

# PRODUCT DATA SHEET

## Sikalastic®-838 LM

### TWO-COMPONENT SPRAY APPLIED ROOF WATERPROOFING LOW MODULUS MEMBRANE BASED ON PURE POLYUREA

#### DESCRIPTION

Sikalastic®-838 LM is a low modulus, high elastic, rapid-curing, pure polyurea membrane. Sikalastic®-838 LM is applied by two component hot spray equipment.

#### USES

- For use as waterproofing membrane on new roof structures and for refurbishment (old bituminous membranes, terraces, roof screeds, etc.)
- For use as waterproofing membrane underneath planting or hard landscaping on podium areas
- For use as protective coating (EN1504-2) for concrete structures on non-trafficked areas
- For use as waterproofing membrane for water containment structures (dams, canals, tanks, etc.)

#### CHARACTERISTICS / ADVANTAGES

- Highly elastic and crack bridging
- Low elastic modulus
- Fast application - even of complex detailing
- High resistance to weathering
- High impact resistance
- Good chemical resistance
- Wide range of application temperature - from -15°C to +70°C
- High temperature resistance - from -30°C to +140°C
- 100% solids content
- Good adhesion on most of building materials
- Seamless waterproofing membrane

#### SUSTAINABILITY

Conformity with LEED v2009 IEQc 4.2: Low-Emitting Materials - Paints and Coatings

#### APPROVALS / CERTIFICATES

CE-marking and Declaration of Performance as Product for Concrete Protection Increase of physical resistance - Coating (Principle 5.1) according to EN 1504-2:2004, based on type testing and factory production control.

#### PRODUCT INFORMATION

<b>Chemical base</b>	Pure polyurea	
<b>Packaging</b>	Component A (RESIN)	205 kg black drum
	Component B (ISO)	225 kg red drum
<b>Colour</b>	Component A (RESIN)	grey RAL7040 (other colors upon request)
	Component B (ISO)	transparent
<b>Shelf life</b>	Component A (RESIN)	12 months from date of production
	Component B (ISO)	6 months from date of production

**Storage conditions**

The product must be stored properly in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C. Higher storage temperatures may reduce shelf life of product. Reference shall also be made to the storage recommendations stated in the safety data sheet.

<b>Density</b>	Component A (RESIN)	~ 1,025 kg/L	(EN ISO 2811-1)
	Component B (ISO)	~ 1,125 kg/L	
All density values at +25 °C			
<b>Solid content</b>	>99%		
<b>Viscosity</b>	Component A (RESIN)	~ 500 mPas	(EN ISO 3219)
	Component B (ISO)	~ 1.400 mPas	
All values at +25 °C			

**TECHNICAL INFORMATION**

<b>Shore A Hardness</b>	~ 50	(EN ISO 868)
<b>Abrasion Resistance</b>	< 100 mg (CS17/1000 g/1000 rev.)	(EN 5470-1:2001)
<b>Tensile Strength</b>	~ 9,5 MPa (@ break) ~ 2,95 MPa (@100%)	(EN 12311-2:2002 Method B)
<b>Elongation at Break</b>	~ 380 %	(EN 12311-2:2002 Method B)
<b>Chemical Resistance</b>	High resistance to a wide range of chemicals. For more information contact our Technical Department.	
<b>Thermal Resistance</b>	-30°C / +140°C	

**SYSTEMS**

System Structure	Layer	Product	Consumption
	1. Primer	please refer to substrate pre-treatment	please refer to PDS of the primer
	2. Waterproofing	Sikalastic®-838 LM	> 2,15 kg/m <sup>2</sup>
	3. UV Protection	Sikalastic®-621 or Sikalastic®-445 or Sikalastic®-701	0,3-0,5 lt/m <sup>2</sup>
<p>Note: These figures are theoretical and do not include for any additional material required due to surface porosity, surface profile, variations in level and wastage. The consumption of waterproofing layer can be increased according to the system expected life required.</p>			

<b>Dry film thickness</b>	≥ 2 mm
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**APPLICATION INFORMATION**

<b>Mixing Ratio</b>	Component A : Component B = 1 : 1 (by volume)		
<b>Consumption / Yield / Dosage (PRINT single line)</b>	~ 1,08 kg/m <sup>2</sup> /mm		
<b>Product Temperature</b>	Component A	+60 / +70°C	
	Component B	+65 / +75°C	
	Hose	+65 / +75°C	
<p>A fine temperature tuning could be helpful to get equal output pressure of two components. Higher temperature of a component leads to a lower viscosity &amp; lower pressure.</p>			
<b>Ambient Air Temperature</b>	-15°C min. / +70°C max.		

<b>Relative Air Humidity</b>	85 % r.h. max
<b>Substrate Temperature</b>	-15°C min. / +70°C max
<b>Dew Point</b>	No condensation is allowed on substrate. Substrate temperature must be +3°C higher than dew-point temperature.

