

MARITRANS®

TECHNICAL DATA SHEET

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Transparent, liquid-applied polyurethane waterproofing membrane

Product description

The MARITRANS® is a transparent, hard-elastic, one component, aliphatic polyurethane, high-solids coating, used for long-lasting waterproofing. This high-technology coating is UV-stable, non-yellowing, weather stable, alkali and chemical resistant and even after aging it remains transparent and elastic.

The MARITRANS® protects and waterproofs mineral surfaces against water penetration, frost, smog and acid rain. Aged and oxidized plastic surfaces look more transparent after coating with MARITRANS®. It waterproofs damaged glass surfaces and protects of glass fragments in case of breaking.

The MARITRANS® is used also as a transparent binder resin for sandcarpet floor coating applications, especially in exterior applications where flexibility and UV stability is required.

The MARITRANS® is using a unique curing system (moisture triggered), and unlike other similar systems it does not react with moisture (moisture-cured) and does not form bubbles.

Uses

- Transparent waterproofing of Balconies and Terraces
- Transparent waterproofing of Ceramic surfaces
- Transparent waterproofing of Glass and Glass-Bricks
- Transparent waterproofing and protection of Natural Stones
- Transparent waterproofing of Transparent Plastics (e.g. Polyacrylate, Polycarbonate)
- Transparent waterproofing and protection of Wood

Also used as a transparent binder resin for sandcarpet exterior floor coating applications.

Advantages

- Simple application (roller or airless spray).
- When applied forms seamless transparent membrane.
- UV stable
- Resistant to water and frost.
- Crack-bridging
- Provides water vapor permeability, so the surface can breathe.
- Provides excellent thermal resistance, it does not turn soft.
- Provides excellent weather resistance.
- Maintains its mechanical properties over a temperature span of -40°C to +90°C.
- Provides excellent adhesion to ceramic tiles and glazed surface
- The waterproofed surface can be used for domestic (low) pedestrian traffic.
- Resistant to detergents, oils, seawater and domestic chemicals.
- Even if the membrane gets mechanically damaged, it can be easily repaired locally within minutes.
- Used as a binder resin for sandcarpet applications, provides high elasticity and flexibility, making it ideal for applications on balconies and terraces.
- Over 10 years of positive feedback worldwide.

Consumption

0,8 - 1,2 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.

Colors

The MARITRANS® coating is supplied transparent.

Technical Data *

PROPERTY	RESULTS	TEST METHOD
Composition	Polyurethane high-solids pre-polymer	
Elongation at Break	322%	DIN EN ISO 527
Tensile Strength	25.4 N/mm ²	DIN EN ISO 527
E-modulus	69.5 N/mm ²	DIN EN ISO 527
Tear resistance	56.9 N/mm	DIN ISO 34, Method B
Elongation at break after 2000h of accelerated aging (DIN EN ISO 4892-3, 400 MJ/m ²)	298%	DIN EN ISO 527
Tensile strength after 2000h of accelerated aging (DIN EN ISO 4892-3, 400 MJ/m ²)	25.5 N/mm ²	DIN EN ISO 527
Gloss retention after 2000h of accelerated aging (DIN EN ISO 4892-3, 400 MJ/m ²)	Good	DIN 67530
Surface chalking after 2000h of accelerated aging (DIN EN ISO 4892-3, 400 MJ/m ²)	No chalking observed. Chalking grade 0	DIN EN ISO 4628-6
Hardness (SHORE D Scale)	25	ASTM D 2240
Water vapor permeability	8.05 gr/m ² ·24hours	EN ISO 12572
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Adhesion to absorbent ceramic tile	>2,0 N/mm ² (ceramic tile failure)	ASTM D 903 (ELCOMETER)
Hydrolysis (5% KOH, 7days cycle)	No significant elastomeric change	Inhouse Lab
Service Temperature	-40°C to +90°C	Inhouse Lab
Tack Free Time	6-8 hours	Conditions: 20°C, 50% RH
Light Pedestrian Traffic Time	24 hours	
Final Curing time	7 days	
Chemical Properties	Good resistance against detergents, seawater and oils.	

