

Product Data Sheet
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Sika® 1

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Pre-Bagged Structural Waterproofing System

Product Description

Sika® 1 Pre-Bagged Structural Waterproofing System mortars are pre-bagged kiln dried blends of specially graded aggregates and cements packaged in 4 grades at the appropriate mix ratios for optimum application performance and durability.

When mixed with the diluted Sika® 1 liquid waterproofing admixture they provide the multicoat components for the structural waterproofing systems

Uses

- Internal waterproofing of below ground structures to meet the requirements of BS8102 – 2009 Grades 1 - 3
- Waterproofing of swimming pools and other water retaining structures
- Waterproofing of basements, cellars and vaults
- Waterproofing of tunnels

Characteristics / Advantages

- 90 years track record
- Type A waterproofing system according to BS8102- 2009
- Proven resistance to hydrostatic back pressure
- Fully bonded waterproofing barrier
- Can be applied to wet substrates
- For use on concrete, brick and structural blockwork
- Can be used internal and externally
- Can be applied to wall, floors and soffits
- Quality controlled system
- Used for negative or positive water pressure situations

Tests

Approval / Standards

Accredited by the BBA cert Number 00/3761 which states under durability "Under normal conditions of use, the systems will provide an effective barrier to the transmission of liquid water for the life of the building to which they are applied. WRAS Certificate 0505506
DWI Exemption

Product Data

Form

Appearance

Sika® 1 Pre-bagged mortars – Graded kiln dried aggregates and OPC
Sika® 1 Liquid Admixture– Yellow Liquid

Packaging

Sika® 1 Pre-bagged mortars – Supplied in 25kg Packs with a coloured band

Sika® 1 Spritz & Bonding Coat Mortar	- Red Band
Sika® 1 Render Mortar	- Brown Band
Sika® 1 Finishing Mortar	- Green Band
Sika® 1 Screed Mortar	- Blue Band

Sika 1® Liquid Admixture– Supplied in 5 and 25 litre Pails



Storage	
Storage Conditions / Shelf-Life	Sika® 1 Pre-bagged mortars - Minimum 6 months in original unopened sealed packs stored in dry condition at temperatures between +10°C and +30°C Sika® 1 Liquid Admixture - Minimum 1 year in unopened original sealed containers stored in dry conditions at temperatures between +10°C and +30°C).
Technical Data	
Mixed Wet Density Approx	Spritz & Bonding Coat Mortar 2080 kg/m³ Render Mortar 2220 kg/m³ Finishing Mortar 2130 kg/m³ Screed Mortar 2100 kg/m³
Water Vapour Resistance	19.0MNsg ⁻¹ for Sika Pre-bagged waterproofing system
Compressive Strength	45 N/mm² at 28 day for the Sika® 1 Pre- bagged Waterproofing Render system (BS EN 12190) 50 N/mm² at 28 Days for Sika® 1 Pre-bagged waterproofing Screed System (BS EN 12190)
Adhesion	Normally failure in the substrate
System Information	
System Structure	Sika® 1 Pre-bagged Render system consisting of 3 coats as follows: 1st coat Sika 1 Spritz & Bonding Coat Mortar @ 6mm 2nd coat Sika 1 Render Mortar @ 6mm 3rd coat Sika 1 Finish Mortar @ 6mm Total System Thickness – minimum 18mm Additional coats of Sika® -1 Render Mortar can be applied if necessary. Sika® 1 Pre-bagged Screed system consisting of 3 coats as follows: 1st coat Sika® 1 Spritz & Bonding Coat Mortar applied as a bonding slurry 2nd coat Sika® 1 Spritz & Bonding Coat Mortar at 10 mm 3rd coat Sika® 1 Screed Mortar at 20 mm Total System Thickness – minimum 30mm All the above are minimum thickness, maximum thickness depends on substrate, working conditions and requirements. Loading conditions may require the screed mortar thickness to be increased.

Application Details

Consumption and Dosage

Sika® 1 liquid admixture is diluted 1:10 by volume with clean water to form a gauging solution.

