

SikaMembran® system

Vapour control/waterproofing sheet system for ventilated curtain walling

Construction

System description:

The **SikaMembran system** is used to provide vapour control layers and waterproof barriers for ventilated curtain walling.

The flexible **SikaMembran** sheets, fixed between structure and incorporated units (e.g. windows) using **SikaBond-TF plus** adhesive, provide a secure and durable vapour barrier and waterproof seal at junctions between building elements.

System components:

Sheet	special product characteristics	application filed
SikaMembran Universal	thickness: 0.6 mm diffusion resistance coefficient μ := 98 000 S_d : = approx. 60 m	suitable for interior and exterior use
SikaMembran Outdoor	thickness: 0.6 mm diffusion resistance coefficient μ := 52 000 S_d : = approx. 30 m	suitable for exterior use
SikaMembran Outdoor plus	thickness: 0.6 mm diffusion resistance coefficient μ := 5 000 S_d : = approx. 3 m	suitable for exterior use
SikaMembran Outdoor SB plus	thickness: 0.6 mm diffusion resistance coefficient μ := 5 000 S_d : = approx. 3 m	suitable for exterior use, one sided self-adhesive (for fixing on the window profile)
SikaMembran Strong	thickness: 1.2 mm diffusion resistance coefficient μ := 52 000 S_d : = approx. 60 m	suitable for exterior use
Adhesive	special product characteristics	application
SikaBond-TF plus	1-component, sag-resistant adhesive based on polyurethane	fixing of SikaMembran sheeting to standard substrates
Ancillary products	product characteristics	application
SikaLastomer-TF	1-comp. adhesive and sealant based on butyl rubber	fixing of SikaMembran sheeting at junctions with roof and building substructure
SikaLastomer adhesive tape	double-faced adhesive tape based on butyl	assembly aid for factory fixing of SikaMembran using SikaBond-TF plus adhesive

Properties:

- fast, secure application
- application of adhesive to one side only
- no pre-treatment of membrane
- no drying times; no additional risk of soiling
- also suitable for uneven substrates (blowholes in concrete), levelling of substrate by adhesive
- adjustment of membrane possible until 30 min. after fixing
- optimally suited to site conditions



- durable bond and barrier/seal
- easy application even in corners due to flexible membrane
- no additional mechanical fixing necessary
- safe tight and heat resistance fixing with the self adhesive tape on window profile.

System components

1. SikaMembran® sheeting

SikaMembran universal, SikaMembran outdoor, SikaMembran strong

Product description: The **SikaMembran** waterproof sheets are based on synthetic rubber.

Properties:

- flexible, elastic, easy to handle
- resistant to weathering and ageing
- UV and ozone resistant
- resistant to bitumen

Packaging:

SikaMembran-Folien Universal, Outdoor
in rolls 25 m
width of rolls in mm: 100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 1200, 1400
SikaMembran Strong, Outdoor plus
in rolls 25 m
width of rolls in mm: 100, 150, 200, 250, 300, 350, 400, 500, 1400
SikaMembran Outdoor SB plus
in rolls 25 m
width of rolls in mm: 150, 200, 250, 300

Colour: Black (printed with Sika logo).

Shelf life: In dry environment unlimited.

Technical data:

	SikaMembran universal	SikaMembran outdoor	SikaMembran strong	Remarks
Chemical base	synthetic rubber based on butyl	synthetic rubber	synthetic rubber	
Density	1.3 g/cm ³	1.3 g/cm ³	1.22 g/ml	DIN 53 479
Thickness	0.6 mm	0.6 mm	1.2mm	
Diffusion resistance coefficient μ	98 000	52 000	52 000	DIN 52 615
Equivalent air layer thickness s_d	approx. 60 m	approx. 30 m	approx. 60 m	DIN 52 615
Elongation at break tear strength	approx. 500% > 6 N/mm ²	approx. 400 6 N/mm ²	approx. 500 approx. 6 N/mm ²	DIN 53 504
Tear propagation resistance	approx. > 8 N/mm	approx. 10 N/mm	approx. 8 N/mm	DIN 53 507
Dimensional change after heat ageing 24 h, 100°C	approx. 0.5%	0.5%	0.5%	
Ozone resistance 200 PPHM, 40°C, 20% elongation 168h	no cracks	no cracks	no cracks	DIN 1431/1
Fire protection class	B2	B2	B2	DIN 4102

Technical data:

	SikaMembran Outdoor plus	SikaMembran Outdoor SB plus	Remarks
Chemical base	Synthetic-rubber based on EPDM	Synthetic-rubber based on EPDM	
Density	1,3 g/cm ³	1,3 g/cm ³	DIN 53 479
Thickness	0,6 mm	0,6 mm	
Diffusion resistance coefficient μ	5.000	5.000	DIN 52 615
Equivalent air layer thickness s_d	ca. 3 m	ca. 3 m	DIN 52 615
Elongation to break Tear strength	> 400% ca. 5 N/mm ²	> 400% ca. 5 N/mm ²	DIN 53 504
Tear propagation resistance	> 10 N/mm	> 10 N/mm	DIN 53 507
Fire protection class	B2	B2	DIN 4102
Peeling resistance Self-adhesive tape		ca. 1 N/mm	DIN 53 289

Hint:

Use the specified system products for fixing **SikaMembran** sheeting. Adhesion and compatibility should be tested for non-standard substrates.

