

## Pre-applied TPO Waterproof Membrane

### Description

The fully reinforced pre-applied TPO membrane is designed for horizontal and vertical external blind-side waterproofing applications and composed of high performance TPO with non asphalt adhesives. It is applied before the steel reinforcement is fixed and the concrete poured. It is a fully and permanently bonded membrane that protects against groundwater ingress as well as gases and chemicals, this will eliminate the potential of water penetration and leakage. It is pre-applied and installed without heat or open-flame, safe and fast application.

### Features

- ◆ Superior mechanical properties, tensile strength and elongation, anti root puncture, chemicals and weather resistance
- ◆ Outstanding self-adhesive bonding to poured concrete, fully sealed systems on overlaps
- ◆ Time & cost saving on project schedule & budget, fast & easy installation. No need for complicated welding equipment and specially trained staff, overlapping can be easily
- ◆ No need for concrete screed on the horizontal and protection board on the vertical
- ◆ Excellent protection against water infiltration, non-permeable to vapor and gas

### Uses

For horizontally and vertically structures require protection against groundwater and seepage, such as basements, foundations, subway, tunnels, garages, residential and commercial buildings.



### Specification

Upper surface materials	Sand
Lower surface materials	TPO
TPO film thickness, mm	0.7, 1.0, 1.2, 1.5
Total thickness, mm	1.2, 1.5, 1.7, 2.0
Color	White
Width, m	1.0, 2.0
Length, m	15, 20

### Technical Data: Executive Standard GB/T23457-2009

No	Item		Index
1	Tensile properties	Tension, N/50mm $\geq$	500
		Elongation of maximum tension, % $\geq$	400
2	Thermal resistance, 70°C $\times$ 2h		No drift, no flow, no dripping
	Solar reflection index (SRI)		
3	Low temperature bending, -25°C		No crack
4	Nail shank tearing, N $\geq$		400
5	Anti static loading, 20kg		No leakage
6	Impact resistance, Diameter= (10 $\pm$ 0.1) mm		No leakage
7	Water channel resistance, 0.6 MPa		No channeling
8	Peel strength with poured concrete after immersing water, N/mm $\geq$		1.5
9	Peel strength with poured concrete N/mm $\geq$	Surface with no treatment	2.0
		Surface with cement powder contaminates	1.5
		Surface with sediments contaminates	1.5
10	Thermal stability	Appearance	No wrinkle, no flow, no dripping
		Dimensional change, % $\leq$	1.5
11	Thermal ageing 70°C $\times$ 168h	Retention of tension, % $\geq$	90
		Elongation retention, % $\geq$	80
		Low temperature bending, -23°C	No crack

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**Packing**

Roll size: 1m or 2m x 15 or 20m  
Rolls per pallet: 25 rolls/pallet

**Application instructions**

**Horizontal waterproofing:** Apply the membrane loose laid on the concrete blinding or compacted soil for 30 minutes; End laps will be staggered by at least 300 mm; Starting at the lowest point to higher, fix one end of the membrane, remove the isolation film, and install it according to the line. Sheet edges must be overlapped a minimum of 75mm, end laps must be a minimum of 150mm, with upper sheets lapped over lower sheets, use the rubber drag roll to press the membrane well.

**Vertical waterproofing:** The membrane is installed in vertical strip of 5 meter maximum onto acceptable substrate by removing the silicon coated release film on the underside. Ensure minimum 75 mm side overlap between each strip. Use a hard roller to apply pressure over the entire surface of the membrane in order to ensure sufficient adhesion to prevent membrane movement during installation of poured in place concrete. The uppermost edge of each strip must be mechanically fastened to substrate using 50 mm(diameter) round plates and appropriate fasteners for blinding material at every 300 mm on centre. Horizontal joints shall be aligned and overlapped by minimum 200 mm covering all fasteners.

**Details:** All angle changes as well as inside and outside corners must be reinforced by installing an additional 300 mm piece of membrane centered in the angle. All small protrusions (steel work, pile cap etc.) through the waterproofing membrane, must be sealed with waterproofing coating and flashing reinforcement as required.

**Protection layer:** On all horizontal surfaces, it is recommended to apply membrane as protection layer over the pre-applied membrane prior to placement of the reinforcement steel bars as a precaution to limit the chances of any incidentals while work is in progress. Install the protection sheet in longitudinal strip centered over membrane side laps by removing the silicon coated release film on the underside. Use a broom or a roller to apply a uniform pressure over the entire surface of the protection sheet.

**Storage**

Be stored in well-ventilated places protected from sunlight and raining. The temperature in stored places can not be higher than 50° C. The normal shelf life is 1 year.

**Safety precautions**

Do not work in a rainy or snowy day, or heavy wind (above 5 grade). Unsuitable for construction when ambient temperature below 0°C. If it rains or snows in the construction, protective action to the laid membrane is a must.