

Product Data Sheet
Edition 13/07/2007
Identification no:
02 01 04 01 000 0 000000
SikaRep® Microcrete-3

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Antiwashout, non-shrink, high strength cementitious micro concrete for underwater repairs

Product Description	SikaRep® Microcrete-3 is a factory design, pourable/ pumpable, non shrink anti wash repair concrete with selected cement, aggregate and other chemicals. Recommended water only to be added at site.
Uses	<p>SikaRep® Microcrete-3 is mainly recommended for the repair of damaged concrete structures for damp wet and submerged condition.</p> <ul style="list-style-type: none"> ■ Bridge Columns ■ Pier ■ Pile caps ■ Quay Pillars ■ Retaining wall in splash zone / submerged condition ■ It is also recommended for grouting of large gaps. <p>For larger pockets of voids SikaRep® Microcrete-3 can be added with 8 mm down aggregate in the ratio of 2 : 1</p>
Characteristics / Advantages	<p>SikaRep® Microcrete-3 has the following advantages :</p> <ul style="list-style-type: none"> ■ Shrinkage compensation ■ Anti wash property ■ Low porosity ■ High bond strength ■ High early strength ■ Chloride free ■ Durability

Product Data

Form

Appearance / Colour	Grey powder
Packaging	25 kg HDPE bag

Storage

Storage Conditions / Shelf-Life	6 months from date of production if stored properly in undamaged and unopened, original sealed packaging, in dry conditions at temperatures between +5°C and +40°C. Protect from moisture, direct sunlight and frost.
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Technical Data

Bulk Density	1.30 kg/l at 27 °C
pH Value	11 - 13.5 when mixed with water (ready to pour).



Mechanical / Physical Properties

Compressive Strength

(According to ASTM C 1107-99)

Curing Time	Curing Temperature (30°C)
1 day	~20
3 days	~35
7 days	~45
28 days	~55

Flexural Strength

(According to ASTM C 293 – 79)

Curing Time	Curing Temperature (30°C)
7 days	6.5N/mm ²
28 days	8.0N/mm ²

Pullout bond strength 6 N/mm²

Density of hardened material 2100 kg/m³.

System Information

Application Details

Consumption/Dosage 1760-1780 kg of powder / cubic meter of concrete.

Productiveness 1 bag yields approximately 13.5 litres of mortar.

Substrate Quality Substrate must be clean and sound. All loose material must be removed.

Substrate Preparation Substrates that are permanently immersed should be cleaned by suitable means. Non-immersed or intermittently immersed substrates can also be prepared using these techniques. Depending on the circumstances, scrubbing or bush hammering may be appropriate. In view of the fluid nature of SikaRep® Microcrete-3, all shuttering must be leakproof. This can be achieved using foam rubber sealing strips at the edges.

Application Instructions

Mixing 4.5 to 4.75 l of water per 25 kg bag dependent on the desired flow.

Mixing Time The quantity of water required to achieve a fluid consistency must be accurately measured for each mix. Each 25 kg bag requires 4.5 – 4.75 litres of water. A mechanically powered mixer or drum type concrete mixer must be used. Ensure that the machine capacity and the number of operators are adequate to enable grouting to be carried out as a continuous operation. The specified amount of water shall be placed in the mixer. SikaRep® Microcrete-3 pack is opened in the mixer and added slowly while mixing continuously. When all contents are added, mixing shall be continued for a minimum of 5 minutes making sure that a smooth, even mix is obtained. The mixed material shall be passed through a 5mm sieve to remove any lumps prior to placing.

Application Method / Tools

The mixed material shall be placed within 20 minutes of mixing to gain full benefit of the expansion process. Continuous material flow is required and the material should be poured or pumped through a flexible tube, minimum diameter 50mm, to the lowest point in the form. At the start of the operation, the material flow should be restricted in order to avoid any water entrapment. The bottom of the tube may be raised as necessary to reduce any back pressure but should not be raised above the level of the material.

SikaRep® Microcrete-3 may be placed in thicknesses up to 80mm in one pour when placed above water. When placed under water, the heat sink effect in this environment permits thicknesses up to 150mm to be placed. For thicker sections up to 200mm above water and 400mm under water, it is necessary to fill out SikaRep® Microcrete-3 underwater microconcrete using a clean, rounded and well graded aggregate in the size range from 2mm up to 8mm. The quantity of aggregate added should not exceed 1 part aggregate to 1 part SikaRep® Microcrete-3 by weight. For such mixes a concrete mixer must be used. Unrestrained surface area



should be kept to a minimum.

Curing Details

Curing will not be required in intermittently or totally submerged situations. However, when cast above water, all exposed surfaces should be thoroughly cured.

Cleaning of Tools

Clean all tools and application equipment with water immediately after use. Hardened / cured material can only be removed mechanically.

Notes on Application / Limitations

Curing will not be required in intermittently or totally submerged situations. However, when cast above water, all exposed surfaces should be thoroughly cured.

Value Base

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.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet 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.