

Product Data Sheet
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Identification no:
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Sika®-1

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Liquid waterproofing admixture for mortar and concrete

Construction

Product Description

Sika®-1 is a normal setting, liquid waterproofing admixture that reacts chemically with the constituents of Portland cement composites, such as mortar and concrete, blocking the capillaries and pores that form against the passage of water, whilst still allowing the substrate to breath.

Uses

Sika®-1 is the basis for the Sika®-1 RENDER SYSTEM which is suitable for waterproofing most types of masonry or concrete structures subjected to hydrostatic water pressure such as:

- Tunnels
- Basements
- Water Reservoirs
- Swimming pools
- Manholes
- Culverts and canals

Characteristics / Advantages

- Waterproof, but vapour permeable
- Always accessible for inspection or repair
- Less risk of damage during installation
- No external excavation or site dewatering
- Can be applied during wet or dry conditions (even against running water) at the start or end of a project
- Chloride free
- Non toxic

Product Data

Form

Appearance / Colour Liquid Yellow

Packaging 5, 25 and 200 litre containers.

Storage

Storage Conditions / Shelf-Life 12 months in original, unopened container. Store in a dry area between 5°C and 30°C. Protect from direct sunlight.



Technical Data

Density 1,05kg/litre

pH Value $\pm 8,5$

Application Details

Consumption / Dosage 1,5 Litres per 50kg of Portland cement i.e. 3% by weight of cement

Consumption Chart

Application	No. of coats	Approx. total application thickness	Approx. coverage per litre of Sika®-1
Walls	2	20mm	5,0m ²
	3	25mm	4,0m ²
Floors	2	40mm	2,0m ²

Substrate Preparation / Priming

All substrates must be clean, sound and properly cured. All fixtures, fittings and other protrusions must be removed. In addition, any cracks, porous areas or spalling should be repaired. Consult Sika's Technical Department for specific repair recommendations.

Water infiltration must be stopped with Sika®-2 or Sika®-4a (see corresponding Product Data Sheets).

All substrates must be thoroughly roughened by wire brushing, or by water or sand blasting.

Application Conditions / Limitations

Substrate Temperature Min. 5°C – max. 30°C.

Ambient Temperature Min. 5°C – max. 35°C.

Application Instructions

Mixing (Ratio/Dosage)

Ensure that Sika®-1 is thoroughly mixed prior to use.

Dilute one (1) part by volume of Sika®-1 with ten (10) parts by volume of clean water in a suitable container and mix thoroughly. The best results are achieved by first mixing equal volumes of Sika®-1 and water, and then adding the remainder of the water slowly, whilst stirring.

The diluted Sika®-1 is added to the appropriate, dry Portland cement/sand mixture as detailed in the table below. If required, additional water may be added to achieve the desired consistency.

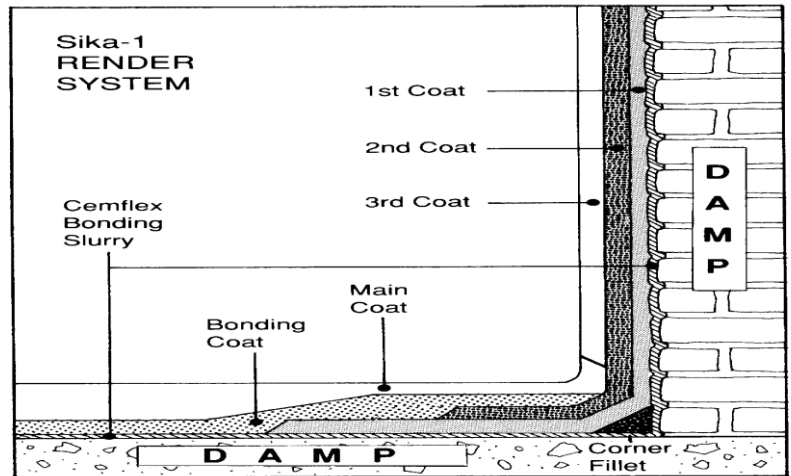
Application	Coat	Mix Ratio by Volume		Consistency of Mortar	Minimum Application Thickness per coat mm
		Portland Cement	Sand		
Walls	1 st , 2 ^{nd*} and 3 rd	1	3 – 5	Plastic	8
Floors	Bonding	1	1	Plastic	10
	Main	1	3-4	Semi-dry	30

* In areas of high water pressure a third coat may be required.

