BUILDING TRUST

PRODUCT DATA SHEET

SikaGrout®-3620

HIGH PERFORMANCE OFFSHORE WIND TURBINE ENGINEERED GROUT (FORMERLY PAREX 100 NEWTON GROUT AW)

DESCRIPTION

SikaGrout®-3620 is a 1-part, cementitious, free flowing grout with high early and final strengths. Specifically designed for offshore wind turbine foundation joint filling.

USES

Grouted joints on the following foundations:
- Monopiles
- Jackets
- Tripods

SikaGrout®-3620 is suitable for the following concrete exposure classes:
X0, XC4, XD3, XS3, XF1 and XA1

CHARACTERISTICS / ADVANTAGES

- Application temperature range +3 °C to +30 °C
- Layer thickness 10–350 mm.
- Resistant to washout
- Very low shrinkage
- Good flowability ensuring complete joint filling
- Long working life
- Pumpable over long distances
- Suitable for low and high temperature applications
- No sedimentation, no bleeding

APPROVALS / CERTIFICATES

- DNV GL, Certificate No. TAK0000154 according to DNV-OS-C502 (issued for Parex 100 Newton Grout AW)

PRODUCT INFORMATION

Composition	Cement, selected fillers and aggregates, special additives
Packaging	25 kg, 1000 kg bags. Refer to current price list for packaging variations.
Appearance / Colour	Grey powder
Shelf life	6 months from date of production
Storage conditions	Product must be stored in original, unopened and undamaged packaging in dry conditions at temperatures between +5 °C and +30 °C. Always refer to packaging.
Maximum grain size	D_{max}: ≤ 1 mm

TECHNICAL INFORMATION

Compressive strength

Characteristic compressive strength at 28 days (EN 12390-3)

Sample Size	+2 °C	+20 °C
Prism (40 mm × 40 mm × 160 mm)	~85 MPa	~90 MPa
Cube (75 mm)	~80 MPa	~90 MPa
Cylinder (150 × 300 mm)	~80 MPa	~85 MPa

Compressive strength (EN 12390 in 75 mm cubes)

Time	+2 °C	+20 °C
1 day	-	~40 MPa
3 days	~45 MPa	~75 MPa
7 days	~65 MPa	~85 MPa
28 days	~80 MPa	~100 MPa

Modulus of elasticity in compression	~30 GPa	(ASTM C469)

Tensile strength in flexure (EN 196-1)

Time	+2 °C	+20 °C
1 day	-	~7 MPa
3 days	~6 MPa	~10 MPa
7 days	~10 MPa	~12 MPa
28 days	~13 MPa	~13 MPa

Shrinkage	Class SKVM 0	(DAStb Guideline)
	Autogenous shrinkage < 0,35 mm/m	(ASTM C1698)
Bleeding	No bleeding according to ASTM C940	

APPLICATION INFORMATION

Mixing ratio	18 % 180 L of water for 1000 kg of powder
Fresh mortar density	~2,2 kg/l
Yield	1000 kg of powder yields ~530 litres of grout
Layer thickness	10 mm min./ 350 mm max.
Ambient air temperature	From +3 °C to +30 °C
Pot Life	~90 minutes at +20 °C
Initial set time	≤ 8 hours at +20 °C

APPLICATION INSTRUCTIONS

EQUIPMENT

Grout pump operation limitations for application:

Description	Unit	Limitations
Minimum hose diameter	mm	≥ 50
Grout annulus thickness	mm	45 ≤ t ≤ 350
Pumping length	m	L ≤ 120
Pumping elevation	m	H ≤ 20
Minimum application temperature	°C	3
Maximum application temperature	°C	30
Verified free-fall height through water	mm	350

The above limitations are not absolute. Equipment trials must be considered to ensure product can be pumped satisfactory.

SUBSTRATE QUALITY / PRE-TREATMENT

The grouting area must be clean, sound and free of surface contamination and materials which will impair the grout flow or reduce adhesion strength. Where formwork is to be used, all formwork must be sealed to prevent leakage of pre-wetting water and grout. It must be of adequate strength and designed to provide sufficient hydrostatic head to ensure grout flow into and across the grouting area. Saturate the grouting area with water. Leave from 1 hour and then blow out any surplus water.

MIXING

SikaGrout®-3620 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.
Pour the correct proportion of water into the grout mixer. While stirring the water, slowly add the powder to the water.
Mix continuously until the grout achieves a lump free smooth consistency. Do not add more water than the maximum specified.

APPLICATION

Placing: Grout pump application
Equipment trials must be considered to ensure product can be pumped satisfactory.
Note: After application, do not disturb grout until it is sufficiently hardened.
Cold weather working
Consider storing bags in a warm environment and using warm water to assist with achieving strength gain and maintaining physical properties.
Hot weather working
Consider storing bags in a cool environment and using cold water to assist with controlling the exothermic reaction to reduce cracking and maintaining physical properties.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with water immediately after use. Hardened material can only be mechanically removed.

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for the exact product data and uses.

ECOLOGY, HEALTH AND SAFETY

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

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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