Construction

Sikalastic®-830

Chemical Resistant Spray Applied Waterproofing Membrane

Product Description

Sikalastic®-830 is a two part, solvent free, elastoplastic, fast setting, spray applied membrane based on a polyurea / polyurethane combination with high chemical resistance.
Sikalastic®-830 can only be spray applied with special two part spray equipment.

Uses

Waterproofing membrane with high chemical resistance for concrete surfaces. Waterproof seal in accordance with WHG (German / European Ground Water Protection Regulations). For use on structures subject to mechanical and chemical exposure such as:

- Containment Bunds
- Tank farms
- Sewage treatment plants
- Silage tanks and troughs
- Ballast tanks
- Digest or tanks
- Washing installations (i.e. for vehicles, trains, planes etc.)
- Hydraulic structures

Characteristics / Advantages

- Crack-bridging
- Abrasion resistant
- Fast curing
- High chemical resistance

Tests

Approval / Standards

Conforms to the requirements of WHG (German/European Ground Water Protection Regulations, Standard in accordance with DIBT). Certificate: P 1.3/02-043; by MFPA Leipzig.

Conforms to the requirements of DIN 4030-1. (Resistance to water that is aggressive to concrete) Certificate: PB 320/62/01 by Institute ISK Dresden.

Conforms to the requirements of DB-BN 91807-1 in accordance with TL/TP-KOR Appendix E, Sheet 84, Status 2002 (Standard for facilities of the German Federal Railways). Certificate: 2096; by TU Munich.

Conforms to the requirements of DIN 4102 Part 1 fire resistance class B1 (Fire resistance) Certificate No. PZ III/B-03-012; by FMPA Leipzig.

Product Data

Form

Appearance / Colours

Resin - part A: yellowish or grey Hardener - part B: transparent to brownish liquid
Yellow ~ RAL 1014

Packaging

Part A: 64 kg container
Part B: 71 kg container

Storage

Storage Conditions / Shelf Life

Part A: 12 months
Part B: 6 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 / polyurethane combination.

Density

Part A: ~ 1.07 kg/litre
Part B: ~ 1.20 kg/litre (DIN EN ISO 2811-1)
All Density values at + 23°C.

Solid Content

> 99%

Viscosity

Part A: ~ 2000 - 3000 mPas
Part B: ~ 1000 - 2000 mPas

Layer Thickness

Minimum 2 mm.

Mechanical / Physical Properties

Tensile Strength

~ 19 N/mm² (28 days / +23°C) (DIN 53504)

Shore D Hardness

~ 65 (DIN 53505)

Elongation at Break

~ 70% (33 days / + 23°C) (DIN 53504)

Abrasion Resistance

40 mg (CS 10/100/1000) (53109 (Taber Abrader Test))

Crack-Bridging Capacity

Static Crack-Bridging properties of up to 0.5 mm in accordance with WHG (German / European Ground Water Protection Regulations, in accordance with DIBT standards).

Resistance

Chemical Resistance

Resistant to many chemicals. Please ask for a detailed chemical resistance table.

Thermal Resistance

Exposure*	Dry heat
Permanent	+50°C
Short-term max. 7 d	+80°C
Short-term max. 12 h	+100°C

Short-term moist/wet heat* up to +80°C where exposure is only occasional (steam cleaning etc.).
Permanent water load up to max. +50°C.
*No simultaneous chemical and mechanical exposure.

System Information

System Structure

System for concrete structures Primer:
2 x Sikafloor®-156 (lightly broadcast with quartz sand 0.4 - 0.7 mm) Waterproofing:
1 x **Sikalastic®-830**

System for concrete structures with permanent UV-exposure
Primer: 2 x Sikafloor®-156 (lightly broadcast with quartz sand 0.4 - 0.7 mm)
Waterproofing: 1 x **Sikalastic®-830**
Bonding bridge: 1 x Sikalastic®-810 + 15 wt.-% Thinner C
Top Coat: 1 x Sikafloor®-357

System for concrete structures, which need a temporary moisture barrier (TMB):
Mortar: 1 x Sikagard®-720 EpoCem
Primer: 1 x Sikafloor®-156 (lightly broadcast with quartz sand 0.4 - 0.7 mm)
Waterproofing: 1 x **Sikalastic®-830**

The system configuration as described must by fully complied with and may not be changed.

