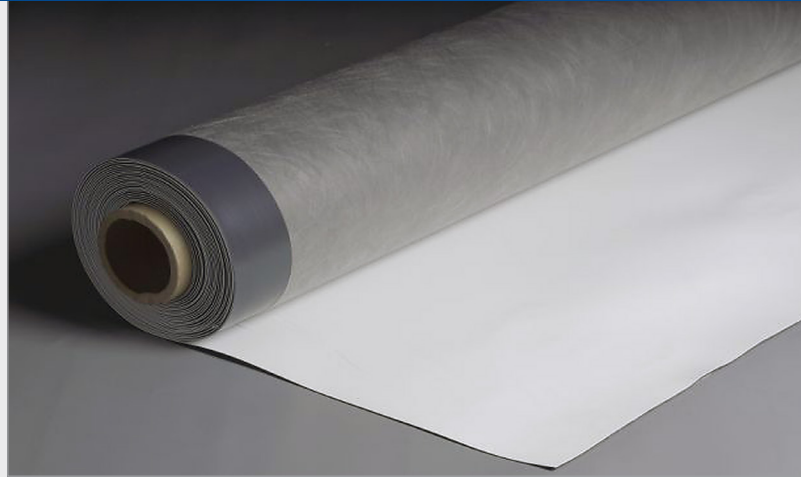


### Product Description

Kingspan TPO FB (fleeceback) Membrane is a Thermoplastic Polyolefin roofing membrane reinforced with a polyester, weft-inserted scrim laminated to a polyester fleece backing. The membrane is formulated to maximize reflectivity, flexibility, and long-term performance in low-slope commercial roofing, reroofing, or recovery applications. Kingspan TPO FB membrane meets all ASTM D 6878 requirements and is available in white, grey, or tan at 115-mil thickness and white or grey at 135-mil thickness.



### Manufactured in the U.S.A.

All Kingspan TPO FB membranes are manufactured in the U.S.A. with globally sourced materials.



### Features & Benefits

- **Built for Lasting Performance:** Kingspan TPO FB membrane is among industry-leaders based on results of the ASTM Standard D 6878 Thickness Over Scrim Test (ASTM D 7635).
- **Most Durable Kingspan TPO Membrane:** The polyester fleece backing maximizes puncture resistance and provides more recovery options including installation directly over existing roofing systems.
- **Highly Reflective Membrane** reduces heat absorption and lowers energy costs.
- **Weatherability & Strength:** UV & Ozone resistance as well as puncture resistive with high tearing strength.
- **Installer-Friendly Weldability & Flexibility:** wide weld temperature window supports any level of installer experience and flexible formulation provides the installer more membrane workability during the installation.
- **Performance Tested:** FM and UL tested assemblies along with CRRC ratings. Also compliant with California Title 24.

- **Multiple Color Options:** Available in white, grey, or tan at 115-mil thickness and white or grey at 135-mil thickness.
- **Kingspan Warranty options** up to 30 years to protect your investment.

### System Installation Options

- **Mechanically Attached System** – most common attachment method whereby fasteners and plates are used to attach the membrane to the roof deck in accordance with Kingspan’s TPO FB fastening rate requirements.
- **Adhered System** – attachment method where adhesive is utilized to adhere the membrane to an approved Kingspan substrate.

### Codes & Approvals



## Application

- Install the Kingspan TPO FB membrane in accordance with Kingspan specifications and requirements. Reference the Kingspan Application Guide for additional details.

## Safety Precautions

- Use proper equipment and assistance when moving, lifting, handling, or transporting membrane rolls to avoid personal injury as well as damage to the membrane.
- Reference the Kingspan product Safety Data Sheet for additional safety information.

## Storage

- Store the Kingspan TPO FB Membrane away from objects that could cause physical damage or create punctures as well as ignition sources. The membrane is flammable and will catch fire when exposed to open flame.

## Radiative Properties & Energy Tested Metrics

### CRRC®

The Cool Roof Rating Council (CRRC) focuses on the radiative properties of roofing and exterior wall materials, specifically solar reflectance (how well a surface reflects sunlight) and thermal emittance (how well a surface releases absorbed heat). These properties, along with the Solar Reflectance Index (SRI), are used to evaluate how well a roofing material can help reduce heat gain in buildings.

Kingspan TPO FB Membrane		Reflectivity	Emissivity
White	Initial	0.77	0.87
	3 Yr. Aged	0.70	0.86
Grey	Initial	0.35	0.87
	3 Yr. Aged	0.34	0.90
Tan	Initial	0.67	0.87
	3 Yr. Aged	0.62	0.90

### California Title 24

California Title 24, also known as the California Energy Code, sets building energy efficiency standards for residential and commercial buildings by the California Energy Commission. Title 24 aims to reduce wasteful energy use, conserve resources, and extend renewable resources.

