

# TECHNICAL INFORMATION SHEET

## UltraPly™ TPO Membrane

Item Description  
1 Roll

Item Number  
Various



Meets or exceeds ASTM D 6878.

### Product Information

#### Description:

Firestone UltraPly TPO is a flexible Thermoplastic Polyolefin roofing membrane that is produced with polyester weft-inserted reinforcement. UltraPly TPO membrane meets or exceeds all requirements for ASTM D 6878 Specification. This heat weldable TPO membrane is available in 45 mil (1.14 mm) and 60 mil (1.52 mm) thicknesses. This reflective membrane is suitable for a variety of low-slope applications.

#### Method of Application:

1. 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.
2. All roughened surfaces that can damage the membrane shall be repaired as specified to offer a smooth substrate.
3. All surface voids greater than ¼" (6.3 mm) wide shall be properly filled with an acceptable fill material.
4. Firestone UltraPly TPO membrane is installed as continuous roofing or waterproofing layer on the roof. Rolls are overlapped (side laps and end laps) prior to the heat welding of the seam areas.
5. Install the UltraPly TPO Roofing System in accordance with current Firestone UltraPly TPO specifications, details and workmanship requirements.

#### Storage:

- Store away from sources of punctures and physical damage.
- Assure that structural decking will support the loads incurred by material when stored on rooftop. The deck load limitations should be specified by the project designer.
- Store away from ignition sources as membrane will burn when exposed to open flame.

#### Precautions:

- Refer to Safety Data Sheets (SDS) for safety information.
- Exercise caution when lifting, moving, transporting, storing or handling membrane rolls to avoid sources of punctures and possible physical damage.
- Contact your Building Systems Advisor at 1-800-428-4511 for specific recommendations regarding chemical or waste product compatibility with Firestone UltraPly TPO Membrane.

#### LEED® Information:

Post Consumer Recycled Content: 0%  
Pre-Consumer Recycled Content: 15%  
Manufacturing Location: Wellford, SC  
Tuscumbia, AL

NOTE: LEED® is a registered trademark of the U.S. Green Building Council.



ICC-ES  
ESR-2831

CCMC 13348-R

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### Typical Properties (Meets or exceeds ASTM D 6878 Specification)

Property	ASTM Standard	Performance Minimum	Typical Performance 45 mil	Typical Performance 60 mil
Overall Thickness:	D 751	0.039" (1 mm)	0.045" (1.14 mm) ± 10%	0.060" (1.52 mm) ± 10%
Coating over Scrim:	D 7635	0.015" (0.38 mm)	0.017" (0.43 mm)	0.021" (0.53 mm)
Breaking Strength:	D 751, Grab Method	245 lbf (979 N)	340 lbf (1,512 N)	390 lbf (1,735 N)
Elongation of Reinforcement Break:	D 751, Grab Method	15%	25%	25%
Tearing Strength:	D 751	55 lbf (245 N)	120 lbf (534 N)	120 lbf (534 N)
Brittleness Point:	D 2137	-40 °F (-40 °C)	Pass	Pass
Ozone Resistance, No Cracks:	D 1149	Pass (No Cracks)	Pass	Pass
<b>Properties After Heat Aging (Retained Values) (ASTM D 573-5376 h (224 days or 32 weeks) at 240 °F (116 °C)):</b>				
Breaking Strength:	D 751, Grab Method	90% Minimum	> 90%	> 90%
Elongation at Break:	D 751, Grab Method	90% Minimum	> 90%	> 90%
Tearing Strength:	D 751	60% Minimum	> 60%	> 60%
Weight of Change:		± 1% Maximum	< 1%	< 1%
Linear Dimension Change:	D 1204, 6 h at 158 °F (70 °C)	± 1% Maximum	< 1%	< 1%
Water Absorption:	D 471	± 3% Maximum	< 3%	< 3%
Weather Resistance, 80 °C Black Panel, no cracking, crazing when wrapped around a 3" mandrel and inspected at 7X magnification:	G 155	10,080 kJ/m <sup>2</sup> Minimum	> 60,000 kJ/m <sup>2</sup>	> 60,000 kJ/m <sup>2</sup>
Puncture Resistance:	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 ft <sup>3</sup> /ft <sup>2</sup> (0.02 L/(s*m <sup>2</sup> ))	Pass	Pass

\*The ASTM 2178 values listed are for the air permeance of the UltraPly TPO Membrane component only. For use of the product as a component in an air barrier assembly, please consult your Firestone Building Systems Advisor (BSA), Code Agency or Authority having Jurisdiction (AHJ) for the acceptable air barrier assembly details.

