

PRODUCT DATA SHEET

Sikalastic®-851 R

TWO-COMPONENT SPRAY APPLIED ROOF WATERPROOFING MEMBRANE

DESCRIPTION

Sikalastic®-851 R is a two component, elastic, crack-bridging, rapid-curing modified polyurethane/ polyurea-hybrid membrane. Sikalastic®-851 R is applied by two component hot spray equipment.

USES

Sikalastic®-851 R may only be used by experienced professionals.

- For use as a waterproofing membrane on flat and pitched roof structures with additional top coat for UV-protection for exposed roofs.
- For use as a waterproofing membrane underneath planting or hard landscaping on podium areas.
- For use as a waterproofing membrane for other concrete structures and on non-trafficked concrete areas with an additional top coat for UV-protection.

CHARACTERISTICS / ADVANTAGES

- Solvent free
- Fast application - application with 2-part hot spray equipment
- Fast curing - over coating with top coat possible after approx. 10 minutes
- Seamless waterproofing membrane
- High Solids - contains no fillers

- Excellent crack-bridging properties
- Highly elastic and crack bridging
- Low viscosity
- Water vapour permeable – allows the substrate to breathe
- Good adhesion to most substrates
- 12 months shelf life

SUSTAINABILITY

Conformity with LEED v2009 IEQc 4.2: Low-Emitting Materials - Paints and Coatings

APPROVALS / CERTIFICATES

- Test report for root resistance following DIN 4062: report No.: P9638-1-E dated 29/05/2015
- Test report for crack bridging properties following DIN EN 1062-7: report No.: P 9638-2-E dated 29/05/2015
- Test report for fire classification according to EN 13501-1, following test method DIN EN ISO 11925-2,; report No. 903 0526000-2 dated 15/8/2015; reaction to fire performance: class E

PRODUCT INFORMATION

Chemical base	Modified Polyurethane/ Polyurea-Hybrid		
Packaging	Component A	211 kg drum	
	Component B	202 kg drum	
Colour	Component A (ISO)	clear / brownish	
	Component B (Resin)	grey or yellowish	
	Mixed product: grey ~ca. RAL 7004		
Shelf life	Component A	12 months from date of production	
	Component B	12 months from date of production	
Storage conditions	<p>The product must be stored properly in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C.</p> <p>Higher storage temperatures may reduce shelf life of product.</p> <p>Reference shall also be made to the storage recommendations within the safety data sheet.</p>		
Density	Component A	~1,08 kg/l	(DIN EN ISO 2811-1)
	Component B	~1,04 kg/l	
	Mixed resin	~1,00 kg/l (cured film)	
	All density values at +23 °C		
Solid content	> 99 %		
Viscosity	Component A	~2300 mPa·s at +20 °C	
	Component B	~2300 mPa·s at +20 °C	

TECHNICAL INFORMATION

Shore A Hardness	Temperature	After 1 hour	After 24 hours	After 28 days
	+8 °C	~81	~88	~88
	+23 °C	~83	~88	~88
Tensile Strength	~11,0 N/mm ² (28 days / +23 °C)			(DIN 53504)
Elongation at Break	~350 % (28 days / +23 °C)			(DIN 53504)
Crack Bridging Ability	Dynamic crack-bridging class	B 4.2	(DIN EN 1062-7)	
	Static crack-bridging class	A 5		
Resistance to Root Penetration	free of penetration of the roots free of growth into the ground			(DIN 4062)
Reaction to Fire	Euroclass E			(EN 13501-1; DIN EN ISO 11925-2)
Chemical Resistance	Sikalastic®-851 R is generally resistant to:			
	<ul style="list-style-type: none"> ▪ Bitumen ▪ Alkalis 			
Thermal Resistance	<p>Sikalastic®-851 R is short term resistant to mastic asphalt (hot poured asphalt) applied at a max. of +240 °C.</p> <p>Sikalastic®-851 R elastic properties are maintained at temperatures as low as -30 °C.</p>			

SYSTEMS

System Structure

Exposed Roof Waterproofing

Sikalastic®-851 R is applied in one coat and sealed with one coat Sikalastic®-621 or Sikalastic®-445

Layer	Product	Consumption
1. Primer	please refer to substrate pre-treatment	please refer to PDS of the primer
2. Waterproofing	Sikalastic®-851 R	≥ 1,6 kg/m ²
3. UV Protection	Sikalastic®-621 or Sikalastic®-445	≥ 1,0 kg/m ²

Non-Exposed Roof Waterproofing

Sikalastic®-851 R is applied in one or two coats

Layer	Product	Consumption
1. Primer	please refer to substrate pre-treatment	please refer to PDS of the primer
2. Waterproofing	Sikalastic®-851 R	≥ 2,1 kg/m ²

Note: These figures are theoretical and do not include for any additional material required due to surface porosity, surface profile, variations in level and wastage.

Dry film thickness

Exposed Roof Waterproofing

Waterproofing	~1,6 mm
UV Protection	~0,5 mm
Total	~2,0 mm

Non-Exposed Roof Waterproofing

Waterproofing	~2,1 mm
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APPLICATION INFORMATION

Mixing Ratio

Component A : Component B = 1 : 1 (by volume)
Component A : Component B = 1,04 : 1 (by weight)

Product Temperature

Component A	+70–80 °C
Component B	+65–70 °C
Hose	+65–70 °C

Ambient Air Temperature

+8 °C min. / +50 °C max.

Relative Air Humidity

80 % r.h. max

Substrate Temperature

+8 °C min. / +55 °C max.
≥3 °C above dew point

Substrate Moisture Content

≤ 4 % pbw moisture content.
Test method: Sika®-Tramex meter, CM - measurement on Oven-dry method
No rising moisture according to ASTM (Polyethylene-sheet).