Kingspan TPO FB Membrane		Reflectivity	Emissivity
White	Pass	0.77	0.87
Tan	Pass	SRI = 75	
	3 Yr. Aged		

### LEED® Information

Kingspan TPO FB Membrane		Solar Reflectance Index* (ASTM E 1980)
White	Initial	95
	3 Yr. Aged	85
Grey	Initial	39
	3 Yr. Aged	37
Tan	Initial	81
	3 Yr. Aged	75

- Kingspan TPO FB Recycled Content
  - Post-Consumer: 0%
  - Post-Industrial: 5%

## Evaluated Physical Properties

### Physical Properties (ASTM D 6878)

Properties	ASTM Test Method	Standard for ASTM D 6878 (Minimum)	Kingspan TPO FB 115 mil		Kingspan TPO FB 135 mil	
			MD	CMD	MD	CMD
Breaking Strength	D 751, Grab Method	220 lbf (976 N)	499 lbf (2,220 N)	450 lbf (2,002 N)	545 lbf (2,424 N)	508 lbf (2,260 N)
Elongation of Reinforcement Break	D 751, Grab Method	15%	29%	27%	33%	33%
Tearing Strength	D 751	55 lbf (245 N)	91 lbf (405 N)	146 lbf (649 N)	64 lbf (285 N)	185 lbf (823 N)
Factory Seam Strength	D 751	66 lbf (290 N)	171 lbf (761 N)		171 lbf (761 N)	
Overall Thickness	D 751	± 10% from nominal	0.060" (nominal)		0.080" (nominal)	
Thickness Over Scrim	D 7635	0.015"	0.027"		0.033"	
Water Absorption (max)	D 471	3.00%	0.08%		0.42%	
Brittleness Point	D 2137	-40°F (no cracks)	Pass		Pass	
Properties After Heat Aging @ 240°F	D 573	Pass/Fail	Pass		Pass	
Breaking Strength (after heat aging)	D 751	90%	> 90%	> 90%	> 90%	> 90%
Elongation (after heat aging)	D 751	90%	> 90%	> 90%	> 90%	> 90%
Tearing Strength (after heat aging)	D 751	60%	> 60%	> 60%	> 60%	> 60%
Weight Change (max after heat aging)	D 751	±1.0%	0.25%		0.25%	
Linear Dimensional Change (max)	D 1204 (after 6 hours @ 158°F)	±1.0%	< 0.2%		< 0.1%	
Accelerated Weathering	G 151 & G 155	10,080 kJ/(m <sup>2</sup> • nm) @340 nm	10,080 kJ/(m <sup>2</sup> • nm)		10,080 kJ/(m <sup>2</sup> • nm)	
Cracking (7x magnification)	G 155	No Cracks	Pass		Pass	

Values are provided in MD (machine direction) and CMD (cross-machine direction).

### Additional Physical Properties Testing

Properties	ASTM Test Method	Kingspan TPO FB 115 mil	Kingspan TPO FB 135 mil
Dynamic Puncture	D 5635	Pass @ 27.5 Joules	Pass @ 35 Joules
Static Puncture	D 5602	Pass @ 44 lb (20kg)	Pass @ 44 lb (20kg)
Reflectance (white membrane)	C 1549	78%	
	E 903	80%	
Emittance (white membrane)	C 1371	0.87	
	E 408	0.96	
Solar Reflectance Index (SRI) (white membrane)	E 1980	95	
Ozone Resistance	D 1149	Untested	Pass
Impact Resistance of Bituminous Roofing Systems	D 3746	Untested	Pass – minor indentations

## Product Sizes

### Kingspan TPO FB Membrane – 115 mil Thickness

SKU	Description	Roll Coverage
600000001487	Kingspan TPO FB 115 Membrane 10' x 100' White	1,000 sq. ft.
600000001488	Kingspan TPO FB 115 Membrane 10' x 100' Grey	1,000 sq. ft.
600000001502	Kingspan TPO FB 115 Membrane 10' x 100' Tan	1,000 sq. ft.

### Kingspan TPO FB Membrane – 135 mil Thickness

SKU	Description	Roll Coverage
600000001503	Kingspan TPO FB 135 Membrane 10' x 50' White	500 sq. ft.
600000001504	Kingspan TPO FB 135 Membrane 10' x 50' Grey	500 sq. ft.

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