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# TPO ULTRAPLY

## Technical Guidelines

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# PRODUCT INFORMATION

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# 4 Product information

In addition to a vast offering of UltraPly™ TPO roofing membranes, Firestone has developed a complete range of products including pre-shaped TPO flashings, fasteners, fastening plates, adhesives, sealants, cleaning agents, vapor barriers, insulation boards, cover boards and a variety of other roofing accessories to build a homogeneous UltraPly™ TPO roofing system. Each component has been carefully selected to offer the performance required by local standards and specifications, while being compatible with the various roofing designs outlined in this document.

This chapter contains a brief description of the products supplied by Firestone Building Products. As these products and their details are updated frequently, please visit [www.firestonebpe.com](http://www.firestonebpe.com) to obtain the latest version of the respective Technical Information Sheets (TIS) and Safety Data Sheets (SDS).

<b>4.1. Roofing membranes</b>	<b>4.3</b>
UltraPly™ TPO membrane	
UltraPly™ TPO Unsupported Flashing	
UltraPly™ TPO 8" Reinforced Cover Strip	
<b>4.2. Pre-shaped flashings</b>	<b>4.4</b>
UltraPly™ TPO Inside/Outside Corners	
UltraPly™ TPO Pipe Flashing	
UltraPly™ TPO T-Joint Cover	
<b>4.3. Products for mechanical attachment</b>	<b>4.5</b>
All-Purpose Fastener	
Heavy Duty Fastener	
Insulation Fastening Plate	
HD Seam Plate	
TPO Induction Welding Plate	
Aluminium Termination Bar	
Metal Batten Bar	
<b>4.4. Adhesives</b>	<b>4.6</b>
UltraPly™ TPO Bonding Adhesive	
Bonding Adhesive BA-2012	
Bonding Adhesive BA-2012 S	
I.S.O. Twin Pack™ Insulation Adhesive	
<b>4.5. Sealants</b>	<b>4.7</b>
UltraPly™ TPO Cut Edge Sealant	
UltraPly™ TPO General Purpose Sealant	
Water-Block Seal S-20	
Pourable Sealer S10	
<b>4.6. Cleaning agents and tools</b>	<b>4.8</b>
Splice Wash	
Cleaner	
QuickScrubber™ kit	



<b>4.7. Other accessories</b>	<b>4.9</b>
UltraPly™ TPO coated metal	
UltraPly™ TPO Penetration Pocket Kit	
UltraPly™ TPO Walkway Pad	
<b>4.8. Insulation and cover boards</b>	<b>4.10</b>
Firestone PIR insulation	
ISOGARD™ HD cover board	
DensDeck® Prime roof board	
<b>4.9. Vapor barrier</b>	<b>4.11</b>
V-Gard™ vapor control membrane	



## 4.1 Roofing membranes

### ULTRAPLY™ TPO MEMBRANE

Synthetic membrane made of flexible thermoplastic polyolefin (TPO) and produced with a polyester weft inserted reinforcement. The base polymer TPO is made from the incorporation of an ethylene propylene rubber into a thermoplastic matrix of polypropylene. This results in a membrane with both elastomeric and thermoplastic properties.



SPEC.	THICKNESS	WIDTH	LENGTH	WEIGHT	COLOR
EU sizes	1.2 mm	1.00 m – 1.50 m – 2.00 m	30.50 m	1.23 kg/m <sup>2</sup>	white or gray
	1.5 mm	1.00 m – 1.50 m – 2.00 m – 3.05 m	30.50 m	1.52 kg/m <sup>2</sup>	
	1.8 mm	1.00 m – 1.50 m – 2.00 m	30.50 m	1.81 kg/m <sup>2</sup>	
US sizes	1.1 mm	1.52 m – 2.44 m – 3.05 m	30.50 m	1.14 kg/m <sup>2</sup>	
	1.5 mm *	1.52 m – 2.44 m – 3.05 m	30.50 m	1.52 kg/m <sup>2</sup>	

\* This size is not available for European markets.

### ULTRAPLY™ TPO UNSUPPORTED FLASHING

Non-reinforced synthetic membrane (width 600 mm) made of flexible thermoplastic polyolefin (TPO) and designed for flashing specific roofing details (penetrations, T-joints and curbs) where application of reinforced membrane or pre-formed UltraPly™ TPO products is not appropriate.





### ULTRAPLY™ TPO 8" REINFORCED COVER STRIP

A 200 mm (8") wide strip cut from a 1.5 mm thick reinforced UltraPly™ TPO membrane designed to cover intermediate mechanical attachments that are installed on top of UltraPly™ TPO membranes.










