

## PRODUCT DATA SHEET

# Sikalastic®-450 (I)

Aliphatic, elastomeric, polyurethane based liquid applied waterproofing coating

### DESCRIPTION

Sikalastic®-450 (I) is a single component, elastomeric, aliphatic polyurethane based liquid applied waterproof coating system. It cures to form an highly elastic, seamless, waterproof coating with excellent crack bridging properties.

### USES

- Seamless, impervious coating for application on roofs and concrete structures
  - Protective coating in infrastructure projects in civil engineering on non-trafficked areas
  - Used to waterproof variety of substrates concrete, brickwork, asphalt, corrugated asbestos sheets, etc.
  - Used for inverted roof structures
  - Used for podium waterproofing as a part of built up system
  - Can be applied on retaining walls before backfill
- Important: Not suitable for permanent water immersion or water-retaining structures such as RC tanks, swimming pools, water features, etc.

### CHARACTERISTICS / ADVANTAGES

- Excellent crack bridging properties
- Elastomeric membrane that cures with aerial moisture to a flexible and rubbery coating
- Single component, ready to use
- Easy application by brush, airless spray or roller
- Economical
- Root resistant as a part of built up system
- Abrasion resistant
- Hydrolysis resistant
- Resistant to mild acid and chemicals and industrial environment
- Weathering and UV resistant
- Low VOC and eco-friendly

### PRODUCT INFORMATION

<b>Chemical base</b>	Aliphatic polyurethane modified bituminous emulsion	
<b>Packaging</b>	20 kg container	
<b>Shelf life</b>	12 months from date of production	
<b>Storage conditions</b>	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C.	
<b>Colour</b>	Liquid	Black
	Cured membrane	Black
	Note: When exposed to UV light, cured coating will start to yellow slightly without losing its physical properties.	
<b>Density</b>	1.20 ± 0.05 kg/L	
<b>Solid content by weight</b>	≥ 60 %	

## TECHNICAL INFORMATION

Tensile strength	~3.0 N/mm <sup>2</sup> (14 days at +27 °C with Sika® Fabric-50)	(ASTM D412)
Elongation at break	~900 % (14 days at +27 °C)	(ASTM D412)
Crack bridging ability	Passes 3 mm Mandrel	(IS 101)
Service temperature	-20 °C to +80 °C	
Heat resistance	> 120 °C (Softening point)	(ASTM D36)
Water absorption	Negligible	
Permeability to water vapour	~25 g/m <sup>2</sup> /day	(IS 101)
Behaviour after artificial weathering	No cracking and no blistering in 500 hours	(IS 101)

## SYSTEM INFORMATION

System structure	<b>Standard Coating System</b>	
	<b>System build-up</b>	<b>Product</b>
	Primer	Sikalastic®-450 (I) diluted with water 1:1 by weight
	Base coat	Sikalastic®-450 (I)
	Top coat	Sikalastic®-450 (I)
	<b>Reinforced Coating System</b>	
	<b>System build-up</b>	<b>Product</b>
	Primer	Sikalastic®-450 (I) diluted with water 1:1 by weight
	Base coat	Sikalastic®-450 (I)
	Fabric reinforcement	Sika® Fabric-50
	Top coat	Sikalastic®-450 (I)
Dry film thickness	Standard Coating System	~1.0 mm
	Reinforced Coating System	~1.2 mm

## APPLICATION INFORMATION

Consumption	<b>Important:</b> The material must not applied at excessive film thicknesses in one layer. Excessive film thickness may create bubbles.		
	<b>Important:</b> During the curing process micro bubbles are formed. This is a product characteristic, which does not affect the protective properties.		
	<b>Build-up</b>	<b>Product</b>	<b>Consumption</b>
	Layer 1	Sikalastic®-450 (I) diluted with water in 1:1	~0.25 kg/m <sup>2</sup> (Diluted)
	Layer 2	Sikalastic®-450 (I)	~0.850 kg/m <sup>2</sup>
	Layer 3	Sika® Fabric-50	1 m <sup>2</sup> /m <sup>2</sup>
	Layer 4	Sikalastic®-450 (I)	~0.800 kg/m <sup>2</sup>
	Total	Sikalastic®-450 (I) for 2 coats	~1.7 kg/m <sup>2</sup>
	Note: These figures are theoretical and do not allow for any additional material due to surface porosity, surface profile, variations in level, overlaps and wastage etc.		
	Note: A third coat may be required to for full hiding of Sika® Fabric-50, if visible.		
Ambient air temperature	+10 °C min. / +40 °C max.		
Relative air humidity	80 % max.		

