

# MARISEAL® 310

Liquid-applied  
Polyurethane  
Waterproofing  
Membrane  
Solvent Free

TECHNICAL DATA SHEET  
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## Product Description

MARISEAL® 310 is a liquid-applied, hard-elastic, cold applied and cold curing, polyurethane membrane used for long-lasting waterproofing and protection.  
Cures by reaction (cross linking) of the two components

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### Product Information

- Two-component, solvent free, aromatic polyurethane

### Packaging

- 10+2.5 kg metal pails

### Color

- Grey & Beige

### Shelf Life

- 12 months from date of production

### Storage Conditions

- Pails should be stored in dry and cool rooms. Protect the material against moisture and direct sunlight. Storage temperature: 5°-35°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

### Advantages

- When applied forms seamless membrane without joints or leak possibilities
- Resistant to stagnating water and frost
- Long pot life that enables manual (by hand) application
- Does not need special spray machine to be applied
- Maintains its mechanical properties over a temperature span of -30°C to +90°C
- Remains elastic even at low (frost) temperature
- Full surface adherence
- The waterproofed surface can be walked on

## ■ Uses

- Roofs
- Waterproofing and Protection of Concrete surfaces

Used for waterproofing of areas where smell and odor need to be avoided.

## ■ Consumption

- 1,2 – 2,4 kg/m<sup>2</sup> in one or two layers

This coverage is based on practical application by roller onto a smooth surface in optimum conditions. Factors like surface porosity, temperature, humidity, application method and finish required can alter consumption

## ■ Certifications



### EN1504-2: Surface protection for concrete. (1.2kg/m<sup>2</sup> MARISEAL® 310)

PROPERTY	PERFORMANCE
Permeability to CO <sub>2</sub>	sD > 50 m
Water vapour permeability	Class II: 5 m < sD < 50 m
Capillary absorption and permeability to water	$\omega < 0,1 \text{ kg/m}^2 \cdot \text{h}0,5$
Adhesion strength by pull-off test	$\geq 1,5 (1,0) \text{ N/mm}^2$
Abrasion Resistance	250mg weight loss
Impact Resistance	Class II $\geq 10\text{Nm}$
Resistance to thermal shock (70°C)	$\geq 1,5 (1,0) \text{ N/mm}^2$



### Technical Data\*

PROPERTY	RESULTS	TEST METHOD
<b>Composition</b>	Polyurethane Resin + Hardener	
<b>Mixing Ratio</b>	A+B = 6:1 by weight	
<b>Resistance to Water Pressure</b>	No Leak (1m water column, 24h)	DIN EN 1928
<b>Elongation at Break</b>	150%	ASTM D 412
<b>Adhesion to concrete</b>	$>7,0 \text{ N/mm}^2$	EN 1542
<b>Hardness (Shore A Scale)</b>	80 + 5	ASTM D 2240
<b>Solids Content</b>	100%	CALCULATED
<b>UV accelerated ageing, in the presence of moisture</b>	Passed - No significant changes	EOTA TR-010
<b>Hydrolysis (5% KOH, 7days cycle)</b>	No significant elastomeric change	Inhouse Lab
<b>Service Temperature</b>	-30°C to +90°C	Inhouse Lab
<b>Pot Life</b>	30 minutes	Conditions: 20°C, 50% RH
<b>Light Pedestrian Traffic Time</b>	12-24 hours	Conditions: 20°C, 50% RH
<b>Final Curing time (ponding test)</b>	7 days	Conditions: 20°C, 50% RH
<b>Chemical Properties</b>	Good resistance against acidic and alkali solutions (5%), detergents, seawater and oils.	



EPD verified

## 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.

### Repair of cracks and joints:

The careful sealing of existing cracks and joints before the application is extremely important for long lasting waterproofing results.

