BUILDING TRUST

PRODUCT DATA SHEET

Sikalastic®-1K

One-component cementitious mortar, fibre-reinforced for flexible waterproofing and concrete protection

DESCRIPTION

Sikalastic®-1K is a one-component, crack-bridging, fibre-reinforced mortar, based on cement modified with special alkali-resistant polymers. Sikalastic®-1K is suitable for application by brush, spray or trowel.

USES

- Flexible waterproofing and protection of concrete structures including tanks, basins, pipes etc.
- Waterproofing of bathrooms, showers, swimming pools before the application of ceramic tiles bonded with adhesives
- Waterproofing of external wall surfaces to be back-filled in ground
- Inside waterproofing of negative water pressure of walls and floors in basements
- Flexible protection coating for reinforced concrete structures against the effects of freeze-thaw and carbon dioxide attack to improve durability

FEATURES

- One-component product, only water needs to be added
- Adjustable consistency, easy to apply by brush or trowel
- Good sag resistance and easy to apply, even on vertical surfaces
- Good crack-bridging ability
- Very good adhesion on many substrates including concrete, cement mortars, stone, masonry
- Can be applied on damp substrates

CERTIFICATES AND TEST REPORTS

- AS/NZS 4020: 2005- Products for use in contact with drinking water

PRODUCT INFORMATION

Composition	Cement modified with alkali resistant polymers, selected aggregates, fine fillers admixtures, additives and fibres.
Packaging	20 kg bags & 10 kg pails
Appearance and colour	Light grey
Shelf life	6 months from date of production
Storage conditions	Store properly in the original packaging, in cool and dry conditions. Protect from water.
Maximum grain size	D_{max}: ~0,3 mm

TECHNICAL INFORMATION

Tensile adhesion strength

≥ 0,8 N/mm²

Value obtained with a total layer thickness of 3 mm in two layers with 22 % water

	Test method	Requirement
Initial tensile adhesion strength	A.6.2	≥ 0,5 N/mm²
Tensile adhesion strength after water contact	A.6.3	≥ 0,5 N/mm²
Tensile adhesion strength after heat aging	A.6.5	≥ 0,5 N/mm²
Tensile adhesion strength after freeze-thaw cycles	A.6.6	≥ 0,5 N/mm²
Tensile adhesion strength after contact with lime water	A.6.9	≥ 0,5 N/mm²
Tensile adhesion strength after contact with chlorinated water	A.6.7	≥ 0,5 N/mm²

Values obtained with a total consumption of 3.6 kg/m² in two layers with 30 % water

Crack bridging ability

> 0,50 mm (Class A 3, +23 °C) [1]
≥ 0,75 mm (+23 °C) [2]
≥ 0,75 mm (–5 °C) [2]

1 Value obtained with a total layer thickness of 3 mm in two layers with 22 % water
2 Value obtained with a total consumption of 3.6 kg/m² in two layers with 30 % water

Reaction to fire

Euroclass A2

Freeze thaw de-icing salt resistance

≥ 0.8 N/mm²

Value obtained with a total layer thickness of 3 mm in two layers with 22 % water

Permeability to water vapour

Class I (permeable) S_D < 5 m

Value obtained with a total layer thickness of 3 mm in two layers with 22 % water

Capillary absorption

~0,02 kg/m²·h$^{0.5}$

Value obtained with a total layer thickness of 3 mm in two layers with 22 % water

Water penetration under pressure

No penetration after 72h at 5.0 bar [1] [2]
No penetration after 7 days at 1.5 bar [3]

1 Value obtained with a total layer thickness of 3 mm in two layers with 22 % water
2 modified
3 Value obtained with a total consumption of 3.6 kg/m² in two layers with 30 % water

Water penetration under negative pressure

no penetration after 72h at 2.5 bar

Value obtained with a total layer thickness of 3 mm in two layers with 22% water

Permeability to carbon dioxide	$S_D \geq 50$ m Value obtained with a total layer thickness of 3 mm in two layers with 22 % water

