PRODUCT DESCRIPTION

Sika®-1 is a normal setting waterproofing compound which reacts with the constituents of the cement mix to block the capillaries and pores in concrete and mortar. Whilst effectively blocking the passage of water, it allows breathing to take place thus considerably reducing the possibility of consideration.

USES

Sika®-1 is chloride-free and being non-toxic in a cement mortar, it is suitable for contact with potable water. Sika®-1 is used in building and civil engineering construction, such as:

**Building Construction**
- Waterproofing of basements against dampness, ground water and water pressure, inside and outside
- Waterproofing under difficult conditions i.e. central heating plants
- Waterproofing of lift pits in conjunction with basement waterproofing
- Waterproofing of bathrooms, showers as well as business and industrial humidity chambers
- Waterproofing of swimming pools
- Execution of weatherproof façade renderings
- Waterproof toppings
- As a general waterproofer and for normal concrete mixes

**Civil Engineering-Waterproofing of:**
- Filter beds
- Water reservoir
- Subways
- Sewerage
- Tunnels
- Shelter rooms and fortification works
- Water Engineering

CHARACTERISTICS/ADVANTAGES

- Ready to use
- Non-toxic
- Non-corrosive
- Chloride-free
- Non-flammable
- Sika®-1 rendering or coating applied by specialist is a guarantee for permanent waterproofing
- Proven worldwide

TECHNICAL & PHYSICAL DATA

**Type/Color**
Viscous Liquid/Yellow

**Specific Gravity**
1.02-1.06 kg/liter

**Consumption Guide**

<table>
<thead>
<tr>
<th></th>
<th>Mixing Ratio (C:S)</th>
<th>Coat Thickness (C:S)</th>
<th>Per 1m²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cement</td>
</tr>
<tr>
<td><strong>Floor</strong></td>
<td></td>
<td></td>
<td>(kg)</td>
</tr>
<tr>
<td>Waterproofing</td>
<td>1:1</td>
<td>10</td>
<td>8.32</td>
</tr>
<tr>
<td>Protective Coat</td>
<td>1:2.5</td>
<td>20</td>
<td>11.25</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>10</td>
<td>19.57</td>
</tr>
<tr>
<td><strong>Walls</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterproofing</td>
<td>1:1</td>
<td>6</td>
<td>4.99</td>
</tr>
<tr>
<td>Protective Coat</td>
<td>1:2.5</td>
<td>7</td>
<td>3.94</td>
</tr>
<tr>
<td>Protective Coat</td>
<td>1:2.5</td>
<td>7</td>
<td>3.94</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>12.87</td>
<td>24.69</td>
</tr>
</tbody>
</table>

If water pressure is high, use Sika®-1 at the same dosage in the protective coat. *
**Storage Condition**
Store in a dry cool place

**Shelf Life**
Minimum 2 years when unopened in original packaging.

**Packaging**
210 L/drum

**Waterproofing Properties**
(Typical result)

<table>
<thead>
<tr>
<th></th>
<th>Water Penetration (under 0.5 kg/cm² pressure)</th>
<th>Coefficient of Water Permeability K (under 3 kg/cm² pressure)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Mortar</td>
<td>16.5 mm</td>
<td>1.46 $10^{-12}$ m/sec</td>
</tr>
<tr>
<td>Cement: Sand 1:3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water: Cement 0.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sika®-1 Rendering</td>
<td>3.9 mm</td>
<td>6.97 $10^{-13}$ m/sec</td>
</tr>
<tr>
<td>(4 coat system)</td>
<td></td>
<td></td>
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<tr>
<td>Comparative Ratio</td>
<td>0.24</td>
<td>0.48</td>
</tr>
</tbody>
</table>

Typical Details: Sika®-1 Rendering/Screed-WALL TO FLOOR SECTION
The proportions of cement to sand are given by volume. For effective waterproofing work, it is essential that the sand be both clean and sharp (loamy and soft sands are not suitable) and, except where otherwise stated graded 3mm down.

**Key To Diagram**
1. Structure: surface hacked or roughened, wire brushed and washed down
2. Corner Fillet: Mortar 1:1 to 1:2 with Sika®-1 after careful cleaning of the angle
3. First day:
   a. 1st coat: Mortar 1:1 with Sika®-1
   b. 2nd coat: Mortar 1:1.5 with Sika®-1 followed by a splatter coat as before
4. Second day: 3rd coat: Mortar 1:1.5 with Sika®-1 followed by a splatter coat to form a key
5. Third day: 4th coat: Mortar 1:2.5 with Sika®-1
6. Grout: Same mortar 1:1 as for the bonding coat (see below) but of a sloppy consistency, applied with a brush onto hacked surface after thorough wetting
7. Bonding coat: Mortar 1:1 with Sika®-1 10mm thick
8. Main Floor Coat: Mortar 1.25 to 1:3 with Sika®-1 preferably using 4.67mm sand not less than 28mm thick, vigorously tamped
9. Finish: Cement and fine sand 1:1 sprinkled dry and rubbed in
10. Cove: Rounded with coving tool or bottle
11. Detail: Lap joints to be formed in grout and bonding coats

