

## **STRUCT GUARD – TPO**

### **(TPO membrane scrim reinforced)**

#### **DESCRIPTION:**

STRUCT GUARD- TPO is a high performance, heat weldable, scrim reinforced thermoplastic polyolefin (TPO) sheet, manufactured and supplied in thickness of 1.2/1.5mm, designed for waterproofing, and heat shielding roofs of new and existing PEB Buildings.

High mechanical properties of the membrane ensure superior puncture resistance, breaking and tearing strength, while enabling excellent heat weld for fusion along the edges. Based on advanced polymer chemistry, the membrane is designed for weather resistance, sustaining cycles of hot, cold wet and dry environmental condition.

#### **AREAS OF APPLICATION:**

- PEB ROOFS
  - Factory sheds
  - Warehouse & cold Storages
  - Airports, Railways, Metro & Bus transit stations
- GREEN ROOFS

#### **ADVANTAGES:**

- Supplied in pre-manufactured standard thickness. No thickness variation unlike systems. liquid applied.
- Outstanding puncture resistance, high breaking and tearing strength.
- Chlorine free, plasticizer free, phthalate free, safe for humans.
- Resistance to heat, UV, ozone, bacteria, chemical, acid corrosion.
- Continuous serviceability from 30°C- 100°C).
- Resistance to root penetration, suitable for green roofs and below ground application.

**TECHNICAL SPECIFICATIONS:**

PROPERTY	ASTM D638	STRUCT GUARD TPO (1.2 RF)	STRUCT GUARD TPO (1.5 RF)
Nominal thickness   mm: ASTM D751	0.99 MIN.	1.2 ± 10%	1.5 ± 10 %
Thickness Over Scrim   %; ASTM D 7635	> 30% of total thickness	35% Min	35% Min
Typical Weight   Kg/m2	NA	1.28 ± 10%	1.60 ± 10%
Breaking Strength   LBF; MD/TD; ASTM D 751 GRAB METHOD	220 Min	225 Min 250 Typical	230 Min 260 Typical
Elongation at Break   %, MD/TD; ASTM D 751	15% Min	15 Min 25 Typical	15 Min 25 Typical
Tearing Strength   LBF; MD/TD; ASTM D 751	55 Min	55 Min 70 Typical	55 Min 70 Typical
Brittleness Point   °C; ASTM D 2137	-40°C	Pass	Pass
Linear Dimensional Change   %; 6hrs @ 70°C; ASTM D 1204	± 1% Max	< 1%	< 1%
Ozone Resistance   100 pphm, 168 hrs; ASTM D 1149	No Cracks @ 7% Magnification	Pass	Pass
Water Absorption   %; 66 hrs @ 70°C TOP; ASTM D471	± 3% Max	< 3.0%	< 3.0%
Factory Seam Strength   LBF; ASTM D 751 GRAB METHOD	66 Min	66 Min 80 Typical	66 Min 80 Typical
Water Vapor Permeance   Perms; ASTM E96,	No requirement	0.10 Max	0.10 Max
Puncture Resistance   LBF; FTM 101C	No requirement	250	300
Properties after Heat Ageing   32weeks @ 115°C; ASTM D 573 1. Breaking Strength (LBF) 2. Elongation Retention 3. Weight change (%) 4. Tearing Strength (LBF)	Retention 90% Min 90% Min ± 1.0 Max 60% Min	Pass	Pass
Weather Resistance   KJ/(m2 .mm); ASTM G155	10,080 Min	> 21,600	> 21,600
Solar Reflectance Index	No requirement	100	100
Reflectivity   ASTM C1549	No requirement	0.79	0.79
Emissivity   ASTM C1371	No requirement	0.909	0.909



### PRODUCT SPECIFICATIONS:

Roll Details	Thickness (mm)	1.2	1.2	1.5	1.5
	Width (mm)	1.6	2.0	1.6	2.0
	Length (mtr)	20	20	20	20
	Weight (Kg)	43	53	53	66
Coverage	The dimensions of the membrane are calculated to cover the substrate, including seam overlaps standard seams: 75 mm: seams with mechanical anchoring: 150 mm upstands: additional length of 150 mm.				

### SHELF LIFE:

Shelf life is 8-10 years.

### STORAGE:

Store membranes in dry & clean conditions and in their original, closed wrapping away from source of chemical contamination, damage, ignition source and open flame.

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