

Sika® - Armorcrete

Flowable Cementitious Micro-Concrete

Construction

Product Description	Sika®-Armorex® Armorcrete is a one part, flowable, cementitious, micro-concrete repair system.
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Uses	Can also be used for: <ul style="list-style-type: none">■ Shuttered repairs to structural concrete■ Grouting<ul style="list-style-type: none">- Machine bases- Stanchion bases- Crane rails- Pre-cast elements- Void filling up to 200mm thick
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Characteristics / Advantages	<ul style="list-style-type: none">■ Ready to use■ Easy to pump or pour■ Shrinkage compensated■ Durable■ Excellent bond
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Product Data

Form

Appearance / Colour	Grey powder
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Packaging	25 kg bags
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Storage

Storage Conditions / Shelf-Life	9 months from date of production if stored properly in dry conditions in undamaged and unopened original sealed packaging.
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Technical Data

Chemical Base Cement, selected fillers and aggregates, special additives

Density ~ 2200 kg/m³ (wet density)

Grading

Layer Thickness 25 mm min. / 200 mm max.

Mechanical / Physical Properties

Compressive Strength Ambient temperature: +20°C (BS1881 :Pt 116 :1983)

1 day	3 days	7 days	28 days
~ 25 N/mm ²	~ 42 N/mm ²	~ 50 N/mm ²	~ 60 N/mm ²

Setting Time Initial Set 4.5 hours (BS4550:1978:Pt 3 Section 3.6 @ 20°C)
Final Set 6.5 hours

System Information

Application Details

Consumption 25 kg yields 12 litres

Substrate Quality *Concrete, mortar, stone:*
Surfaces must be sound, clean, free from ice, oils, grease, standing water and any loose or friable particles and any other surface contaminants.

The concrete "pull off" (tensile) strength should be > 1.0 MPa.

Steel, iron:
Clean, free from oil or grease, rust and scale etc.

Shutter/Formwork:
All formwork should be of adequate strength, treated with release agent and sealed to prevent leakage. Sealing can be achieved by using **Sikaflex® -11 FC+** sealant beneath or around formwork and between joints. Ensure formwork includes outlets for extraction of the pre-soaking water. A header box/hopper should be constructed on one side of the formwork so that a grout head of 150-200 mm can be maintained during the grouting operation.

Substrate Preparation The substrate should be prepared by suitable mechanical preparation techniques such as high pressure water jetting, breakers, blastcleaning, scabblers, etc.
The concrete substrates should be pre-soaked with clean water continuously for 2 - 6 hours to ensure a saturated surface dry condition throughout the operation.

Immediately before pouring grout, remove *all* excess or standing water from within any formwork, cavities or pockets.

Application Conditions / Limitations

Substrate Temperature +5°C min. / +25°C max.

Ambient Temperature +5°C min. / +25°C max.

Application Instructions

Mixing Measure the appropriate amount of water to achieve the desired grout consistency given in the table below. Heat water if necessary to achieve a temperature between 15-20°C.

Water addition rate per 25 kg bag	
Pourable consistency	2.50 litres
Flowable consistency	2.62 litres
Fluid consistency	2.75 litres

Mixing Time 3 minutes minimum

Mixing Tools Place the water into a forced action grout mixer or in a clean drum. Slowly add complete bag of **Sika®-Armorex® Armorcrete** into the water and continuously mix for 3 minutes in mixer to achieve a uniform and lump free consistency. Alternatively use a slow speed drill (200-500 rpm) and helical mixer.

Dependent on the desired consistency and flow properties, the mixing ratio can be adjusted.

Application Method Within 20 minutes of final mixing, pour the mixed grout into the header box/hopper ensuring continuous grout flow during the complete grouting operation to avoid trapping air. Use steel banding or chains to assist flow where necessary. For large volume placement, grout pumps are recommended, minimum pipe size 50mm.

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

Notes on Application / Limitations

- Do not exceed water addition
- Do not use vibrating poker
- Use only on clean, sound substrate
- Do not apply when there is a risk of frost
- Pour or pump from one side only
- Keep exposed surfaces to a minimum

Curing Details

Curing Treatment After the grout has initially hardened, remove formwork and trim edges while concrete is 'green'. Cure all exposed grout surfaces using **Sikafloor® ProSeal**.

In cold weather apply heat blankets to maintain a constant temperature.

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.

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.

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.

CE Labelling

The harmonised European standard EN 1504-3 "Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity – Part 3 Structural and non-structural repair" specifies the identification, performance (including durability) and safety of products and systems to be used to repair concrete surfaces (either building or civil engineering structures).

Non-structural repair fall under this specification – they need to be CE-labelled as per Annex ZA.2, table ZA.2 conformity 2+ and fulfil the requirements of the given mandate of the EU Construction Products Directive (89/106/CE).

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Sika Ltd, Welwyn Garden City, Herts AL7 1BQ, UK 08 0086 CPD - 541325	
BS EN 1504 -3 Concrete Repair Product for Structural Repair PCC Mortar (based on hydraulic cement)	
Compressive Strength	Class R4
Chloride Ion Content	≤ 0.05%
Adhesive Bond	≥ 2.0 MPa
Restrained Shrinkage /Expansion	≥ 2.0 MPa
Carbonation Resistance	NPD
Elastic Modulus	≥ 20 GPa
Capillary Absorption	≤ 0.5 kg.m².h^{0.5}
Dangerous Substances	Complies with 5.4
Reaction to Fire	Class A1



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