Application Details

Consumption / Dosage

Coating System	Product	Consumption
Levelling-up (if required)	Sikafloor®-156 levelling mortar: 1 pbw Sikafloor®-156 2 pbw quartz sand 0.1 - 0.3 mm 1 pbw quartz sand 0.7 - 1.2 mm	~ 2.0 kg/m² at thickness of 1 mm
	Lightly broadcast with quartz sand, 0.4 - 0.7 mm	1.0 - 1.5 kg/m²
	To avoid sagging on vertical surfaces, add Extender T.	1.5 - 2 wt.-%
System for concrete structures	2 x Sikafloor®-156	0.3 - 0.5 kg/m²/ layer
	Lightly broadcast with quartz sand, 0.4 - 0.7 mm	1.0 - 1.5 kg/m²
	On vertical surfaces: To avoid sagging of the quartz sand add Extender T.	1.5 - 2%
	1 x **Sikalastic®-830**	~ 1.05 kg/m² / mm
System for concrete structures with permanent UV-exposure	2 x Sikafloor®-156	0.3 - 0.5 kg/m²/each layer
	Lightly broadcast with quartz sand, 0.4 - 0.7 mm	1.0 - 1.5 kg/m²
	On vertical surfaces: To avoid sagging of the quartz sand add Extender T.	1.5 - 2%
	1 x **Sikalastic®-830**	~ 1.05 kg/m² /mm
	1 x Sikalastic®-810 + 15 wt.-% Thinner C	0.05 - 0.09 kg/m²
	1 x Sikafloor®-357 N	0.15 - 0.20 kg/m²

Coating System	Product	Consumption
System for concrete structures which needs a temporary moisture barrier	1 x Sikagard®-720 EpoCem®	2.0 kg/m²/mm
	1 x Sikafloor®-156	0.3 - 0.5 kg/ m²/each layer
	Lightly broadcast with quartz sand, 0.4 - 0.7 mm	1.0 - 1.5 kg/m²
	On vertical surfaces: To avoid sagging of the quartz sand add Extender T.	1.5 - 2 wt.-%
	1 x **Sikalastic®-830**	~ 1.05 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.

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 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.
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.
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.

Application Conditions / Limitations

Substrate Temperature

+8°C min. / +40°C max.

Ambient Temperature

+8°C min. / +40°C max.

Substrate Moisture Content

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

Relative Air Humidity

85% r.h. max.

Dew Point

Beware of condensation!
The substrate and uncured coating must be at least 3ºC above dew point to reduce the risk of condensation or blooming on the membrane finish.

Application Instructions

Mixing

Part A : part B = 64.3 : 35.7 (by weight)
Part A : part B = 66.66 : 33.33 (by volume)
Dose and mix with suitable two-part spray equipment (details on request). Both parts must be heated to between +30°C and +50°C. Precision mixing and dosage is essential, must be monitored.

Application Method / Tools

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

Primer:

Prime prepared concrete with Sikafloor®-156. In order to avoid the formation of pinholes, the primer must be brushed into the concrete surface, if necessary in two operations. After each operation lightly broadcast with quartz sand 0.4 - 0.7 mm. In order to avoid the formation of blisters do not broadcast to excess.

On vertical surfaces:

In order to avoid sagging of the quartz sand on vertical surfaces Sikafloor®-156 must be mixed with 1.5 - 2 wt.-% Extender T. After each application lightly broadcast with quartz sand 0.4 - 0.7 mm. The quartz sand must be blown on with suitable equipment such as a “Chiron-blower” or similar.

