

Sikalastic®-871 JW (Resitect 5000 JW)

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Spray applied polyurea membrane

Construction

Product Description	Sikalastic®-871 JW is a two part, elastic, 100% solids, very fast curing polyurea spray applied membrane especially designed for the use in potable water installations, reservoirs and fish distribution pools. Sikalastic®-871 JW is for machine application only.
Uses	<ul style="list-style-type: none">■ For waterproofing applications on steel and concrete: Typical uses:■ Drinking water reservoirs■ Water supply facilities■ Water distribution pools■ Fish culture ponds
Characteristics / Advantages	<ul style="list-style-type: none">■ Will not contaminate water■ In accordance with Ministry of Welfare's Ordinance No. 15 Article 1, 17ha and Ministry of Health, Labour and Welfare Ordinance No.2 for potable water■ Fast reactivity and cure time■ Almost immediate return-to-service time■ Applicable in temperatures from +5°C to +35°C■ Performs in constant temperatures from +5°C to 60°C■ 100% solids■ Crack-bridging properties
Product Data	
Test	
Approval / Standards	<p>Test for leaching-out of cadmium and other compounds in accordance with the test on the quality of materials for equipment/ articles (Notice No. 45 of the ministry of Health, 2000), report No. 505080711-001</p> <p>Methods for applying epoxy resin Coatings on the inside surfaces of concrete tanks according Japan Water Works Association (JWWA) K 143 :2004, report No. 081072</p>
Form	
Appearance / Colours	ISO - Part A: light yellow liquid Resin - Part B: dark brown liquid Toner . Part C: standard Light blue, others on request
Packaging	Part A (net): 200.0 kg drum Part B (net): 175.0 kg drum Part C (net): 15.0 kg can



Storage

Storage Conditions / 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 in dry conditions at temperatures between +5°C and +30°C.

Technical Data

Chemical Base

Polyurea

Density

Part A:	~ 1.10 kg/litre
Part B:	~ 1.10 kg/litre
Part C :	1.3~1.4 kg/litre (Light Blue)
All Density values at +23°C	

Gel Time

~ 14 seconds

Tack Free Time

20 to 30 seconds

Curing Time

~ 1 hours at +5°C to +15°C
~ 30 min at +15°C to +25°C
~ 30 min at +25°C to +35°C

Solid Content

> 99%

Mechanical / Physical Properties

Tensile Strength	> 250 N/mm ²	(JIS K6251)
Shore D Hardness	~ 42	(JIS K6253)
Elongation at Break	~ 280%	(JIS K6251)
Tear strength	~ 75 N/mm ²	(JIS K 6252)
Water permeability	~ 0.0g	(JIS A 1404, 11.5)
Chloride ion permeability	< 3.4 x 10 ⁻⁴	(JIS K 5400, 8.18)
Resistance to alkali	No bulges, cracks or peels	(JIS K 5400, 8.21)
Resistance to impact	No cracks or peels	(JIS A 6916, 6.11)

Resistance

Chemical Resistance

Sikalastic®-871 JW is resistant to all kinds of fresh water and the cleaning regimes used in potable water structures.

Please ask for project related chemical resistance.

Thermal Resistance

Exposure*	Temperature
Permanent dry heat	+60°C
Permanent wet heat	+60°C

*No simultaneous chemical and mechanical exposure.

Application Details

Consumption / Dosage

Coating System	Product	Consumption
System for concrete structures	1xResitect EP-F	0.6 . 1.0 kg/m ²
	1 x Sikalastic®-871 JW	~ 1.10 kg/m ² /mm

The performance and technical properties are not affected by UV exposure. Sikalastic®-871 JW is UV light resistant, but not colour stable under UV exposure.

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	<p>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.</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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Substrate Preparation	<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[®], Sika[®] MonoTop[®] or Sikagard[®] range of materials. (Acid resistance mortar is recommended)</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>
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Application Conditions / Limitations

Substrate Temperature	+5°C min. / +60°C max.
Ambient Temperature	+5°C min. / +60°C max.
Relative Air Humidity	80% RH max.
Substrate Moisture Content	<p>≤ 4 % pbw moisture content.</p> <p>Test method: Sika[®]-Tramex meter, CM - measurement or Oven-dry-method.</p> <p>No rising moisture according to ASTM (Polyethylene-sheet)</p>
Dew Point	<p>Beware of condensation!</p> <p>The substrate and uncured membrane must be at least 3°C above dew point to reduce the risk of condensation or blooming of the membrane finish.</p>

Application Instructions

Mixing	<p>Part A : Part B+Part C = 1 : 1 (by volume)</p> <p>Dose and mix with suitable two-part hot spray equipment.</p> <p>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</p> <p>The accuracy of mixing and dosage must be controlled regularly with the equipment.</p> <p>Sikalastic[®]-870 BT might not be diluted under any circumstances. Thoroughly mix Sikalastic[®]-870 BT part B resin material using a drum mixer until a homogenous mixture and colour is obtained.</p>
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Application Method / Tools

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

Primer: 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-XP 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

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®-871 JW on Sikalastic®-871 JW allow:

Substrate temperature	Minimum	Maximum
+10°C	60 seconds	8 hours ²⁾
+20°C		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 Sika Colma®-Reiniger. For larger 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.

Notes on Application / 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®-871 JW are not affected by UV exposure. Sikalastic®-871 JW is UV light resistant, but not colour stable under UV exposure.

Please note: Always apply a test area first.

Curing Details

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 minute	~ 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 Not for permanent traffic.

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

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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