

MARISEAL® 270

TECHNICAL DATA SHEET

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Liquid-applied polyurethane waterproofing membrane

Product description

MARISEAL® 270 is a liquid-applied, highly permanent elastic, cold applied and cold curing, one component polyurethane membrane used for long-lasting waterproofing. Solvent based.

The MARISEAL® 270 is based on pure elastomeric hydrophobic polyurethane resins, which result in excellent mechanical, chemical, thermal and natural element resistance properties.

Cures by reaction with ground and air moisture.

Advantages

- Simple application (roller or airless spray).
- When applied forms seamless membrane without joints.
- Resistant to water.
- Resistant to frost.
- Crack-bridging.
- Provides water vapor permeability, so the surface can breathe.
- Provides excellent thermal resistance, it never turns soft.
- Maintains its mechanical properties over a temperature span of -30°C to +90°C.
- Provides excellent adhesion to almost any type of surface.
- The waterproofed surface can be walked on.
- 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.
- No low-cost bitumen extenders present in the product
- Over 15 years of positive feedback worldwide.

Uses

Waterproofing of Wet Areas (under-tile application) in:

- Bathrooms,
- Kitchens,
- Balconies,
- Auxiliary Rooms, etc

Consumption

1,2 – 1,5 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.

Colors

The MARISEAL® 270 is supplied in white, grey and black.
Other colors may be supplied on demand.

Technical Data *

PROPERTY	RESULTS	TEST METHOD
Elongation at Break	> 400 %	ASTM D 412 / DIN 52455
Tensile Strength	> 4 N/ mm ²	ASTM D 412 / DIN 52455
Water Vapor Permeability	> 25 gr/m ² /day	ISO 9932:91
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Adhesion to concrete	>2,0 N/mm ² (concrete 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
Hydrolysis (5% KOH, 7days cycle)	No significant elastomeric change	Inhouse Lab
Service Temperature	-30°C to +90°C	Inhouse Lab
Tack Free Time	8 hours	Conditions: 20°C, 50% RH
Light Pedestrian Traffic Time	24 hours	
Final Curing time	7 days	
Chemical Properties	Good resistance against acidic and alkali solutions (5%), detergents, seawater and oils.	

CONSTRUCTION



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.

WARNING: Do not wash surface with water!

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® 710 Primer and allow 2-3 hours to dry. Fill all prepared cracks with MARIFLEX® PU 30 sealant. Then apply a layer of MARISEAL® 270, 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® 270, 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® 270, 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® 270. 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 12-18 hours to cure.

Priming

Prime very absorbent and brittle concrete or brittle cement screed surfaces with MARISEAL® 710 or with MARISEAL® AQUA PRIMER. Prime surfaces like bitumen-, asphaltfelts with MARISEAL® 730 or with MARISEAL® AQUA PRIMER. Prime non-absorbent surfaces like metal, ceramic tiles and old coatings with MARISEAL® AQUA PRIMER. Allow the primer to cure according its technical instruction. On sound, high quality concrete surfaces no primer is necessary.

Waterproofing membrane

Stir well before using. Poor the MARISEAL® 270 onto the primed / prepared surface and lay it out by roller or brush, until all surface is covered. After 12-18 hours (not later than 48 hours) apply another layer of the MARISEAL® 270. For demanding applications, apply a third layer of the MARISEAL® 270.

If the MARISEAL® 270 is to be covered with ceramic tiles, fully saturate with oven-dry silica sand (corn-size 0,4-0,8mm) the last layer while still wet. This saturation will create an adhesion bridge to the tile adhesive that will follow.

Reinforce always with the MARISEAL® FABRIC at problem areas, like wall-floor connections, 90° angles, chimneys, pipes, waterspouts (siphon), etc. In order to do that, apply on the still wet MARISEAL® 270 a correct cut piece of MARISEAL® FABRIC, press it to soak, and saturate again with enough MARISEAL® 270. For detailed application instructions with the MARISEAL® FABRIC, contact our R+D department.

ATTENTION: Do not apply the MARISEAL® 270 over 0.5 mm thickness (dry film) per layer. For best results, the temperature during application and cure should be between 5°C and 35°C. Low temperatures retard cure while high temperature speed up curing. High humidity may affect the final finish. We recommend reinforcement of the entire surface, with the MARISEAL® FABRIC. Use 5-10cm stripe overlapping.

WARNING: The MARISEAL® 270 is slippery when wet. In order to avoid slipperiness, 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® 270 is supplied in 25 kg, 15 kg, 6 kg, 1kg metal pails and 270 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°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

Safety measures

MARISEAL® 270 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.

