BUILDING TRUST

PRODUCT DATA SHEET

Sikalastic®-835 I

LIQUID APPLIED TWO PART PURE POLYUREA MEMBRANE WITH HIGH CHEMICAL AND MECHANICAL RESISTANCE

CE

DESCRIPTION

Sikalastic®-835 I is a two part, elastic, 100% solids, very fast curing pure polyurea liquid applied membrane. Sikalastic®-835 I can only be spray applied with special two part hot spray equipment.

USES

For roof waterproofing solutions in both new construction and refurbishment projects:
- Existing bituminous membranes
- Terraces
- Roof screeds

Coating for concrete protection according the requirements of EN 1504-2, for:
- Decks
- Bridges
- Tunnels

Metal and concrete water retaining structures:
- Dams
- Canals
- Tanks
- Safety tanks for petrochemical plants
- Pipelines

Waterproofing on roofs suitable for vehicle access and car park decks.
Coatings for scenery and decorative structures.

CHARACTERISTICS / ADVANTAGES

- Very fast curing time
- Easy to detail, even when accessibility is limited
- High elasticity (>250%)
- Good crack bridging properties (Class A4 at +23°C / B3.1 at -20°C EN1062-7)
- High impact, abrasion and puncture resistance
- Good resistance to many chemicals
- Applicable in temperatures from -15°C to +70°C
- Performs in constant dry temperatures from -30°C to +140°C
- Total solid composition, without VOC
- Excellent anticorrosion protection
- Suitable for most substrates (concrete, metal, bituminous membrane, masonry and wood)

APPROVALS / CERTIFICATES

- Provided with CE-marking, according to EN1504-2.
- Reaction to Fire (EN13823): Class E
- Accelerated Weathering UV Test (ASTM G 53)
- Slip coefficient (B.C.R.A. Method - D.M. 14/06/1989 No.236 Art: 8.2.2)

PRODUCT INFORMATION

Composition	Two part aromatic polyurea		
Packaging	Part A (resin)	205 kg black drums	
	Part B (Isocyanate)	225 kg red drums	
Colour	Liquid / RAL6010 (green), RAL6020 (green), RAL 3009 (red), RAL 7040 (grey), RAL 9005 (black). Other colours upon request.		
Shelf life	Part A (resin)	12 months from date of production	
	Part B (Isocyanate)	6 months from date of production	
Storage conditions	The packaging must be stored properly in original, unopend and undamaged sealed packaging, in dry conditions at temperatures between +5°C and +30°C. Higher storage temperatures may reduce shelf life of product.		
Density	Part A	approx. 1.05 kg/l	(EN ISO 2811-1)
	Part B	approx. 1.12 kg/l	
	Density values determined at +25°C		
Solid content	100%		
Viscosity	Part A	300 - 500 mPas	(EN ISO 3219)
	Part B	500 - 800 mPas	
	Viscosity values determined at +25°C		

TECHNICAL INFORMATION

Shore D Hardness	~ 48		(EN ISO 868)
Abrasion Resistance	~ 20 mg		(EN ISO 5470-1)
Tensile Strength	~ 12 MPa		(UNI EN 12311-2 Part B)
Elongation at Break	250 - 300%		(UNI EN 12311-2 Part B)
Tear Strength	~ 90 kN/m		(UNI EN 12310-2)
Crack Bridging Ability	Static	> 1250 µm, class A4 (+23°C)	
	Dynamic	Class B3.1 (-20°C)	(EN 1062-7:2005)
Permeability to Water Vapour	~ 0.025		(ASTM E96)
Chemical Resistance	Sikalastic®-835 I is resistant to many chemicals (Test Method ASTM D1308 at +25°C). It is also resistant to long-term contact with hydrocarbons (diesel and gasoline) fot at least 72 hours.		

Gas permeability tests:

Gas	Duration / Pressure	Result	(UNI EN 1779 / UNI EN 1330-8)
Helium	40 d: 15'd / 1,2 bar	no leak	
Methane	40 d: 15'd / 1,2 bar	no leak	
Radon	40 d /ambient	9 Bq/m³	

Please contact our Technical Service for more detailed information. Simultaneous exposition to thermal and mechanical stress can reduce the chemical resistance of the product.

Artificial Ageing

Sikalastic®-835 I has been tested according to ASTM G53 (UVB-313 lamp / 4h cycles / +50°C U.R. 100%).

Property	u.m.	Ref.	After 1700 h	After 3200 h
E-modulus at 100%	MPa	6.5	7	7.16
E-modulus at 300%	MPa	10	10.33	10.78
Tensile strength	MPa	12	13.18	14.34
Elongation at break	%	250	266	255
Tear strength	kN/m	90	93.44	107.98

Service Temperature

-30°C min. / +140°C max.

SYSTEMS

System Structure

Coating System	Product	Consumption
System for concrete structures	1-2 x Sika® Primer Roof PU or Sika® Primer Roof EP lightly broadcasted with quartz sand, 0.4-0.7 mm or Sika® Concrete Primer 1 x Sikalastic®-835 I	0.3-0.5 kg/m²/layer ~ 1.0 kg/m² ~ 1.08 kg/m²/mm
System for carbon steel structures	1 x Sikalastic® Metal Primer lightly broadcast with quartz sand, 0.4-0.7 mm 1 x Sikalastic®-835 I	~ 0.35 kg/m² per layer ~ 1.0 kg/m² ~ 1.08 kg/m²/mm

These figures are theoretical and do not allow for any additional material due to surface porosity, surface profile, variations in level and wastage etc. During the design fase, the thickness of the Sikalastic®-835 I must be assessed considering: intended use, level of stress and expected durability.

APPLICATION INFORMATION

Ambient Air Temperature

-15°C min. / +70°C max.