**TYPICAL APPLICATIONS**

1. **As a General Waterproofing Admixture**
   The addition of Sika®-1 to mortar for external rendering will increase watertightness without impeding the breathing of the walls, thus reducing the risk of condensation and damage due to frost and efflorescence. Sika®-1 can be used with advantage in all types of mortar.
   Dilution: 1:10 with gauging water (approx 1.5 L per 50 kg of cement)

2. **As a Rendering Agent**
   a. To Resist Moisture and Dampness (above ground level) i.e. after DPC insertion
      **Surface Preparation**
      Prepare the surface as previously mentioned. Apply a second coat of a 1:1 (cement : sand) mortar with Sika®-1 not less than 6 mm thick, taking care to cover the whole surface.
      **Mixing**
      Mix to a ‘sloppy’ consistency and cast on vigorously. Apply a second coat not less than 6mm thick as soon as the previous coat has stiffened sufficiently (usually after 4-5 hours). The second coat should be 1:2.5 (cement : sand) with a wood float finish.
   b. To Resist Water Pressure i.e. basement, vaults, swimming pools, tanks, etc. Prepare the surface as mentioned in 2(a) above. Dilution of Sika®-1 1:10 with gauging water.
      Application
      **First Day**
      First Coat. Mortar 1:1 with approx. 6mm thick taking care to cover the surface completely. Mix to a sloppy consistency and cast on vigorously.
      Second Coat. Mortar 1:1.5 with Sika®-1 approx. 6mm thick applied as soon as the 1st coat has stiffened sufficiently (usually after 4-5 hours). On completion, apply a splatter coat of the same mortar, mixed to a sloppy consistency with plain water, over the whole surface to form a key for the next coat.
      **Second Day**
      Third Coat. Mortar 1:2.5 with approx. 6 mm thick, this final coat should be finished with a wood float.
      When a four coat rendering against high water pressure is required, then an additional 1:1.5 coat is applied with a following splatter key coat on the second day thus extending the process by one day. Lap joints. To ensure watertightness, careful attention should be paid to all joints in the work. Each coat should be stepped back 100mm from the finishing line of the previous coat to avoid butt joints (See diagram).
3. As a Waterproofing Floor Topping

Preparatory Work
As for rendering, the surface must be roughened, wire brushed and thoroughly washed down. Sand to be both clean and sharp. It should be graded 3mm down except for the main floor coat where it is preferable to use 4.76mm sand.

Dilution and Mixing

Grout
Same mortar 1:1 as for bonding coat (see below) but of a sloppy consistency vigorously applied with a brush or broom. Laid in strips and be walked on.

Bonding Coat
Mortar 1:1 with Sika®-1, plastic consistency, spread with trowel not less than 10mm thick. Laid in strips and not to be walked on.

Main Floor Coat
Mortar 1:2.5 to 1:3 with Sika®-1 preferably using 4.76mm sand, laid in a semi-dry state while the bonding coat is still wet to a thickness of not less than 28mm, i.e. a minimum total thickness of 38mm. The surface to be tamped vigorously until moisture rises to the surface.

Lap Joints
To ensure watertightness, careful attention must be paid to all joints in the work. The edge of each strip of bonding coat must be covered by the next strip (lap joints).

Wall/Floor Angle
The first and second coat of the wall rendering are carried down and out onto the posed 200 mm and 100 mm, respectively. Before laying the floor topping these exposed strips should be prepared and treated as in 6 above. The cove in the main floor coat, formed with cove trowel or bottle, helps to strengthen the joint between the wall rendering and the floor topping.

Finishing Plasters
Sika Brefill Plastering System is suitable for use with Sika®-1 Rendering System. Consult our Technical Department with regard to application.

INSTRUCTION FOR USE

Surface Preparation
All surface must be 100% roughened, either by hacking or by the use of Sika® Rugasol treated shutters and then wire brushed and thoroughly washed down. Immediately prior to application, the substrate must be soaked with clean water, however, no standing water or puddles should be present.

All fixtures must be removed. Any cracks, porous patches and generally defective areas should be cut out and made good as the work proceeds. Infiltration of water must be stopped with Sika-4a.

Diluting and Mixing

Dilute one part Sika-1 with ten parts clean water (with wet sand 1:8 with dry sand 1:12). Stir often, use within 12 hours.

Sika-1 is yellow and the solution must be free from lumps before use. To ensure this for the first mix, use equal quantities of Sika-1 and water and then add the remainder of the gauging water slowly stirring all the time.

The cement: sand ratios given are by volume. Do not use soft sand.

Curing
Sika-1 renderings and floor screeds must be kept moistened for a minimum 7 days period after application to stop rapid drying out. They should also be kept insulated from adjacent sources of heat (i.e. boilers) to ensure the temperature does not exceed 90°F. Protect fresh mortar from frost.
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 declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data.

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.

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.