Application as a Transparent Waterproofing Coating.

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%. New concrete structures need to dry for at least 28 days. Old coatings, dirt, fats, oils, organic substances and dust need to be removed. Activate (prime) and degrease glass and glazed surfaces with the MARISEAL® TILE-PRIMER. Possible surface irregularities need to be smoothed. Any loose pieces and dust need to be thoroughly removed. Do not wash surface with water!

ATTENTION: Surfaces with trapped moisture (e.g. trapped moisture under tiles) must be left to dry completely (max. 5% moisture), before the application of the MARITRANS® coating.

WARNING: Do not apply the MARITRANS® on ceramic surfaces with ascending nitric salts in the joints, without suitable pre-treatment. Do not apply the MARITRANS® on surfaces treated in the past with active silane, siloxane, silicon or other water-repellents, because of expected poor adhesion. We recommend an adhesion test, if circumstances and surface history are not clear. On marble and granite please perform an adhesion test, to ensure that adhesion is proper.

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, hairline cracks, expansion joints and control joints of dust, residue or other contamination. Prime locally with the MARISEAL® 710 Primer and allow 2-3 hours to dry. Fill all prepared cracks and joints with MARIFLEX® PU 30 sealant. Allow to cure.

Priming (Activation of surface)

Prime (activate) non-absorbent glazed surfaces, like glazed ceramic tiles, glass and glass bricks with MARITRANS® TILE-PRIMER. Apply the MARITRANS® TILE-PRIMER by soaking a clean and dry cloth, and wipe the entire surface off. By this application procedure, you ensure that besides the chemical activation (priming) of the surface, the surface is getting also very effectively degreased. Change cloths often. Make sure that enough quantity of MARITRANS® TILE-PRIMER is applied on the entire surface to prime and make sure that you do not leave any untreated spots.

ATTENTION: If applied on transparent plastics (polycarbonate, polyacrylate, etc) do not use the MARITRANS® TILE-PRIMER.

Transparent waterproofing membrane

Pour the MARITRANS® coating onto the primed surface and lay it out by roller or by suitable teeth trowel, until all surface is covered.

After 12 hours - but not later than 18 hours –apply a second layer of the MARITRANS® coating, by using roller or brush.

For better waterproofing and wear resistance results, apply a third layer of the MARITRANS® coating.

ATTENTION: Do not apply the MARITRANS® over 1mm 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.

Finishing

If a satin matt surface is desired, apply one layer of the MARITRANS® FINISH.

WARNING: The MARITRANS® and/or the MARITRANS 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 Dept. for more details.

Application as a Binder Resin for Sandcarpet Coating.

Surface Preparation

Careful surface preparation is essential for optimum finish and durability.

If applied on MARISEAL 250 make sure that the surface is clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the sandcarpet coating. Maximum moisture content should not exceed 5%. Possible surface irregularities need to be smoothed. Any loose pieces and dust need to be thoroughly removed. Do not wash surface with water!

If applied onto concrete, make sure that the surface is clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the membrane. Maximum moisture content should not exceed 5%. New concrete structures need to dry for at least 28 days. Old coatings, dirt, fats, oils, organic substances and dust need to be removed. Possible surface irregularities need to be smoothed. Any loose pieces and dust need to be thoroughly removed. Do not wash surface with water!

Priming

Prime concrete surfaces with MARISEAL 750 primer and broadcast silica sand while still wet.

Sandcarpet Coating

Mix the MARITRANS® with colored Silica Sand (cornsize 0,7-1,2mm or 2,0-3,5mm) in a mixing ratio of 1:10 (resin: sand) by weight, with a low speed mechanical mixer, until the mixture becomes fully homogenous.

Pour the mixture onto the prepared surface and apply by flat trowel.

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.



Maris Polymers®

POLYURETHANE SYSTEMS

Packaging

MARITRANS® is supplied in 20 kg, 10 kg, 5 kg and 1kg pails. 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^o-30^oC. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

Safety measures

MARITRANS® 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.

CONSTRUCTION

