

Sikalastic®-450 (I)

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

Product Description	Sikalastic®-450 (I) 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. Sikalastic®-450 (I) conforms to ASTM C 836 - 89
Uses	<ul style="list-style-type: none"> ■ 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	<ul style="list-style-type: none"> ■ 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	Conforms to: ASTM C 836 – 89, IS 2645, IS 101, ASTM E 96 - 92, ASTM D 36 - 84, ASTM D 412
Product Data	
Form	
Appearance / Colour	Black, liquid
Packaging	20.0 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 bituminous emulsion	
Specific Gravity	1.2 ± 0.01	
Workable time	~ 3 hrs at 30°C	
Tack free time	~12 – 20 hrs at 20°C and 50% RH	
Full cure	7 days at 30°C	
Water permeability	Negligible	(According to IS 2645)
Moisture permeability	>0.15 g/m ² /day	(According to ASTM E 96 - 92)
Water absorption	Negligible	
Crack resistance	Passes 3 mm mandrel	(According to IS 101)
Accelerated weathering,	No cracking and blister formation (500 hours)	(According to IS 101)
UV resistance and ozone stability	Excellent	
Softening Point	> 120 °C	(According to ASTM D 36 - 84)

Mechanical / Physical Properties

Tensile Strength	2 N/mm ² (14 days at +27 °C)	(According to ASTM D 412)
Elongation at Break	> 900% (14 days at +27°C)	(According to ASTM D 412)
Recovery	> 50% (at 350% elongation)	(According to ASTM D 412)

System Information

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

Layer thickness:	~1.5 mm
Primer:	1 x Sikalastic®-450 (I) diluted with water (1:1 by wt)
Base coating :	1 x Sikalastic®-450 (I)
Glass Fabric :	1 x Sika® Fab-1
Top coating:	1 x Sikalastic®-450 (I)

Concealed Roofing-system, for trafficked roof :

Layer thickness:	~1.5 mm
Primer:	1 x Sikalastic®-450 (I) diluted with water (1:1 by wt)
Base coating :	1 x Sikalastic®-450 (I)
Glass Fabric :	1 x Sika® Fab-1
Top coating:	1 x Sikalastic®-450 (I) + sand sprinkling
Protection screed:	Screed concrete with slope (min avg. thickness 50 mm) admixed with Sika® Fibre h-150

Note : In case the viscosity of the product becomes higher due to change in temperature and humidity at the time of application, the product should be diluted with water (20% maximum by weight, i.e. 4 lt. of water for 20kg of Sikalastic®-450 (I) at site to achieve a workable consistency.

Application Details

Coverage	Sikalastic®-450 (I) Primer :~ 0.250 kg/m ² Sikalastic®-450 (I):1 st coat: ~ 0.500 kg/m ² Sikalastic®-450 (I):2 nd coat:~ 0.500 kg/m ² 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.
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	For higher performance, Sikalastic®-450 (I) system should be applied using 60 gsm glass fibre reinforcement Sika® Fab-1.
Substrate Quality	The cementitious substrate should be sound and of sufficient strength (min. 25 N/mm ²). Minimum pull-off strength 1.5 N/mm ² . Free from grease, oil and contamination.
Substrate Preparation	<p>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.</p> <p>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.</p>
Application Conditions / Limitations	
Substrate Temperature	+10 °C min. / +40 °C max.
Ambient Temperature	+10 °C min. / +40 °C max.
Application Instructions	
Mixing Tools	Sikalastic®-450 (I) is a single component system and does not require any weighing and mixing at site.
Application Method / Tools	<p>Apply 1st coat of the mixed material by notch trowel / hard brush on the primed surface. Do not spoil the dry surface while walking on it for application. Material should be applied within the workable time of Sikalastic®-450 (I)</p> <p>After 24 hours apply the 2nd coat of Sikalastic®-450 (I) following the same above procedure. Allow the final coating to air cure. Full curing may take upto 7 days depending on temperature and humidity.</p>
Cleaning of Tools	Clean all tools and application equipment with water immediately after use. Hardened and/or cured material can only be removed mechanically.
Notes on Application / Limitations	<p>For optimum application, do not allow liquid Sikalastic®-450(I) to be heated by direct sunlight or other heat sources.</p> <p>Not suitable for permanent water immersion.</p> <p>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.</p> <p>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.</p> <p>The product can be over coated with itself.</p> <p>The elastic properties are maintained at temperatures down to -20 °C and up to +80 °C.</p>
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.
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.



Sika India Pvt. Ltd.
Commercial Complex II
620, Diamond Harbour Road
Kolkata, 700 034, India

Phone +91 33 2447 2448/2449
Telefax +91 33 2468 8688/2665
www.sika.in
info@in.sika.com