BUILDING TRUST

PRODUCT DATA SHEET

SikaGrout®-870 ID

CEMENTITIOUS HIGH STRENGTH NON-SHRINK PRECISION GROUT

DESCRIPTION

SikaGrout®-870 ID is a non-shrink, natural aggregate precision grout with excellent high early and ultimate strength. It is specially formulated to provide extended working time even at high ambient temperatures when mixed and placed at any recommended consistency. SikaGrout®-870 ID is normally placed at a flowable consistency to completely fill voids between 10 mm and 100 mm. Thicknesses greater than 100 mm are possible with the addition of aggregate.

USES

SikaGrout®-870 ID is used for all precision, non- shrink grouting applications with clearances of 10mm or more, including:

- Critical equipment baseplates, soleplates & columns;
- Precast wall panels, beams, columns, structural building members and curtain walls;
- Patching poured in place concrete structures, e.g.
- honeycombing, using preplaced aggregate techniques;
- Underpinning;
- Concrete repair applications where a form and pour material is required;
- Applications requiring high early comppresive strengths and high ultimate compressive strengths.

FEATURES

- High early strength - Ensures rapid commissioning of new equipment and structures.
- High ultimate strength - Ensures permanence of installation under static and moderate repetitive loads.
- Flowable long life grout - Easy to grout intricate spaces normally inaccessible by conventional grouting technique.
- Extended working time - Facilitates grouting of large or difficult placements in a single pour, often without the use of a pump.
- Dense, non-shrink grout - Hardens free of bleeding, settlement and drying shrinkage, ensuring tight contact with all grouted surfaces.
- Easy to use - Requires no special mixing equipment, it can be mixed in a standard concrete mixer or in a pail using a grout stirrer.
- No added chloride - Does not add to chloride load of structure
- Compliance with codes - Meets the non-shrink requirements of ASTM C1090 and provides complete non shrink performance .

PRODUCT INFORMATION

Packaging	25 kg bag
Shelf life	6 months from date from production
Storage conditions	The products must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +10 °C and +30 °C.

TECHNICAL INFORMATION

Compressive strength	1 day	~30 N/mm²	(ASTM C-109)
	7 days	~63 N/mm²	
	28 days	~78 N/mm²	
Flexural-strength	28 days	> 5.0 N/mm²	(ASTM C-348)
Expansion	1 - 3 hours at 25°C	Positive	(ASTM C-940)
Bleeding	25°C	0%	(ASTM C-940)

APPLICATION INFORMATION

Mixing ratio	4.2 L per 25 kg bag (water per powder = 16.8% by weight)		
Consumption	~1 883 kg/m³ of mortar		
Yield	~13.27 L per 25 kg bag		
Layer thickness	Recommended thickness is 20 - 100 mm		
Material temperature	Very low or very high temperature will make application more difficult and careful consideration should be given to storage of materials. In hot weather conditions, some form of air conditioned storage is required. Pre conditioned materials at 20 – 25 °C will reduce the possibilities of flash or slow setting and other defects.		
Ambient air temperature	+10°C to + 35°C		
Relative air humidity	70% max.		
Pot Life	25 minutes		
Flowability	≥ 200 mm		
Initial set time	10°C	~4.6 hours	(AS1012.18)
	20°C	~4.5 hours	
	30°C	~3 hours	
Final set time	10°C	~6.0 hours	(AS1012.18)
	20°C	~5.2 hours	
	30°C	~4.0 hours	
Fresh mortar density	~ 2.2 kg/L		

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.

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

SURFACE PREPARATION

- Remove dirt, oil, grease, loose material and other bond-inhibiting materials.
- Anchor bolts to be grouted must be degreased with suitable solvent.
- Concrete must be sound and roughened to promote mechanical adhesion.
- Prior to pouring, surface must be wetted to saturated surface dry.

SUBSTRATE QUALITY / PRE-TREATMENT

MIXING

SikaGrout®-870 ID can be mixed to a flowable or trowelable (plastic) consistency. The quantity of water re-

quired for a 25 kg bag is approximately 4.2 L (flowable). Water addition may be affected by temperature conditions on site. Trials are recommended to determine the correct water requirement. SikaGrout®-870 ID should be mixed using a suitable mixer. For flowable consistency, use a hand drill and paddle for small works up to two bags at a time and specialise grout mixers for larger volume Drum type mixers may not provide sufficient mixing efficiency to derive the optimum performance. 80-90 % of clean water is added into a clean pail. The filler of SikaGrout®-870 ID is added gradually while continuously mixing. The remaining of water is added and continue to mix till the desired consistency. This will normally be between 3 minutes after mixing has started. For best results, SikaGrout®-870 ID should be used within 30 minutes once mixed.

APPLICATION

After mixing, the grout is poured immediately into the prepared formwork or baseplate. Grouting for thicker section, which is more than 100 mm, it is necessary to add the graded 10 mm clean aggregate to minimise the heat generation. Steel rods or chains is used to assist in the flowability of the grout.
If a shaped shoulder is required, it should be formed before the grout has reached its final set. Carefully remove the formwork once the SikaGrout®-870 ID is self-supporting and cut the shape of the shoulder with a trowel. Preferably the shoulder should be cut to a 45° angle to minimise stresses.

CURING TREATMENT

As for all cementitious materials, curing is essential to prevent rapid drying out of the grout and shrinkage caused by the water loss. Curing should be carried out using curing compounds (Antisol), polythene sheet, wet hessian or water ponding.

CLEANING OF EQUIPMENT

Clean the tools and equipment using clean water. Once hardened, the product may only be removed using mechanical means.

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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