

## MARISEAL® DETAIL

TECHNICAL DATA SHEET

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### Liquid-applied polyurethane waterproofing membrane for complex roof details. Fiber-reinforced

#### Product description

MARISEAL® DETAIL is a premium, liquid-applied, highly permanent elastic, **thixotropic and fiber-reinforced**, cold applied and cold curing, one component polyurethane membrane used for long-lasting roof details waterproofing.

The MARISEAL® DETAIL is based on pure elastomeric hydrophobic polyurethane resins, which result in excellent mechanical, chemical, thermal, UV and natural element resistance properties.

Cures by reaction with ground and air moisture.

#### Uses

The MARISEAL® DETAIL is mainly used to create waterproof seals on difficult and complex roofing details such as:

- Wall-floor connections
- Flashings and 90° angles
- Lightdomes and Rooflights
- Chimneys
- Pipes
- Air-Condition Units
- Photovoltaic Systems
- Siphons
- Gutters, etc.

#### Certifications

The MARISEAL® DETAIL was tested by the German state testing institute for construction materials MPA-Braunschweig according the European Union Directive for liquid-applied roof waterproofing kits ETAG 005 and was found conforming. The MARISEAL® DETAIL was certified by the German state Institute for construction techniques DIBt-Berlin with the European Technical Approval (ETA) and with the CE-mark and certification according to the EOTA (European Organization of Technical Approval).

The MARISEAL® DETAIL was also tested and approved by various laboratories in different countries around the world.

#### Advantages

- Simple application (roller or brush).
- When applied forms seamless membrane without joints.
- Resistant to water.
- Resistant to frost.
- Resistant to root penetration, so it can be used in green roofs.
- Provides water vapor permeability, so the surface can breathe.
- Provides excellent thermal resistance, it never turns soft.
- Provides excellent adhesion to almost any type of surface.
- Waterproofs old bitumen-, asphalt felts by covering them, without the need to remove them prior to application.
- Maintains its mechanical properties over a temperature span of -40°C to +90°C.
- The waterproofed surface can be used for domestic pedestrian traffic.
- Resistant to detergents, oils, seawater and domestic chemicals.
- Even if the membrane gets mechanically damaged, it can be easily repaired locally within minutes.
- Does not need the use of open flames (torch) during application.
- Over 10 years of positive feedback worldwide.

#### Consumption

1,5 – 3 kg/m<sup>2</sup> applied in two or three layers.

#### Surfaces

The MARISEAL® DETAIL is mainly used to create waterproof seals between different construction materials as :

- Bitumen felts
- PVC membranes
- Concrete / Mortar / Cement screed
- Various Metals
- Wood, etc

#### Colors

The MARISEAL® DETAIL is supplied in white and light grey. Other colors may be supplied on demand.

European Technical Approval: ETA09/0241 DIBt		
Levels of use categories according to ETAG005, for liquid-applied Polyurethane waterproofing kits:		
<b>Working life:</b>	<b>W2</b>	<b>10 Years</b>
<b>Climate Zone:</b>	<b>M and S</b>	<b>All</b>
<b>Imposed loads:</b>	<b>P1 to P3</b>	<b>High</b>
<b>Roof slopes:</b>	<b>S1 to S4</b>	<b>&lt;5° to &gt;30°</b>
<b>Lowest surface temperature:</b>	<b>TL3</b>	<b>-30°C</b>
<b>Highest surface temperature:</b>	<b>TH4</b>	<b>+90°C</b>
<b>Reaction to fire:</b>	<b>Class E</b>	<b>EU Norm</b>
<b>Resistance to wind loads</b>	<b>≥ 50 kPa</b>	<b>EU Norm</b>



