

PRODUCT DATA SHEET

SikaGrout[®]-212 HP

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

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 / CERTIFICATES

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	9 months.
Storage conditions	Store SikaGrout-212HP in dry conditions in unopened original packaging.
Density	~ 2,200 kg/m ³ approx. (dependent on water addition rate)
Maximum grain size	Maximum aggregate size is 1mm for pumping.

Compressive strength	Age	23°C	30°C	(AS 1478.2:2005)	
	1 Day	~25 MPa	~25 MPa		
	3 Days	~35 MPa	~40 MPa		
	7 Days	~60 MPa	~70 MPa		
	28 Days	~75 MPa	~85 MPa		
<i>Material and curing conditions at 23 oC / 50% r.h. Above results based on 50mm x 50mm cube specimens (Flowable consistency)</i>					
Tensile strength in flexure	28 days	12 MPa		(ASTM C348)	
Splitting tensile strength	28 days	6 MPa		(AS 1012.10:2000)	
Expansion		Height Change %		(ASTM C1090-01)	
	1 day	0.00%			
	3 days	0.02%			
	14 days	0.02%			
	28 days	0.03%			
Electrical resistivity	7 days	~ 8,000 Ω.cm		(FM5-578)	
	28 days	~ 11,000 Ω.cm		50mm Probe Spacing	
	56 days	~ 13,000 Ω.cm			
	90 days	~ 14,000 Ω.cm			
Mixing ratio	Consistency	Water per 20kg bag (litre)			
	Plastic	2.8			
	Flowable	3.7			
Yield		Plastic	Flowable		
	Approx. yield per 20kg bag	10.2 litres	10.8 litres		
	Approx. bags per 1m ³	98	93		
Layer thickness	10mm - 100mm				
Flowability	~40 Seconds			(AS 1478.2:2005)	
	~50 Seconds @30mins				
<i>Tested at flowable consistency (Flow Cone)</i>					
Product temperature	Application Temperature between 5°C and 35°C				
Pot Life	30 minutes approx.				
Setting time		Temp	Initial Set	Final Set	(AS 2350.4:2006)
	Flowable	23°C	~ 5:00 hrs	~ 7:00 hrs	

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.

FURTHER INFORMATION

SikaGrout and Sikadur products are tested in accordance with Australian Standards and/or Internationally accepted Standards. The published performance data is achieved by testing strictly in accordance to the procedures of these standards. Any test procedures performed by others on our products that are not in strict accordance with the standard in every facet will likely produce results different from the published above. On site testing by others can be

affected by external factors such as incorrect mixing methods, poor sampling techniques, varying temperatures, curing, crushing procedures etc. Sika can provide Certificates of Compliance of all products delivered to site prior to installation if required. If results of site testing or testing facilities by others vary from the Sika published data we recommend the following items be reviewed before contacting the manufacturer as one or all of these items could be influencing the results attained on site. These include but are not limited to the following: site conditions, ambient, substrate and product temperature, mixing equipment, mixer speed, pump equipment, contractor experience, and incorrect test methods. Sika Australia do not take responsibility nor have to make a case for any such tests where results of testing by others do not achieve the published data as above.

IMPORTANT CONSIDERATIONS

- 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 20kg bag) before mixing the grout to enhance protection of steel reinforcement.
- For dry pack consistency use SikaGrout-GP.

ECOLOGY, HEALTH AND SAFETY

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

Place about 70–80 % of the premeasured clean water (depending on consistency required – refer to “Mix Ratio”) into a clean container and gradually add the whole bag of SikaGrout®-212 HP into it while continuously mixing. Add the remaining water until the desired consistency is obtained. Mix for 3–5 minutes with a low speed drill (500 rpm max.). 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.

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

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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Product Data Sheet

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