Relative Air Humidity

85% U.R. max.

Substrate Temperature

-15°C min. / +70°C max.

Dew Point

Beware of condensation!
The substrate temperature must be at least 3°C above dew point to reduce the risk of condensation on the surface.

Substrate Moisture Content

< 4% pbw moisture content.
Test method: Sika®-Tramex meter, CM - measurement or Oven-dry-method.
No rising moisture according to ASTM 4263 (Polyethylene-sheet).
For high moisture content substrates apply Sikafloor EpoCem® as a Temporary Moisture Barrier (TMB) system.

Waiting Time / Overcoating

Before applying Sikalastic®-835 I on Sika® Primer Roof PU or Sika® Concrete Primer, allow:

Substrate temperature	Minimum	Maximum
+10°C	2 h	4 h
+23°C	1 h	4 h
+30°C	1 h	4 h

Before applying Sikalastic®-835 I on lightly broadcasted epoxy primers

(Sika® Primer Roof EP), allow:

Substrate temperature	Minimum	Maximum
+10°C	24 h	36 h
+23°C	12 h	36 h
+30°C	8 h	36 h

Before applying Sikalastic®-835 I on Sikalastic®-835 I allow:

Substrate temperature	Minimum	Maximum
+10°C	10 s	7 h
+23°C	10 s	6 h
+30°C	10 s	5 h

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

Applied Product Ready for Use

Gel time	Foot traffic	Light traffic	Curing time
~ 5 sec.	~ 15 min.	~ 8 h	~ 24 h

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

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Substrate quality
- The concrete substrate must be sound and of sufficient compressive strength (minimum 25 N/mm²) with a minimum pull off strength of 1.5 N/mm².
- The substrate must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, etc.
- If in doubt, apply a test area first.
- Bituminous membranes must be clean, intact, continuous, with full adhesion to the substrate, dimensionally stable and free of reptation.

The substrate preparation methods strictly depend on substrate type, conditions and stress level expected.
Substrates which must always be primed are:
- cementitious substrates (concrete, screeds, mortars, plasters, etc.) and bricks
- tiles
- metal

Substrate preparation

The preparation method stictly depends on the material of the substrate, on its status and especially on the stress level expected.
The following substrates allways require a primer:
- Cementitious substrates (concrete, screeds, mortars and renders) and bricks
- Tiles
- Metal substrates

Cementitious substrates, bricks and tiles
Cementitious substrates, bricks and tiles must be prepared mechanically with suitable abrasion equipment to remove cement laitance, loose and friable material and achieve an open textured surface.
Weak material must be removed and surface defects such as blowholes and voids must be fully exposed.
Repairs to the substrate, filling of blowholes/voids and surface levelling must be carried out using appropriate products from the Sikafloor®, SikaDur® or Sika MonoTop® range of materials. The surface has to be levelled in order to achieve an even surface without high spots.
All dust, loose and friable material must be completely removed from all surfaces before application of the product by vacuum.
The surface must be primed with Sika® Primer Roof PU. In case of particularly absorbent substrates which need to be consolidated, prime with Sika® Primer Roof EP lightly broadcasted with quartz sand, 0.4-0.7 mm, before the application of Sikalastic®-835 I.

Metal
Metal surfaces must be prepared by blast cleaning to Sa 2 ½ (ISO 8501-1) or SSPC-SP 10. The substrate has to be free from contaminants detrimental to adhesion, preferably by high pressure water jetting prior of blast cleaning. The surface must be coated with Sikalastic® Metal Primer. Then, apply the preformed strip sealant Sikalastic® Flexistrip along joints, cracks or spots (eg. mechanical fasteners).

Bituminous Membrane
Cracks or damages of the membrane have to be repaired by suitable products (e.g. SikaBoom® foam, low-modulus polyurethane sealant SikaHyflex®-250 Facade, preformed strip sealant Sikalastic® Flexistrip or Tape rl 80 s). Afterwards the surface must be thoroughly cleaned by high pressure water jetting. Once the surface is dry, the required primer may be applied.

APPLICATION

Apply using a plural component, heated, high pressure, proportioning spray equipment. The proportioning equipment utilized must be capable of supplying correct pressure and heat for the appropriate hose length on a consistent basis.
Both components must be heated up to +60 ÷ +80°C, both in drum and hose. The recirculation system should be activated during the preliminary drums heating.
The correct mixing ratio is: 1 : 1 by volume. The accuracy of mixing and dosage must be controlled regularly with the equipment.

Thoroughly mix Sikalastic®-835 I part A pigmented resin using a low speed drum mixer until a homogenous mixture and colour is obtained.
For part B (isocyanate), it is recommended to use a suitable drier filter in order to protect this component from the humidity.
Beware: on highly absorbent substrates, in order to avoid blowholes and voids on the surface of the product (just sprayed), it is recommended to apply epoxy primers such as Sika® Primer Roof EP in multiple layers until the surface porosity is filled. Lightly broadcast the primer with clean and dry quartz sand, 0.4 - 0.7 mm. Do not blind the primer.
Apply suitable systems to seal dynamic joints, connections and cracks. Please contact our Technical Service for more detailed information.

IMPORTANT CONSIDERATIONS

- This product may only be used by experienced professionals.
- For spray application the use of protective health & safety equipment is mandatory! See the relative Safety Data Sheet to obtain more detailed information.
- Application by using plural component, heated, high pressure, proportioning spray equipment.
- Under direct UV-exposure Sikalastic®-835 I will discolour and may exhibit some chalking tendencies.
- Do not apply Sikalastic®-835 I on FPO and plastified PVC.
- Do not apply close to the air intake vent of a running air conditioning unit.
- Volatile bituminous materials may stain the coating. The use of proper primer avoids this phenomenon.

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.

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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