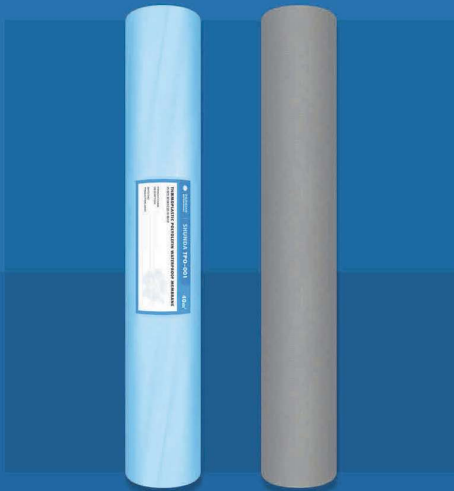




# SHUNDA TPO-001

## THERMOPLASTIC POLYOLEFIN WATERPROOF MEMBRANE

**SHUNDA TPO-001** waterproof membrane consists of synthetic rubber and polypropylene as raw material, a chemical compound known for its elasticity, durability and moisture repelling capabilities. **SHUNDA TPO-001** is a high-end environmental-friendly waterproofing material that offers excellent performance with long-term heat, UV, oxidation, and weathering resistance.

### 1 PRODUCT FEATURES

- Excellent dimensional stability, uniform membrane thickness provides equal protection to entire substrate surface.
- Improved weather resistance and aging resistance, high reflectivity against sunlight reduces building indoor temperature.
- Excellent mechanical strength, high resistance to compressive, bending, and tensile forces, provides long service life.
- Excellent chemical resistance, high tolerance to acid, alkali, salt corrosion, prevents mold, algae, microbial growth.
- Convenient construction, installation can be done on wet substrate, membrane can be exposed without protective layer.
- Environmental friendly, green building product that is made from high-polymer materials with low carbon footprint.

### 2 APPLICATION SCOPE

- Applicable for projects that require waterproofing of large surface area such as industrial, civil and public buildings.
- Applicable for demanding applications with high requirements such as exposed roof and underground installations.



### 3 PRODUCT HANDLING

- The product is safe to be transported through conventional means with standard practices. The shelf life is 12 months from date of production if stored properly. Store product in an upright position, avoid stacking. Store products indoor in dry conditions, protected from weather and direct sunlight, at temperatures between 5°C - 35°C. It is recommended to wear protective gear during use.

## 4 APPLICATION INSTRUCTIONS

### MECHANICALLY ATTACHED METHOD

- Ensure substrate is flat without sharp protrusions, repaired of defects, clean and free from contaminants that may affect adhesion.
- Install a layer of vapor barrier laid across the applied area, it can be loosely laid or fully adhered according to project specifications.
- Install a layer of insulation board over the vapor barrier, it can be installed with foam adhesive or fastener or a combination of both.
- Set out **SHUNDA TPO-001** by arranging and aligning to the applied area, the sheet membrane shall be laid with sufficient overlaps.
- Install **SHUNDA TPO-001** by mechanically securing the membrane on to the insulation board by using fasteners.
- Seal the overlaps at each side of the membrane using hot air welding. Ensure all fasteners, connections, corners, and other details are waterproofed by covering with an additional layer of **SHUNDA TPO-001**, then sealed using the method of hot air welding.

### FULLY BONDED METHOD

- Ensure substrate is flat without sharp protrusions, repaired of defects, clean and free from contaminants that may affect adhesion.
- Set out **SHUNDA TPO-001** by arranging and aligning to the applied area, the sheet membrane shall be laid with sufficient overlaps.
- Apply adhesive coating on the underside of **SHUNDA TPO-001** sheet membrane, as well as the substrate surface.
- Unroll and lay **SHUNDA TPO-001** on to the applied area, apply pressure to ensure it is laid flat with strong adhesion to substrate.
- Seal the overlaps at each side of the membrane using hot air welding. Ensure all fasteners, connections, corners, and other details are waterproofed by covering with an additional layer of **SHUNDA TPO-001**, then sealed using the method of hot air welding.

## 5 SYSTEM DETAILS

2<sup>nd</sup> Layer : **SHUNDA TPO-001**

1<sup>st</sup> Layer : Adhesive Coating / Fastener\*

\*according to application method as stated in Application Instructions

Base Layer : Substrate

Product structure :

- Compounded thermoplastic polyolefin layer
- Polyester-reinforcement scrim layer
- Thermoplastic polyolefin polymer base layer



### PRODUCT DETAILS

- **SHUNDA TPO-001** dimensions : 2 m x 20 m roll
- **SHUNDA TPO-001** thickness : 1.2 mm roll / 1.5 mm roll
- **SHUNDA TPO-001** product type : H-type (homogeneous membrane), L-type (fiber back-fleece), P-type (fabric reinforced)

## 6 TECHNICAL DATA

- All technical data stated below are based on laboratory tests. Actual measured data may vary due to circumstances beyond control. The user of the product must test the product's suitability for the intended application and purpose.

| PHYSICAL PROPERTIES                       | TEST METHOD     | INDEX (H)                 | INDEX (L) | INDEX (P) |
|-------------------------------------------|-----------------|---------------------------|-----------|-----------|
| Max tensile strength / (N/cm) ≥           | GB 27789-2011   | —                         | 200       | 250       |
| Tensile strength / MPa ≥                  |                 | 12                        | —         | —         |
| Elongation at max. tensile strength / % ≥ |                 | —                         | —         | 15        |
| Elongation at break / % ≥                 |                 | 500                       | 250       | —         |
| Lap seam peeling strength / (N/mm) ≥      |                 | 4.0                       | 3.0       | 3.0       |
| Right-angle tearing strength / (N/mm) ≥   |                 | 60                        | —         | —         |
| Dimensional change after heat treatment   |                 | 2.0                       | 1.0       | 0.5       |
| Low temperature flexibility               |                 | -40 °C, no cracking       |           |           |
| Water tightness                           |                 | 0.3 MPa, 2 h, water tight |           |           |
| Puncture resistance                       |                 | 0.5 kg-m, impermeable     |           |           |
| Tear strength / N ≥                       | EN 12310-2:2000 | 150                       |           |           |
| Shear strength / (N/50 mm) ≥              | EN 12317-2:2010 | 400                       |           |           |
| Peel strength / (N/50 mm) ≥               | EN 12316-2:2013 | 200                       |           |           |
| Tensile strength / (N/mm <sup>2</sup> ) ≥ | EN 12311-2:1999 | 8                         |           |           |