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 water-proof 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

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

Chemical Base	Aliphatic polyurethane modified bituminous emulsion
Packaging	20 kg container
Colour	Black Liquid
Shelf Life	12 months from the date of production
Storage Conditions	Store in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5°C and +30°C.
Density	1.20±0.05 kg/liter
Solid content by weight	≥ 60%

TECHNICAL INFORMATION

Tensile Strength	≥ 3.0 N/mm² After 14 days at +27°C with Sika® Fab1	(ASTM D 412)

Elongation at Break	≥ 900% After 14 days at +27°C	(ASTM D 412)
Crack Bridging Ability	Passes 3 mm Mandrel	(IS 101)
Permeability to Water Vapour	~25 g/m²/day	(IS 101)
Water Absorption	Negligible	
Thermal Resistance	> 120°C (Softening Point)	(ASTM D36)
Behaviour after Artificial Weathering	No cracking and no blistering (500 hours)	(IS 101)
Service Temperature	-20°C to +80°C	

SYSTEM INFORMATION

System Structure

Standard Coating System

System Build-Up	Product
Primer	Sikalastic®-450 (I) diluted with water 1:1 by weight
Base Coat	Sikalastic®-450 (I)
Top Coat	Sikalastic®-450 (I)

Reinforced Coating System

System Build-Up	Product
Primer	Sikalastic®-450 (I) diluted with water 1:1 by weight
Base Coat	Sikalastic®-450 (I)
Fabric reinforcement	Sika® Fab-1
Top Coat	Sikalastic®-450 (I)

Dry film thickness

1.0 mm	Standard Coating System
1.2 mm	Reinforced Coating System

APPLICATION INFORMATION

Yield

Build-up	Product	Consumption
Layer 1	Sikalastic®-450 (I) diluted primer	~0.25 kg/m²
Layer 2	Sikalastic®-450 (I)	~0.50 kg/m²
Layer 3	Sika® Fab-1	1 m²/m²
Layer 4	Sikalastic®-450 (I)	~0.50 kg/m²

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.

Ambient Air Temperature	+10°C min. / +40°C max.
Relative Air Humidity	80% max
Substrate Temperature	+10°C min. / +40°C max.
Dew Point	Beware of condensation! The substrate and uncured membrane must be at least 3°C above the dew point to reduce the risk of condensation.
Substrate Moisture Content	< 6%
Pot Life	~ 3 hours at 30°C

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December 2019, Version 01.01
020915205000000021

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Waiting Time / Overcoating	Primer to Base coat	2-4 hours
	Base coat to Sika® Fab-1	Immediately in wet Base coat
	Top coat to Base coat	24 hours
	Top coat to Protection screed	7-10 days

Tack Free Time	~12-20 hours at 20°C and 50% Relative Humidity

Drying Time	Full Cure requires about 7 days at 30°C

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 min M25 Grade(25 N/mm²). Also minimum Pull Off Strength must be 1.5 N/mm²
- 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 Sikafloor®, Sikadur® and Sikagard® range of materials.
- High spots must be removed by e.g. grinding.

MIXING

Prior to application, stir Sikalastic®-450 (I) thoroughly in order to achieve a homogeneous mix.

APPLICATION

- Apply primer coat of Sikalastic®-450 (I) with 50% diluted with clean water, which will cure in 2-4 hrs depending on the atmospheric conditions, with an approx. consumption of ~0.25 kg/m² with a hard brush, roller or airless spray.
- Apply the first coat of approx 0.50 kg/m² of Sikalastic®-450 (I), then apply Sika® Fab-1 on the surface and ensure that there are no bubbles or creases. Overlapping of the Sika® Fab-1 is minimum 50 mm, allow this coat to dry for a period of 24 hours atleast depending on the atmospheric conditions.
- Apply second coat of approx 0.50 kg/m² coat to achieve the required film thickness.
- Do not spoil the dry surface while walking on it for application. Material should be applied within the workable time.
- 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.

FURTHER DOCUMENTS

- 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, hence not recommended for water-retaining structures such as RC tanks, swimming pools, water features etc.
- 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 (I) has been exposed to UV light, it will start to yellow slightly without loosing its physical properties.
- The product can be over coated with itself.
- It is recommended to use a reinforced coating system, however the performance of a standard coating system is also excellent.

LIMITATIONS

- 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 4 kg of water for 20 kg of Sikalastic®-450 (I) at site to achieve a workable consistency.
- Water ponding test shall be done only once the coating is fully cured.
- The product after full cure is slightly tacky, hence it is recommended to use a seperation layer such as geotextile or PE sheet and cover with a protection screed.
- Outgassing is a naturally occurring phenomenon of concrete that can produce pinholes in subsequently applied coatings. The concrete must be carefully assessed for moisture content, air entrapment, and surface finish prior to any coating work. Installing the coating either when the concrete temperature is falling or stable can reduce outgassing. It is generally beneficial, therefore, to apply the embedment coat in the late afternoon or evening.

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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.

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.

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