

PRODUCT DATA SHEET

SikaGrout[®]-980

(formerly MFlow 980)

High strength, shrinkage compensated, cementitious deep pour precision grout for thickness >100 mm

DESCRIPTION

SikaGrout[®]-980 is a one component, cement based, shrinkage compensates, high strength precision grout. The larger size aggregate of SikaGrout[®]-980 permits precision grouting of higher thicknesses up to 250 mm between bed plate and foundation. When mixed with water, SikaGrout[®]-980 forms a mortar with a flowable consistency which can be easily applied by hand or machine for deep pour grouting over 100 mm thickness.

USES

SikaGrout[®]-980 is typically used for:

- Load-transferring, supporting, force transmitting bond between concrete foundations and machines, steel bed plates, steel rails (crane track rails) and high shelving pillars.
- Precision grouting of machines, turbines, pumps and generators.
- Force-transmitting grouting of prefabricated concrete pillars in hole footings.
- Void-free bond between components and non-reinforced concrete or reinforced concrete.

FEATURES

- Shrinkage compensated.
- Formulated for deep section grouting.
- Good flow properties without bleeding and segregation.
- Can be pumped into intricate areas or areas inaccessible to conventional grouting methods.
- Proven and predictable performance.
- Excellent workability retention even at high ambient temperatures.
- High bond strength to steel and concrete.
- Early strength development even at fluid consistency.
- Good fatigue and impact resistance.
- Low heat gain

PRODUCT INFORMATION

Packaging	SikaGrout [®] -980 is available in 25 kg paper bags.
Shelf life	Please refer to shelf life information on the packaging.
Storage conditions	Store at ambient temperatures, out of direct sunlight, in cool, dry warehouse conditions and clear of the ground on pallets protected from rainfall prior to application. No permanent storage over +30 °C.
Appearance and colour	Grey powder with coarse aggregate.
Maximum grain size	Approx. 8 mm

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TECHNICAL INFORMATION

Compressive strength	<u>1 day</u>	<u>≥ 25 N/mm²</u>	(EN 12190)
	<u>3 days</u>	<u>≥ 35 N/mm²</u>	
	<u>7 days</u>	<u>≥ 45 N/mm²</u>	
	<u>28 days</u>	<u>≥ 60 N/mm²</u>	
Data determined at +21 °C.			
Modulus of elasticity in compression	> 28,000 N/mm ²		(EN 13412)
Flexural-strength	<u>1 day</u>	<u>≥ 5 N/mm²</u>	(EN 12190)
	<u>7 days</u>	<u>≥ 6.5 N/mm²</u>	
	<u>28 days</u>	<u>≥ 8 N/mm²</u>	
Data determined at +21 °C.			
Service temperature	SikaGrout®-980 grouts can withstand high temperature (+400 °C) for very long periods without substantial deterioration.		
Chloride diffusion coefficient	2.5 • 10 ⁻¹² m ² /s		(NT Build 492)
Freeze thaw de-icing salt resistance	Freeze – Thaw Scaling (56 cycles)	< 0.20 kg/m ² (= classification "good")	(SS 137244)
Reaction to fire	Class A1		(EN 13501-1)

APPLICATION INFORMATION

Fresh mortar density	Approx. 2.3 kg/l
Consumption	Approx. 2,100 kg powder is needed to prepare 1 m ³ of fresh mortar. One 25 kg bag yields 11.8 to 12.6 litres of grout depending on water amount used.
Layer thickness	100 to 250 mm For thickness exceeding 250 mm SikaGrout®-980 must be mixed with 10kg of 6 - 10 mm washed aggregate per 25kg bag. Note: technically the minimum application thickness is around 25 mm; however, for grouting below 100 mm thickness, we recommend to use Sikagrout-928.
Ambient air temperature	+5 °C to +35 °C
Mixing ratio	Please refer to the water amounts given on the packaging.
Substrate temperature	+5 °C to +35 °C
Pot Life	Approx. 45 minutes (at 20 °C)
Waiting time	Wait for at least 12 hours (at +20 °C) before removing the formwork.

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.

