

## LIQUID-APPLIED POLYURETHANE WATERPROOFING MEMBRANE



### POLY TI 170

#### PRODUCT DESCRIPTION

POLY TI 170 is a liquid-applied, permanent elastic, cold applied and cold curing, bitumen extended, one component polyurethane membrane used for long-lasting waterproofing. Solvent based.

The POLY TI 170 is based on pure elastomeric hydrophobic polyurethane resins, and is extended with chemically polymerized virgin bitumen, which result in excellent mechanical, chemical, thermal and natural element resistance properties.

Cures by reaction with ground and air moisture.

#### USES

The POLY TI 170 is used for:

- Waterproofing of Foundations
- Waterproofing of Retaining Walls
- Under-tile Waterproofing in Bathrooms, Terraces, Roofs, etc.

#### CONSUMPTION

1,4 -2,0 kg/m<sup>2</sup> 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 170 is supplied in 20kg, 5kg and 1kg metal 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°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

#### ADVANTAGES

- Simple application.
- When applied forms seamless membrane without joints.
- Resistant to water.
- Resistant to frost.
- Provides crack-bridging properties.
- Provides excellent thermal resistance, it never turns soft.
- Maintains its mechanical properties over a temperature span of -30°C to +90°C.
- Provides excellent adhesion to almost any type of surface.
- Resistant to 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.
- Positive feedback worldwide.

#### COLORS

The POLY TI 170 is supplied in black.

#### SAFETY MEASURES

POLY TI 170 contains isocyanates. See information supplied by the manufacturer. Please study the Safety Data sheet. PROFESSIONAL USE ONLY

#### PROTECTION /THERMOINSULATION ON FOUNDATIONS/RETAINING WALLS

Protect the cured POLY TI 170, with a drainage board before backfilling. If an additional (optional) Thermoinsulation is required, place a insulation board (XPS, EPS, PUR, PIR, etc) on the cured POLY TI 170. Following to that place the protective drainage board.

## 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 smoothed. 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 QUICKPrimer and allow 2-3 hours to dry. Fill all prepared cracks with POLY JOINT 30 sealant. Then apply a layer of POLY TI 170, 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 170, 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 170, 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 170. 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. The careful sealing of existing cracks and joints before the application is extremely important for long lasting waterproofing results.

### Priming

On sound, high quality concrete surfaces no primer is necessary. Prime very absorbent and brittle concrete or brittle cement screed surfaces with POLY PRIME QUICK or with UNI-VERSAL EPOXY PRIMER. Prime non-absorbent surfaces like metal, ceramic tiles and old coatings with UNI-VERSAL EPOXY PRIMER. Allow the primer to cure according its technical instruction.

### Waterproofing membrane

Stir well before using for at least 2-3min. Apply the POLY TI 170 onto the surface by roller or brush, until all surface is covered.

Reinforce always with the POLY TI FABRIC at problem areas, like wall-floor connections, 90° angles, chimneys, pipes, waterspouts (siphon), etc. In order to do that, apply on the still wet POLY TI 170 a correct cut piece of POLY TI Fabric, press it to soak, and saturate again with enough POLY TI 170. For detailed 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 8-24 hours, apply another layer of the POLY TI 170. For demanding applications, apply a third layer of the POLY TI 170.

If the POLY TI 170 is to be covered with ceramic tiles, fully saturate with oven-dry silica sand (corn-size 0,4-0,8mm) the last layer while still wet. This saturation will create an adhesion bridge to the tile adhesive that will follow.

**ATTENTION:** Do not apply the POLY TI 170 over 0.6 mm 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.

**WARNING:** The POLY TI 170 and/or the POLY TI SYSTEM is slippery when wet. In order to avoid slipperiness, 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	> 400 %	ASTM D 412 / DIN 52455
Tensile Strength	> 4 N/ mm <sup>2</sup>	ASTM D 412 / DIN 52455
Water Vapor Permeability	> 25 gr/m <sup>2</sup> /day	ISO 9932:91
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Adhesion to concrete	>2,0 N/mm <sup>2</sup> (concrete surface failure)	ASTM D 903
Hardness (Shore A Scale)	65	ASTM D 2240 (15")
Thermal Resistance (80°C for 100 days)	Passed - No significant changes	EOTA TR-011
Hydrolysis (5% KOH, 7days cycle)	No significant elastomeric change	Inhouse Lab
Service Temperature	-30°C to +90°C	Inhouse Lab
Tack Free Time	8 hours	Conditions: 20°C, 50% RH
Light Pedestrian Traffic Time	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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