

# Sikalastic®-841 ST

Liquid applied pure polyurea membrane

Construction

## Product Description

Sikalastic®-841 ST is a two part, elastic, , very fast curing pure polyurea liquid applied membrane with very good chemical resistance.  
Sikalastic®-841 ST shall not be used in closed structures containing biogenic sulphuric acid or methane gas, i.e digester tanks.  
Sikalastic®-841 ST can only be spray applied with special two part hot spray equipment.

## Uses

- For waterproofing applications and anticorrosion applications on concrete and many other substrates:  
Typical uses:
  - Protective coatings
  - Tank coatings/linings
  - Bridge coatings
  - Roof coatings
  - Walkways and balconies
  - Flooring and parking decks
  - Industrial and manufacturing facilities
  - Landscape and water containment
  - Power plants
  - Sewage and Waste Water Treatment plants
  - Truck bed lining

## Characteristics / Advantages

- Very fast reactivity and curing time
- Almost immediate return-to-service time
- Applicable in temperatures from -15°C to 70°C
- Performs in constant dry temperatures from -30°C to 100°C
- 100% solids with zero VOC
- Excellent crack-bridging properties
- Good chemical resistance
- Low yellowing
- Good abrasion resistance

## Approvals/ Test reports

- Spray applied, polyurea based coating according to CE-1504-2; 2004, DoP 02 06 07 01 001 0 000041 1010, certified by Factory Production Control Body No. 0921, certificate 0921-CPR-2073, provided with the CE-mark.
- ETA 033; "Liquid applied bridgedeck waterproofing"; report No: 13/0653 issued by DIBt
- Root resistance acc. DIN EN 23270, report No. P 7934 issued by KIWA Polymer Institute
- Certification for use in potable water according ANSI/ NSF 61



## Product Data

### Form

<b>Appearance / Colours</b>	ISO - Part A: Resin - Part B: Grey ~ RAL 7005 or un-pigmented (yellowish)	clear liquid amber or grey liquid
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<b>Packaging</b>	Part A (net): Part B (net):	212,0 kg drum 191,0 kg drum
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### Storage

<b>Storage Conditions / Shelf Life</b>	Part A: 12 months Part B: 18 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

<b>Chemical Base</b>	Pure Polyurea
<b>Density</b>	Part A: ~ 1.12 kg/litre Part B: ~ 1.01 kg/litre All Density values at +23 °C
<b>Gel Time</b>	6 to 20 seconds
<b>Tack Free Time</b>	60 to 120 seconds
<b>Post Cure Time</b>	24 hours
<b>Solid Content</b>	> 99%
<b>Viscosity (at 20 °C)</b>	Part A: ~ 1200 mPas Part B: ~ 500 mPas

### Mechanical / Physical Properties

<b>Tensile Strength</b>	> 15 N/mm <sup>2</sup>	DIN 53504
<b>Shore D Hardness</b>	~ 45 to 50	DIN 53505
<b>Elongation at Break</b>	~ 350 %	DIN 53504
<b>Abrasion Resistance</b>	< 15 mg (CS 17/1000/1000) ~ 100 mg (H22/1000/1000)	EN ISO 5470-1
<b>Crackbridging properties</b>	Static: > 2500µm at +23 °C, class A5 Dynamic: class B4.2 at -20 °C	DIN EN 1062-7

### Resistance

<b>Chemical Resistance</b>	Sikalastic®-841 ST is resistant to many chemicals. Please ask for a detailed chemical resistance table.
<b>Thermal Resistance</b>	Sikalastic®-841 ST performs in constant temperatures from -30 °C to 100 °C.

