

Product Data Sheet
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Sikalastic®-450 (I)

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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
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Uses	<ul style="list-style-type: none">■ Uses as a seamless , impervious coating on roofs and concrete structures■ Protective coating in infrastructure projects in civil engineering on non-trafficked areas■ It has an excellent adhesion to concrete, brickwork, asphalt, corrugated asbestos and asbestos cement■ Used for inverted roof structures
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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 & uv resistant■ Abrasion resistance■ Hydrolysis resistant■ Resistant to mild acid and chemicals and industrial environment.
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Tests

Approvals / Standards	Conforms to: IS 101, IS 2645, ASTM E 96-92, ASTM D36-84, ASTM D 412
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Product Data

Form

Appearance / Colour	Black Liquid
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Packaging	20 kg container
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Storage

Storage Conditions / Shelf Life	12 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.
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Technical Data

Chemical Base	Aliphatic Polyurethane modified bituminous emulsion	
Specific Gravity	1.2 ± 0.01	
Workable Time	~ 3 hours at 30°C	
Tack Free Time	~ 12-20 hours at 20°C & 50% RH	
Full Cure	7 days at 30°C	
Water permeability	Negligible	(According to IS 2645)
Moisture permeability	25 g/m ² /day	(According to IS 101)
Water Absorption	Negligible	
Crack resistance	Passes 3 mm Mandrel	(According to IS 101)
Accelerated Weathering	No cracking and blistering formation (500 hours)	(According to IS 101)
UV resistance and Ozone stability	Excellent	
Softening Point	> 120°C	(ASTM D36 -84)

Mechanical / Physical Properties

Tensile Strength	0.3 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)

System Information

System Structure

Exposed Roofing-system:

Layer thickness:	1.5 mm
Primer:	1 x Sikalastic®-450 (I) diluted with 1:1 by wt
Base Coating:	1 x Sikalastic®-450 (I)
Fabric reinforcement	1 x Sika® Fab1
Top Coat :	1x Sikalastic®-450 (I)

Concealed Roofing-system:

Layer thickness:	1.5 mm
Primer:	1 x Sikalastic®-450 (I) diluted with 1:1 by wt
Base Coating:	1 x Sikalastic®-450 (I)
Fabric reinforcement	1 x Sika® Fab1
Top Coat :	1x Sikalastic®-450 (I)
Separation Layer	PE Sheet
UV-protection:	Screed concrete with slope (min avg. Thickness 50 mm)

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, ie 4ltr of water for 20 kg of Sikalastic® 450 (I) at site to achieve a workable consistency.

When the coating is applied on vertical surfaces sand should be sprinkled on the top coat when in wet condition. This sand must be quartz sand with grain size of 0.3 - 0.5mm.

The separation layer PE sheet should be atleast 300 micron.

The UV protection layer of screed concrete must be have a grid type pattern of size : 1m X1m with a groove of size 4mm X10mm deep which needs to be filled with sealant.

Application Details

Consumption / Dosage	Coating System	Product	Consumption
	<i>Exposed Roofing-system,</i>	1 x Sikalastic®-450 (I) Primer	~0.25 kg/m ²
		1 x Sikalastic®-450 (I)	~0.50 kg/m ²
1 x Sika® Fab-1		1 m ²	
1 x Sikalastic®-450 (I)		~0.50 kg/m ²	
	<i>Concealed Roofing-system</i>	1 x Sikalastic®-450 (I) Primer	~0.25 kg/m ²
		1 x Sikalastic®-450 (I)	~0.50 kg/m ²
		1 x Sika® Fab-1	1 m ²
		1 x Sikalastic®-450 (I)	~0.50 kg/m ²

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.

Substrate Quality

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 min 25 N/mm². Also minimum Pull Off Strength must be 1.5 N/mm²

Substrate Preparation

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.

The uneven surface should be properly treated with suitable Sika® material to get a plain finish.

Application Conditions / Limitations

Substrate Temperature +10°C min. / +40°C max.

Ambient Température +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

Apply the first 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.

After 24 hours apply the second coat following the same above procedure.

Allow the final coat to Air cure. Full curing may take upto 7 days depending on temperature and humidity.

Cleaning of Tools

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

Notes on Application / Limitations

For optimum application, do not allow liquid Sikalastic®-450 (I) 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.

After Sikalastic®-450 h has been exposed to UV light, it will start to yellow slightly without losing its physical properties though.

The product can be over coated with itself.

The elastic properties are maintained at temperatures down to -20°C and upto + 80°C

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.

