Maris Polymers®
POLYURETHANE SYSTEMS

MARISEAL® 250W

TECHNICAL DATA SHEET
Date: 15.10.2021 – Version 21

Liquid-applied, Pure Polyurethane Waterproofing Membrane Water-Based

CONSTRUCTION

Product description

MARISEAL® 250W is a liquid-applied, highly permanent elastic, polyurethane membrane used for long-lasting waterproofing.

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

MARISEAL® 250W is based on the innovative **PUD-Technology™** of MARIS POLYMERS SMSA

Advantages

- Simple application (roller or airless spray)
- Forms a hydrophobic, 100% waterproofing, seamless, polyurethane membrane without joints or leak possibilities, that protects old and new structures efficiently and on a long-term basis
- When applied forms seamless membrane without joints
- Crack bridging according to EN14891
- Maintains its mechanical properties over a temperature span of -40ºC to +90ºC
- Provides water vapor permeability
- The waterproofed surface can be walked on
- Even if the membrane gets damaged, it can be easily repaired locally within minutes
- In combination with top coat MARISEAL® 400W it offers long-lasting durability against UV and abrasion
- Low VOC content

PRODUCT INFORMATION

Chemical Base	One-component, cold applied and cold curing water-based aromatic polyurethane
Packaging:	1/3,75/12,5/20 kg plastic pails
Colour:	White, Light Grey
Shelf Life:	18 months from date of production

Main Uses

- Roofs
- Protection of Polyurethane Foam Insulation
- Waterproofing and Protection of Concrete constructions

Consumption

1,4 – 2,8kg/m^2 in more than two layer.
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.

PUD Technology™: The Sustainable Revolution in Polyurethane

MARISEAL® 250W is based on the innovative **PUD Technology™** of MARIS POLYMERS, which enables, long-chain polyurethane macromolecules to be incorporated in a water medium, forming stable dispersions.
The **PUD Technology™** based products, have the advantage offering the high-level properties of solvent based products, in an ecological, consumer and environmentally friendly, water-based, low VOC, non-ADR transport product.
The **PUD Technology™** is the entry to the Sustainable Revolution in Polyurethane-based products.

Maris Polymers®
POLYURETHANE SYSTEMS

CONSTRUCTION

Certifications

EN1504-2: Surface protection for concrete. Certification of Mariseal Water-based system: 0.2kg Mariseal 710W, 1.4kg Mariseal 250W, 0.25kg Mariseal 400W

CE

European Technical Approval: ETA21/0249 (EAD 030350-00-0402) for the system: 0.15kg/m² Mariseal Aqua Primer, 2.8kg/m² Mariseal 250W, Mariseal Fabric 60g, Mariseal 400W 0.2kg/m²

Performance	Classification	
Expected working life	W3	
Climatic zone of use	S (Severe)	
User loads	Concrete / steel: P4: TH1 P3: TH 2 P2: TH3 -TH4	Foam polyurethane: P2: TH4 - TH1
Roofs slopes	S1 – S4	
Minimum surface temperatures	TL4 (- 30ºC)	
Maximum surface temperatures	TH4 (90ºC)	

Technical data*

PROPERTY	RESULTS	TEST METHOD
Tensile Strength at 20ºC	>4,5 N/ mm²	ASTM D 412
Elongation at Break at 20ºC	>300%	ASTM D 412
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Adhesion to primed concrete	>1,5 N/mm ² (concrete surface failure)	EN 1542
Hardness (Shore A Scale)	>65	ASTM D 2240 (15")
Permeability to CO_2 (measured in CE system)	4.55g/m²d	EN 1062-6
Water vapour permeability (measured in CE system)	18.5g/m²d	EN ISO 7783
Capillary absorption and permeability to water (measured in CE system)	0.025 kg/m².h$^{0.5}$	EN 1062-3
Adhesion strength by pull-off test (measured in CE system)	1.5 N/mm²	EN 1542
Light Pedestrian Traffic Time	18-24 hours	Conditions: 20ºC, 50% RH
Final Curing time (ponding test)	10 days	

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 MARISEAL® AQUA PRIMER and allow to dry. Fill all prepared cracks with MARIFLEX® PU 30 sealant. Then apply a layer of MARISEAL® 250W, 200mm wide centered over all cracks and while wet, cover with a correct cut stripe of MARISEAL® FABRIC. Press it to soak. Then saturate the MARISEAL® FABRIC with enough MARISEAL® 250W, 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

CONSTRUCTION

MARISEAL® 250W, 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® 250W. 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 MARISEAL® 250W 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 MARISEAL® FABRIC at problem areas, like wall-floor connections, pipes, chimneys, waterspouts (siphon), light domes, etc.
Apply on still wet MARISEAL® 250W a correct cut piece of MARISEAL® FABRIC, press it to soak, and saturate again with enough MARISEAL® 250W. For detailed application instructions with MARISEAL® FABRIC, contact our R+D department. We recommend reinforcement of the entire surface, with MARISEAL® Fabric. Use 5-10cm stripe overlapping.
After 18-24 hours apply another layer of MARISEAL® 250W.
For better waterproofing results apply a third layer of MARISEAL® 250W.

ATTENTION: Do not apply MARISEAL® 250W in temperatures below 5ºC 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 5ºC and 35ºC. 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 MARISEAL® 250W over 0.6 mm thickness (dry film) per layer.

WARNING: MARISEAL® 250W 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 R+D Department for more information.

Finishing

If a colour stable, chalking-free and heavy duty, more abrasion resistant surface is desired, apply one or two layers of MARISEAL®400W Top-Coat over MARISEAL®250W. The application of MARISEAL®400W Top-Coat, is especially required, if a dark final colour, is desired.

Storage Conditions

MARISEAL® 250W pails should be stored in dry and cool rooms for up to 18 months. Protect the material against moisture and direct sunlight. Storage temperature: 5º-35ºC. 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.