UltraPly™ TPO

HIGH PERFORMANCE
ROOFING SYSTEMS
TPO (thermoplastic polyolefin) is a single-ply reflective roofing membrane composed of polypropylene and ethylene-propylene rubber polymerized together. This flexible, hot-air welded cool roof solution has gained broad industry acceptance for its many performance and installation advantages. As a result, TPO is among the fastest growing commercial roofing products in the world today.

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Benefits of TPO

**DURABILITY, FLEXIBILITY AND VERSATILITY**
- UltraPly™ TPO is highly resistant to tears, impacts, and punctures with good flexibility to allow for building movement.
- Can be installed on low and high slope surfaces.
- Can be heated and reshaped or melted multiple times.

**ECONOMICAL AND EASY TO INSTALL**
- TPO’s flexibility allows rapid installation and requires little maintenance.
- Large roll sizes reduce number of seams and cut labour costs drastically.

**COOL ROOFING MATTERS**
- White TPO membrane reflects the sun’s rays, significantly reducing a building’s cooling costs during the summer months.
- It also offers benefits to the surrounding environment through a reduction of the urban heat island (UHI) effect.

**ECO-FRIENDLY**
- TPO membrane contains no toxic or hazardous ingredients and is fully recyclable.

**WELDED SEAMS FOR LONG-LASTING PERFORMANCE**
- UltraPly™ membranes are heat-welded at 926ºC with a hot-air gun. The result is a fused seam that’s stronger than the field of the membrane.

**ENVIRONMENTAL IMPACT**
- Measured in kg CO₂ per m² of installed adhered White 60 mil membrane.***

TPO vs. PVC

Firestone Building Products withdrew from the PVC market in 2005 as a commitment to the environment amongst a global shift to phase out PVC — which is manufactured from Vinyl Chloride Monomer (VCM), a known human carcinogen.**

In response to PVC’s toxic threats, governments and corporations all around the world have passed sweeping policies to phase out PVC and switch to safer, healthier PVC-free products.

Microsoft, HP, Shaw, Wal-Mart, Nike, Mattel, Lego, Johnson & Johnson, GM, VW, and Honda have begun the switch to alternative materials. **

* World Health Organization. ** Healthy Building Network. *** Green Team Inc.
Firestone Red Shield™ Warranty

Firestone warranties in Canada are backed by over $20 billion in annual revenues, $17 billion in net assets and $7 billion in free stakeholders equity of the Bridgestone Corporation. Have peace of mind knowing your roof is backed by such financial might.

UltraPly™ TPO - A tradition of excellence

Since its introduction in 1998, UltraPly™ TPO has offered the most sustainable and economical TPO formulation in the market.

**Benefits of Firestone Red Shield™ Warranty**

- Material and labour covered with comprehensive, no-dollar limit liability.
- "Edge to Edge" system coverage, including membrane, insulation, and metal; all from a single source manufacturer.
- WARRANTIES for all roof types (EPDM, TPO, Modified Bitumen, and Metal).
- Warranty coverage that is transferable from owner to owner.
- Warranty coverage from 5 to 30 years is available.
- Warranty coverage that is transferable from owner to owner.
- One number to call for warranty claims - 24/7/365
- Licensed and trained installers, plus field technical team to inspect roofs for optimum installation and quality control.
- The comfort and confidence of dealing with a company that is dedicated, reliable, and easy to work with.
- Backed by Bridgestone Corporation, a global company with billions in assets.

UltraPly TPO - A tradition of excellence

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1980</td>
<td>Bridgestone Corporation develops first Thermoplastic Olefin sheets</td>
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<tr>
<td>1988</td>
<td>Firestone Building Products launches UltraPly TPO</td>
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<tr>
<td>2001-2002</td>
<td>UltraPly TPO honored to receive Energy Star certification from EPA</td>
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<tr>
<td>2003-2004</td>
<td>Firestone introduces Wide-Weld seam technology for enhanced wind uplift</td>
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<tr>
<td>2005-2009</td>
<td>Due to high demand, Firestone rolls out UltraPly TPO Platinum, TPO XR and TPO Flash/Weld Systems</td>
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<tr>
<td>2010-PRESENT</td>
<td>Firestone offers UltraPly TPO XR in a fully adhered system and UltraPly TPO SA</td>
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UltraPly TPO is a high performance product with unsurpassed warranty coverage. Just as there is a Firestone product for every unique commercial building, there is also a Firestone warranty for every building, every roof. Working with a reputable manufacturer like Firestone means more than having high performance products installed by the most trusted name in commercial building products. It also means you have the ability to protect this important asset with unsurpassed warranty coverage. Just as there is a Firestone Building Product system for every unique commercial building, there is also a Firestone warranty for every building, every system and every budget. Nobody Covers You Better™
The Firestone UltraPly™ TPO system can be installed even on the most challenging rooftops using a variety of installation methods. The two most common assemblies are:

FULLY ADHERED SYSTEM

The Firestone TPO Fully Adhered System is a lightweight system with outstanding design flexibility. It is suitable for contoured roofs, roofs with irregular shape, and any roof with limited load bearing capacity, provided the substrate is compatible with Firestone contact adhesives and provides sufficient adhesion.

