

# PRODUCT DATA SHEET

## Sikalastic® M 645

(formerly MSeal M 645)

One Component, High Performance, Liquid Cold-applied Polyurethane Waterproofing Membrane

### DESCRIPTION

Sikalastic® M 645 is a unique, single component, liquid applied polyurethane membrane used for waterproofing and protection of concrete, metal and fiber-based cement substrates. The product can be easily applied in thick layers without bubbles and forms a hydrophobic, elastic, seamless membrane without joints that protect old and new structures efficiently. It can be applied by trowel/squeegee or airless spray gun in two coats

### USES

Sikalastic® M 645 is used as a waterproofing or damp-proofing membrane for concrete protection with excellent crack bridging property. It is suitable for both new and refurbishment projects and recommended for use in the following areas:

- Waterproofing for exposed roofs with topcoat
- Balconies, Terraces, Podium, Roofing, Pedestrian Traffic area
- Light roofing made of metal or fibrous cement
- Refurbishment on existing bitumen sheet membrane
- Protection of PU foam

### CHARACTERISTICS / ADVANTAGES

- One-component ready to use
- Simple application by trowel, squeegee or airless spray system
- High thickness build-up per one layer – Less application layers required and reduces application time and cost
- Seamless membrane without joints
- Highly elastic and crack-bridging
- Excellent mechanical properties – No reinforcement required except for detailing
- Cold Weather resistance - The film remains elastic down to -35°C.
- High temperature resistance – The film will not soften with service temperature up to 80°C.
- Special primers available for almost all substrates
- Easy repair and maintenance in case of physical damage to membrane

### PRODUCT INFORMATION

<b>Packaging</b>	Sikalastic® M 645 is available in 22.5 kg and 25kg pails.
<b>Shelf life</b>	9 months from date of production
<b>Storage conditions</b>	Store in original unopened packaging in a dry and shaded area
<b>Appearance / Colour</b>	Liquid
<b>Density</b>	1.28 - 1.34 g/ml or 1280-1340 kg/L
<b>Solid content by weight</b>	≥ 85 %

Viscosity 5000-9000 cps (Brookefield Vitescomer)

## TECHNICAL INFORMATION

Shore A hardness	70-80,7 days	(ASTM D2240)
Tensile strength	≥ 6 MPa (7 days) Tensile Strength retention after heat ageing,80 °C/168hrs : ≥ 80%	(ASTM D412) (ASTM D4587 )
Elongation at break	≥ 450 % (Elongation at break),7 days	(ASTM D412)
Crack bridging ability	A5 (2.5mm) ,Static ,7 days at at -20	(EN 1062-7)
Tensile adhesion strength	≥ 1.0 Mpa (7 days),Pull Out	(ASTM D 7234)
Tear strength	≥ 30 N/mm,7 days	(ASTM D624 )
Flexibility at low temperature	No cracks at - 25°C ,7 days	(ASTM D 1970)
Heat resistance	Extensibility after heat ageing -No cracking	(ASTM C1522)
Water absorption	≤ 5%,7 days immersion	(ASTM D570)
Water penetration under pressure	No cracks, 7 days (up to 7 Bar ,71.4meter)	(ASTM D 5385)
Water vapour transmission	≥ 21.6 g/m <sup>2</sup> /24h,7 days	(ASTM E96)

## APPLICATION INFORMATION

Consumption	The consumption depends on the application and design thickness. For 1.5 mm dry film thickness approximately 2.4kg/m <sup>2</sup> is required.The consumption is theoretical and can vary according to the absorption and roughness of the support. It is essential to carry out representative trials on site to evaluate the exact consumption
Ambient air temperature	+10 °C min. / + 35 °C max.
Relative air humidity	Upto 80%
Dew point	Beware of condensation.The substrate and uncured applied membrane must be at least +3 °C above dew point
Substrate temperature	+10 °C min. / + 35 °C max.
Substrate moisture content	≤ 4 % parts by weight.
Tack free time	≤ 12 hrs (at 23°C / 50%),touch dry
Waiting time / Overcoating	12 hrs min. / 48 hrs max (at 23°C / 50%)
Applied product ready for use	7 days (Full cure)

## 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.

## ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other

safety-related data.

