



## Thermoplastic Single Ply and Multi-Ply Roofing Systems

2670 Leisz's Bridge Road, Suite 400, Leesport, PA 19533 Phone (610) 916-9500 Fax (610) 916-9501

### **FLEX TPO FLEECE BACKED PLUS DATA SHEET** **45 MIL FB and 60 MIL FB TPO MEMBRANES**

#### **DESCRIPTION:**

Flex TPO Plus FB polyester reinforced thermoplastic polyolefin (TPO) fleece backed roofing membranes are designed for use in new or reroofing roofing systems. The Flex TPO Plus FB membranes are available in 45 mil and 60 mil nominal thicknesses and in widths of 6' and 12' for economical installations. The 6' wide membrane is manufactured in a 100' long roll while the 12' wide is manufactured in roll lengths of 50' or 100'. The Flex TPO Plus FB membranes are available in 3 standard colors white, tan and gray. Flex TPO Plus FB membranes offer the proven weathering resistance of rubber (derived from its high ethylene propylene rubber content) combined with the thermoplastic properties of polypropylene. The combination results in a roofing membrane with hot air welded seams and the durability of EPDM roofing membranes. The Flex TPO Plus FB membranes polyester reinforcement allows for structural movement with no splitting or cracking. The combination of the reinforcing scrim, fleece backing and the TPO membrane provide Flex TPO Plus FB membrane with high breaking strength, tearing strength and puncture resistance. The specially formulated membrane offers excellent resistance to solar UV and chemical exposure as well as remaining flexible in cold temperatures.

#### **USE:**

Flex TPO Plus FB membranes can be installed in new, reroof (tear-off) and recover roof constructions. In recover construction, if the existing roof is structurally acceptable, the Flex roof system can save the cost of disposing of the original roof system. Flex TPO Plus FB membranes can be installed adhered directly over layers of approved roof board insulation or cover boards. The Flex TPO Plus FB membrane may also be secured to the deck using an approved mechanically fastened system utilizing methods that have been independently tested for wind uplift. The Flex TPO Plus FB membranes are true thermoplastics, therefore all seams are sealed by the hot air welding method creating a seam as strong as the original membrane.

#### **FEATURES:**

- Excellent low temperature impact resistance
- No Halogenated Flame Retardants
- Plasticizer Free – Chlorine Free
- Recyclable environmentally friendly product
- Chemically resistant to acids, bases, and restaurant exhaust emissions
- White and Tan Flex TPO Plus FB Membranes LEED™ Qualified
- White and Tan Flex TPO Plus FB Membranes are Energy Star® roof products

#### **INSTALLATION:**

The roofing system must be installed by an authorized Flex Roofing Systems TPO applicator. The Flex applicator must inspect the area to be roofed to determine if the installation of a Flex Roof System is acceptable. The substrate must be clean, smooth, dry, free of flaws, debris and other irregularities. Follow Flex Specifications and NRCA recommendations for installation of wood nailers around perimeters and penetrations. Install approved insulation according to Flex's standard fastening requirements or applicable code whichever is more stringent. The membrane is mechanically attached using the disk and fastener in the seam method. Fastener spacing increments are determined by the projects specification criteria and or printed guide specifications. For adhered systems, the membrane is laminated to the appropriate substrate using Flex Fleeceback Substrate Adhesive. All seams are

completed by the hot air welding method. Contact the Flex Technical Service Department for the specific design requirements and installation procedures for these two systems.

### **MEMBRANE SPECIFICATIONS**

**MEMBRANE:**

Reinforced .045 inch and .060 inch thick Thermoplastic Polyolefin (TPO) FB membrane conforms to the following physical properties. Field membrane sheets are available in rolls 12' x 100', 12' x 50' and 6' x 100'. Membrane is available in white, gray or tan.

<u>Properties</u>	<u>Test Method</u>	<u>Value</u>	<u>Physical Properties</u>	
Color			White, Tan, Gray	
Roll Size			6' x 100', 12' x 50', 12' x 100'	
Weight			0.27 lb./ft <sup>2</sup> (45 mil), .35 lb./ft <sup>2</sup> (60 mil)	
Thickness	ASTM D-751	± 10	45 mil nominal	60 mil nominal
Thickness over scrim	ASTM D-6878	0.012"	0.015"	0.020"
Breaking Strength	ASTM D-751	220 lbf	400 lbf	500 lbf
Seam Strength	ASTM D-1876	25 lbf	60 lbf	60 lbf
Elongation (min %)	ASTM D-751	15 %	25% typical	
Heat Aging	ASTM D-573	90%	> 90% typical	
Tear Strength	ASTM D-751 tongue method	55 lbf	130 lbf typical	
Puncture Resistance	FTM 101C 2031	350 lbf.	450 lbf	500 lbf
Brittleness Point	ASTM D-2137	-40°C	Pass	
Linear Dimensional Change	ASTM D-1204	± 1 %	- 0.2 % typical	
Water Absorption	ASTM D-471	± 3 % max.	2.0% typical	
Ozone Resistance	ASTM D1149	No Cracks	Pass	
Weather Resistance	ASTM G-155	No Cracks	Pass	
Flex TPO Plus membranes meet or exceed the requirements of ASTM 6878 Standard Specification for Thermoplastic Polyolefin (TPO) Based Sheet Roofing.				

### **SOLAR ENERGY RADATIVE PROPERTIES**

<b>Property</b>	<b>Test Method</b>	<b>White TPO</b>	<b>Tan TPO</b>	<b>Gray TPO</b>
Solar Reflectance	ASTM E903	0.80	0.66	0.25
Thermal Emittance	ASTM E408	0.95	0.95	0.95
SRI (solar reflectance index)	ASTM E 1980	110	84	55