Construction

Sikalastic®-450 h

Elastic, liquid applied, 2 part polyurethane waterproofing membrane system

Product Description	Sikalastic®-450 h is an elastic, liquid applied, crack bridging, two part, polyurethane based membrane system. Its performance is maintained even at low temperatures.
Uses	■ Seamless coating on flat roofs and concrete structures (horizontal application). Can also be used as an exposed waterproofing membrane on non trafficked areas. Not suitable for permanent water immersion when used as exposed system (needs to be protected with mortar plaster). ■ Can be applied on concrete, brickwork, asbestos cement, roof tiles (Clay tile, mosaic tile, concrete tiles, etc, not suitable with Glazed/Ceramic/ China mosaic tiles), etc.
Characteristics / Advantages	■ Crack-bridging ■ Highly elastic ■ Excellent adhesion on multi substrate ■ Easy application ■ Root resistant ■ Weather resistant

Tests

Approvals / Standards	Conforms to: IS 101, IS 2645, ASTM D 638, DIN 53504, DIN 53504.

Product Data

Form

Appearance / Colour	RAL 6005 (Moss green), 3011 (Brown red), liquid
Packaging	Part A: 12.0 kg container Part B: 0.48 kg container x 2 Part (A+B): 12.96 kg Primer: Part A: 1.00 kg container x 12 Part B: 0.08 kg container x 12 Part (A+B): 12.96 kg

Storage

Storage Conditions / Shelf Life	9 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	Polyurethane	
Density	Part A – 1.59 kg/l, Part B – 1.21 kg/l All density values at +27°C	
Solid Content	~ 99% at 105°C	
System Layer Thickness	~ 1.5 mm	
Shore A hardness	20 (after 14 days)	
Accelerated weathering (500 hrs)	No cracking / blistering	(According to IS 101)
Water permeability	Passes	(According to IS 2645)
Moisture permeability	5 mg/m^2 average	(According to IS 101)
Crack Bridging	2 mm at +27°C	
Crack resistance	Passes 3 mm	(According to IS 101)
Tack Free Time	24 hours at +27°C	

Mechanical / Physical Properties

Tensile Strength	1.3 N/mm^2 (28 days / +27°C)	(According to ASTM D 638)
Elongation at Break	Without Sika® Fab-1 – 50%(28 days / +27°C)	(According to DIN 53504)
	With Sika® Fab-1 – 20% (28 days / +27°C)	(According to DIN 53504)

System Information

System Structure

Exposed Roofing-system, without UV-protection

Layer thickness: 1.5 mm
Primer: 1 x Sikalastic®-450 h
Base Coating: 1 x Sikalastic®-450 h

Fabric reinforcement : 1 x Sika Fab 1

Top Coat : 1x Sikalastic®-450 h

Concealed Roofing-system, with UV-protection

Layer thickness: 1.5 mm
Primer: 1 x Sikalastic®-450 h primer
Base Coating: 1 x Sikalastic®-450 h

Fabric reinforcement : 1 x Sika Fab 1

Top Coat : 1x Sikalastic®-450 h + Sand sprinking

UV-protection: Screed concrete with slope (min avg. Thickness 50 mm) admixed with Sika® Fibre h-150

Application Details

Consumption / Dosage

Coating System	Product	Consumption
Exposed Roofing-system, without UV-protection	1 x Sikalastic®-450 h primer	0.200 - 0. 300 kg/m²
	1 x Sikalastic®-450 h	0.500 – 0.600 kg/m²
	1 x Sika® Fab-1	1 sq.mt / sq.mt
	1 x Sikalastic®-450 h	0.700 – 0.800 kg/m²
Roofing-system, with UV-protection *(according to ETAG 005)*	1 x Sikalastic®-450 h primer	0.200 - 0. 300 kg/m²
	1 x Sikalastic®-450 h	0.500 kg/m²
	1 x Sika® Fab-1	1 sq.mt / sq.mt
	1 x Sikalastic®-450 h	0.700 kg/m²
	Sika Fibre® h-150	0.900 kg/m3 by weight of cement

These figures are theoretical and do not allow for any additional material due to surface porosity, surface profile, variations in level and wastage etc.

Substrate Quality

The substrate must be clean, dry and free of all contamination such as dirt, oil, grease, coatings etc. which hinder an adhesion.

The substrate must be sound and of sufficient strength.

If in doubt, apply a test area first.

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.

Priming

Prime the prepared substrate with Sikalastic®-450 h Primer after mixing two components of the primer. Mixing ratio of the primer Part A : Part B = 100 : 8 by weight. The material should be applied within 30 minutes after mixing.

Application Conditions / Limitations

Substrate Temperature

+10°C min. / +40°C max.

Ambient Temperature

+10°C min. / +40°C max.

Substrate Moisture Content

≤ 4% moisture content.

Test method: Sika®-Tramex meter

No rising moisture according to ASTM (Polyethylene-sheet).

Application Conditions / Limitations

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+10°C min. / +40°C max.

Ambient Temperature

+10°C min. / +40°C max.

Substrate Moisture Content

≤ 4% moisture content.

Test method: Sika®-Tramex meter

No rising moisture according to ASTM (Polyethylene-sheet).

Relative Air Humidity

80% r. h. 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 or blooming on the membrane finish.

Application Instructions

Mixing

Part A : Part B =100 : 8 (for both primer and coating) by parts of weight

Mixing Time

Sikalastic®-450 h is supplied in pre measured packs. Mix Component A mechanically for 2 minutes to break any settlement without introducing air in the material. To this add Component B completely and mix for 3 minutes. Again ensure that no air is introduced due to mixing.

Mixing Tools

Sikalastic®-450 h must be thoroughly mixed using a low speed electric stirrer (300 - 400 rpm) or other suitable equipment.

Application Method / Tools

By brush:
With a thick haired brush. (cut the brush hair to limit " flapping")

By roller:
With a solvent resistant, "non-fuzzy" roller.

By spray:
Airless spray equipment for 2 component spray application (approved make Graco pumps)

Apply on vertical up to 300 mm / inclined areas with up to maximum of 3% slope

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.

Pot Life

~ 30 mins at +27°C

Waiting Time / Overcoating

Between consecutive coats of Sikalastic®-450 h

Substrate temperature	Minimum	Maximum
+30°C	24 hour	After thorough cleaning[1] Sikalastic®-450 h can be overworked with another coat of Sikalastic®-450 h at any time

[1] Assuming that all dirt has been removed and contamination is avoided

Notes on Application / Limitations

For optimum application, do not allow liquid Sikalastic®-450 h to be heated by direct sunlight or other heat sources.

Not suitable for permanent water immersion when applied exposed without protection plaster / screed.

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 loosing its physical properties though.

The product can be over coated with itself without further priming. Only mechanical abrasion over the cured layer and proper cleaning of dust / dirt before application of fresh layer shall be ensured.

In order to cover joints, connections or overlaps of bituminous sheets, use strips of e.g. Sika® Fab 1 to provide additional thickness. Please ask our technical service department for detailed recommendations depending on the actual site conditions.

Curing Details

Applied Product ready for use

Temperature	Rain resistant after	Ready for foot traffic [1] (with care)	Full cure
+30°C	~ 24 hours	~ 3 days	~ 7 days

1) Only for inspection or for application of the next layer, not for permanent traffic.

Note: Times are approximate and will be affected by changing ambient conditions.

Construction

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.

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