

PRODUCT DATA SHEET

Sikalastic®-1 K HP

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



DESCRIPTION

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

USES

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

FEATURES

- One-component product, only water needs to be added
- Adjustable consistency, easy to apply by brush, roller 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

SUSTAINABILITY

- Contributes towards satisfying Indoor Environmental Quality (EQ) Credit: Low-Emitting Materials under LEED® v4.1
- Contributes towards satisfying Materials & Resources (MR) Credit: Sourcing of Raw Materials under LEED® v4.1
- VOC emission classification GEV-Emicode EC 1^{PLUS}
- VOC content: Meets the requirements of SCAQMD Rule 1113
- Environmental Product Declaration (EPD) in accordance with EN 15804. EPD independently verified by Eurocert S.A.

CERTIFICATES AND TEST REPORTS

- CE-marking and Declaration of Performance as liquid-applied water impermeable product, based on polymer modified cementitious mortars for all external installations and swimming pools beneath ceramic tiling, class CMO1P according to EN 14891:2017, based on assessment by notified laboratory and factory production control.
- CE-marking and Declaration of Performance as surface protection product – Coating, Principle 1 (Protection against ingress) - Method 1.3, Principle 2 (Moisture control) - Method 2.3 and Principle 8 (Increasing resistivity) - Method 8.3 according to EN 1504-9:2008, based on certificate of factory production control issued by notified factory production control certification body and type testing.
- Certificate of Compliance for contact with potable water (conforms with positive list results, CARSO-Department of Health and Environmental Hygiene of Lyon), dated 17/04/2024, version number 24 CLP LY 020 (grey).

PRODUCT INFORMATION

Composition	Cement modified with alkali resistant polymers, selected aggregates, fine fillers admixtures, additives and fibres.		
Packaging	20 kg bags		
Appearance and colour	Light grey		
Shelf life	12 months from date of production		
Storage conditions	The Product must be stored in original, unopened, sealed and undamaged sealed packaging in dry conditions, at temperatures between +5 °C and +35 °C. Protect the Product from direct sunlight. Always refer to packaging. Refer to the current Safety Data Sheet for information on safe handling and storage.		
Maximum grain size	D _{max} : ~0.3 mm		
Tensile adhesion strength	≥0.8 N/mm ²		(EN 1542)
		Test Method	Requirement
			(EN 14891)
	Initial tensile adhesion strength	A.6.2	≥0.5 N/mm ²
	Tensile adhesion strength after water contact	A.6.4	≥0.5 N/mm ²
	Tensile adhesion strength after heat ageing	A.6.5	≥0.5 N/mm ²
	Tensile adhesion strength after freeze-thaw cycles	A.6.6	≥0.5 N/mm ²
	Tensile adhesion strength after contact with chlorinated water	A.6.8	≥0.5 N/mm ²
	Tensile adhesion strength after contact with lime water	A.6.9	≥0.5 N/mm ²
Crack bridging ability	Static crack bridging ability:		
	Class	Conditions	(EN 1062-7, Method A - C.2)
	A4 (>1.25 mm)	+23 °C, without mesh	
	A5 (>2.50 mm)	+23 °C, with mesh	
	Crack width	Temperature	(EN 14891, A.8.2 & A.8.3)
	≥0.75 mm	+23 °C, with mesh	
	≥0.75 mm	-5 °C, with mesh	
	Dynamic crack bridging ability:		
	Class	Conditions	(EN 1062-7, Method B - B.4.2)
	No crack	+23 °C, with mesh	
Reaction to fire	B-s1, d0		(EN 13501-1)
Freeze thaw de-icing salt resistance	≥0.8 N/mm ² *		(EN 13687-1 & -2)
	* Requirement for flexible systems of freeze salt cycling with de-icing salt immersion & thunder shower cycling		
Permeability to water vapour	Class I (permeable)	S _D <5 m	(EN ISO 7783)
Capillary absorption	w < 0.1 kg/m ² × h ^{0.5}		(EN 1062-3)

Watertightness	No penetration after 72 h at 5.0 bar	(EN 12390-8)
	No penetration after 7 days at 1.5 bar	(EN 14891)

Water penetration under negative pressure	No penetration after 72 h at 2.5 bar	(EN 12390-8)
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Permeability to carbon dioxide	$S_D > 50$ m	(EN 1062-6)
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APPLICATION INFORMATION

Mixing ratio	Application Method	Water dosage
	By brush	~6.0 lt of water per 20 kg bag
	By roller	~7.0 lt of water per 20 kg bag
	By trowel	~4.4 lt of water per 20 kg bag

