

PRODUCT DATA SHEET

SikaGrout®-4800

(formerly MFlow 4800)

Metallic aggregate reinforced, ultra-high strength precision grout

DESCRIPTION

SikaGrout®-4800 is a one component, cement based, metallic aggregate reinforced, non-shrink, ultra-high strength precision grout. When mixed with water, SikaGrout®-4800 forms a mortar with a fluid consistency which can be easily applied by hand or machine. SikaGrout®-4800 can be used in thickness from 20 mm up to 150 mm.

USES

SikaGrout®-4800 is used for assembling and fixing of the following items:

- Industrial turbines, generators and compressors
- Rolling, stamping, grinding, drawing and finishing mills
- Forging hammers
- Rail tracks, crane rails
- Paper machine sole plates
- Machinery and equipment requiring high strength maximum bearing

Note: For wind turbine installations please refer to our Sikagrout®-9000 product range.

FEATURES

- Contains metallic aggregates to provide high strengths and increased impact resistance under dynamic and repetitive loading.
- Very high early strengths shorten the waiting time for starting the machinery process.
- Ultra-high final strengths allow very high compressive loading.
- Provides solutions for various application details with wide application thickness: 20 – 150mm.
- Hardens without bleeding, settlement or drying shrinkage when mixed, placed and cured.
- Can be used at temperatures down to +2°C.
- Designed for use where thermal movement of equipment and machinery and other effects of heating/cooling and wetting/drying are anticipated.
- High flow for full compaction even in areas with congested steelwork.
- For hand or machine application.
- Extra low shrinkage for durability.
- Excellent freeze/thaw resistance.
- Very low permeability to water and chlorides.
- Sulphate-resistant.
- CE-Certified according to EN 1504-6.

SUSTAINABILITY

SikaGrout®-4800 contains more than 20% by weight of post-consumer material recycled content from the normal recovery of raw materials in manufacturing processes.

PRODUCT INFORMATION

Packaging	SikaGrout®-4800 is available in 25 kg paper bags.
Appearance and colour	Grey powder
Shelf life	12 months after date of production if stored at below mentioned storage conditions.

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.		
Maximum grain size	4.0 mm		
Total chloride ion content	< 0,01 %		(EN 1015-17)

TECHNICAL INFORMATION

Compressive strength	16 hours	≥ 50 N/mm ²	(EN 196-1)
	1 day	≥ 70 N/mm ²	
	7 days	≥ 100 N/mm ²	
	28 days	≥ 110 N/mm ²	
	Data determined at +20 °C.		
	Cold temperature strength development:		
	2 days	≥ 30 N/mm ²	(EN 196-1)
	7 days	≥ 90 N/mm ²	
	28 days	≥ 100 N/mm ²	
	Data determined at +2 °C.		
Modulus of elasticity in compression	Static:		
	After 90 days	35,900 N/mm ²	(EN 13412)
	Dynamic:		
	After 28 days	38,000 N/mm ²	
	After 90 days	42,000 N/mm ²	
	(EN 13412)		
Effective bearing area	93 to 95 %		(ASTM C1339-02)
Flexural-strength	16 hours	≥ 8 N/mm ²	(EN 196-1)
	1 day	≥ 9 N/mm ²	
	7 days	≥ 15 N/mm ²	
	28 days	≥ 17 N/mm ²	
	Data determined at +20 °C.		
	Cold temperature strength development:		
	2 days	≥ 5 N/mm ²	(EN 196-1)
	7 days	≥ 12 N/mm ²	
	28 days	≥ 16 N/mm ²	
	Data determined at +2 °C.		
Pull-out resistance	Displacement at load of 75 kN	0.36 mm	(EN 1881)
Freeze thaw de-icing salt resistance	Adhesion to Concrete after freeze-thaw (50 cycles with salt)	≥ 2.0 N/mm ²	(EN 13687-1)
Sulfate resistance	Dimensional change after 126 days in 10% Na ₂ SO ₄ -solution	passed (diff. = 0.4 mm/m)	
Freeze thaw resistance	no scaling		

APPLICATION INFORMATION

Mixing ratio	Approx. 2.5 l mixing Water per 25kg bag.
Consumption	Approx. 2,370 kg powder is needed to prepare 1 m ³ of fresh grout. One 25 kg bag will yield approximately 10.5 litres of mortar.
Layer thickness	20 to 150 mm
Material temperature	+2 °C to + 35 °C
Ambient air temperature	+2 °C to + 35 °C
Substrate temperature	+2 °C to + 35 °C
Pot Life	Approx. 45 minutes at 21±2°C and 60±10% relative humidity. Higher temperatures will reduce this time and lower temperatures will extend it.
Fresh mortar density	Approx. 2.7 kg/l

BASIS OF PRODUCT DATA

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.