## 4.2 Pre-shaped flashings

ULTRAPLY™ TPO INSIDE/ OUTSIDE CORNERS	
<p>Pre-shaped pieces made by extrusion molding of flexible thermoplastic polyolefin and specifically designed to flash inside and outside corners of curbs, parapets and scuppers. They may also be used as a square tube flashing by using four outside corners. For ease of application, the UltraPly™ TPO Inside/Outside Corners come as pre-cut, individual pieces.</p>	
ULTRAPLY™ TPO PIPE FLASHING	
<p>Pre-shaped pieces made by extrusion molding of flexible thermoplastic polyolefin and specifically designed to flash round penetrations with a diameter between 25 and 200 mm that are accessible at the top. Each piece will fit penetrations of different sizes and shall therefore be cut at the correct (size) ring to insure a tight fit.</p>	
ULTRAPLY™ TPO T-JOINT COVER	
<p>Square pieces of non-reinforced TPO membrane designed to cover and seal all T-joints formed at seam intersections of UltraPly™ TPO membranes that exceed 1.2 mm in thickness. These pieces can also be used to repair small punctures of the field membrane</p>	



## 4.3 Products for mechanical attachment

ALL-PURPOSE FASTENER	
<p>Carbon hardened steel screw with corrosion protection designed to be used in combination with HD seam plates, batten strips and termination bars for the mechanical attachment of UltraPly™ TPO membranes to steel, plywood and timber decks. In addition, they are used in combination with insulation fastening plates to attach insulation and Firestone ISOGARD™ HD cover boards.</p>	
HEAVY-DUTY FASTENER	
<p>Carbon hardened steel screw with corrosion protection specially designed for roofing applications that require outstanding system performance. They are used in combination with HD seam plates, batten strips and termination bars for the mechanical attachment of UltraPly™ TPO membranes to steel, wood, concrete and other decks. In addition, they are used in combination with insulation fastening plates to attach insulation and Firestone ISOGARD™ HD cover boards.</p>	
INSULATION FASTENING PLATE	
<p>Round metal fastening plate designed for the mechanical attachment of insulation and Firestone ISOGARD™ HD cover boards to approved substrates. These plates provide a flat and smooth finishing. Because of its specific shape, the head of the Firestone fastener is recessed. This limits the risk for membrane puncturing. The insulation fastening plates cannot be used for membrane attachment.</p>	
HD SEAM PLATE	
<p>Round metal fastening plate with teeth designed for the mechanical attachment of UltraPly™ TPO membranes to approved substrates. They are used in combination with Firestone All Purpose or Heavy Duty Fasteners.</p>	
TPO INDUCTION WELDING PLATE	
<p>Round stress plate with profile, made of case-hardened steel or stainless steel with a TPO coating on the top for welding. The hole diameter is either 6.8 mm or 16 mm (for installation of a plastic sleeve).</p>	
ALUMINIUM TERMINATION BAR	
<p>Aluminium profile in C-shape designed for the attachment and termination of UltraPly™ TPO roofing membranes against walls with a smooth and even finishing surface such as concrete, steel, etc.</p>	
METAL BATTEN BAR	
<p>Metal strip designed for the mechanical attachment of UltraPly™ TPO roofing membranes to approved substrates. They can be used as an alternative to HD Seam Plates for the attachment of UltraPly™ TPO membranes and are used to mechanically attach UltraPly™ TPO membranes at the top of flashing details.</p>	

## 4.4 Adhesives

### ULTRAPLY TPO™ BONDING ADHESIVE

Solvent-based contact adhesive designed for bonding UltraPly™ TPO roofing membranes and UltraPly™ TPO Unsupported Flashings to approved insulation and cover boards, wood, masonry, metal and other acceptable substrates.



### BONDING ADHESIVE BA-2012

Solvent-based contact adhesive designed for bonding UltraPly™ TPO membranes to approved insulation and cover boards, in addition to wood, metal, masonry and other acceptable substrates.



### BONDING ADHESIVE BA-2012 S

Sprayable solvent-based contact adhesive designed for bonding UltraPly™ TPO membranes on vertical upstands to approved insulation and cover boards, in addition to wood, metal, masonry and other acceptable substrates.



### I.S.O. TWIN PACK™ INSULATION ADHESIVE

Two-component low-rise polyurethane adhesive designed for anchoring acceptable roof insulation and cover boards to an acceptable substrate, as well as for adhering multiple layers of insulation. It is solvent-free and VOC-free and contains no harmful HCFC or CFCs.





