

## Sika® Membran System

For Sealing and Waterproofing  
Construction Gaps in Building Façades

- Waterproof and Airtight Flexible Seal
- Controlled Vapour Diffusion
- Bonds to any Building Substrate
- Prevents Interstitial Condensation

# Sika® Membran System

By simply bonding the flexible Sika Membran sheets between the building structure and window or curtain wall components with **SikaBond® TF Plus**, a secure and durable waterproof seal to construction gaps can be assured every time.

## System Advantages






- Excellent workability even into corners or around projections due to membrane flexibility.
- Easy to use even on uneven surfaces.
- No need for additional mechanical fasteners.
- Membranes may be adjusted for up to 30 minutes.
- No membrane preparation.
- No need to prime most surfaces.
- Excellent adhesion to most construction substrates.



## Controlling Condensation

Water vapour is invisible and can appear to not exist in a room environment, but in the form of condensation it is clearly visible especially on cold surfaces.

Air in a room always contains vapour, the table below illustrates just how much can be released by typical domestic activities.

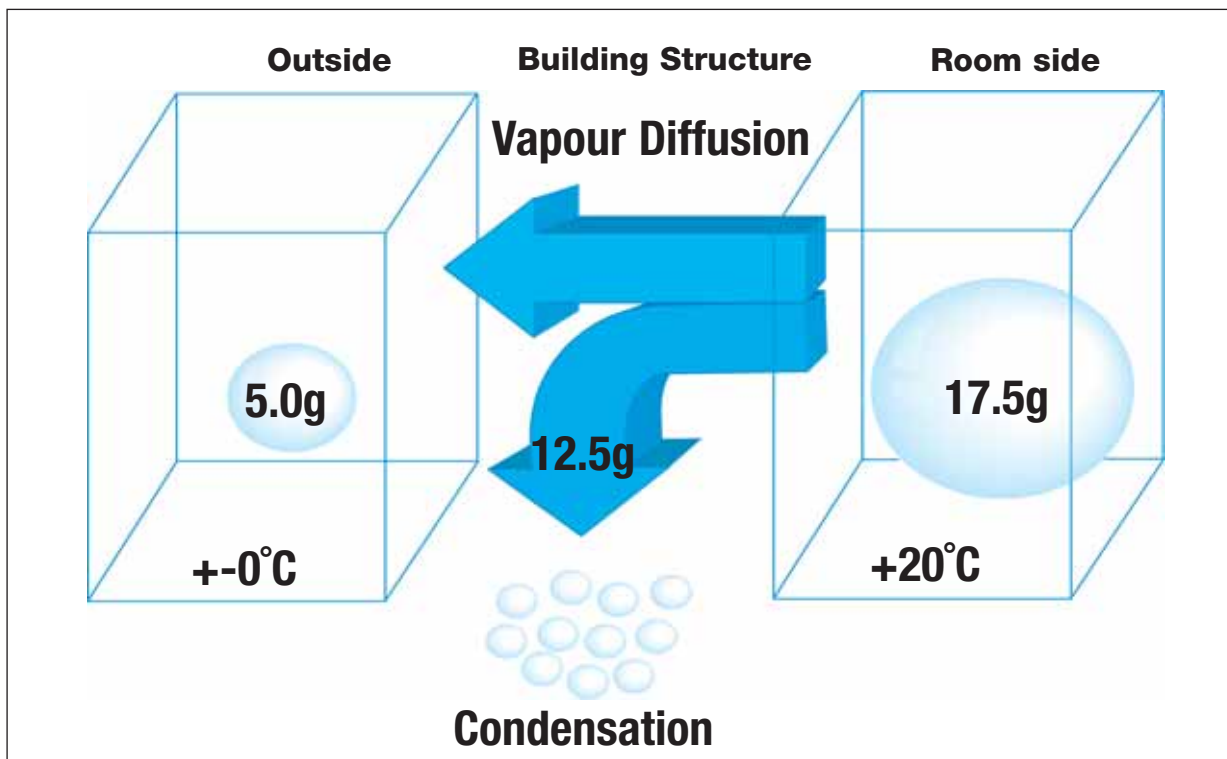
| Source  | moisture<br>in g / h | Source   | moisture<br>in g / h |
|---|----------------------|--|----------------------|
|  Human being | 20<br>–<br>300       |  Drying Laundry | 50<br>–<br>500       |
|  Bathroom    | 500<br>–<br>800      |  House plants   | 5<br>–<br>20         |
|  Kitchen     | 600<br>–<br>1500     | <b>4 people in a house can easily generate 10 litres of moisture per day</b>                         |                      |



The vapour pressure difference means moisture from the warmer side of a room will always want to diffuse through the building structure to the colder outdoor side.

