FLEXGUARD TPO

(TPO) WATERPROOFING MEMBRANE

Thermoplastic polyolefin (TPO) waterproofing membrane is a new type of water-proof coil produced by a single extrusion process without any plasticizers, using polyolefin polymer synthetic resin and EPDM as the base material, with antioxidant test, anti-aging agent, UV absorbent and other fillers. It has both fiexibility and weldability. Polyester fiber mesh cloth can be added as reinforcement material, made of enhanced waterproof material.

PRODUCT STRUCTURE

- ⟵ Polymer resin sheet Internally
- ⟵ Reinforced fabrics
- ⟵ Polymer resin sheet

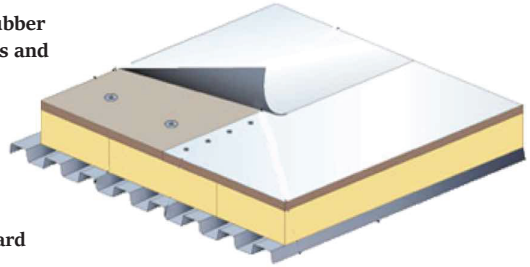
PRODUCT SPECIFICATION

Thickness	Width/ft.	Length/ft.
.45	5,6,10	≥50
.60	5,6,10	≥50
.80	5,6,10	≥50

PRODUCT FEATURES

Raw materials

Made of high quality polypropylene and rubber co polymerization, there are no plasticizers and other harmful substances in McGuires Flexguard TPO



McGuire Flexguard TPO has excellent age resistance. It also maintains flexibility in-40c temperatures and does not become hard and brittle.

Excellent Quality

The shrink rate of McGuire FlexGuard TPO is very low, the material is strong, highly impact resistant, puncture resistance and holds a long service life.

Convenient Construction

Roofing Assembly is made simple with McGuire FlexGuard TPO, This product is easy to weld and efficient providing a strong seam connection. Seam peel strength is high, creating a sealed waterproof layer

Product Type

Smooth (Category H),
Fiber fleece- backed (Category L),
Reinforced with polyester scrim (Category P)

Application Scope

New and repaired single sheet metal roofing. Newly built and repaired single layer concrete roofing.

IMPLEMENTATION STANDARDS

Product implementation GB 27789-2011 {{ Thermoplastic polyolefin (TPO) waterproofing membrane}} standard

ITEM		VALUE		
		H	L	P
Thickness of resin attaching to cmbedded scrim / mm ≥		—	—	0.4
Tensile Property	Max tensile force / (N/cm) ≥	—	200	250
	Tensile strength / MPa ≥	12.0	—	—
	Elongation at break / % ≥	500	250	—
Dimensional Variation after heating / 100% ≥		20	1.0	0.5
Low temperature flexibility		-40°C no crack		
Impermeability		0.3MPa 2h impermeable		
Compression resistance		0.5kg. m no pernetration		
Tear strength of overlapping / (N/cm) ≥		4.0	3.0	
Water absorption (70°C 168h) / % ≥		4.0		
Heat aging (80°C)	Time duration	672h		
	Appearance	No bubble, crack, delamination, or pinhole		
	Retention rate of max tensile force / % ≥	—	90	90
	Retention rate of tensile strength / % ≥	90	—	—
	Retention rate of elongation at break/ % ≥	90	90	—
	Low temperature flexibility	-40°C no crack		
Chemical resistance	Appearance	No bubble, crack, delamination, or pinhole		
	Retention rate of max tensile force / % ≥	—	90	90
	Retention rate of tensile strength / % ≥	90	—	—
	Retention rate of elongation at break/ % ≥	90	90	—
	Low temperature flexibility	-40°C no		
Artificial Weathering	Time duration	crack 1500h		
	Appearance	No bubble, crack, delamination, or pinhole		
	Retention rate of max tensile force / % ≥	—	90	90
	Retention rate of tensile strength / % ≥	90	—	—
	Retention rate of elongation at break/ % ≥	90	90	—
	Low temperature flexibility	-40°C no crack		

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METHOD OF APPLICATION

Substrates must be clean, dry, smooth, and free of sharp edges, fins, loose or foreign materials, oil, grease, and other materials that may damage the membrane.

All rough surfaces that can damage the membrane shall be repaired as specified to offer a smooth substrate.

All surface voids greater than 1/4" (6.3mm) wide should be properly filled with an acceptable fill material.
McGuire FlexGuard TPO waterproofing membrane is installed as a continuous roofing or waterproofing layer on the roof. Rolls are over lapped (side laps and end laps) prior to heat welding the seam areas.
Install the McGuire FlexGuard TPO in accordance with current McGuire FlexGuard TPO specifications, details and workmanship requirement

Product Advantages

- Enhanced chemical resistance
- Can increase a building's energy efficiency
- Excellent heat weldability
- Exceptional low-temperature flexibility
- Highly resistant to punctures, UV, ozone and oxidation

FM APPROVED

Property	ASTM Standard	Perfomance Minimum	Typical Perfomance 45 Mil	Typical Perfomance 60 Mil
Overall Thickness	D751	0.039" (1mm)	0.045" (1.14 mm) ±1096	0.060" (1.52 mm) ±1096
Coating over Scrim	D 7635	0.015" (0.38mm)	0.017" (0.43mm)	0.021" (0.53mm)
Breaking Strength	D 751, Grab Method	220 lbf (979 N)	340 lbf (1,512 N)	390 lbf (1,735 N)
Elongation of ReInforcement Break	D 751, Grab Method	1596	2596	2596
Tearing Strength	D751	55 lbf (245 N)	120 lbf (534 N)	120 lbf (534 N)
Brittleness Point	D2137	-40°f (-40°C)	Pass	Pass
Ozone Resistance No Cracks	D1149	Pass (No Cracks)	Pass	Pass
Properties After Heat Aging (Retalned Values) ASTM D 573-5376 h (224 days or 32 weeks) at 240°F (116°C)				
Breaking Strength	D 751 Grab Method	9096 Minimum	> 9096	> 9096
Elongation at Break	D 751 Grab Method	9096 Minimum	> 9096	> 9096
Tearing Strength	D 751	9096 Minimum	> 9096	> 9096
Weight of Change		± 196 Minimum	<196	<196
Linear Dimension Change	D 1204 6 hat 158°F (70°C)	± 196 Minimum	<196	<196
Water absorption	D 471	± 396 Minimum	<396	<396
Weather Resistance, 176 °F (80°C) Black Panel, no cracking, crazing when wrapped around a 3" (76.2 mm) mandrel and Inspected at 7X magnification	G 155	10,800 KJ/m2 Minimum	<60,000 kJ/m2	<60,000 kJ/m2
Puncture Reststance	FTM 101C, Method 2031	—	265 (1,180)	300 (1,300)
Dynamic Puncture Resistance MD	D 5635	—	Pass (20 J)	Pass (40 J)
Dynamic Puncture Resistance CD	D 5635	—	Pass (35 J)	Pass (50 J)
Static Puncture Resistance	D 5602	—	Pass (25 kg)	Pass (25 kg)
Air Permeance (Material)	E 2178*	< 0.004 ft3/ft2 (0.02L/(s*m2)	Pass	Pass