Substrate Pre-Treatment

Substrate	Primer
Cementitious substrates	Sika® Concrete Primer or Sikafloor®-161 lightly broadcast with quartz sand, 0,3–0,8 mm
Ceramic tiles (unglazed), and concrete slabs	Sika® Concrete Primer
Bituminous felt	Sikalastic® Metal Primer
Bituminous coatings	Sikalastic® Metal Primer
Metals	Sikalastic® Metal Primer
Ferrous or galvanised metals, lead, copper, aluminium, brass or stainless steel	

For the consumption rates and waiting time / overcoating please refer to the PDS of the appropriate primer. Other substrates must be tested for their compatibility. If in doubt, apply a test area first.

Waiting Time / Overcoating

Before applying Sikalastic®-851 R on Sikafloor®-161 allow:

Substrate temperature	Minimum waiting time	Maximum waiting time ¹
+10 °C	24 hours	1 month
+20 °C	12 hours	1 month
+30 °C	8 hours	1 month
+45 °C	6 hours	1 month

Before applying Sikalastic®-851 R on Sikalastic®-851 R allow:

Substrate temperature	Minimum waiting time	Maximum waiting time ²
+10 °C	4 minutes	3 hours
+20 °C	4 minutes	3 hours
+30 °C	4 minutes	1 hour
+45 °C	4 minutes	1 hour

Before applying Sikalastic®-621 or Sikalastic®-445 on Sikalastic®-851 R allow:

Substrate temperature	Minimum waiting time	Maximum waiting time ²
+10 °C	10 minutes	24 hours
+20 °C	10 minutes	24 hours
+30 °C	10 minutes	24 hours
+45 °C	10 minutes	24 hours

¹ Assuming that any dirt has been carefully removed and any contamination is avoided.

² If the maximum waiting time is exceeded, Sika® Concrete Primer has to be applied with a consumption rate of 100 g/m² as an adhesion promoter between the layers.

Note: Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

Applied Product Ready for Use

Rain resistant after	Ready for foot traffic ¹ (careful)	Ready for foot traffic	Ambient conditions
~5 minutes	~8 minutes	~24 hours	+10 °C
~5 minutes	~5 minutes	~18 hours	+20 °C
~5 minutes	~4 minutes	~14 hours	+30 °C
~5 minutes	~4 minutes	~12 hours	+45 °C

¹ Only for inspection or for application of next layer.

Note: Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

The surface must be sound, of sufficient strength, clean, dry and free of dirt, oil, grease and other contamination. Depending on the material the substrate must be primed or mechanically cleaned. Grinding may be necessary to level the surface. Suitable substrates are such as: Concrete, bituminous felts and coatings, metal, brickwork, asbestos cement, ceramic tiles.

For detailed information regarding substrate preparation and primer chart please refer to Method Statement No. 850 915 11.

MIXING

Dose and mix with suitable two-component spray equipment. Maintain recommended product and hose temperature.

Recommended pressure:

Component A + B 160–180 bar.

Ensure equal pressure of component A + B. The accu-

acy of pressure, mixing and dosage must be controlled regularly with the equipment.

APPLICATION

Prior the application of Sikalastic®-851 R the priming coat if used must have cured tack-free. For the Waiting Time / Overcoating please refer to the PDS of the appropriate primer. Damageable areas (handrails etc.) have to be protected with tape or plastic wrapping.

Waterproofing:

Spray apply Sikalastic®-851 R with suitable two-component hot spray equipment. Possible suppliers of spray equipment are Gama, Graco, Isotherm, WiWa, Reaku etc.

UV Protection:

One layer of Sikalastic®-621 or Sikalastic®-445 applied either by roller or airless spray.

For more detailed application engineering information pls. refer to the appropriate method statement.

CLEANING OF TOOLS

Removal of fresh remnants from tools and application equipment can be carried out using Thinner C immediately after use. Hardened / cured material can only be mechanically removed.

LIMITATIONS

- Application is by 2-part hot spray equipment only.
- For spray application the use of protective health and safety equipment is mandatory.
- Always refer to the manufacturer's instructions before use the tools and mixing equipment.
- Products shall only be applied in accordance with their intended use.
- Do not apply Sikalastic®-851 R on substrates with rising moisture.
- On substrates likely to exhibit outgassing, apply during falling ambient and substrate temperatures. If applied during rising temperatures "pin holing" may occur from rising air.
- Product shall be used in conjunction with a safe system of work. Ensure an adequate assessment of all site risks has been conducted prior to work commencing. Refer to the product safety datasheet for further guidance.
- Do not use Sikalastic®-851 R for indoor applications.
- Sikalastic®-851 R is not UV light resistant and changes colour under UV exposure. However, the performance and technical properties are not affected providing the exposure is max. 4 weeks. It is therefore advisable to overcoat Sikalastic®-851 R with UV-protective top coat as early as possible.
- In wet areas or climatic zones with a permanent air humidity of more than 80 %, in combination with a permanent air temperature of more than +30 °C, Sika® Concrete Primer must be used as adhesion promoter.
- Please note: Always apply a test area first.

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 performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

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.

DIRECTIVE 2004/42/CE - LIMITATION OF EMISSIONS OF VOC

According to the EU-Directive 2004/42, the maximum allowed content of VOC (Product category IIA / j type sb) is 550 / 500 g/l (Limits 2007 / 2010) for the ready to use product.

The maximum content of Sikalastic®-851 R is < 500 g/l VOC for the ready to use product.

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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