2. SikaBond®-TF plus

Product description:

1-component, elastic system adhesive based on polyurethane, suitable for the **SikaMembran sheeting system**.

Fields of application:

SikaBond-TF plus is used for fixing **SikaMembran universal**, **SikaMembran outdoor** and **SikaMembran strong** sheeting behind curtain walling.

Properties:

- **secure application with good sag resistance**
- **for fixing to concrete, aluminium (powder-coated or unfinished), rigid PVC, timber and other standard construction materials**
- **application of adhesive to one side only**
- **ensures levelling of substrate**
- **quick curing**
- **no contact pressure necessary.**

Packaging:

600 ml sausages (1 box = 20 sausages).

Colour:

Black.

Shelf life:

In original and undamaged containers, in cool and dry environment at temperatures between +10 °C and +25 °C: 12 months.

Technical data:

	Characteristics	Remarks
Chemical base	1-comp.-polyurethane	
Density	approx. 1.10 g/ml	DIN 53 479
Sag resistance	very good	
Tensile strength	1.8 N/mm ²	DIN 53 504
Peeling resistance	approx. 1 N/mm	DIN 53 289
Elongation at break	> 500%	DIN 53 504
Skinig time	50 minutes	standard climate as per DIN 50 014-23/50-2
Curing speed	approx. 4 mm/24 h	standard climate as per DIN 50 014-23/50-2
Shore hardness A	approx. 35	DIN 53 505
Application temperature	+ 5°C to 35°C	
Service temperature	- 40°C to + 90°C	

Chemical resistance: Resistant to water, seawater, lime water, neutral aqueous detergents

Ancillary system produkts

1. SikaLastomer®-TF

Product description: 1-component, plastic adhesive and sealant based on butyl rubber.

Fields of application: **SikaLastomer-TF** is specifically used of fixing **SikaMembran universal**, **SikaMembran outdoor** and **SikaMembran strong** to substrates at junctions with roof and substructure. The joint must be additionally secured by a profile where exposed to structural loads, e.g. where the adhesive bond has to support the self-weight of the membrane.

Packaging: 600 ml sausages (1 box = 20 sausages).

Colour: Grey.

Shelf life: In original sealed and undamaged containers, in dry and cool environment at temperatures between +10 °C and +25 °C: 9 months.

Technical data:

	Characteristics
Chemical base	butyl rubber
Density	approx. 1.8 g/cm ³
Application temperature	+ 5°C to 40°C
Service temperature	- 40°C to + 60°C

2. SikaLastomer® adhesive tape

Product description: Weatherproof double-faced adhesive tape based on butyl rubber.

Fields of application: **SikaLastomer adhesive tape** is used as an additional assembly aid for factory fixing of **SikaMembran** sheeting using **SikaBond-TF plus** adhesive and allows immediate transportation of the freshly fixed units. **SikaLastomer adhesive tape** is also used for jointing roof membranes.

Packaging: Rolls à 30 m x 0.6 mm rolls, 1 box containing 12 rolls, tape width 12 mm.

Colour: Black.

Shelf life: In undamaged containers, in cool and dry environment at temperatures between +10 °C and +25 °C: 9 months.

Technical data:

	Characteristics
Chemical base	butyl rubber
Adhesive strength	approx. 0.8 N/mm
Tear strength	approx. 2.5 N/mm
Application temperature	+ 10°C to + 35°C
Service temperature	- 40°C to + 80°C

Application: For **factory pre-assembly**, **SikaLastomer adhesive tape** is applied to the window unit, while **SikaBond-TF plus** is applied in “caterpillar” form. The adhesive tape secures the bond while the **SikaBond-TF plus** adhesive cures.

Design

Material consumption:

SikaBond-TF plus	nozzle diameter approx. 5 mm on interperated unit approx. 8 mm on brickwork	depending on substrate approx. 7 m per 600 ml sausage

Sizing:

SikaMembran Sheet Width	fix sheet unstressed	2–3 cm adhesive area at window element + 4–5 cm adhesive area on the substrate + interspace to be sealed = width of stripe

Design considerations:

- The inner seal should be at least so vapour proof as the outer one.
- Ensure adequate provision of insulation (mineral wool or similar) within the joint prior to sealing to prevent thermal bridging or internal condensation.