Always use fresh Portland cement. The correct choice of sand is vital and only washed, well graded sharp sand (complying with SABS 1090 for Plaster and Rendering Sands) in a surface dry condition should be used. The maximum particle size should be 3mm except for the main floor coat where 4.5 mm should be used. Do not use "soft" sand.

**Application Method /
Tools**

Prior to application of the first coat of the Sika-1 RENDER SYSTEM, thoroughly saturate the substrate with water. Remove any excess surface water and, while the substrate is still damp, apply a coat of Cemflex® bonding slurry (see corresponding Product Data Sheet).



Walls

1st Coat

While the Cemflex® bonding slurry is still wet, apply the first coat with a steel trowel taking care to cover the surface completely.

2nd Coat

Apply the second coat with a steel trowel as soon as the first coat has stiffened sufficiently (usually after 4 - 5 hours). On completion, apply a "splatter coat" of the same mortar mixed to a "sloppy" consistency over the entire surface to form a key for the next coat.

If a third coat is required in areas of high water pressure, this should be applied in the same manner as the previous coat on the following day.

3rd Coat

Apply the final coat on the following day and finish with a wooden float to avoid unnecessary laitance.

Floors

Bonding Coat

While the Cemflex® bonding slurry is still wet, apply the bonding coat in strips with a steel trowel. Do not allow it to be walked on.

Main Coat

While the bonding coat is still wet, apply the semi-dry Main Coat. The surface should be tamped vigorously until moisture rises to the surface and finished with a wooden float to avoid unnecessary laitance.

Protect from wind and direct sunlight during application.

Protect any exposed render from rain until initial cure has been achieved.

Corner Fillets

Corner fillets are executed using the Bonding Coat screed mix as used on the floor.

Lap Joints

To ensure that the structure is completely watertight, careful attention must be paid to all joints. Each coat should be stepped back at least 100 mm from the finishing line of the previous coat to avoid butt joints (see Diagram 1).

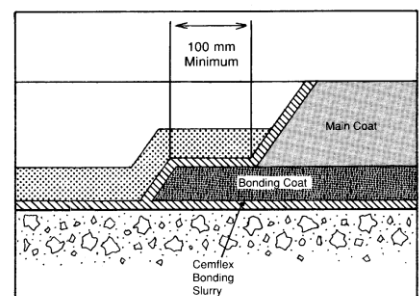


Diagram 1

Angle and Corner Joints	The first and second coats of the application to a wall should be continued onto the floor or round corners by 200 mm and 100 mm respectively and treated as lap joints.
Expansion Joints	All expansion joints in the structure should be treated with the Sikadur®-Combiflex® System or Sikaflex® Pro 2HP (see corresponding Product Data Sheets) prior to the application of the Sika®-1 RENDER SYSTEM
Use of Sika-1 in Concrete	Sika®-1 can be added to concrete, which has a minimum cement content of 300 kg per cubic metre. Trial mixes must be done before using on site.
Cleaning of Tools	Remove uncured material from tools and equipment with water. Cured mixed material can only be removed mechanically.
Notes on Application / Limits	The quality and waterproofness of the cement mortar mixes may be affected by one or more of the following causes: - <ul style="list-style-type: none"> • Poor quality sands • Excess water • Lack of adequate curing • Poorly graded sands <p>We recommend you consult with your nearest Cement and Concrete Institute office to provide you with the correct information regarding sand types and gradings.</p>
Curing Details	
Curing Treatment	The Sika®-1 RENDER SYSTEM must be kept moist for a minimum of 3 days after application. Water fogging is recommended. Do not commence fogging until initial set has been reached typically 1 - 2 hours depending upon ambient conditions.
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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