Render:

1 st coat	25 kg bag Sika® 1 Spritz & Bonding Coat Mortar	5.7L gauging solution
2 nd coat	25 kg bag Sika® 1 Render Mortar	3.3L gauging solution
3 rd coat	25 kg bag Sika® 1 Finish Mortar	3.3L gauging solution

A mixed 25kg bag of Sika® 1 Pre-bagged Spritz & Bonding Coat Mortar will yield ~12.5L of mortar which is sufficient to cover ~2m² at 6mm thick.

A mixed 25kg bag of Sika® 1 Pre-bagged render or finish mortar will yield ~ 12.5L of mortar which is sufficient to cover ~2m² at 6mm thick

Screed:

1 st coat	25 kg bag Sika® 1 Spritz & Bonding Coat Mortar	5.7L gauging solution
2 nd coat	25 kg bag Sika® 1 Spritz & Bonding Coat Mortar	5.7L gauging solution
3 rd coat	25 kg bag Sika® 1 Screed Mortar	2.5L gauging solution

A mixed 25kg bag of Sika 1 Pre-bagged Spritz & Bonding Coat Mortar will yield ~ 12.5L of mortar which is sufficient to cover ~1.2m² at 10mm thick.

A mixed 25kg bag of Sika® 1 Pre-bagged Screed Mortar will yield ~ 12.5L of mortar which is sufficient to cover 0.6m² at 20 mm thick.

Substrate Quality	The substrate must be structural sound and generally brickwork, dense concrete block and concrete normally provide satisfactory substrates. All surfaces should be clean and free from surface contaminants and laitance to achieve an adequate bond.
Substrate Preparation	WALLS/BRICK: All existing treatments shall be completely removed and the exposed surfaces roughened by mechanical or water blasting techniques, followed by washing down and brushing to ensure full removal of all loose material. Mortar joints should be bonded and sound. Any defective mortar joint should be raked out to a depth of 12.0mm and repointed using Sika®-1 Finishing Mortar made up with clean water. WALLS/CONCRETE: All laitance shall be removed to expose coarse aggregate by mechanical or water blasting techniques. On new concrete walls Sika® Rugasol® MH Concrete Retarder can be applied to the face of the shuttering followed by wire brushing and washing of concrete surfaces. FLOORS/GENERAL: All existing treatments shall be completely removed and the exposed concrete floor mechanically prepared, washed down and brushed to ensure full removal of all loose debris to give an exposed aggregate finish, free of laitance, and surface contamination.
Application Conditions / Limitations	
Ambient Temperature	+5°C / +30°C
Mixing	Place a the correct amount of gauging solution into a mixer and add the mortar and mix until for gauging liquid has been evenly dispersed, approximate 3 minutes. The Sika 1 pre-bagged waterproofing system should be mechanically mixed using a forced action mixer or drill and paddle mixer to limit the amount of air entrapment and to ensure thorough dispersion of the Sika 1 Liquid Admixture. A tumble mixer is <u>not</u> suitable for mixing.
Application Instructions	
Application Method / Tools	Immediately prior to application the substrate must be soaked with clean water however no standing water or puddles should be present. Sika® 1 Pre-bagged Waterproofing render system First coat – Sika®-1 Spritz & Bonding Coat Mortar applied as a 6 mm spritz coat by casting on vigorously over the complete wall surface. Second coat – Sika®-1 Render Mortar applied by trowel at 6 mm as soon as the first coat has stiffened sufficiently (typically 4-5 hours later), with a coved trowel used at internal corners. A splatter coat of Sika®-1 render mortar or Sika Spritz and Bonding mortar, mixed with plain clean water or gauging liquid, is then applied to serve as a key for the third coat. Third coat – a Sika®-1 finishing mortar applied by trowel at 6 mm, finished with a wooden float to achieve a closed surface with neat arrises. Should additional coats be required Sika®-1 Render Mortar is repeated on the second day and subsequent days before the application of the Sika®-1 Finishing Mortar final mix. Decorative Finishes Refer to Architectural and Engineering Considerations.

