Sikalastic®-450 (I) Premium

Elastomeric, single component, aliphatic polyurethane based cold liquid applied waterproof coating system

Product Description
Sikalastic®-450 (I) Premium is a single-component, elastomeric, aliphatic polyurethane based cold liquid applied, high build, waterproof coating system. It cures to form an elastic, seamless, waterproof coating with good crack-bridging properties.

Uses
- Used as a seamless, impervious coating on roofs and concrete structures
- Protective coating in infrastructure projects in civil engineering on non-trafficked areas
- It has excellent adhesion to concrete, brickwork, asphalt, corrugated asbestos, and asbestos cement.
- Can be used for inverted roof structures.

Characteristics / Advantages
- Crack-bridging
- Elastomeric – cures with aerial moisture to a flexible and rubbery coating
- Single component – No mixing and weighing at site
- Simple application – by airless spray or roller
- Economic
- Root resistant
- Weather and UV resistant
- Abrasion resistance
- Hydrolysis resistant
- Resistant to mild acids and chemicals and industrial environment

Tests
Approvals / Standards

Product Data
Form

Appearance / Colour
Black, liquid

Packaging
23.5 kg container

Storage

Storage Conditions / Shelf Life
6 months from date of production if stored properly in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5°C and +30°C.
Technical Data

**Chemical Base**
Aliphatic polyurethane modified tar extended coating

**Specific Gravity**
1.2 ± 0.01

**Workable time**
~ 3 hrs at 30°C

**Tack free time**
~12 – 24 hrs at 20°C and 50% RH

**Full cure**
7 days at 30°C

**Moisture permeability**
~25 g/m²/day/mm (According to ASTM E 96 - 92)

**Crack bridging ability**
Passes 2.6 mm (According to ASTM C- 836 84m)

**Accelerated weathering, No appreciable deterioration (12000 hours)**
(According to ASTM G- 154)

**UV resistance and ozone stability**
Excellent

**Abel Closed Cup Flash Point**
69 ºC (According to ISO 1523- 1983)

**Hydrolysis Resistance**
Excellent

**Hardness ( Shore 00/A)**
90/50 (According to ASTM C- 836- 05)

**Low Temperature Flexibility**
No cracking (According to ASTM C- 836- 05)

**Extensibility after heat aging**
No cracking (According to ASTM C- 836- 05)

**Mechanical / Physical Properties**

**Tensile Strength**
2 N/mm² (According to ASTM D 412)

**Elongation at Break**
> 500% (According to ASTM D 412)

System Information

**Exposed Roofing-system, for non – trafficked roof :**

- Primer: 1 x Sikalastic®-450 (h) primer
- Base coating: 1 x Sikalastic®-450 (I) Premium
- Glass Fabric: 1 x Sika® Fab-1
- Top coating: 1 x Sikalastic®-450 (I) Premium

**Concealed Roofing-system, for trafficked roof :**

- Primer: 1 x Sikalastic®-450 (h)
- Base coating: 1 x Sikalastic®-450 (I) Premium
- Glass Fabric: 1 x Sika® Fab-1
- Top coating: 1 x Sikalastic®-450 (I) Premium + sand sprinkling
- Protection screed: Screed concrete with slope ( min avg. thickness 50 mm ) admixed with Sika® Fibre h-150

Application Details

**Coverage**

- Sikalastic®-450 (h) Primer: ~ 0.200- 0.300 kg/m²
- Sikalastic®-450 (I) Premium 1st coat: ~ 0.500-0.600 kg/m²
- Sikalastic®-450 (I) Premium 2nd coat: ~ 0.500-0.600 kg/m²

Total minimum average thickness is around 1 mm on horizontal surface when applied properly. The above data is for plain surface, for uneven and rough surface the consumption will be more. The coating can be applied in higher thickness up to 1.5 mm.

For higher performance, Sikalastic®-450 (I) Premium system should be applied using 60 gsm glass fibre reinforcement Sika® Fab-1.
<table>
<thead>
<tr>
<th>Substrate Quality</th>
<th>The cementitious substrate should be sound and of sufficient strength (min. 25 N/mm²). Minimum pull-off strength 1.5 N/mm². Free from grease, oil and contamination.</th>
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</thead>
<tbody>
<tr>
<td>Substrate Preparation</td>
<td>All dust, loose and friable materials and glaze or varnish of tiles must be completely removed by mechanical means. Existing coatings have to be inspected, cleaned and mechanically ground to achieve a sound, gripping substrate. In case of bad adhesion to the substrate, existing coatings have to be removed. The uneven surface should be properly treated by suitable Sika material to get a plain surface. In case of fungal growth on the surface, please wash the surface first with 5% Sodium Hypochlorite solution and wire brushing, then clean the surface with diluted solution of Sika® Colma Cleaner and allow the surface to completely dry.</td>
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<tr>
<td>Application Conditions / Limitations</td>
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<tr>
<td>Substrate Temperature</td>
<td>+10° C min. / +40° C max.</td>
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<tr>
<td>Ambient Temperature</td>
<td>+10 ° C min. / +40° C max.</td>
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<tr>
<td>Application Instructions</td>
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<tr>
<td>Mixing Tools</td>
<td>Sikalastic®-450 (I) Premium is a single component system and does not require any weighing and mixing at site.</td>
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<td>Application Method / Tools</td>
<td>Once the substrate is ready for application mix Sikalastic®-450 (h) primer with a ratio of 100:8 (A: B) for 3-5 minutes with a mechanical stirrer. After proper mixing apply the primer on to the prepared substrate by means of roller or brush. Once primer is dried apply 1st coat of Sikalastic®-450 (I) Premium by means of a roller or brush. Immediately after application of first coat roll out Sika® Fab 1 and press against the coating by brush or roller so that the Sika® Fab 1 gets properly embedded in the Sikalastic®-450 (I) Premium layer. Wait until the coating gets touch dry. Normally it takes 12-24 hrs to get touch dry condition (sometime it may take longer time depending on the atmospheric condition). Once the coating is touch dry apply second coat of Sikalastic®-450 (I) Premium by means of brush or roller. The overlap for day work joined shall be minimum 150 mm. 100 mm overlap shall be provided for Sika® Fab 1. Application by spraying can be done only with air less spray. Graco king 60:1 ratio or similar. Compressor: 100psi, 60 cfm min. Tip size: 28-30 thou 50° angle.</td>
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<td>Cleaning of Tools</td>
<td>Clean all tools and application equipment with aromatic hydrocarbon solvent immediately after use. Hardened and/or cured material can only be removed mechanically.</td>
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<td>Notes on Application / Limitations</td>
<td>For optimum application, do not allow liquid Sikalastic®-450 (I) Premium to be heated by direct sunlight or other heat sources. Not suitable for permanent water immersion. During the curing process micro bubbles are formed. This is a product characteristic, which does not affect the protective properties. For this reason it should be ensured that the material is not applied at excessive film thicknesses in one layer. Excessive film thickness may create bubbles. The product can be applied by brush, roller or airless spray. Work well with a brush in difficult areas. Apply subsequent layers after the first layer has cured tack free. The elastic properties are maintained at temperatures down to -20°C and up to +80°C.</td>
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<tr>
<td>Value Base</td>
<td>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.</td>
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<td>Health and Safety Information</td>
<td>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.</td>
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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.