

PRODUCT DATA SHEET

Sikalastic®-870 BT

SPRAY APPLIED POLYUREA MEMBRANE

DESCRIPTION

Sikalastic® -870 BT is a two part, elastic, 100% solids, very fast curing polyurea spray applied membrane where exposure to high acidic and alkaline chemical concentrations are present. Sikalastic® -870 BT is for machine application only.

USES

- For waterproofing applications on steel and concrete: Typical uses:
 - Primary & secondary containments
 - Waste water treatment plants
 - Fertilizer plants and transportation
 - Mines and mining processes
 - Ballast tanks
 - Silage tanks and troughs
 - Sludge digesters

CHARACTERISTICS / ADVANTAGES

- High acidic and alkaline chemical resistance
- High resistance to microbial waste
- Fast reactivity and cure time
- Almost immediate return-to-service time
- Applicable in temperature from -15 °C to +70 °C
- Performs in constant temperatures from -30 °C to +60 °C
- 100% solids
- Crack-bridging properties.

APPROVAL / STANDARDS

Technologies for Concrete Structures of Sewage Works (Version of July 2007, herein after referred to as "J.S Manual") created by Japan Sewage Works Agency, Layering method for method categories C and D.

PRODUCT INFORMATION

Chemical Base	Polyurea	
Packaging	Part A (net):	200.0 kg drum
	Part B (net):	175.0 kg drum
	Part C (net):	15.0 kg can
Appearance / Colour	ISO-Part A:	Light yellow liquid
	Resin-Part B:	Dark brown liquid
	Toner-Part C:	Standard grey, others on request
Shelf Life	Part A:	6 months
	Part B:	12 months
	Part C:	12 months
	From date of production if stored properly in original, unopened and undamaged sealed packaging.	
Storage Conditions	The product must be stored properly in dry conditions at temperatures between +5 °C and +30 °C.	

Density	Part A:	~1.10 kg/L	
	Part B:	~1.10 kg/L	
	Part C:	~1.10 kg/L (grey)	(all value at +23 °C)
Solid Content	>99 %		

TECHNICAL INFORMATION

Tensile Strength	> 20 N/mm ²	(JIS K6251)						
Shore A Hardness	~42	(JIS K6253)						
Elongation at Break	~280 %	(JIS K6251)						
Tear Strength	~75 N/mm ²	(JIS K6252)						
Water Permeability	~0.0 g	(JIS A 1404, 11.5)						
Chloride Ion Permeability	<3.4 x 10 ⁻⁴	(JIS K 5400, 8.18)						
Resistant to Alkali	No bulged, cracks or peels	(JIS K 5400, 8.21)						
Resistance to Impact	No cracks or peels	(JIS K 5400, 8.21)						
Chemical Resistance	Sikalastic® -870 BT is resistant to many chemicals. A discolouration may occur when directly exposed to chemicals. Please ask for project related chemical resistance.							
Thermal Resistance	<table border="1"> <thead> <tr> <th><u>Exposure*</u></th> <th><u>Temperature</u></th> </tr> </thead> <tbody> <tr> <td>Permanent dry heat</td> <td>+60 °C</td> </tr> <tr> <td>Permanent wet heat</td> <td>+60 °C</td> </tr> </tbody> </table> <p>*No simultaneous chemical and mechanical exposure.</p>		<u>Exposure*</u>	<u>Temperature</u>	Permanent dry heat	+60 °C	Permanent wet heat	+60 °C
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Permanent dry heat	+60 °C							
Permanent wet heat	+60 °C							

