BUILDING TRUST

PRODUCT DATA SHEET

SikaGrout®-9600

(formerly MFlow 9600)

Bulk supplied, offshore grout with applied nanotechnology for grouting foundations of wind turbine installations

DESCRIPTION

SikaGrout®-9600 is a shrinkage compensated grout which when mixed with water, produces a homogeneous, flowable and pumpable grout. Latest best binder packing models and applied cementitious nanotechnology produces a grout with superior technical performance, and exceptional rheological properties.

USES

SikaGrout®-9600 has been especially formulated for large scale, pump applications.

- Grouting of the non-structural parts of offshore wind turbine installations
- For use as high strength grout in offshore foundations like monopiles using bolted connections
- For skirt backfilling in offshore applications
- Grouting under very harsh conditions, e.g. at temperatures as low as 2°C.

Contact the Technical Department of your local Sika office regarding any application required not mentioned here.

FEATURES

- Compressive strength class C60/75, even at cold temperatures.
- Available as silo material.
- Can be applied in the shortest weather windows.
- Excellent strength gain.
- No segregation or bleeding to ensure consistent final physical performance.
- For applications in a wide temperature range.
- Excellent flow and pumping properties reduce installation times and costs.
- Very fast grout installation: no interference with the critical path of the installation vessel. Grout installed while bolts of the foundation are initially tensioned.
- Pumpable through 2” grout lines.
- Volume stable.
- Installation with continuous and closed grouting process. No batching of individual mixes.
- No dust formation during grouting, ensuring safe handling for grouting workers and other personnel.

PRODUCT INFORMATION

Packaging	SikaGrout®-9600 is supplied by bulk transport and is stored in special jobsite silos.
Shelf life	6 months from date of production
Storage conditions	Product must be stored in closed silos under dry conditions.
Density	2.25 (±0.05) gr/cm³

TECHNICAL INFORMATION

Compressive strength

Age	N/mm²	(EN 12390-3)
1 day	≥ 25	
7 days	≥ 60	
28 days	≥ 75	

Concrete strength class:
C60/75 (EN 206)

Early strength class:
B

Testing in general accordance with Z.i.E. test probram and DAfStb guideline

Cylinder compressive strength:
94.4 (EN 12390-3)

Chracteristic cylinder strength:
90.6

Prism compressive strength (MPa):

Age	2 °C	20 °C	30 °C	(EN 196-1)
28 days	88.6	102.2	115.8	

Cubes compressive strength:

Age	N/mm²	(EN 12390-3)
1 day	40.2	
7 days	94.9	
28 days	106.3	

Exposure classes:
XO, XC4, XD3, XS2, XS3, XF3, XA2,WA (EN 206-1, DIN 1045-2)

Modulus of elasticity in compression

Testing in general accordance with Z.i.E. test probram and DAfStb guideline
37.300 MPa (EN 12390-13)

Flexural-strength

Testing in general accordance with Z.i.E. test probram and DAfStb guideline

2 °C	20 °C	30 °C	(EN 196-1)
13.1 MPa	14.3 MPa	14.0 MPa	

Shrinkage

Testing in general accordance with Z.i.E. test probram and DAfStb guideline

Age	mm/m
14 days	-0.135

Resistance to fire
A1 (EN 13501-1)

Bleeding
No bleeding

Sedimentation stability:
Given (VeBMR, Annex B.4)

(in accordance with Z.i.E test program and DAfStb guideline)

APPLICATION INFORMATION

Consumption
1000 kg powder will yield approximately 480 to 525 litre of mixed grout.

Layer thickness
30 - 400 mm

Flowability

		(EN 12350-8)
Slump flow	≥ 650 mm	
Spread of flow	≥ 290 mm	

Material temperature
+0 °C min. / +30 °C max.

Ambient air temperature
+0 °C min. / +30 °C max.

Mixing ratio	130 litres / 1000 kg powder (± 10)
Substrate temperature	+0 °C min. / +30 °C max.
Pot Life	≥ 120 minutes

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.

FURTHER DOCUMENTATION

Sika Method Statement: SikaGrout®-9600

IMPORTANT CONSIDERATIONS

- Sands or other products that could affect the products properties must not be added.
- MasterFlow 9600 which will be exposed to strong drying conditions, e.g. mortar which is directly exposed to heavy wind and/or direct sunlight, should be protected using appropriate curing agents.
- Seek advice for any application not covered in this datasheet.

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

- SikaGrout®-9600 has been especially formulated for use in specific applications. As such SikaGrout®-9600 should be installed by experienced fully trained contractors. Full application procedures are available on request.

MAINTENANCE INSTRUCTIONS

CLEANING

Tools and spillages can be cleaned with water while SikaGrout®-9600 is still uncured. Once hardened, the material can only be removed mechanically.

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 exact product data and uses.

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.