MARISEAL® 670

Liquid-applied Polyurethane Bitumen-extended Waterproofing Membrane

Product Description

MARISEAL®670 is a liquid-applied, highly permanent elastic, bitumen-extended, polyurethane membrane used for long-lasting waterproofing.

MARISEAL®670 is based on pure elastomeric hydrophobic polyurethane resins, and is extended with chemically polymerized virgin bitumen, which result in excellent mechanical, chemical, thermal and natural element resistance properties.

Product Information

- One-component, solvent based. air & ground moisture-cured, cold applied and cold curing bitumen extended polyurethane

Packaging

- 1/6/15/25 kg metal pails

Color

- Black

Shelf Life

- 9 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: 5º-35ºC. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

Advantages

- Simple application
- When applied forms seamless membrane without joints.
- Resistant to water
- Resistant to frost
- Provides crack-bridging properties
- Maintains its mechanical properties over a temperature span of -30ºC to +90ºC
- Resistant to 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.

SAINT-GOBAIN

Uses

- Foundations
- Retaining Walls

Consumption

- 1,4 -2,0 kg/m² 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.

Certifications

EN14891: Liquid- applied water impermeable products for use beneath ceramic tiling bonded with adhesives (consumption 1.5kg/m²)

PROPERTY	PERFORMANCE
Initial tensile adhesion strength	≥ 0,5 N/mm²
Crack bridging ability under standard conditions	≥ 0,75 mm
Tensile adhesion strength after heat ageing	≥ 0,5 N/mm²
Tensile adhesion strength after water contact	≥ 0,5 N/mm²
Tensile adhesion strength after contact with lime water	≥ 0,5 N/mm²
Tensile adhesion strength after freeze-thaw cycles	≥ 0,5 N/mm²

EN1504-2: Surface protection product for concrete (1.4kg/m²)

PROPERTY	PERFORMANCE
Permeability to CO2	sD > 50 m
Water vapour permeability	Class I: sD < 5 m
Capillary absorption and permeability to water	$\omega < 0,1$ kg/m2.h^{0,5}
Adhesion strength by pull-off test	≥ 1,5 (1,0) N/mm²

EPD verified

Compliant with ASTM C836 specification

Technical Data*

PROPERTY	RESULTS	TEST METHOD
Elongation at Break	600 %	ASTM D 412 / DIN 52455
Tensile Strength	> 4.0 N/ mm²	ASTM D 412 / DIN 52455
E-Modulus	1,0 N/ mm²	ASTM D 412 / DIN 52455
Tear Resistance	15 N/ mm	ASTM D 624
Puncture Resistance	>100 N	ASTM E 154
Resistance to Hydrostatic pressure	No Leak @ 3 bar (30 m water column)	DIN 16726
Resistance to Root Penetration	Resistant	CEN/TS 14416
Adhesion to concrete	>1,0 N/mm²	EN 1542
Hardness (Shore A Scale)	60	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	-40°C to +90°C	Inhouse Lab
Tack Free Time	5-6 hours	Conditions: 20°C, 50% RH
Light Pedestrian Traffic Time	24 - 48 hours	Conditions: 20°C, 50% RH
Final Curing time	7 days	Conditions: 20°C, 50% RH
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 smoothened. 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 670, 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® 670, 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® 670, 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® 670. 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. The careful sealing of existing cracks and joints before the application is extremely important for long lasting waterproofing results.

Priming

On sound, high quality concrete surfaces no primer is necessary. Prime very absorbent and brittle concrete or brittle cement screed surfaces with MARISEAL® 710 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 to its technical instruction

Waterproofing membrane

Stir well before using for at least 2-3min. Apply MARISEAL® 670 onto the surface by roller or brush, until all surface is covered. Reinforce always with the MARISEAL Fabric at problem areas, like wall-floor connections, 90° angles, chimneys, pipes, waterspouts (siphon), etc. Apply on the still wet MARISEAL® 670 a correct cut piece of MARISEAL® Fabric, press it to soak, and saturate again with enough MARISEAL® 670. For detailed instructions with MARISEAL® Fabric, contact our technical department. We recommend reinforcement of the entire surface, with the MARISEAL® Fabric. Use 5-10cm stripe overlapping..

If MARISEAL® 670 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.

ATTENTION: Do not apply MARISEAL® 670 over 0.6 mm thickness (dry film) per layer

For best results, the temperature during application and cure should be between 5°C and 35°C. Low temperature retards cure while high temperature speeds up curing. High humidity may affect the final finish.

WARNING: MARISEAL® 670 and/or MARISEAL SYSTEM 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 technical Dept. for more information.

Protection/Thermo insulation on Foundations/Retaining Walls

Protect cured MARISEAL® 670, with a drainage board before backfilling.

If an additional (optional) thermal insulation is required, stick an insulation board (XPS, EPS, PUR, PIR, etc.) on the cured MARISEAL® 670. Use MARIFLEX® PU40 as adhesive. Protect with a suitable drainage membrane / board.

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■ Safety measures

MARISEAL® 670 contains isocyanates. See information supplied by the manufacturer. Please study the Safety Data Sheet. PROFESSIONAL USE ONLY