

MARISEAL® 550

Liquid-applied Hybrid Polyurea Waterproofing Membrane

TECHNICAL DATA SHEET
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Product Description

MARISEAL® 550 is a liquid-applied, two component hybrid polyurea membrane used for long-lasting waterproofing and protection.

MARISEAL® 550 is based on pure elastomeric hydrophobic polyurethane in combination with polyaspartic polyurea, which result in excellent mechanical, chemical, thermal, UV and natural element resistance properties. It combines the exceptional mechanical properties of polyurea with the high elasticity of PU.

Cures by reaction (cross linking) of the two components

Product Information

- Two-component, cold applied hybrid polyurea

Packaging

- 2:20kg metal pails

Color

- White
- Other colors available upon request

Shelf Life

- 12 months from the 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°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

Advantages

- Simple application (roller, trowel)
- When applied forms seamless membrane without joints.
- Resistant to water
- Resistant to frost
- Resistant to root penetration, so it can be used in green roofs
- Crack-bridging up to 2mm, even at -10°C
- Provides water vapor permeability, so the surface can breathe
- Provides excellent thermal resistance, it never turns soft.
- Waterproofs old bitumen-, asphalt felts by covering them, without the need to remove them prior to application
- 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 used for domestic and public pedestrian and vehicular traffic
- 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

■ Uses

- Waterproofing of Roofs
- Waterproofing of Balconies, Terraces and Verandas
- Waterproofing of Pedestrian and Vehicular Traffic Decks
- Waterproofing of old Bitumen felts, Asphalt felts, EPDM & PVC membranes and old Acrylic coatings.
- Protection of Polyurethane Foam Insulation
- Waterproofing and protection of concrete constructions like bridge decks, tunnels, stadium stands, car parks, etc.

■ Consumption

- 1,2 -2,0 kg/m² applied in more than two 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



Technical Data*

PROPERTY	RESULTS	TEST METHOD
Mixing Ratio	10A:1B	
Elongation at Break	> 550 %	ASTM D 412
Tensile Strength	> 9 N/ mm ²	ASTM D 412
Water Vapor Permeability (1.2kg/m²)	17.8 gr/m ² /day	ISO 7783
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Carbon Dioxide Permeability (1.2kg/m²)	2.6 gr/m ² /day	EN 1062-6
Water Permeability (1.2kg/m²)	0.01 kg/m ² /h ^{0.5}	EN 1062-3
Adhesion to concrete	2.5 N/mm ²	EN 1542
Hardness (Shore A Scale)	65-70	ASTM D 2240 (15")
Hydrolysis (5% KOH, 7days cycle)	No significant elastomeric change	Inhouse Lab
Service Temperature	-40°C to +90°C	Inhouse Lab
Shock Temperature (15min)	200°C	Inhouse Lab
Pot life	60min	Conditions: 20°C, 50% RH
Rain Stability Time	3-4 hours	Conditions: 20°C, 50% RH
Light Pedestrian Traffic Time	18-24 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.	



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.

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 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® 550, 200mm wide centered over all cracks and while wet, cover with a correct cut stripe of MARISEAL® Fabric. Press it to soak. Then saturate MARISEAL® Fabric with enough MARISEAL® 550, 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® 550, 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® 550. 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 surfaces like concrete, cement screed or wood with MARISEAL® 710 or with MARISEAL® AQUA PRIMER. Prime surfaces like bitumen-asphalt felts with MARISEAL® AQUA PRIMER. Prime non-absorbent surfaces like metal, ceramic tiles and old coatings with MARISEAL® AQUA PRIMER or with MARISEAL® 750. Allow the primer to cure according its technical instruction

Waterproofing membrane

Stir well before using. Pour MARISEAL® 550 onto the prepared/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, 90° angles, chimneys, pipes, waterspouts (siphon), etc.

In order to do that, apply on the still wet MARISEAL® 550 a correct cut piece of MARISEAL® Fabric, press it to soak, and saturate again with enough MARISEAL® 550. For detailed application instructions with MARISEAL® Fabric, contact our technical department.

We recommend reinforcement of the entire surface, with MARISEAL® Fabric. Use 5-10cm stripe overlapping. After 12-18 hours (not later than 48 hours) apply another layer of MARISEAL®550.

For demanding applications, apply a third layer of MARISEAL®550.

ATTENTION: Do not apply MARISEAL® 550 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 temperatures retard cure while high temperature speeds up curing. High humidity may affect the final finish.

Finishing

For demanding application like balconies etc, apply one or two layers of MARISEAL® 400 Top-Coat over MARISEAL® 550.

If a heavy duty, abrasion resistant surface is desired (e.g. Public Pedestrian Deck, Car Parking, etc), apply two layers of MARISEAL® 420 Top-Coat. For the several Top-Coats application procedures, please consult their technical instructions or contact our technical Department.

WARNING: MARISEAL® 550 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 information

■ Safety measures

MARISEAL® 550 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 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

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