



## **FLEX FB 45 TPO PLUS ROOF MEMBRANE** **(FLEECE BACKED, REINFORCED, THERMOPLASTIC POLYOLEFIN MEMBRANE)**

### **PRODUCT DESCRIPTION**

The Flex FB 45 TPO Plus (thermoplastic polyolefin) polyester reinforced fleece backed roofing membranes are designed for use in new or re-roofing roofing systems. The Flex FB TPO Plus membranes are manufactured in widths of 5' and 10' x 100' for economical installations. The Flex FB 45 TPO Plus membranes are available in 3 standard colors white, tan and gray. Flex FB 45 TPO Plus 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 FB 45 TPO Plus 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 FB 45 TPO Plus 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 FB 45 TPO Plus membrane can be installed in new, re-roof (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 FB 45 TPO Plus membranes can be adhered directly over layers of approved roof board insulation or cover boards. The Flex FB 45 TPO Plus 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 FB 45 TPO Plus 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.
- Available in White, Gray or Tan.
- White and Tan Flex FB TPO Plus Membranes are LEED™ Qualified.
- White and Tan Flex FB TPO Plus 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 and 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 Fleece Back Substrate Adhesive. All seams are completed by the hot air welding method. All non-factory cut edges must be sealed with Flex Clear TPO Cut-Edge Sealant. Contact the Flex Technical Service Department for the specific design requirements and installation procedures for these two systems.

## **PHYSICAL PROPERTIES**

| <b><u>Property</u></b>        | <b><u>Test Procedure</u></b> | <b><u>Specification</u></b>                         |
|-------------------------------|------------------------------|---|
| Color                         |                              | white, gray or tan                                  |
| Roll Size                     |                              | 5'x100', 10'x100'                                   |
| Weight                        |                              | 10'x100' roll = 284 lbs.<br>5'x100' roll = 142 lbs. |
| Thickness                     | ASTM D751                    | 0.045"  |
| Thickness over scrim          | ASTM D751                    | 0.0158"   |
| Breaking Strength (lbf)       | ASTM D751                    | 375 x 330   |
| Seam Strength (lbf)           | ASTM D751                    | 115   |
| Elongation (min%)             | ASTM D751                    | 30%   |
| Heat Aging                    | ASTM D573                    | 100%  |
| Heat Aging                    | ASTM D573                    | 60 weeks  |
| Tear Strength (lbf)           | ASTM D751                    | 90 x 120  |
| Puncture Resistance           | FTMS 101C 2031               | >350 lbs.   |
| Cold Brittleness              | ASTM D2137                   | -40° C Pass   |
| Dimensional Change            | ASTM D1204                   | 0.2%  |
| Water Absorption              | ASTM D471                    | 0.7%  |
| Ozone Resistance              | ASTM D1149                   | Pass  |
| Weather Resistance            | ASTM G155                    | >20,000 Kj/m <sup>2</sup>                           |
| Permeance                     | ASTM E96                     | 0.08 perms  |
| Hydrostatic Resistance        | ASTM D751                    | 390 psi   |
| Reflectivity (white)          | ASTM C1549                   | 0.76  |
| Emissivity (white)            | ASTM C1371                   | 0.90  |
| SRI (solar reflectance index) | ASTM E1980                   | 94  |

Flex FB 45 TPO Plus membranes meet or exceed the requirements of ASTM 6878 Standard Specification for Thermoplastic Polyolefin (TPO) Based Sheet Roofing.

## **WARRANTY**

The Flex FB 45 TPO Roofing Membrane may receive the manufacturers standard five (5) year or optional ten (10) year or fifteen (15) year guarantee of watertightness.