IMPORTANT CONSIDERATIONS

- Do not apply at temperatures below +2 °C nor above +35 °C.
- Do not add any other substance that could affect the properties of the product.
- In case of deep pour applications and complex geometries consult your local Sika representative.
- Do not exceed allowed maximum water demand!
- Under no circumstances should SikaGrout®-4800 be re-tempered by the later addition of water.

ECOLOGY, HEALTH AND SAFETY

This product is an article as defined in article 3 of regulation (EC) No 1907/2006 (REACH). It contains no substances which are intended to be released from the article under normal or reasonably foreseeable conditions of use. A safety data sheet following article 31 of the same regulation is not needed to bring the product to the market, to transport or to use it. For safe use follow the instructions given in this product data sheet. Based on our current knowledge, this product does not contain SVHC (substances of very high concern) as listed in Annex XIV of the REACH regulation or on the candidate list published by the European Chemicals Agency in concentrations above 0.1 % (w/w)

APPLICATION INSTRUCTIONS

EQUIPMENT

For mixing of SikaGrout®-4800 use force-action mixers only!

SUBSTRATE PREPARATION

The concrete should be free of frost, curing mem-

branes, 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. Soak area to be grouted with water for 24 hours prior to grouting to minimise localised absorption and to assist in the free flow of the grout. 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. 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 preferably.

MIXING

For mixing of SikaGrout®-4800 use force-action mixers only!

Damp down the inside of the grout mixer with clean water prior to mixing the initial batch of SikaGrout®-4800. Ensure the mixer is damp but free of standing water. The product should be mixed with approx. 2.5 l per 25kg bag. Add the pre-measured quantity of water. Slowly add the powder mixing continuously. Mix for at least seven minutes until a smooth, uniform consistency is achieved without lumps in the mortar. In hot weather use cold water to bring the mixed grout temperature lower than 30°C. In cold weather use warm water to raise the mixed grout temperature over 10°C for quicker hardening.

APPLICATION

Lengths of metal strapping laid in the formwork prior to placing may be necessary to assist grout flow over

large areas and in compacting and eliminating air pockets. Have sufficient manpower, materials and tools to make mixing and placing rapid and continuous. 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. The grout shall be poured continuously and from one side only, to avoid entrapment of air while grouting.

Maintain a constant hydrostatic head, preferably of at least 15 cm. On the side where the grout has been poured, allow 10 cm clearance between the side of the form and the base plate of the machine. On the opposite side allow 5-10 cm clearance between the formwork and the base plate.

Make sure grout fills the entire space to be grouted and remains in contact with the plate throughout the entire grouting placement.

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

SikaGrout®-4800 is suitable for use with most types of pumping equipment.

Note: Do not use vibrator for placing the grout!

CURING TREATMENT

Immediately after SikaGrout®-4800 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.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data.

LEGAL NOTES

Any information or suggestions for use concerning Sika's products, which we either in writing or orally have given buyers or end-users of the product, have been given in good faith based on our own experiences and based on approved praxis and the technological and scientific knowledge on the time of giving

such suggestions and information, which are given without any type of guarantees, and which do not lead to any further responsibility from Sika Danmark A/S, besides what is stated in the sales agreement in question. The buyer or end-user should themselves investigate or otherwise make sure, that our products are suitable for the use in question and further make sure that the products are kept and used correct and in agreement with the published rules and considering the actual conditions in order to avoid damages or less satisfactory results. Any order is accepted and any deliverance is affected according to the general terms of sales and delivery from Sika Danmark A/S, which are considered known and accepted, and which could be handed out when asked for. Our catalogues are not up-dated automatically. The present product data sheet is only for use in Denmark. Values stated in the present product data sheet should be seen as recommended, unless stated otherwise.

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PRODUCT DATA SHEET
SikaGrout®-4800
December 2025, Version 02.01
020201000000002028

SikaGrout-4800-en-DK-(12-2025)-2-1.pdf