LIQUID-APPLIED POLYURETHANE WATERPROOFING MEMBRANE

POLY TI 150

POLY TI

PRODUCT DESCRIPTION

POLY TI 150 is a premium, liquid-applied, highly permanent elastic, cold applied and cold curing, one component polyurethane membrane used for long-lasting waterproofing. The POLY TI 150 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.

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 POLY TI FABRIC reinforcement, consumption increases.

PACKAGING

POLY TI 150 is supplied in 25 kg, 15 kg, 6 kg, 1kg metal pails and 250 kg 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: 50-300C. 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 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 -10oC.
- 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.

COLORS

The POLY TI 150 is supplied in white and light grey.
Other colors may be supplied on demand.

SAFETY MEASURES

POLY TI 150 contains isocyanates. See information supplied by the manufacturer. Please study the Safety Data sheet.
PROFESSIONAL USE ONLY

CERTIFICATIONS

The POLY TI 150 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.

The POLY TI 150 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 POLY TI 150 was additionally tested and approved by various laboratories in different countries around the world.

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

Working life:	**W3**	**25 Years**
Climate Zone:	M and S	All
Imposed loads:	**P1 to P4**	**Very High (maximum load)**
Roof slopes:	S1 to S4	<5°C to >30°C
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:	**W2**	**10 Years**
Climate Zone:	M and S	All
Imposed loads:	**P1 to P3**	**High**
Roof slopes:	S1 to S4	<5°C to >30°C
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

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 the POLY PRIME QUICK Primer and allow 2-3 hours to dry. Fill all prepared cracks with POLY JOINT 30 sealant. Then apply a layer of POLY TI 150, 200mm wide centered over all cracks and while wet, cover with a correct cut stripe of the POLY TI FABRIC. Press it to soak. Then saturate the POLY TI FABRIC with enough POLY TI 150, 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 POLY JOINT 30 Joint-Sealant on the bottom of the joint only. Then with a brush, apply a stripe layer of POLY TI 150, 200mm wide centered over and inside the joint. Place the POLY TI 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 POLY TI 150. 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 POLY JOINT 30 sealant. Do not cover. Allow 12-18 hours to cure.

Priming

Prime very absorbent surfaces like concrete, cement screed or wood with POLY PRIME QUICK or with UNI-VERSAL EPOXY PRIMER. Prime surfaces like bitumen-, asphalt felts with with UNI-VERSAL EPOXY PRIMER. Prime non-absorbent surfaces like metal, ceramic tiles and old coatings with UNI-VERSAL EPOXY PRIMER or with MARISEAL 750.
Allow the primer to cure according its technical instruction.

Waterproofing membrane

Stir well before using. Pour the POLY TI 150 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 POLY TI 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 POLY TI 150 a correct cut piece of POLY TI FABRIC, press it to soak, and saturate again with enough POLY TI 150. For detailed application instructions with the POLY TI FABRIC, contact our R+D department.
We recommend reinforcement of the entire surface, with the POLY TI FABRIC. Use 5-10cm stripe overlapping.

After 12-18 hours (not later than 48 hours) apply another layer of the POLY TI 150.
For demanding applications, apply a third layer of the POLY TI 150.

ATTENTION: Do not apply the POLY TI 150 over 0.6 mm thickness (dry film) per layer. For best results, the temperature during application and cure should be between 5^{o}C and 35^{O}C. 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 POLY TI TC-40 Top-Coat over the POLY TI 150. The application of the POLY TI TC-40 Top-Coat, 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 POLY TI TC-42 Top-Coat.

For the several Top-Coats application procedures, please consult their technical instructions or contact our R+D Department.

WARNING: The POLY TI 150 and/or the POLY TI 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.

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 (å)	0.89	ASTM E408-71
Thermal Resistance (80°C 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, 7 days cycle)	No significant elastomeric change	Inhouse Lab
Construction Material Fire class	Â2	DIN 4102-1
Resistance to Flying Sparks and Radiating Heat	Passed	DIN 4102-7
Service Temperature	-30°C to +90°C	Inhouse Lab
Shock Temperature (20 min)	200°C	Inhouse Lab
Rain Stability Time	3-4 hours	Conditions: 20°C, 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.	

