

PRODUCT DATA SHEET

SikaGrout®-212 HP

DUAL SHRINKAGE COMPENSATED HIGH STRENGTH CEMENTITIOUS GROUT FOR APPLICATIONS FROM 10 MM TO 100 MM.

DESCRIPTION

SikaGrout-212 HP is a cementitious, non-shrink, high performance grout that expands in two stages in both the plastic and hardened states (class A and C) to counteract the shrinkage normally associated with cement grouts.

USES

SikaGrout 212HP is used for flowable grouting applications. Typical applications may include:

- Machine baseplates
- Anchor bolts.
- Bridge bearing pads and shear key grouting.
- Pre-cast concrete sections.
- Cavities, gaps and recesses.
- High performance grouting.

CHARACTERISTICS / ADVANTAGES

Characteristics and advantages include:

- Shrinkage compensating properties, classed as a non-shrink grout as per CRD-C 621-81.
- High early strengths.
- High 28 day strengths.
- Flowable consistency.
- Adjustable consistency.
- Formulated to not segregate or bleed.
- Excellent impact and thermal resistance.
- Non corrosive to steel or iron.
- Lab tested in accordance with AS 1478.2

APPROVALS / STANDARDS

Complies with the following Standards:

- classed as a non-shrink grout as per CRD-C 621-81.
- Lab tested in accordance with AS 1478.2
- Approved product by TMR Qld "Product index for Bridges" Repair Materials (Concrete)- Grouts Section 5.33 Feb 2019

PRODUCT INFORMATION

Packaging	20 kg bag
Appearance / Colour	Grey concrete in appearance
Shelf Life	Stored in unopened original containers protected from direct sunlight and frost, shelf life is at least nine (9) months.
Storage Conditions	Store SikaGrout®-212 HP in dry conditions in unopened original packaging.
Density	2200 kg/m ³ approx. (dependent on water addition rate)
Maximum Grain Size	Maximum aggregate size is 1mm for pumping.

Compressive Strength

Age @ Flowable	23 °C	30 °C	(MPa strength) AS1478.2:2005
1 Day	~ 25	~ 25	
3 Days	~ 35	~ 40	
7 Days	~ 60	~ 70	
28 Days	~ 75	~ 85	
Age @ Plastic	23 °C		
1 Day	~ 25		
3 Days	~ 40		(MPa strength) AS1478.2:2005
7 Days	~ 60		
28 Days	~ 75		

Expansion	1Day	3Days	14Days	28Days	ASTM C1090
	0.00 %	0.02 %	0.02 %	0.03 %	

Reaction to Fire	Class A1 Non-Combustible
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Electrical Resistivity	7 Days	28 Days	56 Days	FM5-578
	6,300 Ω.cm	8,500 Ω.cm	11,200 Ω.cm	

Fresh Mortar Density	2200 kg/m3 approx. (dependent on water addition rate)
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Yield	Plastic	Flowable
Approx. yield per 20kg bag	10 litres	11 litres
Approx. bags per 1m ³	96	88

Layer Thickness	10mm-100mm
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Flowability	~ 40 Seconds (Flowable Consistency)	AS1478.2:2005 (Flow Cone)
	~ 50 Seconds (Flowable Consistency)(Flow Retention @ 30mins)	

Product Temperature	Application Temperature between 5 °C and 35 °C
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Pot Life	30 minutes approx.
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Initial Set Time	Temp	Initial Set	Final Set	Setting Time (hrs:mins) approx.
Plastic	23 °C	3:15	3:45	
Flowable	23 °C	5:10	7:10	

APPLICATION INSTRUCTIONS

EQUIPMENT

SikaGrout-212 HP must be mechanically mixed using a mechanical grout mixer or a suitable drum mixer. The grout mixer will reduce the chances of the mix becoming lumpy or aerated. Smaller quantities should be mixed in clean drum using an electric drill and spiral drill and spiral mixer at a speed of approximately 500 rpm.

DO NOT MIX BY HAND.

SUBSTRATE QUALITY / PRE-TREATMENT

Surface Prep:

Correct and thorough surface preparation is essential to achieve the high performance qualities of SikaGrout®-212 HP.

All surfaces must be clean, sound and free from dust, ice, oils, grease or other surface contaminants such as curing membranes and form release agent etc. Bolt holes and fixing pockets should be free of dirt and

debris by air blasting. For maximum bond, surfaces should be abraded or roughened, preferably by mechanical means such as needle gun, grit blasting, grinding etc.

All prepared surfaces must be saturated with water several hours prior to grouting, ensuring it is free of any surface water or puddles.

Formwork:

The formwork used must be leak proof to allow for free flowing SikaGrout®-212 HP. The formwork should be arranged so that the grout head is maintained on the side above the level of the underside of the base plate. This will allow gravity flow to completely fill the void to be grouted.

Formwork should be coated with form oil to allow easy removal of forms. Ensure adequate air holes are provided.

Temperature Control:

Temperature affects setting time and rate of increase for strength. For optimum performance maintain grout, concrete and/or steel substrates within the range of 18–25 °C prior to, during, and for 48 hours after placement of the grout.

MIXING

1. Plastic grout, add 2.8 litres of water per 20 kg bag.
2. Flowable grout, add 3.7 litres of water per 20 kg bag.
3. Add the powder component to approximately 70 % of the total amount water component while mixing.
4. Add the remaining 30 % of the water component to the grout at a steady rate while continuing to mix.

*Mix until the grout appears homogenous (3–5 minutes).
Allow to stand so any entrapped air can escape.
Do not add more water to increase flow of the grout if a mix has stiffened due to time delays.
If the grout is unworkable discard.*

APPLICATION

SikaGrout®-212 HP can be placed by gravity flow or by pump. It is essential that proper placing on the job site is practised to ensure placement is completed without problems. Sufficient labour, grout and equipment must be present to ensure continuous placement.

Gravity Flow

Mixed grout should be poured one side of the void to avoid air entrapment. Grout is best poured over short distances to ensure this. Use a suitable header box, maintaining the grout head at all times to ensure continuous flow. To facilitate grout compaction and top plate contact, use rodding, tamping or flexible strapping in short strokes while maintaining an adequate head of grout. Do not vibrate as this will cause segregation. Any adjacent machinery or equipment causing vibration should be shut down until initial set (5 to 6 hours).

Pumping

When pumping SikaGrout®-212 HP, ensure the pump is suitable for the grout consistency and for the distance and height it is to be pumped. A positive displacement pump is recommended. Place grout by pumping into the farthest corner, filling the space gradually. Ensure that air is not entrapped under the base plate.

LIMITATIONS

- The strength values mentioned are the average values of laboratory test results. The results on the site may vary due to different environment, curing conditions and test
- For detailed information on grouting application and guidelines, refer to Sika Grouting Method Statement.
- Store SikaGrout®-212 HP in dry conditions in unopened original packaging.
- Never apply to a dry substrate.
- Trials should always be conducted when adding a recommended Sika Admixture to SikaGrout®-212 HP to determine the optimum dosage rates under local conditions.
- Sika Ferrogard®-901 can be added to the mixing water (0.3 litres per 20 kg bag) before mixing the grout to enhance protection of steel reinforcement.
- For dry pack consistency use SikaGrout-GP.

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.

LOCAL RESTRICTIONS

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

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 Material Safety Data Sheet 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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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Product Data Sheet

SikaGrout®-212 HP

June 2019, Version 01.01

020201010010000052

SikaGrout-212HP-en-HK-(06-2019)-1-1.pdf

