

Sikalastic®-1K

One component cementitious mortar fibre reinforced for flexible waterproofing

Construction

Product Description	Sikalastic®-1K is a one component, flexible, fibre-reinforced mortar, based on cement modified with special alkali-resistant polymers. It also contains fine fillers, selected graded aggregates, plus special waterproofing additives to produce a flexible mortar that is ideal for waterproofing surfaces subject to flexural strain. Sikalastic®-1K is suitable for application by brush or trowel.
Uses	<ul style="list-style-type: none"> ■ Protection of concrete surfaces according to EN 1504-9, principles 1: protection against penetration (coating); 2: control of moisture (coatings); and 8 increasing resistivity (coating) ■ Waterproof protection of concrete structures including tanks, basins, pipes, etc. ■ Waterproofing external wall surfaces to be backfilled in the ground ■ Internal waterproofing of walls and floors, in basements for example ■ Waterproofing of terraces and balconies over concrete or prepared existing tiles ■ General waterproofing of concrete surfaces ■ Flexible protection coating for reinforced concrete structures against the effects of de-icing salts, freeze-thaw and carbon dioxide
Characteristics / Advantages	<ul style="list-style-type: none"> ■ Can be applied on damp substrates ■ Easy to apply by brush or trowel ■ Good sag resistance and easy to apply, even on vertical surfaces ■ Good crack-bridging properties ■ Very good adhesion on many substrates including concrete, cement mortars, stone, ceramics, bricks and timber ■ Mixing ratio can be adjusted in order to obtain the consistency and workability desired for the intended application
Tests	
Approval / Standards	Conforms to the requirements of EN 1504-2:2004 Principles 1.3, 2.2 & 8.2 Conforming to the Annex ZA 2 Table ZA.2 DoP 02 07 01 01 001 0 000180 1088, certified by Factory Production Control Body 0086, Certificate 541325, and provided with the CE mark
Product Data	
Form	
Colours	Light grey
Packaging	20 kg bags



Storage

Storage Conditions / Shelf-Life 12 months from the date of production, if stored properly in the original packaging, in cool and dry conditions. Protect from water.

Technical Data

Chemical Base Cement modified with polymers, selected aggregates, admixtures, additives and fibres.

Density ~1.5 kg/L

System Informations

Application Details

Water Dosage application by brush: ~ 6.6 litres water per 20 kg bag
application by trowel: ~ 4.84 litres water per 20 kg bag

Consumption ~1.2 kg/m²/mm thickness

Substrate Quality Substrates must be structurally sound, clean and free of all contaminants such as dirt, oil, grease, coatings and other surface treatments, etc.

Substrate Preparation Clean surfaces by blastcleaning, high-pressure water-jetting (400 bar), wire-brushing, grinding and abrading of ceramic tiles etc., in order to remove all previous coatings, any traces of grease, rust, release agents, cement laitance and any other material which could reduce adhesion. All dust deposits from this preparation must also be removed i.e. by vacuum. Repair concrete substrates, if necessary, with an appropriate cementitious mortar from the SikaTop® or Sika MonoTop® range of repair materials.

All connections between the substrate and pipe entries, plant and equipment, light switches etc., must all be sealed and watertight.

Use coved details at the floor/wall junctions using waterproof

SikaTop® or Sika MonoTop® mortars such as SikaTop® 122 New, for optimal waterproofing performance.

The substrate must be adequately dampened before application.

Avoid any stagnant water presence or condensation / ponding on the surfaces before application.

Joints in concrete, pipes, anywhere else in the structure must also be sealed and made watertight.

Application Conditions / Limitations

Substrate Temperature min. + 5°C; max. + 35°C

Ambient Temperature min. + 5°C; max. + 35°C

Grading D_{max}: 0.125 mm

Mechanical Properties

Resistance against water pressure	positive: 3.0 bar	EN 12390-8, with exposition time modified to 5 days
	negative: 1.5 bar	Internal test according to EN 14891:2007 and DIN 1048-5:1991 with time modified to 6 days

Behaviour after immersion in salt water	Adhesion to concrete after curing for 1 week at 20°C and R.H. 60% and then immersion in solution of 35g of sodium chloride for each litre of water (similar to sea water)	
	immersion for 1 month	1.90 MPa (EN 1542)
	immersion for 3 months	1.52 MPa (EN 1542)
	immersion for 6 months	1.22 MPa (EN 1542)
	immersion for 1 year	1.15 MPa (EN 1542)

