

PRODUCT DATA SHEET

Sikacrete[®]-114 PP

PUMPABLE, FREE FLOWING, SHRINKAGE COMPENSATED MICRO-CONCRETE FOR GROUTING AND CONCRETE RETROFITTING

DESCRIPTION

Sikacrete[®]-114 PP is a cementitious, pre-bagged, free flowing, one component, non-shrink precision micro-concrete with high early and ultimate strength. Suitable for use in hot and tropical climatic conditions.

USES

Sikacrete[®]-114 PP precision micro-concrete is used for repair and grouting in various applications such as:

- Structural repair of deteriorated concrete
- Columns in precast construction
- Concrete members jacketing and section enlargement
- Casting sections or members where the volumes required are too large for conventional grouts, and too small and inaccessible for normal concreting applications.
- Filling of cavities, gaps and recesses
- Base plates grouting where the thickness exceeds 100 mm
- Retrofitting of concrete members using form & pump techniques

CHARACTERISTICS / ADVANTAGES

Sikacrete[®]-114 PP is an easy to use precision micro concrete requiring only the addition of water. It offers the following beneficial properties:

- Easy to mix
- Very good flow characteristics
- Adjustable consistency
- Moderate heat of hydration
- Shrinkage compensated
- High ultimate strength
- Compatible with the properties of normal & high strength concrete

PRODUCT INFORMATION

Composition	Portland cement, selected fillers and aggregates, special additives.
Packaging	50 kg bag
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.
Appearance and colour	Grey powder
Maximum grain size	~5 mm

TECHNICAL INFORMATION

Compressive strength	3 Day	7 Day	28 Day	(EN 12390-3)
	≥ 45 N/mm ²	≥ 55 N/mm ²	≥ 65 N/mm ²	
Modulus of elasticity in compression	≥ 37'000 N/mm ²			(ASTM C469)
Tensile strength in flexure	≥ 12 N/mm ²			(EN 196-1)
Tensile adhesion strength	≥ 1.5 N/mm ²			(ASTM D4541)
Shrinkage	~ -112 micro-strain (after 28 days in water)			(ASTM C157)

APPLICATION INFORMATION

Mixing ratio	7.0 - 7.25 L of water per 50 kg bag
Fresh mortar density	~2.4 kg/l (25 °C)
Yield	~23.8 L / 50 kg bag
Layer thickness	Min. 20 mm per pour Max. 300 mm per pour
Ambient air temperature	+5 °C min. / +35 °C max.
Substrate temperature	+5 °C min. / +35 °C max.
Pot Life	~60 min (25 °C)

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.

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 < 30 °C prior to use.
- For additional information on Sikacrete®-114 PP or other grouting materials contact Sika Technical Department.
- Elevated temperatures will decrease pot life and slump.
- Strength development will be reduced at cold temperatures.

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

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete surfaces should be clean, rough, sound and free from oil, grease, cement laitance and all loosely adhering particles. Absorbent surfaces should be saturated thoroughly with clean water. Metal surfaces should be free from scale, rust oil and grease.

BONDING AGENT AND STEEL PROTECTION

Embedded steel reinforcing should be free from scale, rust, oil and grease, and treated with a suitable anti-corrosion coating such as SikaTop® Armatec®-110 Epo-Cem®. The application of a structural grade bonding agent, such as Sikadur®-32 HI MOD will improve adhesion on large areas and where practically possible.

EQUIPMENT

Piston pump, delivery pressure ≥ 40 bar, delivery rate 15-65 liter/min

MIXING

Add water according to the desired consistency into a clean mixing vessel before slowly adding the Sikacrete®-114 PP powder. Sikacrete®-114 PP 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 Sikacrete®-114 PP 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

As per ACI recommendations for Portland-cement concrete, curing is required.

- Moist curing should commence immediately after finishing by a fine mist of water
- Wax based curing compounds adversely affect the adhesion of following layers of mortar, leveling mortar or protective coatings.
- Left in place forms usually provide satisfactory protection against moisture loss for formed concrete surfaces. The forms are usually left in place as long as the construction schedule allows. If the forms are made of wood, they should be kept moist, especially during hot, dry weather.
- Protect newly applied material from direct sunlight, wind, rain and frost.

CLEANING OF EQUIPMENT

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

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 exact product data and uses.

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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ISO 9001, 14001, 45001 –
Lloyd's Register
Sika S.A.C. LLC
Sika International Chemicals LLC
ISO 9001, 14001, 45001 – SGS
Sika Gulf S.S.C. O
ISO 9001, 14001 – SGS
Sika Saudi Arabia Limited

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 ISO 45001.



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