# Installation Details

1. Lap Splices .................................................. p. 5.3
2. Base Tie-Ins .................................................. p. 5.9
3. Corners ....................................................... p. 5.17
4. Penetrations ............................................... p. 5.27
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7. Roof Edges ............................................... p. 5.43
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## 5.1 Lap Splices

<table>
<thead>
<tr>
<th>No.</th>
<th>UltraPly TPO Detail</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-LS-1</td>
<td>Lap Splice using Automatic Welder</td>
<td>All</td>
</tr>
<tr>
<td>T-LS-2</td>
<td>Lap Splice using Hand Welder</td>
<td>All</td>
</tr>
<tr>
<td>T-LS-3</td>
<td>Lap Splice Fastener Layout</td>
<td>MAS</td>
</tr>
<tr>
<td>T-LS-4</td>
<td>Lap Splice T-joint with Unsupported Flashing</td>
<td>All</td>
</tr>
<tr>
<td>T-LS-5</td>
<td>Lap Splice T-joint with Unsupported Flashing</td>
<td>All</td>
</tr>
<tr>
<td>T-LS-6</td>
<td>Lap Splice at Curb or Wall Flashing</td>
<td>All</td>
</tr>
<tr>
<td>T-LS-7</td>
<td>Cut Edge Treatment Application</td>
<td>All</td>
</tr>
<tr>
<td>T-LS-8</td>
<td>Lap Splice at 4 T-crossing Membranes</td>
<td>MAS</td>
</tr>
</tbody>
</table>
### UltraPly™ TPO Lap Splice Details

<table>
<thead>
<tr>
<th>No.: T - LS - 1</th>
<th>Systems</th>
<th>Date: 5/2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
<td></td>
</tr>
</tbody>
</table>

- **Lap Splice using Automatic Welder**
  - Approved Plates Fastened with Appropriate Fasteners
  - 38 mm (Min.)
  - 150 mm

- **UltraPly TPO Lap Splice**
  - 75 mm (Min.)
  - Lap Splice using Automatic Welder

---

<table>
<thead>
<tr>
<th>No.: T - LS - 2</th>
<th>Systems</th>
<th>Date: 5/2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
<td></td>
</tr>
</tbody>
</table>

- **Lap Splice using Hand Welder**
  - Approved Plates Fastened with Appropriate Fasteners
  - 50 mm (Min.)
  - 150 mm

- **UltraPly TPO Lap Splice**
  - 75 mm (Min.)
  - Lap Splice using Hand Welder

---

**Firestone BUILDING PRODUCTS**
5. Installation Details

**UltraPly™ TPO Lap Splice Fastener Layout**

**No.:** T - LS - 3

**Systems**
MAS

---

**UltraPly TPO Membrane (Bottom Sheet)**

- 150 mm
- Factory Markings

**Single Weld Attachment Factory Markings**

- 300 mm (Max.)

**UltraPly TPO Membrane (Top Sheet)**

- 150 mm
- Approved Plates Fastened with Appropriate Fasteners

---

**UltraPly TPO Membrane**

- 100 mm

**UltraPly TPO Unsupported Flashing (see note)**

Note: T-joint with UltraPly TPO Unsupported Flashing required for 1.52 mm membrane only.

---

**UltraPly™ TPO Lap Splice T-joint with Unsupported Flashing**

**No.:** T - LS - 4

**Systems**
All

---

Firestone BUILDING PRODUCTS

5. Installation Details
5. Installation Details

UltraPly™ TPO

**No.:** T-LS-5

**Systems:** All

---

**UltraPly TPO Membrane**

**100 mm**

Note: T-joint with UltraPly TPO Unsupported Flashing required for 1.52 mm membrane only.

---

UltraPly TPO Unsupported Flashing (see notes)

---

Note: T-joint with UltraPly TPO Unsupported Flashing required for 1.52 mm membrane only.

