BUILDING TRUST

PRODUCT DATA SHEET

SikaGrout®-212 HP AU

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

DESCRIPTION

SikaGrout®-212 HP AU 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®-212 HP AU 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.

FEATURES

Characteristics and advantages include:
- Shrinkage compensating properties, classed as a nonshrink grout as per ASTM C1107.
- 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

CERTIFICATES AND TEST REPORTS

Complies with the following Standards:
- Classed as a non-shrink grout as per ASTM C1107.
- 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 and colour	Grey concrete in appearance
Shelf life	9 months
Storage conditions	Store SikaGrout®-212 HP AU in dry conditions in unopened original packaging.
Density	2200 kg/m3 approx. (dependent on water addition rate)
Maximum grain size	Maximum aggregate size is 1mm for pumping.

TECHNICAL INFORMATION

Compressive strength (AS 1478.2:2005)

Age	23°C	30°C
1 day	~ 25 MPa	~ 25 MPa
3 days	~ 35 MPa	~ 40 MPa
7 days	~ 60 MPa	~ 70 MPa
28 days	~ 75 MPa	~ 85 MPa

Material and curing conditions at 23^0C / 50% r.h. The above results are based on 50mm x 50mm cube specimens (Flowable consistency)

Tensile strength (ASTM C348)

28 days	12 MPa

Expansion (ASTM C1090)

1 day	3 days	14 days	28 days
0.00%	0.02%	0.02%	0.03%

Electrical resistivity (FM5-578) 50mm Probe Spacing

7 days	~ 8,000 Ω.cm
28 days	~ 11,000 Ω.cm
56 days	~ 13,000 Ω.cm
90 days	~ 14,000 Ω.cm

APPLICATION INFORMATION

Mixing ratio

Consistency	Water per 20kg bag (litre)
Plastic	2.8 L - 3.2 L
Flowable	3.3 L - 3.7 L

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

Material temperature
Application Temperature between 5°C and 35°C

Pot Life
30 minutes approx.

Flowability (AS 1478.2:2005)
~40 Seconds
~50 Seconds @30mins Tested at flowable consistency (Flow Cone)

Setting time AS/NZS 2350.4 Setting Time (hrs:mins)

	Temp	Initial Set	Final Set
Flowable	23°C	~ 5:00	~ 7:00

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

- The strength values mentioned are the average values of laboratory test results. The results on the site may vary due to different environment,temperature, curing conditions, testing methods and cube sizes etc.
- For detailed information on grouting application and guidelines, refer to Sika Grouting Method Statement.
- Store SikaGrout®-212 HP AU in dry conditions in unopened original packaging.
- Never apply to a dry substrate.
- Trials should always be conducted when adding a recommended Sika Admxiture to SikaGrout®-212 HP AU 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

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

EQUIPMENT

SikaGrout®-212 HP AU 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 AU.
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 AU. 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 18-25ºC prior to, during, and for 48 hours after placement of the grout.

MIXING

1. Plastic grout, add 2.8 L - 3.2 L of water per 20 kg bag. Flowable grout, add 3.3 L - 3.7 L of water per 20kg bag.
2. Add the powder component to approximately 70% of the total amount water component while mixing.
3. Add the remaining 30% of the water component to the grout at a steady rate while continuing to mix.
4. 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 AU 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 6hours).

Pumping
When pumping SikaGrout®-212 HP AU, 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.

CURING TREATMENT

Suitable curing methods such as plastic sheet, wet hessian, curing compounds (eg, Sika Film for initial placement then Sika Antisol curing compoundsafter initial set) etc. must be used to protect the freshly applied grout from the drying effects of sun and wind. Curing must commence immediately after placement, and continue for at least 7 days. Curing is vital to the ultimate performance of grout as it allows optimum strength development and ensures tight contact with the baseplate.

CLEANING OF EQUIPMENT

Remove uncured SikaGrout®-212 HP AU from tools and equipment with water. Hardened 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

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 recom-

mendations, 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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