IMPORTANT CONSIDERATIONS

- Do not apply at temperatures below +5 °C nor above +35 °C.
- Under no circumstances should SikaGrout®-980 be re-tempered by the later addition of water.
- Do not overwork and avoid using mechanical vibration.
- The fatigue and impact resistance of SikaGrout®-980 is exceeded by the metallic aggregate reinforced grout Sikagrout®-4800. We recommend this grout in case of severe dynamic operating forces and repetitive loading such as found in steel and aluminium rolling mills, crane rails, heavy presses, etc.

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.

APPLICATION INSTRUCTIONS

NOTES ON INSTALLATION

The performance, durability and safety of the installed product used for anchoring steel (rebar), bolts and screws strongly depend on the substrate, the dimensions of the element, the drilling and cleaning of holes, the substrate temperature and the type of anchoring bolt or bar. It is therefore important that a proper structural assessment of the structural elements to be repaired is carried out by qualified engineers, and that the choice of products, anchor types etc. is based upon such assessment.

SUBSTRATE PREPARATION

The concrete should be free of frost, curing membranes, waterproofing treatments, oil stains, laitance, friable material and dust.

The concrete surfaces should be chipped and if there is a water leakage it must be drained or properly plugged. Saturate the cleaned foundation and any bolt holes with water for at least 6 hours, preferably 24 hours.

Just before grouting, surfaces should be damp, but free of standing water. Particular attention should be paid to bolt holes to ensure that these are water-free. Use oil free compressed air to blow out bolt holes and pockets as necessary.

Base plates, bolts, etc. must be clean and free of oil, grease and paint etc. Set and align equipment. If shims are to be removed after the grout has set, then lightly grease them for easy removal.

The formwork must fit tightly against the substrate and, when grouting material around machines, it has to be at least 2 cm higher than the bottom of the plate to be underpoured. Ensure formwork is secure and watertight to prevent movement and leaking during the placing and curing of the grout.

The area should be free of excessive vibration. Shut down adjacent machinery until the grout has hardened.

In hot weather, base plates and foundations must be shaded from direct sunlight. Bags of grout should be stored in the shade prior to use.

In cold weather, the temperature of base plates and foundations should be raised to over 10°C.

MIXING

We strongly recommend to use force action mixers. Only small amounts of grout can be mixed by a powerful electric drill with a suitable paddle attached to it. Damp down the inside of the grout mixer with water prior to mixing the initial batch of SikaGrout®-980. Ensure the mixer is damp but free of standing water. Add 90% of the pre measured quantity of water. Slowly add the SikaGrout®-980 mixing continuously. Mix for two minutes until a smooth, uniform, lump free consistency is achieved, then add the remaining water and mix for a further 3 minutes.

For thickness exceeding 250 mm SikaGrout®-980 must be mixed with 10kg of 6 - 10 mm washed aggregate per 25kg bag.

Do not exceed the allowed maximum water amount!

APPLICATION

Before grouting, determine if there is excess vibration of the foundation or baseplate caused by nearby operating equipment. Shut down this source of vibration until after the newly-placed grout has taken final set. Pour mixed SikaGrout®-980 grout into the voids without interruption. The mortar flow can be improved by moving chains or wire slings in the fresh mortar when areas are inaccessible. The grout shall be poured continuously and from one side only, to avoid entrapment of air while grouting. Make sure the mortar fills the entire space to be grouted and remains in contact with the plate throughout the entire grouting placement.

Where grout must flow some distance, make the initial batch slightly more fluid or flowable than required; this lubricates the surfaces and avoids blockage of the grout that follows.

Due to differences in temperature between the grout under the base plate, and exposed shoulders that are subject to more rapid temperature changes, debonding or cracking can occur. Avoid shoulders wherever possible. If shoulders are required, they should be firmly anchored with reinforcing to the substrate to prevent debonding.

In case of machine application: check pumping equipment for the maximum allowed grain size – SikaGrout®-980 contains aggregate up to 8 mm diameter. Note: Do not use vibrator for placing the grout!

CURING TREATMENT

Immediately after SikaGrout®-980 is placed, cover all exposed grout with clean wet hessian and keep moist by covering with polythene.

CLEANING OF EQUIPMENT

Tools and mixer must be cleaned immediately after use with water. Cured material can only be removed mechanically.

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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.

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