<b>Substrate Moisture Content</b>	≤ 4 % pbw moisture content. Test method: Sika®-Tramex meter, CM - measurement on Oven-dry method No rising moisture according to ASTM (Polyethylene-sheet). In case the application must be carried out on higher moisture content concrete, a Sika EpoCem® priming system is required.
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<b>Substrate Pre-Treatment</b>	<b>Substrate</b>	<b>Primer</b>
	Cementitious substrates, tiles, stones, ceramic tiles (unglazed)	Sikalastic® Primer MP or Sikafloor®-161 or Sikafloor®-156 or Sika® Concrete Primer
	Bituminous membranes	Sikalastic® Primer MP or SikaCor® EG-1 or Sikalastic® Metal Primer
	Metals	Sikalastic® Metal Primer or SikaCor® EG-1 or Sikalastic® Primer MP
	Aged PVC membranes	Sarna® Cleaner & Sikalastic® Primer PVC or Sikalastic® Metal Primer

For the consumption rates and waiting time / overcoating please refer to the PDS of the appropriate primer. Other substrates must be tested for their compatibility. If in doubt, apply a test area first.

<b>Waiting Time / Overcoating</b>	Before applying Sikalastic®-838 LM on Sikalastic®-838 LM allow:				
	<table border="1"> <thead> <tr> <th><b>Substrate temperature</b></th> <th><b>Maximum waiting time<sup>1)</sup></b></th> </tr> </thead> <tbody> <tr> <td>+23°C</td> <td>3 h</td> </tr> </tbody> </table>	<b>Substrate temperature</b>	<b>Maximum waiting time<sup>1)</sup></b>	+23°C	3 h
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+23°C	3 h				

<sup>1)</sup> Assuming that any dirt has been contaminating the surface. If the maximum waiting time is exceeded, Sika® Concrete Primer has to be applied with a consumption rate of 100 g/m<sup>2</sup> as an adhesion promoter between the layers.

<b>Applied Product Ready for Use</b>	<b>Ambient condition</b>	<b>Rain resistant</b>	<b>Ready for foot traffic<sup>1)</sup> (careful)</b>	<b>Ready for foot traffic</b>	<b>Cured</b>
	+23°C	~15 minutes	~35 minutes	~18 h	~36 h

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

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

## APPLICATION INSTRUCTIONS

### SUBSTRATE PREPARATION

**Substrate preparation depends on substrate type, substrate condition, mechanical stress and the expected life of the system.**

All substrates must be clean, dry and free from dirt, dust, wax, hydrophobic treatments and any other contamination.

#### Cement based substrates

Cementitious substrates must be properly cured, dimensionally stable, sound, even, smooth, continuous,

free from laitance and dust. Abrasion (grinding) and priming is always mandatory (see "Substrate Pre-Treatment" section). Connection and movement joints must be previously sealed by SikaHyflex®-250.

#### Bituminous membranes

Bituminous membranes and coating must be properly in adhesion to the substrate and dimensionally stable. Power-washing is mandatory. Priming is suggested (see "Substrate Pre-Treatment" section). Before application, repair any crack, gap, hole, connection joint using a self adhesive butyl tape Sikalastic® FlexiStrip or Sika® Multiseal BT.

#### Metal

Metal must be free from any oxidation. Power-washing and priming is mandatory (see "Substrate Pre-Treatment" section). Before application all connection joints must be taped by self adhesive butyl tape Sikalastic® FlexiStrip or Sika® Multiseal BT.

## MIXING

Dose and mix with suitable two-component hot-spray equipment. Maintain recommended product and hose temperature (~70°C). Ensure equal pressure of component A & B.

Component A (coloured resin) has to be carefully low speed mixed to ensure homogeneous colour.

Component B (Iso) drum requires an inlet air dryer filter, to prevent isocyanate to cure.

**The accuracy of temperature, pressure, dosage ratio (1:1) and mixing must be controlled regularly with the equipment.**

## APPLICATION

Prior to the application of Sikalastic®-838 LM the priming coat (if used) must be cured. For the Waiting Time / Overcoating please refer to the PDS of the appropriate primer. Damageable areas (handrails, e.t.c.) have to be protected with tape or plastic wrapping.

Spray apply Sikalastic®-838 LM with suitable two-component hot spray equipment creating a continuous membrane with homogeneous thickness (minimum 2 mm). Check regularly the thickness of the applied membrane by proper instrument.

## CLEANING OF EQUIPMENT

Removal of fresh remnants from tools and application equipment can be carried out using Thinner C immediately after use. Hardened and/or cured material can only be removed mechanically.

## IMPORTANT CONSIDERATIONS

- Ready-to-walk time is longer in comparison with a standard polyurea. Take this under consideration while organizing the application.
- Sikalastic®-838 LM changes colour under UV exposure. However, the performance and technical properties are not affected.
- Application is by 2-part hot-spray high pressure equipment only.
- For spray application the use of protective health and safety equipment is mandatory.
- Always refer to the manufacturer's instructions before use the spraying and mixing equipment.
- Products shall only be applied in accordance with their intended use.
- Do not apply Sikalastic®-838 LM on substrates with rising moisture or not dimensionally stable.
- Application on absorbing substrates not properly primed can lead to outgassing and "pin holing" may occur.
- Product shall be used in conjunction with a safe system of work. Ensure an adequate assessment of all site risks has been conducted prior to work commen-

cing. Refer to the product safety datasheet for further guidance.

- Do not use Sikalastic®-838 LM for indoor applications.
- Do not use on any substrate not listed into the above "Substrate Pre-Treatment" section.
- Do not apply near to air inlet of air conditioning systems.
- Not primed bituminous substrate can lead Sikalastic®-838 LM to yellowing.

## 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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