---

UltraPly™ TPO

**No.:** T-LS-6

**Systems:** All

---

**UltraPly TPO Membrane**

**100 mm**

---

UltraPly TPO Unsupported Flashing (see notes)

---

Note: T-joint with UltraPly TPO Unsupported Flashing required for 1.52 mm membrane only.

---

UltraPly TPO Membrane

**100 mm**
5. Installation Details

UltraPly™ TPO
Lap Splice at 4 T-crossing Membranes

**Note:** When polyester reinforcement of TPO is exposed, apply Cut Edge or GP sealant to entire exposed edge.

Firestone
BUILDING PRODUCTS

<table>
<thead>
<tr>
<th>No.: T - LS - 8</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/2009</td>
<td>MAS</td>
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Firestone
BUILDING PRODUCTS

<table>
<thead>
<tr>
<th>No.: T - LS - 7</th>
<th>Systems</th>
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</thead>
<tbody>
<tr>
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</table>
5.2 Base Tie-Ins

<table>
<thead>
<tr>
<th>No.</th>
<th>UltraPly TPO Detail</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-BT-1</td>
<td>Base Tie-In with Plates Fastened to Deck</td>
<td>All</td>
</tr>
<tr>
<td>T-BT-2</td>
<td>Base Tie-In with Plates Fastened to Vertical Surface</td>
<td>All</td>
</tr>
<tr>
<td>T-BT-3</td>
<td>Base Tie-In with UltraPly TPO Coated Metal</td>
<td>All</td>
</tr>
<tr>
<td>T-BT-4</td>
<td>Base Tie-In with UltraPly TPO Coated Metal (with brake)</td>
<td>All</td>
</tr>
<tr>
<td>T-BT-5</td>
<td>Base Tie-In with Securement at Inside Corner</td>
<td>All</td>
</tr>
<tr>
<td>T-BT-6</td>
<td>Base Tie-In with Securement at Outside Corner</td>
<td>All</td>
</tr>
<tr>
<td>T-BT-7</td>
<td>UltraPly TPO Coated Metal Splice</td>
<td>All</td>
</tr>
<tr>
<td>T-BT-8</td>
<td>Base Tie-In at Upstand with existing Cant</td>
<td>All</td>
</tr>
</tbody>
</table>
5. Installation Details

UltraPly™ TPO
Base Tie-In with Plates Fastened to Deck
No.: T - BT - 1
5/2009
Systems
All

UltraPly™ TPO
Base Tie-In with Plates Fastened to Vertical Surface
No.: T - BT - 2
5/2009
Systems
All
5. Installation Details

- **UltraPly™ TPO**
  - Base Tie-In with UltraPly TPO Coated Metal
  - No.: T - BT - 3
  - Systems: All
  - Date: 5/2009

- **UltraPly™ TPO**
  - Base Tie-In with UltraPly TPO Coated Metal (with Brake)
  - No.: T - BT - 4
  - Systems: All
  - Date: 5/2009
5. Installation Details

### UltraPly™ TPO

**No.: T - BT - 5**

<table>
<thead>
<tr>
<th>UltraPly™ TPO</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Tie-In with Securement at Inside Corner</td>
<td>All</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.: T - BT - 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>UltraPly™ TPO</td>
</tr>
<tr>
<td>Base Tie-In with Securement at Outside Corner</td>
</tr>
</tbody>
</table>

**Systems:** All

Note: Base Flashings and Terminations not shown for clarity. Refer to appropriate termination & Base Tie-In details.
5. Installation Details

TPO Installation Details

STEP #1
- UltraPly TPO Coated Metal
- Appropriate fastening

STEP #2
- Heat Resistant Tape

STEP #3
- UltraPly TPO Membrane Heat Welded to UltraPly TPO Coated Metal

STEP #4
- UltraPly TPO Flashing (Unsupported)