- Clean concrete cracks and hairline cracks, of dust, residue or other contamination. Prime locally with MARISEAL® 710 Primer and allow 2-3 hours to dry. Fill all prepared cracks with MARIFLEX® PU 30 sealant. Then apply a layer of MARISEAL® 310, 200mm wide centered over all cracks and while wet, cover with a correct cut stripe of the MARISEAL® FABRIC. Press it to soak. Then saturate MARISEAL® FABRIC with enough MARISEAL® 310, until it is fully covered. Allow 12 hours to cure.
- Clean concrete expansion joints and control joints of dust, residue or other contamination. Widen and deepen joints (cut open) if necessary. The prepared movement joint should have a depth of 10-15 mm. The width:depth ratio of the movement joint should be at a rate of approx. 2:1.  
Apply some MARIFLEX® PU 30 Joint-Sealant on the bottom of the joint only. Then with a brush, apply a stripe layer of MARISEAL® 310, 200mm wide centered over and inside the joint. Place MARISEAL® FABRIC over the wet coating and with a suitable tool, press it deep inside the joint, until it is soaked and the joint is fully covered from the inside. Then fully saturate the FABRIC with enough MARISEAL® 310. Then place a polyethylene cord of the correct dimensions inside the joint and press it deep inside onto the saturated FABRIC. Fill the remaining free space of the joint with MARIFLEX® PU 30 sealant. Do not cover. Allow 12 hours to cure.

### Priming

Prime surfaces, like concrete, cement screed, metal, and ceramic tiles with enough MARISEAL® 750 primer (min. 250 – 310 gr/m<sup>2</sup>). Allow 12-18 hours to cure

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### Mixing of Components

Stir MARISEAL® 310 Component A well before using. Then add MARISEAL® 310 Component B at the correct mixing ratio. MARISEAL® 310 Component A and Component B should be mixed by low speed mechanical stirrer, for about 3-5 min.

ATTENTION: The mixing of the components has to be effected very thoroughly, especially on the walls and bottom of the pail until the mixture becomes fully homogeneous.

### Application of Waterproofing membrane

Pour the entire MARISEAL® 310 A+B mixture, onto the primed and prepared surface and lay it out by roller or brush, until all surface is covered.

Reinforce with MARISEAL® FABRIC at problem areas, like wall-floor connections, pipe-outlets, waterspouts (siphon), etc. Also reinforce with MARISEAL® FABRIC at the entire area to be waterproofed.

In order to do that, apply on the still wet MARISEAL® 310 a correct cut piece of MARISEAL® FABRIC, press it to soak, and saturate again with enough MARISEAL® 310. For detailed application instructions with MARISEAL® FABRIC, contact our technical department.

After 12-18 hours, apply another layer of the MARISEAL® 310, by using roller or brush. For demanding applications apply a third layer.

ATTENTION: Please ensure consumption within the pot life of the product (-30min @ 20°C)! Please do not leave the mixed MARISEAL® 310 A+B coating in the pail for long, because the exothermic reaction accelerates the curing and will shorten the pot-life. Directly after mixing pour the mixture on the surface on in smaller pails to minimise the exothermic reaction.

RECOMMENDATION: For best results, the temperature during application and cure should be between 5°C and 30°C. Low temperature retards cure while high temperature speeds up curing. High humidity may affect the final finish.

WARNING: The MARISEAL® 310 and/or MARISEAL® SYSTEM 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 technical Dept. for more details.

## ■ Safety measures

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MARISEAL® 310 contains isocyanates. See information supplied by the manufacturer. Please study the Safety Data Sheet. **PROFESSIONAL USE ONLY**

Our technical advice for use, whether verbal or written, 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 may guarantee only that our products are compliant with their technical specification; correct application of our products therefore falls entirely within your scope of liability and Users are responsible, in any case, for complying with local legislation and for obtaining any required approvals or authorizations, when necessary, either for their purchase and/or for their use. Values in this technical data sheet are given as examples and may not be regarded as specifications. For product specifications contact our technical 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. The applied coating might yellow and/or fade upon UV exposure.

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