

MARITRANS® MD

Transparent, Liquid-applied Polyurethane Waterproofing Membrane

TECHNICAL DATA SHEET
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Product Description

MARITRANS® MD is a transparent, hard-elastic, 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.

MARITRANS® MD 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® MD. It waterproofs damaged glass surfaces.

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

MARITRANS® MD 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.

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Product Information

- One-component, solvent based, cold curing aliphatic polyurethane

Packaging

- 1/5/10/20 kg metal pails

Color

- Transparent

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: 5°-35°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 or airless spray)
- When applied forms seamless transparent membrane
- UV stable
- Resistant to stagnating water and frost
- 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 (light) 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

■ Uses

Waterproofing of:

- Balconies and Terraces
- Ceramic surfaces
- Glass and Glass-Bricks
- Transparent Plastics (e.g., Polyacrylate, Polycarbonate)
- Wood

Protection of Natural Stones

Binder resin for sand carpet exterior floor coating applications

■ Consumption

- 0,800 - 1,200 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

- 150 – 300 gr/m² in one or two layers as sealing layer for decorative floor flakes
- Ratio 1:10 as a resin binder for sandcarpets, 1kg of MARITRANS® MD per 10kg aggregates.

■ Certifications



EN1504-2: Surface protection for concrete. (0.8kg MARITRANS MD)



Technical Data*

PROPERTY	RESULTS	TEST METHOD
Composition	Polyurethane high-solids pre-polymer	
Elongation at Break	220%	DIN EN ISO 527
Tensile Strength	>20 N/mm ²	DIN EN ISO 527
Gloss retention after 2000h of accelerated aging (DIN EN ISO 4892-3, 400 MJ/m²)	Good	DIN 67530
Surface chalking after 2000h of accelerated aging	No chalking observed. Chalking grade 0	ASTM G154
Hardness (SHORE D Scale)	25	ASTM D 2240
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Permeability to CO₂ (measured in CE system)	0.39g/m ² d	EN 1062-6
Water vapour permeability (measured in CE system)	5.15g/m ² d	EN ISO 7783
Capillary absorption and permeability to water (measured in CE system)	0.008 kg/m ² .h ^{0.5}	EN 1062-3
Adhesion to absorbent ceramic tile	>2,0 N/mm ² (ceramic tile failure)	EN 1542
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	Conditions: 20°C, 50% RH
Final Curing time	7 days	Conditions: 20°C, 50% RH
Chemical Properties	Good resistance against detergents, seawater and oils.	



EPD verified

■ 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 MARITRANS®TILE-PRIMER. Possible surface irregularities need to be smoothened. 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 MARITRANS®MD coating.

WARNING: Do not apply MARITRANS®MD on ceramic surfaces with ascending nitric salts in the joints, without suitable pre-treatment. Do not apply MARITRANS®MD 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 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 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 primed and make sure that you do not leave any untreated spots.

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

Transparent waterproofing membrane

Pour MARITRANS®MD 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 MARITRANS®MD coating, by using roller or brush.

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

ATTENTION: Do not apply MARITRANS®MD 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 temperature retards cure while high temperature speeds up curing. High humidity may affect the final finish.

Finishing

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

WARNING: MARITRANS®MD and/or 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 technical Dept. for more information.

For best results, the temperature during application and cure should be between 5°C and 30°C. Low temperatures retard cure while high temperature speeds up curing. High humidity may affect the final finish and might create surface pinholes/bubbles.

■ 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 smoothened. 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 smoothened. 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 MARITRANS® MD with coloured Silica Sand (corn size 0,7-1,2 mm or 2,0-3,5 mm) in a mixing ratio of 1:10 (resin: sand) by weight, with a low speed mechanical mixer, until the mixture becomes fully homogeneous. Mix the resulting mixture with 10% MARITRANS® RELEASE AGENT.

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 temperature retards cure while high temperature speeds up curing. High humidity may affect the final finish.

■ Application as a sealer coating for decorative flakes floor system

Sealer Coating

On the prepared surface which will be sealed with the MARITRANS® MD (e.g., epoxy/polyurethane flooring spreading with flakes.) apply the first layer of MARITRANS® MD using a good-quality, short-hair roller (moher), using no more than 150-300gr/m².

After 12 hours (not later than 18 hours) apply, if needed, the second layer of MARITRANS® MD

For best results, the temperature during coating and curing of the material should be between 5°C and 30°C. Low temperature retards curing, while high temperature speeds up curing. High humidity may affect the final finish.

■ Safety measures

MARITRANS®MD contains isocyanates. See information supplied by the manufacturer. Please study the Safety Data Sheet. **PROFESSIONAL USE ONLY**

Our technical advice for use, whether verbal or written, 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.

* All values represent typical values and are not part of the product specification.

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