When air saturated with moisture comes in contact with a cold surface, condensation can form. This can occur within the fabric of the building, at cold bridging interfaces eg. such as construction gaps formed between the building fabric and curtain wall and window components.

The temperature of the moisture vapour drops during the diffusion process and can reach the dew point. Result - Condensation!



Permanent ventilation of rooms can help but is not always practical or is not compliant with 'Part L Building Regulations' with respect to air tightness. Special care must therefore be taken to treat construction gaps.

The different defined vapour permeability rates for **Sika® Membran Outdoor** and **Sika® Membran Universal** allows selection and installation that will minimise the risk of condensation occurring.

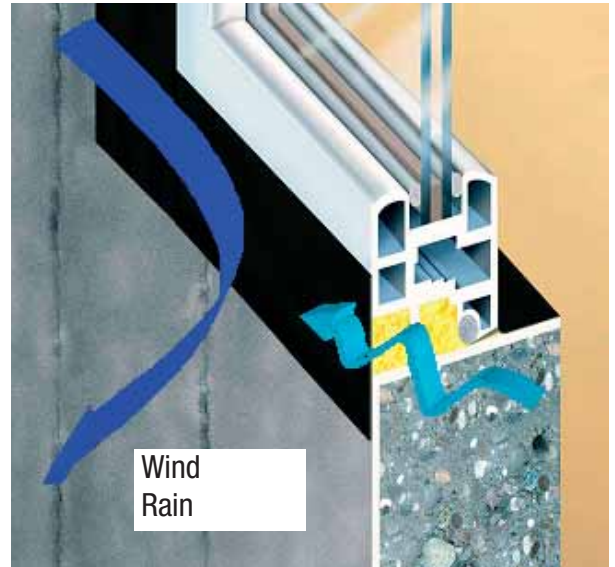
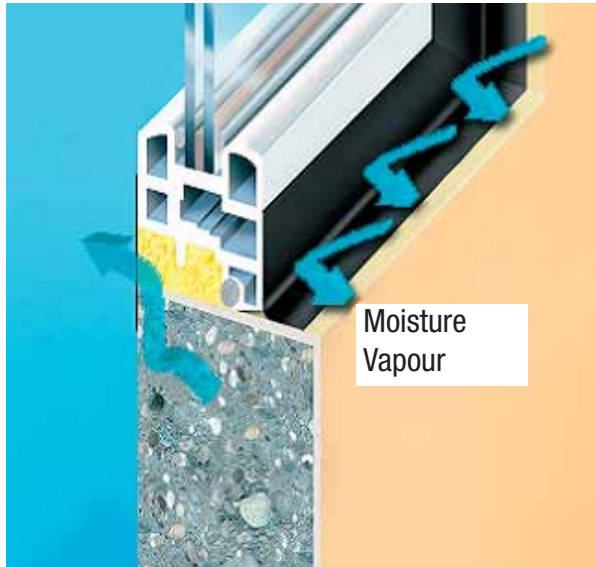
**Sika® Membran Universal** regulates the amount of moisture escaping from the inside. However, **Sika® Membran Outdoor** allows trapped moisture to escape from the building fabric whilst maintaining a weather proof seal where applied.

# Sika® Membran System

## System Components

### Sika® Membran

Sika® Membran is an EPDM synthetic rubber waterproofing membrane available in two grades as Sika® Membran Outdoor and Sika® Membran Universal, which offer different defined rates of vapour diffusion.



### Advantages

- Flexible and easy to handle.
- Weather and ageing resistant.
- UV and ozone resistant.
- Will not perish.
- Quality assured with printed logo for easy identification.

Packaged in 25 m x 0.6 mm rolls of varying widths from 100 to 1400 mm.

|   | Sika® Membran Universal    | Sika® Membran Outdoor Plus | Remarks    |
|---|----------------------------|----------------------------|------------|
| <b>Chemical base</b>                                | EPDM                       | EPDM                       |            |
| <b>Density</b>                                      | 1.11 g/ml                  | 1.22 g/ml                  | ISO2781    |
| <b>Thickness</b>                                    | 0.6 mm                     | 0.6 mm                     |            |
| <b>μ value</b>                                      | 98000                      | 5000                       | DIN 52 615 |
| <b>Equivalent air gap thickness</b>                 | Ca 60 m                    | Ca 3 m                     | DIN 52 615 |
| <b>Moisture vapour transmission rate</b>            | 0.37 g/m <sup>2</sup> /day | 0.56 g/m <sup>2</sup> /day |            |
| <b>Elongation at break</b>                          | Ca 400%                    | Ca 400%                    | ISO 37-2   |
| <b>Tear strength</b>                                | Ca 6 N/mm <sup>2</sup>     | Ca 5 N/mm <sup>2</sup>     |            |
| <b>Tear propagation resistance</b>                  | Ca 11 N/mm <sup>2</sup>    | Ca 10 N/mm <sup>2</sup>    | ISO 34-A   |
| <b>Size change after heat ageing 24 hr, 100 C</b>   | Ca 0.5%                    | Ca 0.5%                    |            |
| <b>Ozone resistance 200 pphm, 40°C 20% rec 168h</b> | No cracks                  | No cracks                  | DIN 1431/1 |
| <b>Root resistance</b>                              | Root resistant             | Root resistant             | DIN 7864   |
| <b>Fire rating</b>                                  | 4.3/B2                     | 4.3/B2                     | DIN 4102   |
| <b>Self adhesive strip peel strength</b>            | -                          | -                          | DIN 53 289 |