Consumption	~1.2 kg/m ² per mm of thickness, depending on the substrate's roughness and final thickness of layer applied
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Layer thickness	3.0 mm at uniform thickness, applied in min. 2 layers Max. recommended thickness per layer is 2.0 mm when applied by trowel and 1.0 mm when applied by brush or roller.
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Ambient air temperature	Minimum	+5 °C
	Maximum	+35 °C

Substrate temperature	Minimum	+5 °C
	Maximum	+35 °C

Pot Life	~30 min at +20 °C
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Waiting time to overcoating	Sikalastic®-1 K HP must be completely hardened before over-coating or water contact.
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Guide for waiting times at the following temperatures:

	+20 °C	+10 °C
Covering with tiles (horizontally)	~2 days	~7 days
Covering with tiles (Vertically)	~2 days	~3 days
Water emulsion coating	~2 days	~3 days
Immersion in water	~2 days	~7 days
Contact with drinking water	~15 days	~15 days

Times will vary due to ambient and substrate humidity.

Fresh mortar density	~1.5 kg/lt
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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®-1 K HP shall not be smoothed using a float or trowel. It is possible to smooth the surface as soon as the curing of the product is completed by light abrasion techniques
- 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 sunlight, when rain is imminent or in strong winds
- Setting time can be influenced by high relative humidity, particularly in confined spaces or basements. The use of adequate ventilation is recommended
- Before contact with drinking water, ensure the Sikalastic®-1 K HP is completely hardened respecting the suggested waiting times and wash carefully to remove dust, loose material or stagnant water, according to local regulations
- Sikalastic®-1 K HP is permeable to water vapour and does not form a vapour barrier for resin-based systems, impermeable to vapour
- If a solvent-based coating/paint is to be applied on Sikalastic®-1 K HP, 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®-1 K HP 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

SUBSTRATE QUALITY

Substrates must be structurally sound, thoroughly clean and free from all contaminants such as dirt, oil, grease, cement laitance, existing 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 existing coatings, any traces of grease, rust, release agents, cement laitance and any other material which could reduce adhesion. All dust deposits from substrate's preparation must also be removed, i.e. by vacuum.

Repair concrete substrates, if necessary, with an appropriate cementitious mortar from the SikaRep® or Sika MonoTop® range of repair mortars. Presaturate the substrate, keeping the surface wet while not allowing it to dry out. The surface shall have a dark, matt appearance without glistening or saturated surface dry (SSD) appearance and surface pores and pits shall not contain water.

MIXING

Important: Do not add any additional water or other constituents. Each bag must be entirely mixed, to avoid faulty particle size distribution of aggregates contained in the powder component.

Sikalastic®-1 K HP can be mixed with a low speed (~500 r.p.m) hand drill mixer.

1. Pour clean water (potable) in the correct desired proportion into a suitable mixing container.
2. While stirring slowly, add the powder gradually to the water and mix thoroughly at least for 3 min., adding additional water during the mixing time if necessary up to the maximum specified amount.
3. Mix thoroughly until the required homogeneous, lump-free consistency is reached.

APPLICATION

Special Requirements:

All connections between the substrate and pipe penetrations, plant and equipment, light switches etc. as well as joints in concrete and/ or between concrete and masonry or dry walls must be sealed and be watertight using suitable joint sealing solutions. Especially for construction joints in wet rooms, balconies and pools, Sika® SealTape profiles must be installed using Sikalastic®-1 K HP as adhesive on both sides of the joint. Use covered details at the floor/ wall junctions.

Apply Sikalastic®-1 K HP by:

- **spatula/ trowel:** Applying adequately firm pressure onto the substrate, ensuring uniform thickness
- **short-medium pile roller:** Ensuring uniform distribution and thickness of the Product onto the substrate
- **brush:** In 2 directions (diagonally opposite / cross-wise)
- **mechanical spray:** Refer to Sika Technical Service for details

The maximum recommended thickness in each layer shall be 2 mm.

The optimum waterproofing performance is obtained by applying Sikalastic®-1 K HP by trowel in at least 2 layers, to a total thickness of at least 3 mm, reinforced in between with Sika® Fibernet mesh.

Application by brush must be undertaken with the maximum attention to cover the whole surface uniformly. The maximum recommended thickness for this method of application is 1 mm per layer. In such cases, the application of min. 2 – 3 layers are required (subsequent layers must be applied crosswise). The application shall cover the whole surface of the substrate in a uniform thickness.

Between subsequent layers, wait until the first layer has hardened before applying the next one, while ensuring no dampening of the first layer.

Sikalastic®-1 K HP 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.

CLEANING OF EQUIPMENT

Removal of fresh remnants from tools and application equipment can be carried out using water immediately after use. Hardened / cured material can only be mechanically removed.

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.

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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