MARISEAL® 250 AQUA

Liquid-applied, polyurethane waterproofing membrane
Water-Based

**Product description**

The MARISEAL® 250 AQUA is a liquid-applied, highly permanent elastic, cold applied and cold curing, water based, one component, polyurethane-based membrane used for long-lasting waterproofing.

The MARISEAL® 250 AQUA consists of flexible, water-based polyurethane resins (dispersion).

When the MARISEAL® 250 AQUA is applied, it forms a hydrophobic, 100% waterproofing, seamless, polyurethane membrane without joints or leak possibilities, that protect old and new structures efficiently and on a long-term basis.

The MARISEAL® 250 AQUA is based on the innovative **PUD-Technology™** of MARIS POLYMERS SA.

**Advantages**

- Simple application (roller or airless spray).
- Water Based.
- When applied forms seamless membrane without joints.
- Provides high levels of crack bridging.
- Maintains its mechanical properties over a temperature span of -40°C to +90°C.
- Provides water vapor permeability.
- Full surface adherence without any additional anchoring.
- The waterproofed surface can be walked on.
- Even if the membrane gets damaged, it can be easily repaired locally within minutes.
- Low VOC content < 100g/l
- Low cost

**Uses**

- Waterproofing of Rooftops
- Waterproofing of Balconies and Terraces
- Waterproofing of Wet Areas (under-tile) in Bathrooms, Balconies, Kitchens, etc
- Protection of Polyurethane Foam Insulation
- Waterproofing and protection of Concrete constructions like Bridge-decks, Tunnels, etc.

**Consumption**

1.4 – 2 kg/m² applied in two or three layers.
This coverage is based on application by roller onto a smooth surface in optimum conditions. Factors like surface porosity, temperature and application method can alter consumption.
In case of MARISEAL FABRIC reinforcement, consumption increases.

**Colors**

The MARISEAL® 250 AQUA is supplied in white, grey, brown-red.

**Technical data**

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>RESULTS</th>
<th>TEST METHOD</th>
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<tbody>
<tr>
<td>Tensile Strength at 20°C</td>
<td>5 N/ mm²</td>
<td>ASTM D 412</td>
</tr>
<tr>
<td>E-Modulus at 20°C</td>
<td>1.5 N/mm²</td>
<td>ASTM D 412</td>
</tr>
<tr>
<td>Tensile Strength at -25°C</td>
<td>4.2 N/ mm²</td>
<td>ASTM D 412</td>
</tr>
<tr>
<td>E-Modulus at -25°C</td>
<td>1.3 N/mm²</td>
<td>ASTM D 412</td>
</tr>
<tr>
<td>Elongation at Break at 20°C</td>
<td>300 %</td>
<td>ASTM D 412</td>
</tr>
<tr>
<td>Tear Resistance</td>
<td>29.3 N/mm</td>
<td>ASTM D 412</td>
</tr>
<tr>
<td>Water Vapor Permeability</td>
<td>&gt;15 gr/m²/day</td>
<td>ISO 9932:91</td>
</tr>
<tr>
<td>Resistance to Water Pressure</td>
<td>No Leak (1m water column, 24h)</td>
<td>DIN EN 1928</td>
</tr>
<tr>
<td>Adhesion to primed concrete</td>
<td>&gt;1.5 N/mm² (concrete surface failure)</td>
<td>ASTM D 903</td>
</tr>
<tr>
<td>Hardness (Shore A Scale)</td>
<td>60</td>
<td>ASTM D 2240 (15&quot;)</td>
</tr>
<tr>
<td>Light Pedestrian Traffic Time</td>
<td>18-24 hours</td>
<td>Conditions: 20°C, 50% RH</td>
</tr>
<tr>
<td>Final Curing time (ponding test)</td>
<td>10 days</td>
<td></td>
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</tbody>
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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 8%. 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 smoothened. Any loose surface pieces and grinding dust need to be thoroughly removed.

Make sure that the surface on which the waterproofing membrane will be applied has min 2% slope, as per European Construction Codes. If this is not the case, use cementitious mortar, resin mortar or other, to create the correct slope, before the application of the waterproofing coating.

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 the MARISEAL® AQUA PRIMER and allow 2-3 hours to dry. Fill all prepared cracks with MARIFLEX® PU 30 sealant. Then apply a layer of MARISEAL® 250 AQUA, 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 the MARISEAL® FABRIC with enough MARISEAL® 250 AQUA, until it is fully covered. Allow 18 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® 250 AQUA, 200mm wide centered over and inside the joint. Place the 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® 250 AQUA. 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 18 hours to cure.

Priming
Prime highly absorbent and brittle surfaces like concrete, cement screed, mortar, plaster, wood and non-absorbent surfaces like metal and ceramic tiles with MARISEAL® AQUA PRIMER. Allow the primer to cure according its technical instruction.

Waterproofing membrane
Stir well before using. Pour the MARISEAL® 250 AQUA onto the prepared and primed surface and lay it out by roller, brush or squeegee, until all surface is covered. You can use airless spray allowing a considerable saving of manpower.

ATTENTION: Reinforce always with the MARISEAL® FABRIC at problem areas, like wall-floor connections, pipes, chimneys, waterspouts (siphon), light domes, etc.

In order to do that, apply on the still wet MARISEAL® 250 AQUA a correct cut piece of MARISEAL® FABRIC, press it to soak, and saturate again with enough MARISEAL® 250 AQUA. For detailed application instructions with the MARISEAL® FABRIC, contact our R+D department. We recommend reinforcement of the entire surface, with the MARISEAL® Fabric. Use 5-10cm stripe overlapping.

After 18-36 hours apply another layer of the MARISEAL® 250 AQUA. For better waterproofing results apply a third layer of the MARISEAL® 250 AQUA.

ATTENTION: Do not apply the MARISEAL® 250 AQUA in temperatures below 5°C or when dew, rain or frost is imminent in the next 48 hours. For best results, the temperature during application and cure should be between 5°C and 35°C. Low temperatures retard cure while high temperature speeds up curing. High humidity (fog or dew conditions) retard cure and affect the curing times and curing properties. Do not apply the MARISEAL® 250 AQUA over 0.6 mm thickness (dry film) per layer.

WARNING: The MARISEAL® 250 AQUA and/or the 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 R+D Department for more details.

Finishing
If a color stable, chalking-free and heavy duty, more abrasion resistant surface is desired, apply one or two layers of the MARISEAL® 400 AQUA Top-Coat over the MARISEAL® 250 AQUA. The application of the MARISEAL® 400 AQUA Top-Coat, is especially required, if a dark final color, is desired. (e.g. red, grey, green)

Packaging
MARISEAL® 250 AQUA pails should be stored in dry and cool rooms for up to 12 months. Protect the material against moisture and direct sunlight. Storage temperature: 5°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels. PROTECT FROM FROST.

Safety measures
Keep away from children. Do not use empty containers for food storage. See information supplied by the manufacturer. Please study the Safety Data sheet. PROFESSIONAL USE ONLY