## APPLICATION INSTRUCTIONS

### SUBSTRATE PREPARATION

All substrates (new and old) must be structurally sound, dry, and free of laitance and loose particles. Clean of oil, grease, rubber skid marks, paint stains and other adhesion impairing contaminants. Profile mechanically the surface by shot blasting, high pressure water jetting or other suitable mechanical preparation method.

After surface preparation the tensile strength of the substrate should exceed 1.5 N/mm<sup>2</sup> (check with an approved pull-off tester). Temperature of the substrate should be minimum +10°C and maximum +35°C. The residual moisture content of the substrate must not exceed 4% (check with e.g. CM device). The temperature of the substrate must be at least 3°C above the current dew point temperature.

Do not apply the Sikalastic® M 645 in temperature below +10°C, or when dew, rain or frost is imminent within the next 48 hours.

## SUBSTRATE QUALITY / PRE-TREATMENT

### Priming

Before applying membrane, the substrate must be sealed by primer.

Use a suitable primer for Sikalastic® M 645 on concrete, metal or bituminous surfaces (Consult our Technical Services team for selecting the most appropriate primer)

Also, possible to use MasterSeal M 645 as self-primer by adding 5% xylene to dilute.

### On Concrete

Before the surface application, all detail areas and any singular points like wall-floor connections, chimneys, joints, substrate cracks, penetrations, corners, etc, must be treated. For this, apply one layer of Sikalastic® M 645 then place a correct cut stripe of geotextile mat (80 ~100g/m<sup>2</sup>) into the wet material. Press in to fully soak without leaving air pockets. Then fully saturate the geotextile mat by applying additional Sikalastic® M 645. All lap joints in the mat reinforcement should be minimum 50mm.

When the final membrane is applied, the overall thickness over joints and cracks, at coves and around penetrations should be approximately 2.0 mm on the standard system.

## APPLICATION

### Membrane Application Directly On Substrate

Sikalastic® M 645 can be applied easily with trowel, squeegee or spray equipment (like Graco XHD001 spray machine, Max 500 bar, material be heated to ~ 40 degree)

One layer can reach 1.0 mm DFT without bubbles.

Mix homogeneously Sikalastic® M 645 by using a slow speed (approx. 300 -500 rpm) hand-held mixing ma-

chine fitted with a mixing paddle. Pre-mark the area based on consumption and Dry Film Thickness required. Pour mixed Sikalastic® M 645 onto the primed substrate and spread with trowel or squeegee or spray equipment at a consumption of 1.2 kg/m<sup>2</sup> per layer.

### Membrane Application Using Reinforcement

Mix homogeneously Sikalastic® M 645 with mechanical stirring before use.

After the mixing, pour the product onto the primed surface to be waterproofed, and spread with trowel or squeegee at a minimum consumption of 1.2 kg/m<sup>2</sup> per layer. Lay geotextile mat (80-100g/m<sup>2</sup>) reinforcement into the wet membrane, press in and flat with trowel or squeegee to fully saturate the geotextile mat. All lap joints in the geotextile mat reinforcement should be minimum 50mm.

Immediately pour Sikalastic® M 645 again on the geotextile mat and spread out at consumption of 1.2 kg/m<sup>2</sup> per layer, until full saturation. As per thickness design, apply one more layer to achieve final thickness.

Sikalastic® M 645 can also be sprayed by airless spray equipment.

### UV Resistant Top-Coat

Sikalastic® M 645 doesn't have sufficient UV and weather resistance to be used in exposed applications without protection for long term. In exposed applications, apply two coats of a UV Resistant top coat for long term UV stability and protection (Consult our Technical services for recommendation on a suitable top coat)

## 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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