

## TPO (Modified Thermoplastic Polyolefin) Waterproof Membrane

### Description

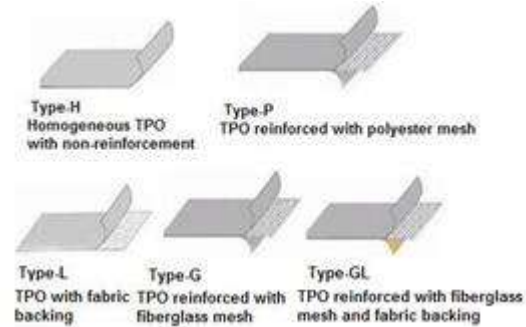
The TPO membrane is made from the incorporation of ethylene propylene rubber into polypropylene matrix and reinforced with polyester mesh or fabric backing or non-reinforcement. The very durable membrane has light color with a high solar reflection index (SRI), no toxic emissions, weatherproof and UV resistance.

### Features

- ♦ High solar reflection index (SRI), weatherproof and UV /oxidation resistance, long service life
- ♦ High tensile strength and flexibility at low temperatures, good elongation
- ♦ Strong dimensions stability and adaptability to deformation and cracks, resistant to wind stress
- ♦ Excellent mechanical and chemical resistance
- ♦ High puncture and tear resistance, low weight
- ♦ No plasticizers or chlorinated ingredients
- ♦ Weldability and easy installation

### Uses

- ♦ Roofs, underground structures of residential and commercial buildings
- ♦ Parking lots, reservoirs, swimming pools, sewage treatment plants
- ♦ Highway, airports, railway, bridges, tunnels



### Type and Specification

<b>Thickness, mm</b>	1.2, 1.5, 1.8, 2.0
<b>Width, m</b>	2.0m or customized
<b>Length, m</b>	15, 20, 25m or customized
<b>Type</b>	<b>H:</b> Homogeneous TPO membrane with non-reinforcement
	<b>L:</b> TPO membrane with fabric backing
	<b>P:</b> TPO membrane reinforced with polyester mesh
	<b>G:</b> TPO membrane reinforced with fiberglass mesh
	<b>GL:</b> TPO membrane reinforced by fiberglass and fabric backing

### Technical Data: Executive Standard GB/T27789-2011

No	Items	Index					
		H	L	P	G	GL	
1	Tensile properties	Maximum tension, N/cm $\geq$	-	120	250	-	120
		Tensile strength, MPa $\geq$	10.0	-	-	10.0	-
		Elongation at maximum tension, % $\geq$	-	-	15	-	-
		Elongation at break, % $\geq$	500	500	-	400	200
2	Heat treatment dimensional change, % $\leq$	2.0	1.0	0.5	0.1	0.1	
3	Thermal aging (80 °C)	Test phenomenon, 672h	No blister, no crack, no void, no delaminating, no cohesion				
		Retention at maximum tension, % $\geq$	-	90	90	-	90
		Tensile strength retention, % $\geq$	90	-	-	90	-
		Elongation retention at maximum tension, % $\geq$	-	-	90	-	-
		Retention of elongation at break, % $\geq$	90	90	-	90	90
4	Low temperature bending, -40°C	No crack					
5	Water impermeability, 0.3MPa $\times$ 2h	Impermeable					
6	Impact resistance, 0.5kg $\cdot$ m	No leakage					
7	Anti static loading, 20kg	-	-	No leakage			
8	Angle tearing strength, N/mm $\geq$	60	-	-	60	-	
9	Trapezoidal tearing strength, N/mm $\geq$	-	250	450	-	400	

10	Water absorption, 70 °C *168h	After immersed in water, %≤	4.0				
		After drying in air, %≥	-0.40				
11	Seam peel strength, N/mm ≥		4.0 or membrane damaged	3.0			
12	Chemical resistance	Test phenomenon	No blister, no crack, no void, no delaminating, no cohesion				
		Retention at maximum tension, % ≥	-	90	90	-	90
		Tensile strength retention, % ≥	90	-	-	90	-
		Elongation retention at maximum tension, %≥	-	-	90	-	-
		Retention of elongation at break, %≥	90	90	-	90	90
		Low temperature bending, -40 °C	No crack				
13	Accelerated weathering	Test phenomenon, 1500h	No blister, no crack, no void, no delaminating, no cohesion				
		Retention at maximum tension, % ≥	-	90	90	-	90
		Tensile strength retention, % ≥	90	-	-	90	-
		Elongation retention at maximum tension, %≥	-	-	90	-	-
		Retention of elongation at break, %≥	90	90	-	90	90
		Low temperature bending, -40 °C	No crack				

### Packing

11-24 rolls/pallet depending on the thickness and length of the roll.

### Application instructions

According to characteristics of different projects waterproof layer design, offering 3 installation options as follows:

- ◆ **Mechanically fastened system:** Suitable for roofs with limited load bearing capacity, e.g. large gymnasium roofs, steel structure roofs, recover and waterproof systems for both new and existing building as well as underground projects, sidewall and vault cave tunnel etc.
- ◆ **Cold adhered:** Any roofs with irregular shape and with limited load bearing capacity.
- ◆ **Ballasted:** Suitable for a wide variety of industrial and civil projects and public building

**Surface preparation:** Substrates need to be clean, smooth, dry (Moisture <9%), no grit and free of sharp edges, loose or foreign materials, oil, grease and other materials that may damage the membrane. All surface voids greater than 5mm wide, shall be properly filled with an acceptable fill material and level it.

**Placement of membrane:** Pave the TPO membrane on the substrate, exhaust and compaction; Overlapping width between membrane in longitudinal should be more than 50mm; Hot-air welding is adopted for joint and detail treatment

### Storage

Store away from sources of punctures and physical damage. Keep dry and store away from ignition sources and open flame.

Shelf Life: Unlimited

### 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.

During installation, exercise extreme caution when working with open flame.

Do not use open flame on or near highly combustible materials. Follow all local fire codes.

Safety protection facilities and articles shall be well prepared, fire-fighting equipment shall be deployed according to regulations.

Membranes are slippery when wet. Use caution when walking on wet membranes.

Use proper stacking procedures to ensure sufficient stability of the materials.