Levelling up (if required):

Rough surfaces need to be levelled prior to application. Use Sikafloor®-156 levelling mortar (see the relevant PDS).

On vertical surfaces the levelling mortar must be mixed with 1.5 - 2 wt.-% Extender T. After each application, the levelling mortar must be lightly broadcast with quartz sand 0.4 - 0.7 mm; do not broadcast to excess to avoid the formation of bubbles. The quartz sand must be blown on with suitable equipment such as a “Chiron-blower” or similar.

Waterproofing:

Spray apply with suitable two-part hot spray equipment e.g. Unipre CG 52 BF. (Supplier: UNIPRE GmbH Langwiedenweg 94, 59497 Werl, Germany, Tel.: +49/2922-87840-0, www.unipre.de).

Control the film thickness during application using a thickness gauge.

Bonding bridge:

Uniformly apply 1 x Sikalastic®-810 using a short pile (12 mm) nylon roller or by spray.

UV-protection:

Uniformly apply 1 x Sikafloor®-357 N using a short pile (12 mm) nylon roller.

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.

Potlife

Temperatures	Time
+10°C	~ 5 minutes
+20°C	~ 2 - 3 minutes
+30°C	~ 60 - 70 seconds

Waiting Time / Overcoating

Before applying **Sikalastic®-830** on Sikafloor®-156 allow:

Substrate temperature	Minimum	Maximum
+10°C	24 hours	3 days
+20°C	8 hours	2 days
+30°C	5 hours	1 days

Before applying **Sikalastic®-830** on **Sikalastic®-830** allow:

Substrate temperature	Minimum	Maximum
+10°C	-	14 hours [2])
+20°C	-	12 hours [2])
+30°C	-	10 hours [2])

Before applying **Sikalastic®-830** on Sikalastic®-810 allow:

Substrate temperature	Minimum	Maximum
+10°C	3 hours	6 hours [3])
+20°C	2 hours	4 hours [3])
+30°C	1 hour	2 hours [3])

Before applying Sikalastic®-810 on **Sikalastic®-830** allow:

Substrate temperature	Minimum	Maximum
+10°C	180 minutes	- [1])
+20°C	120 minutes	
+30°C	90 minutes	

Before applying Sikafloor®-357 N on Sikalastic®-810 allow:

Substrate Temperature	minimum	maximum
+10°C	3 hours	6 hours [2])
+20°C	2 hours	4 hours [2])
+30°C	1 hour	2 hours [2])

[1]) Assuming that all dirt has been removed and contamination isavoided.
[2]) If the max. waiting time is exceeded then Sikalastic®-810 + 15 wt.-% Thinner C must be applied as a bonding bridge.

[3]) If the max. waiting time is exceeded then Sikalastic®-810 must be applied with max. 20 wt.-% Thinner C.

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

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Notes on Application / Limitations

This product may only be used by experienced professionals.

Start of gel phase after 60-70 seconds.

Application by 2-part hot spray equipment only.

Application temperatures of substrate and during curing: at least +8°C.

Sikafloor®-357 N is not suitable for permanent immersion.

Sikalastic®-830 is not UV light resistant and changes colour under exposure. Its properties and performance are not adversely affected, if the exposure is max. 4 weeks. Areas, which are permanently exposed to UV ligth must be overcoated with a suitable protective coating, such as Sikafloor®-357 N and the adhesion promoter Sikalastic®-810 + 15 wt.-% Thinner C must be used.

Curing Details

Applied Product ready for use

Temperature	Resistant to rain after	Foot traffic	Full cure
+10°C	~ 90 minutes	~ 180 minutes	~ 4 days
+20°C	~ 45 minutes	~ 120 minutes	~ 3 days
+30°C	~ 30 minutes	~ 90 minutes	~ 2 days

Note: 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 should 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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