### Application Details

#### Consumption / Dosage

Coating System	Product	Consumption
System for concrete structures	1-2 x Sikafloor®-156 or Sikafloor®-161, lightly broadcast with quartz sand, 0.3 - 0.8 mm (optional)	0.3 - 0.5 kg/m <sup>2</sup> per layer 1.0 - 1.5 kg/m <sup>2</sup>
	1 x Sikalastic®-841 ST	~ 1.08 kg/m <sup>2</sup> /mm

	1-2 x Sika® Concrete Primer, Lightly broadcast with quartz sand, 0.3 - 0.8 mm (optional)	0.2 - 0.4 kg/m <sup>2</sup> per layer  1.0 - 1.5 kg/m <sup>2</sup>
	1 x Sikalastic®-841 ST	~ 1.08 kg/m <sup>2</sup> /mm
System on carbon steel	1 x SikaCor® Zinc R  1 x Sikalastic®-841 ST	~ 0.35 kg/m <sup>2</sup> per layer  ~ 1.08 kg/m <sup>2</sup> /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.

For use as bridge deck water proofing system according ETAG 033 refer to ETA 033 approval.

<b>Substrate Quality</b>	<p>The concrete substrate must be sound and of sufficient compressive strength (minimum 25 N/mm<sup>2</sup>) with a minimum pull off strength of 1.5 N/mm<sup>2</sup>.</p> <p>The substrate must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, etc.</p> <p>If in doubt, apply a test area first.</p>
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<b>Substrate Preparation</b>	<p>Concrete substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and achieve an open textured surface.</p> <p>Weak concrete must be removed and surface defects such as blowholes and voids must be fully exposed.</p> <p>Repairs to the substrate, filling of blowholes/voids and surface levelling must be carried out using appropriate products from the Sikafloor®, SikaDur® and SikaGard® range of materials.</p> <p>The concrete or screed substrate has to be primed or levelled in order to achieve an even surface.</p> <p>High spots must be removed by e.g. grinding.</p> <p>All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush and/or vacuum.</p> <p><b>Steel surfaces</b> must be prepared by blast cleaning to Sa 2 ½ (ISO 8501-1) or SSPC-SP 10. All weld splatter has to be removed joints and welds must be grinded in accordance with EN 14879-1. An average surface profile R<sub>z</sub> ≥ 50µm must be achieved, the substrate has to be free from contaminants detrimental to adhesion, preferably by high pressure water jetting prior of blast cleaning.</p>
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**Application Conditions / Limitations**

<b>Substrate Temperature</b>	-15 °C min. / +40 °C max.
<b>Ambient Temperature</b>	-15 °C min. / +40 °C max.
<b>Relative Air Humidity</b>	85% RH max.
<b>Substrate Moisture Content</b>	<p><b>Primer Sikafloor® 156 and Sika® Concrete Primer</b>  ≤ 4% pbw moisture content.  Test method: Sika®-Tramex meter, CM - measurement or Oven-dry-method.  No rising moisture according to ASTM (Polyethylene-sheet)</p> <p><b>Primer Sikafloor® 161</b>  ≤ 6% pbw moisture content.  Test method: Sika®-Tramex meter,  ≤ 4% pbw moisture content.  Test method: CM - measurement or Oven-dry-method.  No rising moisture according to ASTM (Polyethylene-sheet)</p>
<b>Dew Point</b>	<p>Beware of condensation!</p> <p>The substrate temperature must be at least 3 °C above dew point to reduce the risk of de-lamination due to condensation.</p>

## Application Instructions

### Mixing

Part A : Part B = 1 : 1 (by volume)

Dose and mix with suitable air driven or electrical two-part hot spray equipment. Both components must be heated up to +70°C. The accuracy of mixing and dosage must be controlled regularly with the equipment.

Sikalastic®-841 ST might not be diluted under any circumstances. Thoroughly mix Sikalastic®-841 ST part B resin material using a drum mixer until a homogenous mixture and colour is obtained.

### Application Method / Tools

Prior to application, confirm substrate moisture content, r.h and dew point.

#### Primer:

Prime prepared concrete with Sikafloor®-156 or Sikafloor®-161 or Sika® Concrete Primer. Primer should not just be rolled or poured. In order to avoid the formation of pinholes, the primer must be brushed into the concrete surface, if necessary in two applications. Broadcasting with quartz sand 0.3 - 0.8 mm is optional, e.g. for flooring applications where high shear resistance is required. In order to avoid the formation of blisters do not broadcast to excess.