Firestone BUILDING PRODUCTS

UltraPly™ TPO
UltraPly TPO Coated Metal Splice

No.: T - BT - 7
5/2009

Systems
All
5. Installation Details

TPO Installation Details

Systems

- UltraPly™ TPO
- Base Tie-In at
- Upstand with existing Cant
- No.: T - BT - 8
- 5/2009
- Systems
- All

- UltraPly TPO Membrane
- UltraPly TPO Bonding Adhesive
- Wood Nailer
- Cant Strip
- Approved Plates Fastened with Appropriate Fasteners (Max. 300 mm)
- Welded Splice
- UltraPly TPO Membrane
- Insulation
- Substrate

150 mm (Max.)
## 5.3 Corners

<table>
<thead>
<tr>
<th>No.</th>
<th>UltraPly TPO Detail</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-C-1</td>
<td>Outside Corner</td>
<td>All</td>
</tr>
<tr>
<td>T-C-2</td>
<td>Inside Corner</td>
<td>All</td>
</tr>
<tr>
<td>T-C-3</td>
<td>Outside Corner with UltraPly TPO Coated Metal</td>
<td>All</td>
</tr>
<tr>
<td>T-C-4</td>
<td>Inside Corner with UltraPly TPO Coated Metal</td>
<td>All</td>
</tr>
<tr>
<td>T-C-5</td>
<td>Outside Corner with UltraPly TPO Coated Metal (with brake)</td>
<td>All</td>
</tr>
<tr>
<td>T-C-6</td>
<td>Field Fabricated Inside Corner with Continuous Wall Flashing</td>
<td>All</td>
</tr>
<tr>
<td>T-C-7</td>
<td>Field Fabricated Outside Corner</td>
<td>All</td>
</tr>
<tr>
<td>T-C-8</td>
<td>Field Fabricated Outside Corner with Reinforcement Patch</td>
<td>All</td>
</tr>
<tr>
<td>T-C-9</td>
<td>Field Fabricated Inside Corner</td>
<td>All</td>
</tr>
<tr>
<td>T-C-10</td>
<td>Inside Corner with Continuous Wall Flashing</td>
<td>All</td>
</tr>
</tbody>
</table>
### TPO Installation Details

**Firestone Building Products**

<table>
<thead>
<tr>
<th>No.</th>
<th>Product</th>
<th>Corner</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>T - C - 1</td>
<td>UltraPly™ TPO Membrane</td>
<td>Outside Corner</td>
<td>All</td>
</tr>
<tr>
<td>T - C - 2</td>
<td>UltraPly™ TPO Membrane</td>
<td>Inside Corner</td>
<td>All</td>
</tr>
</tbody>
</table>

**UltraPly™ TPO Membrane**

1. Pre-Molded UltraPly TPO Inside/Outside Corner
2. UltraPly TPO Membrane

*Note: Diagrams show installation details with 150 mm (Min.) spacing.*
5. Installation Details

**STEP #1**
- UltraPly TPO Coated Metal
- Appropriate Fastening

**STEP #2**
- UltraPly TPO Membrane

**STEP #3**
- UltraPly TPO Coated Metal
- Appropriate Fastening
- Pre-Molded UltraPly TPO Inside/Outside Corner

---

**Firestone BUILDING PRODUCTS**

**UltraPly™ TPO**
- Outside Corner with UltraPly TPO Coated Metal

<table>
<thead>
<tr>
<th>No.:</th>
<th>T - C - 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems</td>
<td>All</td>
</tr>
</tbody>
</table>

5/2009
5. Installation Details

**STEP #1**
- UltraPly TPO Coated Metal
- Appropriate Fastening

**STEP #2**
- UltraPly TPO Membrane

**STEP #3**
- Pre-Molded UltraPly TPO Inside/Outside Corner
- UltraPly TPO Coated Metal
- UltraPly TPO Membrane

---

**Firestone Building Products**

**UltraPly™ TPO**
- Inside Corner with UltraPly TPO Coated Metal

**No.:** T - C - 4

**Systems:**
- All

**Date:** 5/2009
STEP #1
UltraPly TPO Coated Metal

STEP #2
Appropriate Fastening
UltraPly TPO Membrane

STEP #3
UltraPly TPO Coated Metal
UltraPly TPO Membrane
UltraPly TPO Unsupported Flashing
**STEP #1**
UltraPly TPO Unsupported Flashing
to Field Fabricated Inside Corner