LOCATIONS

KIGDOM OF SAUDI ARABIA

unitech.ksa@ikkgroup.com

Jeddah
Tel : +966 12 627 8222
Fax: +966 12 627 8722

Jeddah - Ghurab Showroom
Tel : +966 12 667 2000
Fax: +966 12 661 4306

Mak kah/Taif
Tel : +966 12 541 1206
Fax: +966 12 532 1675

Mad inah
Tel : +966 14 842 1095
Fax: +966 14 842 1090

Yanbu
Tel : +966 14 390 1499
Fax: +966 14 322 7101

Khamis Mushayt
Tel : +966 17 237 5929
Fax: +966 17 237 8783

Najran
Tel : +966 17 546 3873
Fax : +966 17 546 3873

Al Baha
Tel : +966 17 237 5929
Fax: +966 17 237 8783

Sharorah
Tel : +966 17 532 8153
Fax: +966 17 532 8153

Gizan
Tel : +966 17 321 6660
Fax: +966 17 321 0665

Riyadh North
Tel : +966 11 415 5465
Fax: +966 11 456 6627

Riyadh South
Tel : +966 11 448 0112
Fax: +966 11 447 7421

Riyadh West
Tel : +966 11 431 6271
Fax: +966 11 431 7642

Riyadh East
Tel : +966 11 448 0112
Fax: +966 11 447 7421

Qassim / Buraidah
Tel : +966 16 382 3946
Fax: +966 16 385 2186

Hail
Tel : +966 16 543 3931
Fax: +966 16 543 3935

Skakah / Qurayyat
Tel : +966 14 626 3904
Fax: +966 14 626 3905

Tabuk
Tel : +966 14 423 5203
Fax: +966 14 423 5203

Hafr el Batin
Tel : +966 13 729 3644
Fax: +966 13 729 3644

Dammam
Tel : +966 13 859 0097
Fax: +966 13 857 8177

Jubail
Tel : +966 13 361 4390
Fax: +966 13 362 4499

Hofuf
Tel : +966 13 530 1474
Fax: +966 13 530 7144

FACTORIES

SFSP - KSA
sfsp.jeddah@ikkgroup.com

Specialized Factory for Steel Products
3rd Industrial City / Jeddah
Tel: +966 12 637 4482
Fax: +966 12 636 1963

SFSP / UAE
sfsp.uae@ikkgroup.com

SIGMA Factory for Steel Products
DIC (Dubai Industrial City)
Tel : +971 4 818 1919

SFSP / Egypt
sfsp.cairo@ikkgroup.com

Specialized Factory for Steel Products
6th of October City Giza
Tel : +20 2 3820 6477
Fax: +20 2 3820 6036

SFSP / Lebanon
sfsp.lebanon@ikkgroup.com

Specialized Factory for Steel Products
Tanayel, Bekaa
Tel: +961 8 514 290
Fax: +961 8 514 291

BAHRAIN
unitech.bahrain@ikkgroup.com

Manama
Tel : +973 17 874 897
Fax: +973 17 789 470

KUWAIT
unitech.kuwait@ikkgroup.com

Kuwait City
Tel : +965 2 4924 937
Fax: +965 2 4924 938

UNITED ARAB EMIRATES
unitech.uae@ikkgroup.com

Dubai - Al Rashidiyah
Tel : +971 4 2591 773
Fax : +971 4 2591 774

Abu Dhabi - Musaffah
Tel: +971 2 552 3393
Fax: +971 2 552 5499

OMAN
unitech.oman@ikkgroup.com

Muscat
Tel : +968 24 591 006
Fax : +968 24 597 006

JORDAN
unitech.jordan@ikkgroup.com

Amman
Tel : +962 6 556 3030
Fax: +962 6 554 7911

Aqaba
Tel : +962 6 556 3030
Fax: +962 6 554 7911

PAKISTAN
unitech.pakistan@ikkgroup.com

Karachi - Clifton
Tel-Fax : +92 21 35826120

EGYPT
unitech.egypt@ikkgroup.com

Cairo 6th of October City
Tel : +20 2 3820 6477
Fax: +20 2 3820 6036

LEBANON
unitech.lebanon@ikkgroup.com

Beirut
Tel : +961 1 858 277
Fax: +961 1 858 276

ENGINEERING, DESIGN, MARKETING & MULTIMEDIA

Unitech Deutschland GmbH
Germany
unitech.germany@ikkgroup.com

Stuttgart
Tel : +49 711 6868 7222
Fax: +49 711 6868 7223

Multi-D s.a.r.l
Lebanon
multi-d@ikkgroup.com

Multi-d Beirut
Tel : +961 1 841 155
Fax: +961 1 841 156

R&D DEPARTMENT

Saih Suhaib-3, Opp DEWA Substation, Dubai Industrial City, Dubai, UAE
Tel : +971 4 818 1944 - Mob: +971 55 517 0841
Email: unitech.uae@ikkgroup.com - abed.demachkieh@ikkgroup.com