



# TPA Single Ply Roof System

## A Thermoplastic Tri-Polymer Alloy Single Ply Roof Membrane System

**Composition:** TPA Roof Membrane is a white thermoplastic single ply roof membrane which is comprised of an elastomeric tri-polymer alloy based on Elvaloy® and blended with CPE and PVC. TPA Roof Membrane is reinforced with a high strength, wick resistant polyester fabric. TPA Roof Membrane contains a minimum 25% by weight of Preconsumer recycled content, which is blended into the black compound located below the reinforcing fabric. TPA Roof Membrane is asbestos free and exceeds the performance requirements of ASTM D 4434/D4434M-09, Type IV.

**Basic Uses:** TPA Roof Membrane is an elastomeric membrane that accepts roof movement and thermal shock. It can be used in a variety of single ply roof system configurations, such as mechanically attached, adhered and ballasted. TPA Roof Membrane is lapped and seamed using hot air heat welding equipment.

TPA Roof Membrane can be used in situations where other roof systems are not practical due to weight or slope considerations. TPA Roof Membrane provides excellent resistance to fire exposure in a variety of roof system configurations. TPA Roof Membrane resists a wide range of harmful pollutants, such as acid-rain, falling jet fuel, and other minor industrial pollutants. It can resist exposure to oil, grease, dirt, and the detergents used to remove these contaminants.

As an Energy Star Roof Star Roof Products Partner, Tremco Inc. has determined this product meets the Energy Star Roof Products Program guidelines for energy efficiency. Energy Star qualification is valid for Roofing products in the United States but not in Canada. Natural Resources Canada (NRCAN) has implemented an Energy Star Program which currently does not include roofing products.

A white TPA single ply roof system meets the requirements of California's Title 24 Energy Efficiency Standards for Residential and Non-Residential Buildings and has been tested per the standards of the Cool Roof Rating Council.

**Limitations:**

- Positive drainage is required.
- The bottom, black embossed underside of the TPA membrane is not intended for use as the exposed side.

**Packaging:** TPA Roof Membrane is available in individual rolls or by the pallet, with 15 rolls/pallet. (10 rolls/pallet for 60 mil TPA)

**Membrane Color:** White (black embossed underside). Custom colors such as gray and tan are available, but minimum order quantities are required.

**Dimensions:**

Thickness	Roll Size	Coverage (As Applied)	Weight
45 mil (1.14 mm)	78" x 108' (1981 mm x 32.9 m)	648 sq. ft. (60.2 sq.m)	220 lbs. (99.8 kg.)
	10' x 100'	950 sq. ft. (88.26 sq.m)	313 lbs.
60 mil (1.52 mm)	78" x 90' (1981 mm x 27.4 m)	540 sq. ft. (50.1 sq.m)	240 lbs. (108.8 kg.)
	10' x 100'	950 sq. ft. (88.26 sq.m)	410 lbs.
80 mil (2.03 mm)	78" x 75' (1981 mm x 22.8 m)	450 sq. ft. (41.8 sq.m)	255 lbs. (115.6 kg.)
	10' x 100'	950 sq. ft. (88.26 sq.m)	532 lbs.

**References:**

Factory Mutual Loss Prevention Data Sheets:

- 1-28 Design Wind Loads
- 1-29 Above Deck Roof Components
- 1-49 Perimeter Flashing

**APPLICATION DATA:**

Roof replacement usually involves more complexities than new construction roofing. Contingencies such as rusted or deteriorated decks, rotted wood components, rooftop equipment which cannot be moved or shut down, and numerous other conditions are often encountered.

The following application information is designed to serve as a general guide. Your local Tremco Representative will prepare detailed specifications based on the condition of your roof.

**Structural Deck:** Deck must be properly designed and structurally sound.

**Drainage:** Ponding conditions will adversely affect performance of any roofing system. Where positive drainage does not exist, water removal from roof surface should be facilitated by lowering drains, and/or installing additional drains, tapered insulation, or an approved lightweight insulating concrete slope system.

**Insulation:** Insulation must be dry and kept dry. No more insulation shall be installed than can be covered in that day. Use of FAS-n-FREE® Adhesive for solvent free, fastener free insulation attachment is the preferred method of securement unless otherwise specified.

**General Installation Procedures:** According to job specifications, prepare the surface to be covered:

- Remove loose aggregate.
- Replace areas of wet insulation, deteriorated deck and wood components.
- Provide air seal at perimeter, curbs, and penetration flashings.
- Attach new roof insulation according to job specifications.
- Clean insulation surface of loose dust/debris.

**Membrane Placement:** Plan the placement of TPA Roof Membrane to facilitate the fabrication of the least number of seams. Ensure that water flows over or along, but not against, the exposed edges.