**STEP #2**
Field Fabricated Inside Corner
UltraPly TPO Membrane
UltraPly TPO Unsupported Flashing
5. Installation Details

TPO Installation Details

UltraPly™ TPO

STEP #1

UltraPly TPO Membrane

STEP #2

UltraPly TPO Membrane

UltraPly TPO Membrane

STEP #3

UltraPly TPO Membrane

Support Flashing

UltraPly TPO Membrane

5/2009

UltraPly TPO

Unsupported Flashing

apply heat and form by hand prior to installing

UltraPly TPO

Unsupported Flashing

25 mm (Min.)

25 mm (Min.)

25 mm (Min.)
### Installation Details

**UltraPly TPO Membrane**

**Field Fabricated Inside Corner**

**No.:** T - C - 9  
**5/2009**

- **Systems:** All

**UltraPly TPO Unsupported Flashing (Reinforcement Patch)**

**Field Fabricated Outside Corner with Reinforcement Patch**

**No.:** T - C - 8  
**5/2009**

- **Systems:** All

**UltraPly TPO Membrane**

**Field Fabricated Inside Corner**

**No.:** T - C - 9  
**5/2009**

- **Systems:** All
5. Installation Details

Pre-Molded UltraPly TPO Inside/Outside Corner

UltraPly TPO Membrane

UltraPly TPO Membrane

UltraPly TPO Unsupported Flashing

<table>
<thead>
<tr>
<th>Firestone BUILDING PRODUCTS</th>
<th>UltraPly™ TPO</th>
<th>No.: T - C - 10</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inside Corner with Continuous Wall Flashing</td>
<td>5/2009</td>
<td>All</td>
</tr>
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</table>
### 5.4 Penetrations

<table>
<thead>
<tr>
<th>No.</th>
<th>UltraPly TPO Detail</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-P-1</td>
<td>Penetration with UltraPly TPO Large Pipe Flashing</td>
<td>All</td>
</tr>
<tr>
<td>T-P-2</td>
<td>Penetration with UltraPly TPO Universal Pipe Flashing</td>
<td>All</td>
</tr>
<tr>
<td>T-P-3</td>
<td>Penetration with UltraPly TPO Flashing (unsupported)</td>
<td>All</td>
</tr>
<tr>
<td>T-P-4</td>
<td>Hot Pipe Penetration with UltraPly TPO Flashing</td>
<td>All</td>
</tr>
<tr>
<td>T-P-5</td>
<td>Penetration with UltraPly TPO Flashing (unsupported) - Alt.</td>
<td>All</td>
</tr>
<tr>
<td>T-P-6</td>
<td>Penetration with TPO Penetration Pocket kit</td>
<td>All</td>
</tr>
<tr>
<td>T-P-7</td>
<td>Membrane Securement Layout (target patch)</td>
<td>All</td>
</tr>
<tr>
<td>T-P-8</td>
<td>Membrane Securement Layout (cover strips)</td>
<td>All</td>
</tr>
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</table>
5. Installation Details

TPO Installation Details
### Firestone Building Products

<table>
<thead>
<tr>
<th>System</th>
<th>No.:</th>
<th>Description</th>
<th>Date</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>UltraPly™ TPO</td>
<td>T - P - 1</td>
<td>Penetration with UltraPly TPO Large Pipe Flashing</td>
<td>5/2009</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Approved Plates Fastened with Appropriate Fasteners</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continuous Bead of UltraPly TPO GP Sealant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stainless Steel Clamping Ring</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pre-Molded UltraPly TPO Pipe Flashing</td>
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<td></td>
<td></td>
<td>UltraPly TPO Membrane</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>Insulation</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>ø 100-200 mm</td>
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<td></td>
<td></td>
<td>Round Penetration</td>
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</table>