### Technical Data \*

PROPERTY	RESULTS	TEST METHOD
Elongation at Break	> 250 %	ASTM D 412 / DIN 52455
Tensile Strength	> 2.5 N/ mm <sup>2</sup>	ASTM D 412 / DIN 52455
Water Vapor Permeability	> 20 gr/m <sup>2</sup> /day	ISO 9932:91
Resistance to mechanical damage by static impression	High Resistance (class:P3)	EOTA TR-007
Resistance to mechanical damage by dynamic impression	High Resistance (class:P3)	EOTA TR-006
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Adhesion to concrete	>2,0 N/mm <sup>2</sup> (concrete surface failure)	ASTM D 903
Adhesion to bitumen	>1,0 N/mm <sup>2</sup> (bitumen surface failure)	ASTM D 903
Hardness (Shore A Scale)	65	ASTM D 2240 (15")
Thermal Resistance (80°C for 100 days)	Passed - No significant changes	EOTA TR-011
UV accelerated ageing, in the presence of moisture	Passed - No significant changes	EOTA TR-010
Resistance after water aging	Passed	EOTA TR-012
Hydrolysis (5% KOH, 7days cycle)	No significant elastomeric change	Inhouse Lab
Construction Material Fire class	Class E	EN 13501-1
Service Temperature	-30°C to +90°C	Inhouse Lab
Rain Stability Time	4 hours	Conditions: 20°C, 50% RH
Light Pedestrian Traffic Time	12-24 hours	
Final Curing time	7 days	
Chemical Properties	Good resistance against acidic and alkali solutions (5%), detergents, seawater and oils.	

### Application

#### Surface Preparation

Careful surface preparation is essential for optimum finish and durability.

The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the membrane. Maximum moisture content should not exceed 5%. Substrate compressive strength should be at least 25MPa, cohesive bond strength at least 1.5MPa. New concrete structures need to dry for at least 28 days. Old, loose coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothed. Any loose surface pieces and grinding dust need to be thoroughly removed. Do not wash surface with water!

#### Priming

Please refer to MARISEAL® DETAIL **surface preparation / priming** table.

#### Waterproofing membrane

Stir MARISEAL® DETAIL slowly and well with wooden staff before using. Do not use a mechanical drill.

Apply the MARISEAL® DETAIL onto the prepared and/or primed surface by roller or brush, until all surface is covered.

If necessary apply a second layer. For detailed application instructions, contact our R+D department.

**RECOMMENDATION:** Reinforce very tricky details with the MARISEAL® FABRIC. In order to do that, apply on the still wet MARISEAL® DETAIL a correct cut piece of MARISEAL® FABRIC, press it to soak, and saturate again with enough MARISEAL® DETAIL. For detailed application instructions with the MARISEAL® FABRIC, contact our R+D department.

**ATTENTION:** Do not apply the MARISEAL® DETAIL when the ambient temperature is below +5°C during the application and 4 hours afterwards, on surfaces with Temperature below +5°C, on frozen surfaces, during rain or mist, on wet MARISEAL® DETAIL PRIMER and on surfaces with ascending humidity. Do not apply the MARISEAL® DETAIL over 1 mm thickness (dry film) per layer. Low temperatures retard cure while high temperature speed up curing.

**WARNING:** The MARISEAL® DETAIL is slippery when wet. In order to avoid slipperiness during wet days, sprinkle suitable aggregates onto the still wet coating to create an anti-slip surface. Please contact our R+D Dept. for more details.

#### Packaging

MARISEAL® DETAIL is supplied in 25 kg, 15 kg, 6 kg, 1kg metal pails and DETAIL kg Barrels. Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5<sup>o</sup>-30<sup>o</sup>C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

#### Safety measures

MARISEAL® DETAIL contains isocyanates. See information supplied by the manufacturer. Please study the Safety Data sheet. **PROFESSIONAL USE ONLY**

Our technical advice for use, whether verbal, written or in tests, is given in good faith and reflect the current level of knowledge and experience with our products. When using our products, a detailed object-related and qualified inspection is required in each individual case in order to determine whether the product and /or application technology in question meets the specific requirements and purposes. We are liable only for our products being free from faults; correct application of our products therefore falls entirely within your scope of liability and responsibility. We will, of course, provide products of consistent quality within the scope of our General Conditions of Sale and Delivery. Users are responsible for complying with local legislation and for obtaining any required approvals or authorizations. Values in this technical data sheet are given as examples and may not be regarded as specifications. For product specifications contact our R+D department. The new edition of the technical data sheet supersedes the previous technical information and renders it invalid. It is therefore necessary that you always have to hand the current code of practice.

\* All values represent typical values and are not part of the product specification. In sample preparation the MARISEAL KATALYSATOR was used as an acceleration additive.