<b>Dew point</b>	Beware of condensation! The substrate and uncured membrane must be at least +3 °C above the dew point to reduce the risk of condensation.	
<b>Substrate temperature</b>	+10 °C min. / +40 °C max.	
<b>Substrate moisture content</b>	≤ 6 % parts by weight. The following test methods can be used: Sika®-Tramex meter, CM-measurement or Oven-dry-method. No rising moisture according to ASTM (Polyethylene-sheet).	
<b>Pot life</b>	~3 hours at +30 °C	
<b>Waiting time / Overcoating</b>	Primer to Base coat	2-4 hours
	Base coat to Sika® Fabric-50	Immediately on wet Base coat
	Top coat to Base coat	24 hours
	Top coat to protection screed	7-10 days
	Note: For vertical upstands sand should be broadcast on the wet 2 <sup>nd</sup> coat for better bonding with protection overlay.	
<b>Applied product ready for use</b>	Note: Water ponding test shall be done only once the coating is fully cured. Note: The product after full cure is slightly tacky. Full cure requires about 7-10 days at +30 °C depending on humidity and ventilation	

## BASIS OF PRODUCT DATA

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.

## ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

### SUBSTRATE PREPARATION

- The substrate must be clean, dry and free of all contamination such as dirt, oil, grease and coatings etc. which hinder an adhesion.
- The substrate must be sound and of sufficient strength of minimum M25 Grade(25 N/mm<sup>2</sup>). Also minimum pull-off strength must be 1.5 N/mm<sup>2</sup>.
- Weak concrete must be removed and surface defects such as blowholes and voids must be fully exposed.
- All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush and/or vacuum.
- Repairs to the substrate, filling of joints, blowholes/voids and surface levelling must be carried out using appropriate products from the Sika-floor®, Sikadur® and Sikagard® range of materials.
- High spots must be removed by e.g. grinding.

### MIXING

- Product is supplied ready for use.

- Before application, mix for at least 1 minute or until the liquid has achieved a uniform colour.

### APPLICATION

**Important:** Protect the coating from damp, condensation and direct water contact for at least 3-5 days.

**Important:** If applied on porous substrates during rising temperatures pin holes may occur from rising air. Apply during falling temperatures.

**Important:** Do not apply on roofs with improper slopes leading to long ponding.

**Important:** Do not allow temporary ponding to remain between coats on any horizontal surfaces or until the final coating has totally cured. Brush or mop surface water away during this time.

**Note:** Viscosity of the product may become 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 kg of water for 20 kg of Sikalastic®-450 (I) at site to achieve a workable consistency.

1. Prepare primer of Sikalastic®-450 (I) by diluting in 1:1 with clean water and apply with a hard brush, roller or airless spray. Ensure a continuous pore free coat covers the substrate.
2. Apply the first coat of Sikalastic®-450 (I).
3. Apply Sika® Fabric-50 on the surface while first coat is wet and use a roller or brush to fully embed the fabric in the coating without any bubbles or creases. Reinforcement overlaps must be a minimum of 50 mm.
4. Apply the second coat to achieve the required film thickness.
5. (Optional) A third coat may be necessary to achieve the required dry film thickness.
6. Protect with protection screed. It is recommended to use a separation layer such as geotextile or PE sheet.

## CLEANING OF TOOLS

Clean all tools and application equipment with Thinner C immediately after use. Hardened or cured material can only be removed mechanically.

## LOCAL RESTRICTIONS

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains 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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