°C (mixing ratio 11.5 % water)				(EN 12190:1999)
	1 day	2 days	7 days	28 days	
	~ 50 MPa	~ 60 MPa	~ 90 MPa	~110 MPa	
Compressive Strength	Equivalent to C100 concrete (150 x 300 cylinders) (According to Fib Model Code 2010)				
Flexural Strength	At 23°C				(EN 196-1)
	1 day	28 days			
	~ 7 MPa	~16 MPa			
Adhesive bond	> 2.0 MPa				(EN 1542)
Elastic Modulus	~38 GPa				(EN 13412)

Application Details

Yield	25 kg bag yields ~12.0 litres of mortar
Substrate Quality	*Concrete:* The concrete shall be thoroughly clean, free from dust, loose material, surface contamination and materials which will impair the grout flow or reduce adhesion strength. Delaminated, weak, damaged and deteriorated concrete and where necessary sound concrete shall be removed by suitable means as directed by the Engineer or Supervising Officer.
Substrate Preparation / Priming	*Pre-Wetting* The concrete substrate shall be thoroughly saturated with clean water a recommended 12 hours before application of the grout. The surface shall not be allowed to dry in this time. Prior to application of the grout, excess water shall be removed and the surface shall achieve a dark matt appearance (saturated surface dry) without glistening and surface pores and pits shall not contain water.

Application Conditions / Limits

Substrate Temperature	+5°C min.; +35°C max.
Ambient Temperature	+5°C min.; +35°C max.

Application Instructions

Mixing Ratio	11.5% 2.87 litres water per 25 kg bag

Construction

Mixing	SikaGrout®-3200 shall be professionally mixed using suitable mixing equipment applicable to the volume of material being mixed. Pour the minimum water ratio in the correct proportion into a suitable mixing container. While stirring slowly, add the powder to the water. Add more water within the mixing time up the maximum allowed until the desired consistency is achieved and to suit ambient temperature conditions. Do not add more water than the maximum specified. Mix thoroughly for minimum 5 **minutes**. For larger mixes the mixing time shall be extended to approximately 6 minutes or as necessary until the mortar is homogenously mixed with no lumps and no remaining dry powder.
Application Method / Tools	SikaGrout®-3200 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 material can only be mechanically removed.
Pot life	~60 minutes at 20°C
Notes on Application / Limitations	■ Take precautions to protect application from direct sun and/or strong wind ■ Do not add water under or over recommended dosage ■ Apply only to sound, clean prepared concrete substrate

Curing Details

Curing Treatment	Protect the fresh mortar from early dehydration using the relevant curing method.

Value Base

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

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

Legal Notes

Sika South Africa (Pty) Ltd
9 Hocking Place,
Westmead, 3608
South Africa

E-mail: headoffice@za.sika.com
Phone +27 31 792 6500
Telefax +27 31 700 1760
www.sika.co.za