Advantages
- Aesthetics
- Application on any slope
- Suitable for unusual roof configurations
- Lightweight
- Excellent high wind uplift performance
- Optimal for vegetative roofs and solar PV installations

MECHANICALLY ATTACHED SYSTEM

The Firestone TPO Mechanically Attached System is an economical system that utilizes fastening plates to secure the membrane. This system provides faster installation times without the use of adhesives and seam tapes. It is most prevalent method of installing TPO membranes.

Advantages
- Adaptable to unusual roof configurations
- Low installed-cost
- Lightweight
- Variety of attachment options
- Good high wind uplift performance
- Fast installation
The UltraPly TPO InvisiWeld system is a non-penetrating mechanically fastening solution that greatly reduces installation time while increasing wind uplift resistance of the Firestone UltraPly™ TPO membrane.

This VOC-free system features TPO-coated InvisiWeld Plates that are attached to the UltraPly TPO membrane using an induction welding tool.

The roofing season can be extended since the InvisiWeld System functions well in many climates, including extremely cold environments where adhesives and asphalt are difficult to use.

Eliminating insulation seam plates and fasteners reduces installation time and cuts labor costs. The InvisiWeld system typically requires 25% to 50% fewer fasteners compared to conventional mechanically fastened TPO systems, due to its increased strength, weatherability, and wind uplift resistance.

End result: an efficient and effective roofing system with no membrane penetrations.

ULTRAPLY™ TPO PLATINUM™ MEMBRANE

Firestone UltraPly TPO Platinum Membrane is the industry’s first thermoplastic roofing system backed by a 30-year warranty. Comprised of a durable, 80-mil-thick scrim-reinforced membrane, UltraPly TPO Platinum membrane can be either fully adhered or mechanically attached.

Its durability and dependability make it an exceptional long-term value for building owners around the world.

**BENEFITS**

- Substantial annual savings in the cost of roof ownership
- 30-year leak-free warranty can cover punctures, hail and 100 mph winds
- Choice of mechanically attached or fully adhered system
- Outstanding resistance to degradation from ultraviolet (UV) radiation, ozone and select chemical exposure.
- Scrim-reinforced, 80-mil-thick, membrane provides enhanced puncture, tear and abrasion resistance.
- Minimal maintenance required.

The UltraBlend Roofing System combines the strengths of UltraPly TPO and RubberGard EPDM in a comprehensive, warrantable roofing solution.

Using UltraPly TPO for horizontal roof surfaces and RubberGard EPDM or RubberGard™ EcoWhite™ EPDM for vertical surfaces the UltraBlend Roofing System can help contractors save time and reduce labor costs, while giving building owners the confidence that their roof is covered by durable roofing materials that have withstood the test of time.

The UltraBlend roofing system offers a number of features, including:

- Fast installation of the UltraPly TPO membrane with heat welded seams.
- Use of either black or white, EPDM on parapet walls.
- Option to use various combinations of accessories and flashings from both product lines.
- Excellent flexibility and adhesion in cold weather where its most needed – walls and details.

UltraBlend™ Roofing System

The UltraPly TPO meets RubberGard™ EPDM

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The TPO InvisiWeld System

Featured Assembly Method

DID YOU KNOW?

A seasoned operator can weld up to 300 plates an hour.
Firestone UltraPly TPO Roofing Systems can easily be enhanced with any type of Firestone Daylighting system. The highly reflective membrane can play a key role in the amount of light penetrating the building. Firestone’s SunWave™ Daylighting System provides a rapid ROI as it can decrease the use of indoor electrical lighting by up to 70% during daylight hours.

Firestone’s UltraPly TPO membrane has passed the FLL test for resistance to root penetration, offering a durable and reliable foundation for a vegetative rooftop. It integrates perfectly with the Firestone SkyScape™ Vegetative Roof System - an easy-to-install, sustainable solution that requires low maintenance and delivers high performance. Best of all, Firestone can offer an integrated, single-source Red Shield Warranty for the entire roof assembly.

It all began in August, 1900 with Harvey Firestone’s motto: “Best Today - Still Better Tomorrow.” Today Firestone is a leader in many industries across the world and it stands behind some of the most advanced building performance solutions - with a focus on roofing systems. Firestone’s High Performance Roofing Systems offering includes:

- EPDM
- TPO
- SBS
- Metal
- Insulation
- Green
- Solar PV

Firestone Building Products Canada is part of the Bridgestone Corporation, the world’s largest tire and rubber company.
From a single office building, school or warehouse to multiple sites around the world, Firestone Building Products provides reliable, high performance roofing systems wherever, whenever and however you need them.

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