		<b>Initial</b>	<b>Weathered</b>
	<b>Solar Reflectance</b>	0.86%	0.70
	<b>Thermal Emittance</b>	0.86	0.82
	Rated Product ID Number	0612-0007	
	Licensed Seller ID Number	0612	
	Classification	Production Line	
<p>Cool Roof Rating Council ratings are determined for a fixed set of conditions, and may not be appropriate for determining seasonal energy performance. The actual effect of solar reflectance and thermal emittance on building performance may vary.</p> <p>Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating Council procedures.</p>			

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### Installation of Mechanically Attached System:

- All field sheets incorporate 6" control lines for overlap and fastener placement.
- Start at the low point of the roof and position a half-width (39" or 991mm) roll of TPA Roof Membrane square with the roof edge. Avoid wrinkles. Reposition when necessary.
- Mechanically attach underlying sheet at the lap to the structural deck with fasteners and 2 3/8" (60 mm) diameter barbed membrane plates spaced at 6" (153 mm) on center (or as specified) down the entire lap with the disc centered 1-1/8" (29 mm) from the sheet edge.
- Overlap perimeter sheet at side lap: 4.5" (114 mm) minimum. Overlap at end lap: 3" (76 mm) minimum. Overlap field sheet 6" (153 mm) minimum.
- The minimum number of half-width rolls required at the perimeter is 2. Determine the perimeter width as described in Section 2.2 of Factory Mutual Loss Prevention Data Sheet 1-28. Consult your Tremco Representative for further information.
- Install the required number of half-width perimeter rolls along the roof edges both parallel and perpendicular to the roll direction in the field of the roof. Overlap perimeter sheets in the corner areas with perimeter fastener rows installed through both membranes in both directions. Install a minimum 6 inch (150 mm) wide cover strip centered over the fastener rows.

### Installation of Ballasted System:

- Mechanically attach or adhere the membrane in the perimeter areas, using the required number of half width rolls, as determined.
- Unless otherwise specified, minimum ballast coverage is 1000 lbs/SQ, using ASTM D 448-98, number 4, 3/4" to 1 1/2" (19mm to 28mm). Gravel ballast shall be smooth, water worn, with rounded edges and corners.
- During installation of ballast, do not create piles on the roof deck.

### Membrane Seaming:

- All surfaces must be clean and dry.
- For heat welding, allow the hot air welder to warm up. Insert the nozzle tip of the hot air welder into seam area. Move nozzle at a steady speed along the seam area, immediately applying pressure behind the air nozzle with a Neoprene roller or weighted wheel to ensure positive contact of the heated TPA Roof Membrane lap. Minimum width of welded lap shall be 1.5" (38.1 mm) when using an automatic welder. Hand welds shall be a minimum 2" (51 mm) wide.
- Field test heat welded laps to assure proper construction. Perform field test after lap area cools to ambient temperatures. Properly constructed laps will not separate at the lap interface when tested. Consult your Tremco representative for additional information.

**Perimeter/Projection Attachment:** Provide mechanical attachment of roofing membrane at roof perimeter, walls, expansion joints, and all other projections. Follow the recommendations of Factory Mutual Loss Prevention Data Sheets 1-28, 1-29, and 1-49.

**Precautions:** Users must read container labels and Material Safety Data Sheets for health and safety precautions prior to use.

**Availability and Cost:** Contact your local Tremco Roofing Representative for pricing and availability. For the name and number of your Representative, call the Roofing Division at 216/292-5000.

**Maintenance:** Your local Tremco Roofing Representative can provide you with effective maintenance procedures which may vary, depending upon specific conditions. Periodic inspections, early repairs and preventative maintenance are all part of a sound roof program.

The solar reflectance of this roofing product may decrease over time. Roofs should be properly examined at regular intervals and maintained or cleaned when necessary and appropriate to assure maximum reflectance.

## Physical Performance Characteristics

### TPA Roof Membrane

Property	Typical Value	Test Method
Thickness	0.045 in (1.14 mm) 0.060 in (1.52 mm) 0.080 in (2.03 mm)	ASTM D 751-00
Tensile strength	300 lbf (1330N)	ASTM D 751-00
Elongation @ fabric break	25% MD 25% XMD	ASTM D 751-00
Tear strength	100 lbf (440N)	ASTM D 751-00
Dimensional stability @ 176°F	0.3% @ 6 hrs.	ASTM D 1204-94
Low temperature flexibility	-40°F (-40°C)	ASTM D 2136-94 (1998)
Reflectivity	0.86 (initial)	ASTM C 1549-02
Thermal emittance	0.86 (initial)	ASTM C 1371-98
SRI-Solar Reflective Index	108 (initial) 84 (3 years)	ASTM E 1980-11
Recycled content	25% Preconsumer	

**Guarantee/Warranty:** Tremco, Inc. warrants TPA Roof Membrane to be free of defects and to meet published physical properties when tested according to ASTM and Tremco standards. Under this warranty, any product that is proved to be defective when applied in accordance with our written instructions, and in applications recommended by Tremco as suitable for this product will be replaced with like product at no charge. THIS IS BUYERS SOLE AND EXCLUSIVE REMEDY.

All claims concerning product defects must be made in writing within twelve (12) months of shipment. The absence of such claims in writing during this period will constitute a waiver of all claims with respect to such product. This warranty shall be IN LIEU OF any other warranty, express or implied, including but not limited to, any implied warranty of MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

**Technical Services:** Your local Tremco Representative, working with the Technical Service Staff, can help analyze conditions and needs to develop recommendations for special applications. The services of the Tremco Research Center, which has earned a unique reputation in weatherproofing technology, complement and extend the services of the Tremco Technical Service staff.

**Statement of Policy and Responsibility:** Tremco takes responsibility for furnishing quality materials and for providing specifications and recommendations for their proper installation.

As neither Tremco itself nor its Representatives practice architecture or engineering, Tremco offers no opinion on, and expressly disclaims any responsibility for the soundness of any structure on which its products may be applied. If questions arise as to the soundness of a structure or its ability to support a planned installation properly, the Owner should obtain the opinion of competent structural engineers before proceeding. Tremco accepts no liability for any structural failure or for resultant damages, and no Tremco Representative is authorized to vary this disclaimer.

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