

## TECHNICAL INFORMATION SHEET

### UltraPly™ TPO XR Membrane

**Item Description**

**Item Number**

**UltraPly TPO XR 100 (45 mil)**

- White Membrane
- Tan Membrane
- Gray Membrane

W56TXR3099  
W56TXRT099  
W56TXRG099

**UltraPly TPO XR 115 (60 mil)**

- White Membrane
- Tan Membrane
- Gray Membrane

W56TXR3699  
W56TXRT699  
W56TXRG699

**Meets or exceeds ASTM D 6878**

### Product Information

**Description:**

Firestone UltraPly TPO XR Membrane is a flexible Thermoplastic Polyolefin (TPO) roofing membrane that is produced with polyester weft-inserted reinforcement and an 8-ounce polyester fleece backing. UltraPly TPO XR Membrane meets or exceeds all requirements for ASTM D 6878 Specification. This heat weldable UltraPly TPO membrane is available in 45 mil (1.14 mm) and 60 mil (1.52 mm) thicknesses. This membrane is ideal for a variety of new or re-roofing 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 rough 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. UltraPly TPO XR membrane may be fully adhered using Firestone XR Bonding Adhesive, I.S.O.Spray™ R Insulation Adhesive or hot asphalt; or adhered in adhesive beads using XR Stick™ Adhesive. UltraPly TPO XR Membrane can also be mechanically attached.

**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:**

- Review 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 Firestone Technical Services Advisor at 1-800-428-4511 for specific recommendations regarding chemical or waste product compatibility with Firestone UltraPly TPO XR Membrane.

**LEED® Information:**

Post-Consumer Recycled Content: 0%  
 Post Industrial Recycled Content: 15%  
 Manufacturing Location: Tuscumbia, AL

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



ICC-ES  
ESR-2831



# TECHNICAL INFORMATION SHEET

## UltraPly™ TPO XR Membrane

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

Property	ASTM Standard	Performance Minimum	Typical Performance XR 100: 45 mil	Typical Performance XR 115: 60 mil
Overall Thickness:	D 751	0.039" (1.0 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	220 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, 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/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	_____	_____	_____
Dynamic Puncture Resistance MD:	D 5635	_____	Pass (60 J)	Pass (65 J)
Dynamic Puncture Resistance CD:	D 5635	_____	Pass (55 J)	Pass (65 J)
Static Puncture Resistance:	D 5602	_____	Pass (25 kg)	Pass (25 kg)
Air Permeance (Material):	E 2178*	ft <sup>3</sup> /ft <sup>2</sup> (L/(s·m <sup>2</sup> ))	< 0.004 (0.02)	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.

## TECHNICAL INFORMATION SHEET

### UltraPly™ TPO XR Membrane

#### Product Sizes

<b>Membrane Thickness – TPO XR 100:</b> 0.045" (1.14 mm) <b>Membrane Weight:</b> 0.27 lb/ft <sup>2</sup> (1.3 kg/m <sup>2</sup> )		<b>Membrane Thickness – TPO XR 115:</b> 0.060" (1.52 mm) <b>Membrane Weight:</b> 0.32 lb/ft <sup>2</sup> (1.6 kg/m <sup>2</sup> )	
Available Sizes	Available Colors	Available Sizes	Available Colors
10' x 100' (3.0 m x 30.5 m)	White, Tan, Gray	10' x 100' (3.0 m x 30.5 m)	White, Tan, Gray

#### Radiative Properties

Cool Roof Rating Council (CRRC): Initial / 3 yr	White	Tan	Gray
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
ENERGY STAR®: Initial / 3 yr	White		
Solar Reflectance	0.79 / 0.78*	---	---
Thermal Emittance	0.85		
* White membrane sample cleaned prior to age test.			
LEED®	White	Tan	Gray
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 or other technical documents, subject to normal roof manufacturing tolerances. 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.*