#### Waterproofing:

Apply using a plural component, heated, high pressure, proportioning spray equipment as those manufactured by Graco® GlasCraft® Gusmer, Wiwa®, Gama, Isotherm, Reaku or any other equipment producer.

The proportioning equipment utilized must be capable of supplying correct pressure and heat for the appropriate hose length on a consistent basis.

### 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

### Waiting Time / Overcoating

Before applying Sikalastic®-841 ST on Sikafloor®-156/ Sikafloor®-161 (with broadcasting) or SikaCor® Zinc R allow:

Substrate temperature	Minimum	Maximum
+10 °C	24 hours	3 days <sup>1,2)</sup>
+20 °C	20 hours	48 hours <sup>1,2)</sup>
+30 °C	16 hours	24 hours <sup>1,2)</sup>
+40 °C	14 hours	24 hours <sup>1,2)</sup>

Before applying Sikalastic®-841 ST on Sika® Concrete Primer allow:

Substrate temperature	Minimum	Maximum
+10 °C	2 hours	24 hours <sup>1,2)</sup>
+20 °C	1 hour	
+30 °C	30 minutes	
+40 °C	30 minutes	

Before applying Sikalastic®-841 ST on Sikalastic®-841 ST allow:

Substrate temperature	Minimum	Maximum
+10 °C	10 sec.	6 hours <sup>2)</sup>
+20 °C		5 hours <sup>2)</sup>
+30 °C		4 hours <sup>2)</sup>
+40 °C		3 hours <sup>2)</sup>

<sup>1)</sup> Assuming that any dirt has been carefully removed and contamination is avoided.

<sup>2)</sup> If the max. waiting time is exceeded then hand abrade the entire surface using a moderate 200 to 300 grit sandpaper. Clean the grinded surface using Sika Colma<sup>®</sup>-Reiniger. For larger areas Sikalastic<sup>®</sup>-810 + 15% Thinner C or Sika<sup>®</sup> Concrete Primer must be applied as a bonding bridge.

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

#### Notes on Application / Limitations

This product may only be used by experienced professionals.

For spray application the use of protective health & safety equipment is mandatory!

Application by using plural component, heated, high pressure, proportioning spray equipment. Temperature of the substrate during application and curing: min. -15°C.

Lightly broadcasting provides higher adhesion values and extends the maximum waiting time of primer prior to the application of Sikalastic<sup>®</sup>-841 ST.

Under direct UV-exposure Sikalastic<sup>®</sup>-841 ST will discolour and may exhibit some chalking tendencies, but the mechanical properties are not affected. Where colour stability is required an appropriate top coat has to be applied.

Please note: Always apply a test area first.

#### Curing Details

##### Applied Product ready for use

Temperature	Rain resistant after	Ready for foot <sup>1)</sup> traffic (carefully)	Ready for traffic <sup>2)</sup>
+10 °C	~ 2 minutes	~ 8 minutes	~ 90 minutes
+20 °C		~ 5 minutes	~ 60 minutes
+30 °C		~ 4 minutes	~ 45 minutes
+40 °C		~ 3 minutes	~ 30 minutes

Note:

<sup>1)</sup> Only for inspection or for application of the next layer.

<sup>2)</sup> Only for inspection, application of the next layer Not for permanent traffic.

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

##### EU Regulation 2004/42

##### VOC - Decopaint Directive

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<sup>®</sup>-841 ST** is < 500 g/l VOC for the ready to use product.

##### USGBC LEED Rating

**Sikalastic<sup>®</sup>-841 ST** conforms to the requirements of LEED EQ Credit 4.2: Low -Emitting Materials: Paints & Coatings SCAQMD Method 304-91 VOC Content < 100g/l

##### 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.

##### 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.

##### 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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