# 4.5 Sealants

## ULTRAPLY™ TPO CUT EDGE SEALANT

Sealant used to seal and protect all cut edges of reinforced UltraPly™ TPO membranes and Firestone Walkway Pads where the polyester reinforcement is exposed.



## ULTRAPLY™ TPO GENERAL PURPOSE SEALANT

Sealant with an excellent adhesion to a variety of substrates, used as a waterproofing sealant in specific details of UltraPly™ TPO systems such as the top of Termination Bars, Pipe Flashings, etc.



## WATER-BLOCK SEAL (S-20)

Sealant designed to provide a watertight seal in specific system details such as drains, scuppers, wall terminations and others. It functions only under compression and must be protected against UV.






## POURABLE SEALER S-10

Two-component sealer designed to create a watertight seal around small pipe penetrations, clusters of pipes, structural beams etc. The sealant is applied in a penetration pocket detail.



# 4.6 Cleaning agents and tools

SPLICE WASH	
<p>Product designed to clean and prepare UltraPly™ TPO roofing membranes, flashings and accessories prior to splicing or welding.</p>	
CLEANER	
<p>Alcohol-based degreaser with extremely fast evaporation properties, designed for efficiently removing all types of Firestone adhesives, sealants and other types of contamination from UltraPly™ TPO membranes, metal and many other solvent-resistant surfaces.</p>	
QUICKSCRUBBER™ KIT	
<p>Kit including a handle and scrubbing pads that can be used to remove crusted dirt from the UltraPly™ TPO membrane.</p>	



## 4.7 Other accessories

### ULTRAPLY™ TPO COATED METAL

Sheet made from non-reinforced thermoplastic polyolefin membrane that is factory laminated to a hot-dipped galvanized steel sheet. This product can be used to produce metal edge profiles. UltraPly™ TPO membranes can be welded directly onto the coated side of the UltraPly™ TPO Coated Metal.



### ULTRAPLY™ TPO WALKWAY PAD

Walkway made of flexible thermoplastic polyolefin and produced with a polyester weft inserted reinforcement. It has a white, textured, slip-resistant top surface and a smooth bottom surface. Installation of Walkway Pads is required to protect the roofing system from damage in areas with intensive rooftop traffic (hatches, doorways, ladders, roofs subject to periodic traffic for maintenance of technical equipment, etc.).



### ULTRAPLY™ TPO PENETRATION POCKET KIT

Kit designed for flashing complicated roofing details such as small pipe penetrations, a group of small penetrations with limited intermediate spacing and small profiles. The complete kit consists of the following products: 6 PVC rings (nominal 152 mm ID), 6 UltraPly™ TPO Penetration Pockets, two heavy-duty stir sticks and a 0.1 l can of Single-Ply QuickPrime™ primer. The Firestone Pourable Sealer is not packaged with the kit, but must be used to complete the installation.

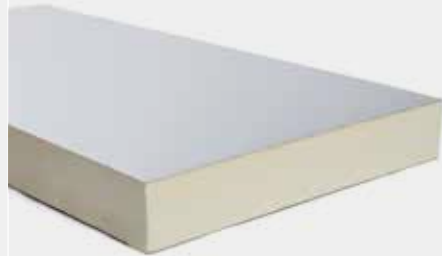


## 4.8 Insulation and cover boards

### FIRESTONE PIR INSULATION

Closed-cell polyisocyanurate (PIR) insulation board laminated on both sides to a gastight multi-layered aluminium complex facer. The board is suitable for use on mechanically fastened, fully adhered and ballasted systems.

- Thickness: ranging from 30 to 140 mm
- Dimensions: 600 x 1200 - 1200 x 1200 - 1200 x 2400 mm



### ISOGARD™ HD COVER BOARD

Thin, lightweight, high-density, closed-cell polyisocyanurate board with a coated fiberglass facer suitable for use on mechanically fastened, fully adhered and induction welded systems.

- Thickness: 12.7 mm
- Dimensions: 1.22 m x 2.25 m



### DENSDECK® PRIME ROOF BOARD

Non-structural gypsum core board with a primed fiberglass mat facer suitable for use on mechanically fastened, fully adhered and induction welded systems.

- Thickness: 6.4 - 12.7 - 15.9 mm
- Dimensions: 1.22 m x 2.25 m



## 4.9 Vapor barrier

V-GARD™ VAPOR CONTROL MEMBRANE	
<p>Self-adhesive bituminous membrane designed for use as a vapor control layer in Firestone roofing systems. It consists of a self-adhesive low-thickness bituminous compound, self-protected by a reinforced aluminium foil and a fiberglass net with high ultimate strength. V-Gard™ can be installed on concrete, wood, gypsum board, steel deck and existing bituminous roofs.</p>	



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