BUILDING TRUST

PRODUCT DATA SHEET

SikaRep®

Concrete Repair Mortar

DESCRIPTION

SikaRep® is a 1-component, fibre reinforced, low shrinkage concrete repair mortar

USES

- Repair of spalling and damaged concrete in buildings, bridges, infrastructure and superstructure works.
- Increasing cover with additional mortar and replacing contaminated or carbonated concrete.
- Suitable for application on horizontal and vertical surfaces
- Small defects on concrete, corners, joint edges, shaping and covering gaps

CHARACTERISTICS / ADVANTAGES

- One component, just add water
- Superior workability
- Good adhesion to common building materials (concrete, stone, brick, steel...)
- Low shrinkage behaviour
- Good compressive strengths
- Good finishing
- Suitable for hand and machine application

PRODUCT INFORMATION

Chemical Base	Cement, selected aggregates and additives.	
Packaging	25 kg bag	
Appearance / Colour	Grey powder	
Shelf Life	Store in a dry area between +5°C and +30°C. Protect from direct sunlight. 12 Months in original, unopened packaging.	
Storage Conditions	Store properly in undamaged original sealed packaging, in dry cool conditions.	
Maximum Grain Size	D_{max}: 2.5 mm	
Soluble Chloride Ion Content	≤ 0.05 %	(EN 1015-17)

TECHNICAL INFORMATION

Compressive Strength	~50 MPa after 28 days	(EN 12190)
Tensile Adhesion Strength	≥ 2.0 MPa	(EN 1542)

SYSTEM INFORMATION

System Structure	SikaRep® is part of the range of Sika mortars complying with the relevant

standards and comprising of:
Primer / Bonding Coat: Sika MonoTop® -610, SikaTop Armatec® -110 Epo-Cem®
Mortar: SikaRep®

APPLICATION INFORMATION

Mixing Ratio	Mixing can only be achieved using either a slow speed drill (set at 400 - 600 rpm) fitted with a clean, rust free, mixing paddle, or standard mortar mixing equipment. **DO NOT ATTEMPT TO MIX BY HAND.** For normal application add 4.0 – 4.5 litres of water per 25kg of SikaRep® depending on the desired consistency. Mixing can be achieved either manually or mechanically. Mechanical mixing is preferred for quantities greater than 1 bag. Mixing should continue until a uniform, lump-free consistency is obtained.
Fresh mortar density	~2.05 kg/l
Consumption	This depends on the substrate roughness and thickness of layer applied. Volume Yield: 12,0 litres per 25kg bag. As a guide, ~ 1.9 kg of powder per mm thick per m^2
Layer Thickness	Minimum 5 mm per application layer Maximum 30 mm per application layer by hand Maximum 40 mm per application layer by machine
Ambient Air Temperature	+5 °C min. / +30 °C max.
Substrate Temperature	+5 °C min. / +30 °C max.
Pot Life	~20 minutes at + 23 °C

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete:
The concrete shall be thoroughly clean, 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.
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).

MIXING

SikaRep® can be mixed with a low speed (< 500 rpm) hand drill mixer or for machine application, using a force action mixer 2 to 3 bags or more at once depending the type and size of mixer.
Pour the recommended water in a suitable mixing container. While stirring slowly, add the powder to the water and mix thoroughly at least for 3 minutes adding additional water during the mixing time if necessary to the maximum specified amount and adjust to the required consistency.

APPLICATION

SikaRep® can be applied either manually using traditional techniques or mechanically using wet spray equipment. Thoroughly pre-wet the prepared substrate a recommended 2 hours before application. Keep the surface wet and do not allow to dry. Before application remove excess water e.g. with a clean sponge. The surface shall appear a dark matt appearance without glistening and surface pores and pits shall not contain water.
When manually applying first make a scratch coat by firmly scrapping the repair mortar over the substrate surface to form a thin layer and fill any pores or pits in the surface. Ensure the whole surface to be repaired is covered by the scratch coat. Build up layers from bottom to top by pressing mortar well into the repair area.
The manual application of SikaRep® can be done by trowel or spatula directly on the well prepared substrate.
For larger repairs SikaRep® may be applied by machine.
When a bonding primer is required, ensure it is still tacky when the repair material is pressed on (wet on wet technique).
Finishing for both hand and machine application, can be done with the relevant rough-cast as soon as the mortar has started to stiffen.

CURING TREATMENT

Protect the fresh mortar from premature drying using an appropiate curing method e.g. curing compound, moist geotextile membrane, polythene sheet, etc.

CLEANING OF TOOLS

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

LIMITATIONS

- Refer to the Method Statement for Concrete Repair using Sika® MonoTop® system for more information regarding substrate preparation
- Avoid application in direct sun and/or strong wind.
- Do not add water over recommended dosage
- Do not add cement or other admixtures, that can have negative effect on mortar characteristics
- Apply only to sound, prepared substrate
- Do not add additional water during the surface finishing as this will cause discoloration and cracking
- Protect freshly applied material from freezing

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.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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