Requirements

Requirements as per EN 1504-2

	Test Method	Result	Requirement
CO ₂ permeability	EN 1062-6	S _D = 61 ± 7.7m	S _D ≥ 50 m
Water vapour Permeability	EN ISO 7783	S _D = 50 (class I)	Class I SD<5m (permeable) Class II 5m<SD<50m Class III SD>50m (not permeable)
Capillary absorption and liquid-water permeability	EN 1062-3	0.077 kg m ⁻² h ^{0.5}	w < 0.1 kg.m ⁻² .h ^{0.5}
Freeze-thaw cycling (de-icing salt immersion)	EN 13687-1	3.77 MPa	≥ 0.8 MPa
Bond strength	EN 1542	2.1 MPa	≥ 0.8 MPa
Crack bridging	EN 1062-7	L > 0.5 mm	Class A3 (+23°C)
Dangerous substances (Chromium VI)	EN 196-10	< 0.0002%	According to clause 5.4
Reaction to fire	EN 13501-1	A2	Euro class

Application Details

Mixing	Sikalastic®-1K should be mixed using a low speed electric drill and mixing paddle (~500 r.p.m.), adding the right quantity of water according to the method of application selected. Once a homogeneous mix is obtained, continue to mix for another 3-4 min; the mortar must be fully homogeneous and free of lumps. Do not add any other additives. Mix the whole bag, in order to avoid an inadequate distribution of the constituents
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Application Method / Tools

Apply Sikalastic®-1K by:

- trowel, maintain even pressure onto the surface;
- brush, in 2 directions (diagonally opposite / cross-wise)

Maximum recommended thickness is 2 mm per coat. The final thickness when applied by trowel will depend on the method of application and level or grade of exposure / waterproofing required.

The highest waterproofing performance is obtained by applying Sikalastic-1K by trowel in at least 2 layers, to a total thickness of 3-4mm.

Application by brush must be undertaken with the maximum attention to uniformly covering the whole surface. The maximum recommended thickness for these methods of application is 1 mm per layer. In these situations, the application of min. 2-3 layers is required. Wait until the first layer is dry before applying subsequent layers.

Do not blast clean or abrade before complete hardening of the material damaged. Wait for complete hardening, and then remove any roughness by light sanding.

At floor joints and other critical areas (for example any junctions with vertical surfaces), the waterproofing can be reinforced by Sika Seal Tape S. It must be applied directly on the fresh first layer and then covered by the second layer of Sikalastic-1K.

In order to finish the final surface, do not blastclean or abrade before complete hardening of the material has taken place, or the waterproofing layer can be damaged. Wait for complete hardening, then remove any roughness by light sanding.

Ceramic tiles and vitreous mosaics can be applied on Sikalastic®-1K using a specific adhesive (e.g. cement based adhesive with maximum flexibility according to Class C2 EN 12004). Joints gaps must be sealed with specific cement based products.

Cleaning of Tools

Tools should be thoroughly cleaned with water before the material has set. Hardened mortar can be only be removed mechanically.

Potlife

~ 30 min. @ +20°C

Sikalastic®-1K must be completely hardened before over-coating or water contact.

Guide for waiting times at the following temperatures:

	+20°C	+10°C
■ Horizontal covering by tiles	~2 days	~7 days
■ Vertical covering by tiles	~2 days	~3 days
■ Water emulsion coating	~2 days	~3 days
■ Immersion in water	~2 days	~7 days
■ Contact with drinkable water	~15 days	~15 days

Times will vary due to ambient and substrate humidity

**Notes on Application/
Limitations**

- protect from rain for at least 24-48 h after application;
- avoid direct contact with chlorinated water i.e. in swimming pools, by using suitable protection e.g. ceramic covering;
- avoid application in direct sun light, when rain is imminent or in strong winds;
- the setting time can be influenced by high relative humidity, particularly in closed rooms or basements. The use of adequate ventilation is recommended;
- Before contact with drinking water, ensure the Sikalastic®-1K is completely hardened and wash carefully to remove dust, loose material or stagnant water.
- Sikalastic®-1K is permeable to water vapour and does not form a vapour barrier for resin based systems not permeable to gas
- if a solvent based paint must be applied on Sikalastic-1K, carry out preliminary testing in order to ensure the solvents do not attack and damage the waterproofing layer.

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.



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