Table to compare different types of sealing concerning to there diffusion behaviour

Product	Diffusion resistance coefficient μ	Joint depth/ sheet thickness	Equivalent air layer thickness s_d
Sikaflex PRO-1 FC Sikaflex PRO-2 HP	ca. 2500	8 mm 12 mm 16 mm 20 mm	ca. 20 m ca. 30 m ca. 40 m ca. 50 m
SikaMembran Outdoor plus SikaMembran Outdoor SB plus	ca. 5000	0,6 mm	ca. 3 m
SikaMembran Outdoor	ca. 52 000	0,6 mm	ca. 30 m
SikaMembran Strong	ca. 52 000	1,2 mm	ca. 60 m
SikaMembran Universal	ca. 98 000	0,6 mm	ca. 60 m

The water vapour diffusion equivalent air layer thickness (S_d) shows the value of an air layer which has the same diffusion resistance as the viewed building component.

The water vapour diffusion equivalent air layer thickness (S_d) is the only relevant value to describe the component.

Example: Sikaflex-PRO 2 HP, Joint depth: 12 mm

$$S_d = \mu * \text{Joint depth in meter}$$

$$S_d = 2500 * 0,012 \text{ m} = 30 \text{ m}$$

According to the principle „interior tighter than exterior“ it is allowed to use Sikaflex sealants in the interior joints if there is used SikaMembran Outdoor plus/ Outdoor SB plus as exterior sealing. Also it's possible to use SikaMembran Outdoor for this application.

Workmanship

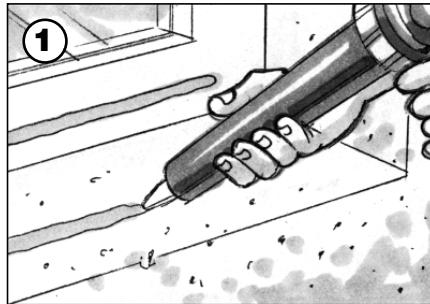
Application conditions:

The substrates must be dry and temperature not below +5 °C.

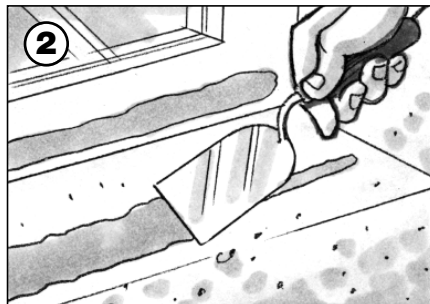
The substrates must be strong, clean, dry, free from dust, grease and oil. No primer required on concrete and standard construction materials.

Tools:

For proper application the following tools are adequate: caulking gun, protective gloves, carpet-knife, large and small spatula, plastic roller.



Apply **SikaBond TF plus** adhesive to structure using caulking gun (nozzle diameter approx. 8 mm).



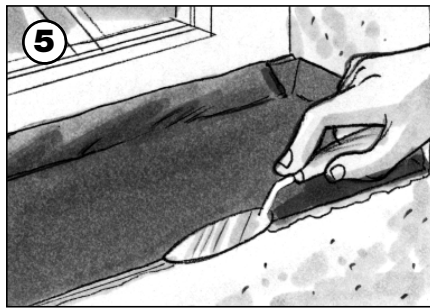
Spread **SikaBond TF plus** in "caterpillar" form using spatula to approx. 4-5 cm width and 1 mm thickness (depending on substrate), for window units a width of 2-3 cm and a thickness of 1 mm will suffice.



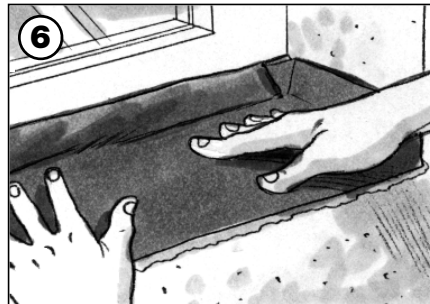
Fix **SikaMembran** sheet in the form of a loop. Press membrane into adhesive. Overlap at end joints: 10 cm.



Press on **SikaMembran** sheet using a plastic roller. The membrane must be fully bonded over a width of 4 cm.



Subsequently embed membrane edges in surplus adhesive using spatula.



The membrane may be readjusted during a period of 30 minutes after fixing.

Sika Membran Outdoor SB plus:

Application: removing the protecting foil and applicate SikaMembran Outdoor SB plus with pressure on the dry, dust and oil free window profile (if necessary the surfaces have to be cleaned with SikaRemover 208). Pay attention to a wrinkle free bonding to provide leaks. SikaMembran Outdoor SB plus is only suitable on non-porous substrates like Aluminium and PVC. Do not use the adhesive tape on porous substrates like concrete or bitumen.

Precautionary measures:

Keep containers tightly closed in dry rooms. Observe regulations on label.

In a not fully cured state the product contaminates water and should not get into drains, water and ground.

First aid:

Eye contact: Rinse with plenty of water immediatly (approx. 10 - 15 min.) and consult a doctor.

In case of skin contact: Rinse with plenty of water and soap.

"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 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 proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied upon request."



Sika Deutschland GmbH International Division
 P.O. Box 40 07 60 D-70407 Stuttgart/Germany
 Telephone +49-711-8009-603, Fax +49-711-8009-607
 email: export@de.sika.com



REG. NR. 39116
 Sika Deutschland GmbH