MARISEAL® 250 FLASH

Liquid-applied Polyurethane Waterproofing Membrane

TECHNICAL DATA SHEET
Date: 01.12.2022 – Version 22

Product Description

MARISEAL® 250 FLASH is a premium, semi-thixotropic, liquid-applied, highly permanent elastic, cold applied and cold curing, polyurethane membrane used for long-lasting waterproofing.

Product Information

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

Packaging

- 1/6/15/25 kg metal pails

Color

- White / Light Grey

Shelf Life

- 12 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)
- Semi-thixotropic viscosity suitable for sloped surfaces
- Based on pure elastomeric hydrophobic polyurethane resins,which result in excellent mechanical, chemical, thermal andnatural element resistance properties
- Seamless membrane without joints when applied
- Resistant to stagnating water
- Resistant to frost and high temperatures (maintains its mechanical properties over a temperature span of -30°C to +90°C
- Crack-bridging up to 3mm, even at -20°C
- Provides water vapor permeability, so the surface can breathe
- Provides excellent weather and UV resistance
- Waterproofs old bitumen-, asphalt felts by covering them, without the need to remove them prior to application
- Provides high sun reflectivity, contributing to thermal insulation
- Resistant to detergents, oils, seawater and domestic chemicals.
- Even if the membrane gets mechanically damaged, it can be easily repaired locally within minutes

Uses

Flashing of:

- Roofs, Terraces, Verandas, Balconies
- Wet Areas (under-tile) in Bathrooms, Kitchens, Balconies, Auxiliary Rooms, etc
- Pedestrian and Vehicular Traffic Decks,
- Green Roofs, Flowerbeds, Planter Boxes
- Old Bitumen felts, Asphalt felts, TPO, PP, EPDM
- PVC membranes and old Acrylic coatings.
- Protection of Polyurethane Foam Insulation

Waterproofing of:

- Slopped roofs.

Consumption

- 1,4 – 2,5 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.
In case of MARISEAL FABRIC reinforcement, consumption increases.

Certifications

European Technical Approval: ETA05/0197 DIBt
Levels of use categories according to ETAG005, for liquid-applied Polyurethane waterproofing kits:

Working life expected:	**W3 (4.1kg/m²)**	**25 Years**
Climate Zone:	M and S	All
Imposed loads:	P1 to P4	Very High (maximum load)
Roof slopes:	S1 to S4	<5° to >30°
Lowest surface temperature:	TL4	-30°C
Highest surface temperature:	TH4	+90°C
Reaction to fire:	Class E, Brooft4, DIN 4102-1, DIN 4102-7	EU Norm
Resistance to wind loads	≥ 50 kPa	EU Norm

Working life expected:	**W2 (2.4kg/m²)**	**10 Years**
Climate Zone:	M and S	All
Imposed loads:	P1 to P3	High
Roof slopes:	S1 to S4	<5° to >30°
Lowest surface temperature:	TL3	-20°C
Highest surface temperature:	TH4	+90°C
Reaction to fire:	Class E, Brooft4, DIN 4102-1, DIN 4102-7	EU Norm
Resistance to wind loads	≥ 50 kPa	EU Norm

EN 1504-2 : Products and systems for the protection and repair of concrete structures. Definitions, requirements, quality control and evaluation of conformity. Part 2: Surface protection system for concrete (1.4kg/m²)

EN 14891 : Liquid-applied water impermeable products for use beneath ceramic tiling bonded with adhesives - Requirements, test methods, evaluation of conformity, classification and designation. (1.4kg/m²)

EPD verified

Technical Data*

PROPERTY	RESULTS	TEST METHOD
Elongation at Break	600 %	ASTM D 412
Tensile Strength	> 4 N/ mm²	ASTM D 412
Water Vapor Permeability (1.4kg/m²)	12.5 gr/m²/day	EN ISO 7783
Carbon Dioxide Permeabily (1.4kg/m²)	1.8 gr/m²/day	EN 1062-6
Water Permeabily (1.4kg/m²)	0.015 kg/m²/h$^{0.5}$	EN 1062-3
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Adhesion to concrete	1.8 N/mm ²	EN 1542
Crack Bridging Capability (23C)	4.3 mm	EN 14891
Crack Bridging Capability (-5C)	3.5 mm	EN 14891
Crack Bridging Capability (-20C)	3.3 mm	EN 14891
Hardness (Shore A Scale)	>65	ASTM D 2240 (15")
Thermal Resistance (80ºC for 100 days)	Passed - No significant changes	EOTA TR-011
UV accelerated ageing, in the presence of moisture	Passed - No significant changes	EOTA TR-010
Resistance after water aging	Passed	EOTA TR-012
Hydrolysis (5% KOH, 7days cycle)	No significant elastomeric change	Inhouse Lab
Service Temperature	-30ºC to +90ºC	Inhouse Lab
Shock Temperature (20min)	200ºC	Inhouse Lab
Rain Stability Time	3-4 hours	Conditions: 20ºC, 50% RH
Light Pedestrian Traffic Time	18-24 hours	Conditions: 20ºC, 50% RH
Final Curing time	7 days	Conditions: 20ºC, 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 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® 250 FLASH, 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® 250 FLASH, 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® 250 FLASH, 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® 250 FLASH. 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® 730 or with MARISEAL® AQUA PRIMER. Prime non-absorbent surfaces like metal, ceramic tiles and old coatings with MARISEAL® AQUA PRIMER or with MARISEAL® 750.
Prime surfaces like bitumen - asphalt felts & acrylic coatings, with MARISEAL® 730 or with MARISEAL® AQUA PRIMER.
Prime surfaces like TPO, PP and EPDM, with MARISEAL® TPO PRIMER.
For surfaces like PVC, activate with MARISOLV® 9010.
Allow the primer to cure according its technical instructions.

Waterproofing membrane

Stir well before using. Pour MARISEAL® 250 FLASH 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, 90º angles, chimneys, pipes, waterspouts (siphon), etc.
In order to do that, apply on the still wet MARISEAL® 250 FLASH a correct cut piece of MARISEAL® Fabric, press it to soak, and saturate again with enough MARISEAL® 250 FLASH. 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®250 FLASH.
For demanding applications, apply a third layer of MARISEAL®250 FLASH.

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

For applications that demand thicker layers or better aesthetic results, addition of Mariseal Katalysator up to 3% is recommended, depending on temperature and humidity. For applications thicker than 0.900kg/m^2, the addition of Mariseal Katalysator is recommended.

Finishing

If a colour stable and chalking-free surface is desired, apply one or two layers of the MARISEAL® 400 Top-Coat over MARISEAL®250 FLASH. The application of MARISEAL® 400, is especially required, if a dark final colour, is desired.(e.g. red, grey, green)
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 with silica sand.
For the several Top-Coats application procedures, please consult their technical instructions or contact our technical Department.

WARNING: MARISEAL® 250 FLASH and/or MARISEAL® 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.

Safety measures

MARISEAL® 250 FLASH contains isocyanates. See information supplied by the manufacturer. Please study the Safety Data Sheet. PROFESSIONAL USE ONLY

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