Application Method / Tools

Sika® 1 Pre-bagged Waterproofing Screed system

First coat – Sika®-1 Spritz and Bonding Coat Mortar is applied as a bonding coat in sections by vigorously working into the surface using a stiff brush or broom
Second coat – Sika®-1 Spritz and Bonding Coat Mortar is applied by trowel by waiting for the mortar to become a plastic consistency. This coat is laid whilst the first coat is still wet at a minimum overall thickness of 10 mm.

Third coat – When second coat has hardened sufficiently to walk on, apply third coat. Sika®-1 Screeding Mortar is prepared to a semi-dry consistency and is applied in a coat of 20 mm minimum thickness whilst the previous coat is still green. Tamp vigorously, until moisture rises to the surface and finish off with a wooden float to achieve a flat, closed surface or to achieve a surface finish to suit the final floor covering. If third coat exceeds second coat by more than 24 hours, apply another bonding coat of Sika Spritz and Bonding Coat Mortar.

Corner Fillet – Use Sika®-1 render mortar to form any optional corner fillets.

FORMATION OF LAP JOINTS:

When applying Sika®-1 Pre-bagged Waterproofing Screed systems, successive coats will be lapped to eliminate a continuous butt joint through the mortar. The joints between successive coats of render and screed at day work joints must be stepped back to allow overlaps of a minimum 100 mm in length. Before continuing with the new work the lap will be prepared by brushing and priming with a bonding coat of Sika 1 Spritz and Bonding Coat Mortar.

Working Time

Approximately 30 Minutes at 20°C

Notes on Application

Detailing and specification support is available from our Technical Department.

Levelling of walls and screeds

Undulating surfaces should be levelled after application of the Sika® 1 prebagged systems for optimum performance.

Joints/cracks subject to movement should be treated using Sikadur Combiflex joint system prior to the application of the Sika® 1 Pre-bagged waterproofing systems. Cracks leaking water should be sealed with Sika Injection systems or plugged using Sika 4a.

Curing Sika® 1 Pre-bagged Waterproofing render systems must be kept moist during the work period and for a minimum 7 day period after final application to stop drying out and reduce cracking. They should be prevented from being exposed to sudden changes in air temperature and relative humidity.

Fixings should be bonded onto the Sika® 1 Pre-bagged waterproofing system or pockets created before installation. See standard detailing sheet.

Timber battens can be adhered onto the Sika® 1 Pre-bagged Waterproofing Render using Sikaflex 11FC to facilitate the application of a dry lining system.

Sikadur 31 CF can be used to structurally bond fixtures to the Sika® 1 Pre-bagged waterproofing system.

Ensure the Substrate is structurally sound before installing Sika® 1 Pre-bagged waterproofing systems.

Overcoating To provide a smooth finish suitable for decorating, use Sika Whitewall plaster or SikaMur finish plaster to the wood float finished third coat of the Sika® 1 Pre-bagged Waterproofing render system.

Sikagard and Sikafloor coatings can be applied directly to Sika® 1 Pre-bagged Waterproofing Systems to enhance durability and aesthetics.

Sealing of Pipes and Ducts – Refer to detailing sheet.

Installation should be carried out by Sika Recommended Contractors.

Reference should always be made to the Detailing, Architectural and Engineering Consideration Sheets, Agreement Certificates and Installation Guides.

Notes on Limitations	Puncturing the system can compromise its integrity. Do not exposed to frost while curing. Allow Sika® 1 Pre-bagged Waterproofing render system to sufficiently dry out before over coating. The structure and its elements must be capable of withstanding the developed water pressure and other anticipated loadings without cracking or delaminating. Advice should be sought from independently qualified personnel with knowledge of the structure and local ground conditions. Never score or scratch any of the Sika® 1 coats to provide a key. Do not use gypsum based plaster over Sika® 1 system. Refer to plaster manufacturer for advice on suitability of product for use in waterproofing works.
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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