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NOVOFLEX® 250 FLASH

TECHNICAL DATA SHEET

Date: 01.06.2017 – Version 17

Liquid-applied polyurethane waterproofing membrane

CONSTRUCTION

Product description

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

The NOVOFLEX® 250 FLASH is based on pure elastomeric hydrophobic polyurethane resins, which result in excellent mechanical, chemical, thermal, UV and natural element resistance properties.

Cures by reaction with ground and air moisture.

Advantages

- Simple application (roller or airless spray).
- Semi-thixotropic viscosity suitable for sloped surfaces.
- When applied forms seamless membrane without joints.
- Resistant to water and frost.
- 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.
- 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 thermoinsulation.
- Maintains its mechanical properties over a temperature span of -40°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.
- Over 15 years of positive feedback worldwide.

Uses

- Waterproofing of Roofs
- Waterproofing of Balconies, Terraces and Verandas
- Waterproofing of Wet Areas (under-tile) in Bathrooms, Kitchens, Balconies, Auxiliary Rooms, etc
- Waterproofing of Pedestrian and Vehicular traffic Decks
- Waterproofing of Green Roofs, Flowerbeds, Planter Boxes
- Waterproofing of old Bitumen felts, Asphalt felts, EPDM and 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

1,4 – 2,5 kg/m^2 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 NOVOFLEX FABRIC reinforcement, consumption increases.

Colors

The NOVOFLEX® 250 FLASH is supplied in white and light grey. Other colors may be supplied on demand.

Certifications

The NOVOFLEX® 250 FLASH was tested by the German state testing institute for construction materials MPA-Braunschweig according the European Union Directive for liquid-applied roof waterproofing kits ETAG 005 and was found conforming.

CE

The NOVOFLEX® 250 FLASH was certified by the German state Institute for construction techniques DIBt–Berlin with the European Technical Assessment (ETA) and with the CE-mark and certification according to the EOTA (European Organization of Technical Approval). The European Technical Assessment (ETA) is valid for two levels of use (W2 and W3) depending on the applied thickness.

The MARISEAL® 250 FLASH was additionally tested and approved by various laboratories in different countries around the world.

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

Working life expected:	**W3**	**25 Years**
Climate Zone:	M and S	All
Imposed loads:	**P1 to P4**	**Very High (maximum load)**
Roof slopes:	S1 to S4	<5º to >30º
Lowest surface temperature:	TL4	-30ºC
Highest surface temperature:	TH4	+90ºC
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**	**10 Years**
Climate Zone:	M and S	All
Imposed loads:	**P1 to P3**	**High**
Roof slopes:	S1 to S4	<5º to >30º
Lowest surface temperature:	TL3	-20ºC
Highest surface temperature:	TH4	+90ºC
Reaction to fire:	Class E, Brooft4, DIN 4102-1, DIN 4102-7	EU Norm
Resistance to wind loads	≥ 50 kPa	EU Norm

Technical Data *

PROPERTY	**RESULTS**	**TEST METHOD**
Elongation at Break	> 900 %	ASTM D 412 / DIN 52455
Tensile Strength	> 4 N/ mm ^{2}	ASTM D 412 / DIN 52455
Water Vapor Permeability	> 25 gr/m^2/day	ISO 9932:91
Resistance to mechanical damage by static impression	High Resistance (class:P3)	EOTA TR-007
Resistance to mechanical damage by dynamic impression	High Resistance (class:P3)	EOTA TR-006
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Adhesion to concrete	>2,0 N/mm ^{2} (concrete surface failure)	ASTM D 903
Crack Bridging Capability	up to 2 mm crack	EOTA TR-008
Hardness (Shore A Scale)	65-70	ASTM D 2240 (15")
Resistance to Root Penetration	Resistant	UNE 53420
Solar Reflectance (SR)	0.87	ASTM E903-96
Solar Emittance (ε)	0.89	ASTM E408-71
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
Construction Material Fire class	B2	DIN 4102-1
Resistance to Flying Sparks and Radiating Heat	Passed	DIN 4102-7
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	
Final Curing time	7 days	
Chemical Properties	Good resistance against acidic and alkali solutions (5%), detergents, seawater and oils.	

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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!

CONSTRUCTION

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 NOVOFLEX® 710 Primer and allow 2-3 hours to dry. Fill all prepared cracks with NOVOMASTIC® PU 30 sealant. Then apply a layer of NOVOFLEX® 250 FLASH, 200mm wide centered over all cracks and while wet, cover with a correct cut stripe of the NOVOFLEX® Fabric. Press it to soak. Then saturate the NOVOFLEX® Fabric with enough NOVOFLEX® 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 NOVOMASTIC® PU 30 Joint-Sealant on the bottom of the joint only. Then with a brush, apply a stripe layer of NOVOFLEX® 250 FLASH, 200mm wide centered over and inside the joint. Place the NOVOFLEX® 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 NOVOFLEX® 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 NOVOMASTIC® PU30 sealant. Do not cover. Allow 12-18 hours to cure.

Priming

Prime very absorbent surfaces like concrete, cement screed or wood with NOVOFLEX® 710 or with NOVOPRIMER H2O® . Prime surfaces like bitumen-, asphaltfelts with NOVOFLEX® 730 or with NOVOPRIMER H2O®. Prime non-absorbent surfaces like metal, ceramic tiles and old coatings with NOVOPRIMER H2O or with NOVOPRIMER 750.
Allow the primer to cure according its technical instruction.

Waterproofing membrane

Stir well before using. Poor the NOVOFLEX® 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 the NOVOFLEX® 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 NOVOFLEX® 250 FLASH a correct cut piece of NOVOFLEX® Fabric, press it to soak, and saturate again with enough NOVOFLEX® 250 FLASH. For detailed application instructions with the NOVOFFLEX® Fabric, contact our R+D department. We recommend reinforcement of the entire surface, with the NOVOOFLEX® Fabric. Use 5-10cm stripe overlapping. After 12-18 hours (not later than 48 hours) apply another layer of the NOVOFLEX®250 FLASH.
For demanding applications, apply a third layer of the NOVOFLEX®250 FLASH.

ATTENTION: Do not apply the NOVOOFLEX® 250 FLASH over 0.6 mm thickness (dry film) per layer. For best results, the ~~temperature~~ during application and cure should be between 5ºC and 35ºC. Low temperatures retard cure while high temperature speed up curing. High humidity may affect the final finish.

Finishing

If a color stable and chalking-free surface is desired, apply one or two layers of the NOVOFLEX® 400 Top-Coat over the NOVOFLEX® 250 FLASH. The application of the MARISEAL® 400, is especially required, if a dark final color, 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 the NOVOFLEX® 420 Top-Coat.
For the several Top-Coats application procedures, please consult their technical instructions or contact our R+D Department.

WARNING: The NOVOFLEX® 250 FLASH and/or the NOVOFLEX® 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.

Packaging

NOVOFLEX® 250 FLASH is supplied in 25 kg, 15 kg, 6 kg, 1kg metal pails and 250kg Barrels. Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5º-30ºC. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

Safety measures

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

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