

PRODUCT DATA SHEET

Sikacrete[®]-114 AE

FREE FLOWING MICRO-CONCRETE FOR GROUTING AND REPAIR

DESCRIPTION

Sikacrete[®]-114 AE is a one component, free-flowing, high strength, non-shrink, cement based micro-concrete with a maximum aggregate size of 10 millimeter. Suitable for use in hot and tropical climatic conditions.

USES

Sikacrete[®]-114 AE is used for the structural repair of deteriorated concrete. It is ideal for casting sections or members where the volumes required are too large for conventional grouts, and too small and inaccessible for normal concreting applications. A typical application is the re-profiling of damaged concrete members, using formwork. Also suitable for base plate grouting where thickness exceeds 75 millimetre.

CHARACTERISTICS / ADVANTAGES

- One component, requires the addition of water only
- Reduced waste and risk of mixing failures
- Easy to mix, apply and finish
- Economical
- Excellent adhesion
- Shrinkage compensated
- Rapid strength development
- Compatible with the properties of typical concrete
- Vapour permeable

PRODUCT INFORMATION

Composition	Portland cement, selected fillers and aggregates, special additives.
Packaging	40 kg bag
Appearance / Colour	Grey powder.
Shelf life	12 months minimum from date of production.
Storage conditions	Store in original unopened packaging in cool and dry condition between 5 °C and 35 °C. Protect from direct sunlight, heat and condensation.
Density	~2.4 kg/l (25 °C) (fresh mortar)
Maximum Grain Size	Max. 10 mm

TECHNICAL INFORMATION

Compressive Strength		1 Day	7 Days	28 Days	(BS 1881)
	3.5 L water / 40 kg at 25 °C	> 35 N/mm ²	> 50 N/mm ²	> 65 N/mm ²	
Modulus of Elasticity in Compression	~33 000 N/mm ²				(ASTM C 469-94)
Expansion	~0.055 % (28 d)				(ASTM C 157)
Tensile Adhesion Strength	> 1.5 N/mm ²				(BS 1881)
Water Absorption	~1.3 % (28 d)				(BS 1881)

APPLICATION INFORMATION

Mixing Ratio	3.5 – 3.75 L of water per 40 kg bag	
Yield	~18 L / 40 kg bag	
Layer Thickness	Min. 50 mm per pour Max. 500 mm per pour	(Min. 100 mm for baseplate grouting)
Pot Life	~2 h (25 °C)	

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete surfaces should be clean, sound and free from oil, grease, cement laitance and all loosely adhering particles.

Absorbent surfaces should be saturated thoroughly with clean water.

Metal surfaces (iron and steel) should be free from scale, rust, oil and grease.

BONDING AGENT AND STEEL PROTECTION

Embedded reinforcing steel should be free from scale, rust, oil and grease, and treated with a suitable anti-corrosion coating such as SikaTop® Armatec® 110 EpoCem®.

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

MIXING

Always empty the full contents of the bag into a suitable mixer.

Mix dry for 3 minutes before adding the water.

Add 3.5 to 3.75 litre of water per 40 kilogram bag.

Mixing can only be achieved using either a slow speed drill (400 to 600 rpm) fitted with clean, rust free, mixing paddle, or a forced action mixer.

Do not mix by hand or mix part bags!

For best results, first add 3.0 to 3.3 litre of water and mix for at least 3 minutes or until the larger aggregate has thoroughly dispersed and a uniform, free flowing consistency is obtained.

Then add remaining water and mix for additional 2 minutes.

APPLICATION

Dampen all concrete surfaces thoroughly with clean water prior to application.

Before pouring, however, let the mixed grout stand for 2 to 3 minutes after mixing with the mixing water to allow entrapped air to escape.

Maintain sufficient hydrostatic head to keep the product flowing.

Provide channels for the air to escape during grouting. Protect from rain until initial set has been achieved.

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 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.

At high ambient 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 more than 30 °C prior to use.

For additional information on Sikacrete®-114 AE or other grouting materials 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.

Product Data Sheet

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