

PRODUCT DATA SHEET

SikaGrout[®]-214 AE

CEMENTITIOUS, HIGH EARLY STRENGTH, NON-SHRINK PRECISION GROUT

DESCRIPTION

SikaGrout[®]-214 AE is a cementitious, free flowing, economical, non-shrink precision grout with high early and ultimate strength.
Suitable for use in tropical and hot climatic conditions.

USES

SikaGrout[®]-214 AE precision grout is used for grouting in the following:

- Machine Foundations
- Columns in pre-cast construction
- Base plates
- Concrete anchors, cavities, gaps and recesses
- General concrete repairs
- Joint nosing

CHARACTERISTICS / ADVANTAGES

SikaGrout[®]-214 AE is an easy to use grout requiring only the addition of water. It offers the following beneficial properties:

- Easy to mix
- High early strength
- Good flow characteristics
- Dual expansion system
- Adjustable consistency
- High final strengths
- Non-corrosive and iron-free

APPROVALS / CERTIFICATES

SikaGrout[®]-214 AE follows the main requirements of ASTM C1107 and CRD-C621-83-10.2.

PRODUCT INFORMATION

Composition	Portland cement, selected fillers and aggregates, special additives.
Packaging	25 kg bag
Appearance / Colour	Grey Powder
Shelf life	12 months minimum from date of production.
Storage conditions	Store in original unopened packaging in a cool and dry condition between +5 °C and +35 °C. Protect from direct sunlight, heat and moisture.
Maximum Grain Size	~5 mm

TECHNICAL INFORMATION

Compressive Strength	(25 °C)	1 Day	28 Days	(ASTM C109)
	w/p = 0.12 (3.0 L water / 25 kg)	~45 N/mm ²	~80 N/mm ²	
	w/p = 0.13 (3.25 L water / 25 kg)	~30 N/mm ²	~65 N/mm ²	
Tensile Strength in Flexure	~14.5 N/mm ² (28 d)			(BS 4551)
Tensile Strength	~5.5 N/mm ² (28 d)			(ASTM C307)
Tensile Adhesion Strength	≥ 1.5 N/mm ² (or concrete failure)			(EN 1881)
Expansion	Nil (28 d)			(ASTM C940)
Water Absorption	~1.6 % (28 d)			(EN 1881)

APPLICATION INFORMATION

Mixing Ratio	Consistency	Water per 25 kg bag	Water/Powder Ratio
	Flowable (max. strength)	3.0 - 3.25 L	0.12 - 0.13
	Highly Flowable (max. flow)	3.25 - 3.5 L	0.13 - 0.14
Fresh Mortar Density	~2.20 kg/l (+25°C)		
Yield	~12.8 L / 25 kg bag		
Layer Thickness	Min. 10 mm per layer Max. 100 mm per layer		
Ambient Air Temperature	+5 °C min. / +35 °C max.		
Substrate Temperature	+5 °C min. / +35 °C max.		
Pot Life	~ 2 h (23 °C)		

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete:

The concrete shall be thoroughly clean, rough, free from dust, loose material, surface contamination and materials which reduce bond or prevent suction or wetting by repair materials. De-laminated, weak, damaged and deteriorated concrete and where necessary sound concrete shall be removed by suitable means. Absorbent surfaces should be saturated thoroughly with clean water.

The application of a suitable bonding agent, such as Sikadur®-32 LP or SikaTop® Armatec®-110 EpoCem®, will improve adhesion on large areas or where particularly dense concrete substrates are involved.

Steel Reinforcement:

Rust, scale, mortar, concrete, dust and other loose and deleterious material which reduces bond or contributes to corrosion shall be removed. Surfaces shall be prepared using abrasive blast cleaning techniques or high pressure water-blasting to SA 2 (ISO 8501-1) Embedded steel reinforcing should be treated with a suitable anticorrosion coating such as SikaTop® Armatec®-110 EpoCem®.

Reference shall be made to EN1504-10 for specific requirements.

MIXING

Add water according to the desired consistency into a clean mixing vessel before slowly adding the SikaGrout®-214 AE powder. SikaGrout®-214 AE is best mixed in a forced action mixer, for 2 to 3 minutes or until the mix is free of lumps, not longer than 5 minutes. Slow speed drill (maximum 500 rpm) can be also used for mixing. Normal tumble type concrete mixers are not suitable. Do not mix more grout than can be placed within 15 to 20 minutes. Do not add extra water or other ingredients. Mix only full bags for the best result.

APPLICATION

Before pouring let the mixed grout stand for approximately 5 minutes after mixing to allow entrapped air to escape. Pour into the prepared area such that the grout has the shortest distance to travel. Ensure that air displaced by the grout is allowed to escape. When carrying out the base plate grouting, ensure a sufficient head of pressure to keep the mortar flowing. All exposed areas of the mortar surface should be kept as small as possible.

CURING TREATMENT

Treat exposed surfaces with Antisol-E curing compound or use other approved curing methods such as polyethylene sheeting or wet hessian. Do not commence fogging until final set has been reached.

CLEANING OF EQUIPMENT

Clean equipment and mixer immediately after application with water. Hardened material can only be removed mechanically.

IMPORTANT CONSIDERATIONS

- Ensure formwork is secure and watertight to prevent movement and leaking during placing and curing.
- Where maximum thickness exceeds 100 mm, consider the use of Sikacrete®-113PP.
- At high temperatures, use chilled water for mixing to keep grout temperature below < 30 °C.
- In hot weather, base plates and foundations must be shaded from direct sunlight. Condition bags < 30 °C prior to use
- SikaRep® N or Sika MonoTop® HSF thixotropic fine mortars can be used to fix shims and alignment plates before grouting.
- Depending on requirements and site condition, the addition of dry, single size, clean coarse aggregates is possible up to 100% by weight of the dry grout powder. Trials are recommended to confirm suitability of aggregates to be employed.
- For additional information on SikaGrout®-214 AE or other grouting materials please contact Sika Technical Department.

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.

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 the exact product data and uses.

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.

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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All products are supplied under a management system certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and OHSAS 18001.

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