## SikaBond® TF Plus

**SikaBond® TF Plus** is a single part polyurethane based elastic adhesive specifically manufactured for the bonding of **Sika® Membran** to a variety of buildings substrates.

### Advantages

- Long open time allows adjustment of **Sika® Membran**.
- Bonds to any substrate.
- Tolerant of uneven surfaces providing a continuous seal.
- Solvent free.
- Proven track record.
- No additional mechanical fixing.

Packaged in 600 cc sausages applied by bulk gun or electric powered bulk gun.

|  | Characteristics   | Remarks   |
|--|---|---|
| <b>Chemical base</b><br><b>Density</b><br><b>Stability</b><br><b>Tensile strength</b><br><b>Peel strength</b><br><b>Elongation at break</b><br><b>Skin forming time</b><br><b>Full hardening</b><br><b>Hardness, Shore A</b><br><b>Application temperature</b><br><b>Service temperature</b> | 1 part polyurethane<br>ca 1.25 g/l<br>Very good<br>1.8 N/mm <sup>2</sup><br>ca 1 N/mm<br>>500%<br>50 minutes<br><br>ca 35<br>+5°C to + 35°C<br>-40°C to +90°C | DIN 53 479<br><br>DIN 53 504<br>DIN 53 289<br>DIN 53 504<br>Standard atmosphere to DIN 50 014-23/50-2<br><br>DIN 53 505 |



Scottish Parliament Building



# Sika® Membran System

## Improving Building Envelope Air Tightness

An important aspect of 'Part L' of the Building Regulations' relates to achieving air tightness to building envelopes.

Measured in  $\text{m}^3/\text{hr}/\text{m}^2$ , air permeability describes the resistance of the building envelope to inward or outward air movement. This includes floors, walls and roofs.

An advantage of the **Sika® Membran System**, incorporating the **SikaBond® TF Plus** adhesive, is that it is easy to achieve air tightness to facade construction gaps.

Continuous watertight as well as airtight seals can be guaranteed around the perimeters of window or curtain wall components.

All new buildings **MUST** have robust details designed and specified to ensure the envelope is airtight.

Compliance with 'Part L' of the Building Regulations can be of real benefit by reducing the size of heating and ventilation systems ultimately achieving significant reductions in heating running costs.



London's City Hall



# Sika® Membran System

## Installation



### Loading Bulk Gun

Insert a **SikaBond® TF Plus** 600cc sausage into a Sika bulk gun or battery powered bulk gun.



### Applying SikaBond® TF Plus

Apply **SikaBond® TF Plus** adhesive to the surface to be bonded to (nozzle diameter approx 8mm).



### Placement of Sika® Membran

Position the **Sika® Membran** and press onto the adhesive. When lapping the membrane, maintain a minimum lap length of 100mm.



### Final Finishing

Press the **Sika® Membran** sheet down with a plastic roller. Make sure that the membrane is fully bonded along the adhesive bond length (to give a bond width of 40-50mm and thickness of 1mm). The newly bonded membrane can be finally adjusted for up to 30 minutes after bonding, if necessary.

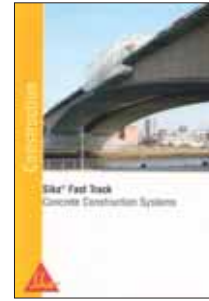
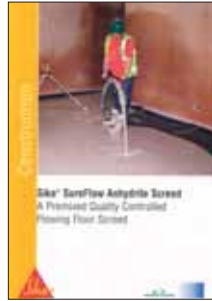


Membran and SikaBond® TF Plus

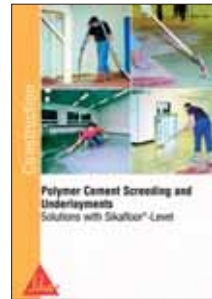
# Sika® Membran System

## Also Available from Sika®

### Concrete Series



### Flooring Series



### Joint Sealing & Cladding Series



### Roofing Series

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