APPLICATION INFORMATION

Mixing ratio

Application Method	Water dosage
By brush	~6,0 litres water per 20 kg bag ~3,0 litres water per 10 kg pail
By trowel	~4,4 litres water per 20 kg bag ~2.2 litres water per 10 kg pail

Consumption

This depends on the substrate roughness; as a guide: ~1,2 kg/m²/mm

Layer thickness

For standard applications a total 3mm DFT, applied in minimum 2 layers.
For negative pressure/immersed appications a total 3-4mm DFT, applied in minimum 2 layers.
Maximum recommended thickness per layer is 2mm when applied by trowel and 1mm when applied by brush

Ambient air temperature

5 °C min. / 35 °C max.

Substrate temperature

5 °C min. / 35 °C max.

Pot Life

~30 min at +20 °C

Waiting time to overcoating

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 coving 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.

Fresh mortar density

~1,5 kg/l

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.

IMPORTANT CONSIDERATIONS

- Sikalastic®-1K shall not be smoothed using a float or trowel.
- 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.
- Avoid application in direct sun light, when rain is imminent or in strong winds.
- 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 respecting the suggested waiting times and wash carefully to remove dust, loose material or stagnant water, according to local regulations.
- 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 is to be applied on Sikalastic®-1K, carry out preliminary testing in order to ensure the solvents do not attack and damage the waterproofing layer.
- When used in contact with drinking water, ensure Sikalastic®-1K and all associated Sika® products comply with the local regulations for drinking water contact.

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

Substrates must be structurally sound, clean, dry and free of all contaminants such as dirt, oil, grease, cement laitance, coatings and other surface treatments etc.
Clean surfaces by blast cleaning, high-pressure water-jetting (400 bar), wire-brushing, grinding 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.
The substrate shall be adequately dampened before application. The surface shall not be moist to the touch and shall not be the dark matte (saturated surface dry) appearance.

MIXING

Sikalastic®-1K can be mixed with a low speed (~ 500 r/min) hand drill mixer, adding the right quantity of water according to the respective application. Once a homogeneous mix is obtained, continue mixing for 3–4 min. The mortar must be homogeneous and lump free. Do not add any additional water or other ingredients. Each bag must be entirely mixed, to avoid faulty particle size distribution of aggregates contained in the powder component.

APPLICATION

Special Requirements:
All connections between the substrate and pipe entries, plant and equipment, light switches etc., must be sealed and watertight. Joints in concrete, pipes or anywhere else in the structure must also be sealed and made watertight.
Use coved details at the floor/wall junctions.

Apply Sikalastic®-1K by:
- spatula/roller: Exerting good and even pressure onto the substrate;
- brush: In 2 directions (diagonally opposite / crosswise);
- mechanical spray: Refer to Sika Technical Service for details

The optimum waterproofing performance is obtained by applying Sikalastic®-1K by trowel in at least 2 layers, to a total thickness of at least 3 mm.
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 (subsequent layers must be applied crosswise).
Wait until the first layer is dry before applying subsequent layers.
The application shall cover the whole surface of the substrate in a uniform thickness.

Sikalastic®-1K cannot be smoothed using float or sponge trowel. It is possible to smooth the surface as soon as the curing of the product is complete by light abrasion techniques.

JOINTS

At joints or other critical movement areas (for example junctions with vertical surfaces), the waterproofing may be reinforced by Schonox ST Tape. It must be applied directly on the fresh first layer and then covered by the second layer of Sikalastic®-1K.
Please Note Schonox ST Tape is not suitable for swimming pools; for immersed and tanking applications the Sikadur Combiflex® SG System is recommended, contact Sika Technical Services for additional information.

TILING

Ceramic and vitreous tiles may be installed on Sikalastic ®-1K using a polymer modified cement based tile adhesive in the Sika® range. All joints and gaps must be sealed.

CLEANING OF EQUIPMENT

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

LOCAL RESTRICTIONS

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