APPLICATION INFORMATION

Consumption	<u>Coating system</u>	<u>Products</u>	<u>Consumption</u>
	System for concrete Structure	1 x Resitect EP-F 1x Sikalastic® -871 JW	0.6 – 1.0 kg/m ² ~1.10 kg/m ² /mm
Ambient Air Temperature	+5 °C min. / +60 °C max.		
Relative Air Humidity	80 % RH max.		
Substrate Temperature	+5 °C min. / +60 °C max.		
Substrate Moisture Content	≤ 4 % moisture content. Test method: Sika® -Tramex meter, CM –measurement or Oven-dry-method. No rising moisture according to ASTM (polyethylene-sheet).		
Dew Point	Beware of condensation! The surface temperature during application must be at least 3 °C above dew point to reduce risk of condensation or blooming of the membrane finish.		
Gel Time	~14 seconds		
Tack Free Time	20 to 30 seconds		
Curing Time	~1 hours at +5°C to +15°C ~ 30 min at +5°C to +25°C ~ 30 min at +25°C to +35°C		

Applied Product Ready for Use

Temperature	Rain Resistant After	Ready for foot ¹⁾ traffic (carefully)	Ready for traffic ²⁾
+5 °C	~3 minutes	~5 minutes	~60 minutes
+20 °C	~2 minutes	~3 minutes	~45 minutes
+30 °C	~1 minutes	~2 minutes	~30 minutes

Note:

¹⁾ Only for inspection or for application of the next layer.

²⁾ Only for inspection, application of the next layer

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

Waiting Time/ Overcoating

Before applying Sikalastic® -870 BT on resitect EP-F allow:

Substrate temperature	Minimum	Maximum
+10 °C	24 hours	4 days ¹⁾
+20 °C	24 hours	3 days ¹⁾
+30 °C	24 hours	3 days ¹⁾

Before applying Sikalastic® -870 BT on Sikalastic® -870 BT allow:

Substrate temperature	Minimum	Maximum
+10 °C		8 hours ²⁾
+20 °C	60 seconds	8 hours ²⁾
+30 °C		8 hours ²⁾

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

²⁾ 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 Colam Reigner. For large areas Resi Primer-J must be applied as a bonding bridge.

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

APPLICATION INSTRUCTIONS**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.

SUBSTRATE PREPARATION

Concrete substrates must be prepared mechanically using a abrasive blast cleaning or scarifying equipment to remove cement laitance and achieve an open textured surface.

Weak concrete must be removed and surface defects such as blowholes and voids must be fully exposed.

Repair to the substrate, filling of blowholes/ voids and surface levelling must be carried out using appropriate products from the Sikafloor®, Sika® Monotop® or Sikagard® range of materials. (Acid resistance mortar is recommended)

The concrete or screed substrate has to be primed or levelled in order to achieve an even surface.

High spots must be removed by e.g. grinding.

All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush and/or vacuum.

MIXING

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

Dose and mix with suitable two-part spray equipment. Both components must be heated up. Comp A to +67°C and +72°C. comp. B to +53°C and +58°C pressure gap between comp. A and comp. B should be controlled within 1 Mpa.

The accuracy of mixing and dosage must be controlled regularly with the equipment.

Sikalastic® -870 BT might not be diluted under any circumstance. Thoroughly mix Sikalastic® -870 BT part B resin material using a drum mixer until a homogenous mixture and colour is obtained.

TOOLS

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

Primer: Use current Primer, i.e. EP-F

Prime prepared concrete with Resitect EP-F. The primer should not just be rolled or poured. In order to avoid the formation of pinholes, the primer must be troweled into the concrete surface, if necessary in two applications.

Waterproofing:

Add part C (toner) to part B and mix properly.
Spray apply with suitable two-part hot spray high pressure equipment e.g. Graco Reactor E-XP2 Graco Reactor H-PX 3 (www.graco.com) or DFX-70S.
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.

LIMITATIONS

This product may only be used by experienced professionals.
Application by using 2-part hot spray high pressure equipment only. Basic temperature settings are:
Part A: +67 °C
Part B: +53 °C
Temperature of the substrate during application and curing: min. +5 °C.
The performance and technical properties of Sikalastic®-870 BT are not effected by UV exposure. Sikalastic®-870 BT is UV light resistant, but not colour stable under UV exposure.
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.

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PRODUCT DATA SHEET
Sikalastic®-680 BT
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LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data and uses.

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®-560 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.