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## UltraPly™ TPO Membrane

### Product Sizes

<b>Membrane Thickness:</b> 0.045" (1.14 mm) <b>Membrane Weight:</b> 0.23 lb/ft <sup>2</sup> (1.1 kg/m <sup>2</sup> )			<b>Membrane Thickness:</b> 0.060" (1.52 mm) <b>Membrane Weight:</b> 0.31 lb/ft <sup>2</sup> (1.5 kg/m <sup>2</sup> )		
<u>Available Sizes</u>		<u>Available Colors</u>	<u>Available Sizes</u>		<u>Available Colors</u>
5' x 100'	(1.5 x 30.5 m)	White, Tan, Gray	5' x 100'	(1.5 x 30.5 m)	White, Tan, Gray
5' x 200'	(1.5 x 61 m)	White	5' x 200'	(1.5 x 61 m)	White
6' 2" x 100'	(1.9 x 30.5 m)	White, Tan, Gray	6' 2" x 100'	(1.9 x 30.5 m)	White, Tan, Gray
8' x 100'	(2.4 x 30.5 m)	White, Tan, Gray	8' x 100'	(2.4 x 30.5 m)	White, Tan, Gray
8' x 200'	(2.4 x 61 m)	White	8' x 200'	(2.4 x 61 m)	White
10' x 100'	(3.0 x 30.5 m)	White, Tan, Gray	10' x 100'	(3.0 x 30.5 m)	White, Tan, Gray
10' x 200'	(3.0 x 61 m)	White	10' x 200'	(3.0 x 61 m)	White
12' 4" x 100'	(3.8 x 30.5 m)	White, Tan, Gray	12' 4" x 100'	(3.8 x 30.5 m)	White, Tan, Gray
12' 4" x 200'	(3.8 x 61 m)	White	12' 4" x 200'	(3.8 x 61 m)	White

### Radiative Properties

<b>Cool Roof Rating Council (CRRC): Initial / 3 yr</b>	<b>White</b>	<b>Tan</b>	<b>Gray</b>
Solar Reflectance	0.79 / 0.68	0.61 / 0.55	0.34 / 0.34
Thermal Emittance	0.85 / 0.83	0.81 / 0.84	0.89 / 0.88
Solar Reflectance Index (SRI)	98 / 81	71 / 63	37 / 36
Rated Product ID	0008	0015	0032
Licensed Manufacturer ID	0608	0608	0608
Classification	Production Line	Production Line	Production Line
<b>ENERGY STAR®: Initial / 3 yr</b>	<b>White</b>		
Solar Reflectance	0.79 / 0.78*	---	---
Thermal Emittance	0.85		
* White membrane sample cleaned prior to age test.			
<b>LEED®</b>	<b>White</b>	<b>Tan</b>	<b>Gray</b>
Solar Reflectance – ASTM E 903	0.81	0.63	0.37
Thermal Emittance – ASTM E 408	0.95	0.95	0.95
Solar Reflectance Index (SRI) – ASTM E 1980	102	77	43



ENERGY STAR is only valid in the United States



Please contact Firestone Technical Services Department at 1-800-428-4511 for further information.

*This sheet is meant to highlight Firestone products and specifications and is subject to change without notice. Firestone takes responsibility for furnishing quality materials which meet published Firestone product specifications. Neither Firestone nor its representatives practice architecture. Firestone offers no opinion on and expressly disclaims any responsibility for the soundness of any structure. Firestone accepts no liability for structural failure or resultant damages. Consult a competent structural engineer prior to installation if the structural soundness or structural ability to properly support a planned installation is in question. No Firestone representative is authorized to vary this disclaimer.*