<table>
<thead>
<tr>
<th>System</th>
<th>No.:</th>
<th>Description</th>
<th>Date</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>UltraPly™ TPO</td>
<td>T - P - 2</td>
<td>Penetration with UltraPly TPO Universal Pipe Flashing</td>
<td>5/2009</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Approved Plates Fastened with Appropriate Fasteners</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continuous Bead of UltraPly TPO GP Sealant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stainless Steel Clamping Ring</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pre-Molded UltraPly TPO Pipe Flashing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>UltraPly TPO Membrane</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Insulation</td>
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<td></td>
<td>ø 25-90 mm</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Round Penetration</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### UltraPly™ TPO

- **Penetration with UltraPly TPO Flashing (Unsupported)**

#### No.
- T - P - 3

#### Systems
- All

---

**Approved Plates Fastened with Appropriate Fasteners**

**Welded Splice**

**Continuous Bead of High Grade Sealant**

**Stainless Steel Clamping Ring**

**Round Penetration**

**Insulation**

**Substrate**

---

### Hot Pipe Penetration with UltraPly TPO Flashing

#### No.
- T - P - 4

#### Systems
- All

---

**Approved Plates Fastened with Appropriate Fasteners**

**Welded Splice**

**Continuous Bead of UltraPly TPO GP Sealant**

**Stainless Steel Clamping Ring**

---

**Insulation**

**Substrate**

---

**UltraPly TPO Flashing (Unsupported)**

---

**UltraPly TPO Flashing (Unsupported) or Membrane**

**UltraPly TPO Membrane**

---

**Hot Pipe Penetration**
### UltraPly™ TPO

#### Penetration with UltraPly TPO Flashing (Unsupported) - Alt.

**No.:** T - P - 5  
**Systems:** All  
**Issue Date:** 5/2009

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel Clamping Ring</td>
<td>Continuous Bead of UltraPly TPO GP Sealant</td>
</tr>
<tr>
<td>Precut PVC Pipe</td>
<td>UltraPly TPO Membrane</td>
</tr>
<tr>
<td>Insulation</td>
<td>UltraPly TPO Flashing (Unsupported) or membrane</td>
</tr>
<tr>
<td>Substrate</td>
<td>UltraPly TPO Flashing (Unsupported)</td>
</tr>
</tbody>
</table>

**Note:** Refer to T - P - 7 Detail for appropriate Base Tie-In.

---

### UltraPly™ TPO

#### Penetration with TPO Penetration Pocket Kit

**No.:** T - P - 6  
**Systems:** All  
**Issue Date:** 5/2009

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firestone Pourable Sealer</td>
<td>25 mm (Min.)</td>
</tr>
<tr>
<td>Pre-Molded UltraPly TPO Penetration Pocket</td>
<td>UltraPly TPO QuickPrime</td>
</tr>
<tr>
<td>Precut PVC Pipe</td>
<td>UltraPly TPO Membrane</td>
</tr>
<tr>
<td>Welded Splice</td>
<td>Insulation</td>
</tr>
<tr>
<td>Substrate</td>
<td>Non-Shrinking Grout</td>
</tr>
</tbody>
</table>

**Note:** Refer to T - P - 7 Detail for appropriate Base Tie-In.
5. Installation Details

UltraPly™ TPO Membrane Securement Layout at Penetration (Target Patch)

No.: T - P - 7
5/2009
Systems
All

UltraPly TPO Target Patch
Approved Plates Fastened with Appropriate Fasteners
Welded Splice
Outside Edge of Penetration Flashing
UltraPly TPO Membrane

UltraPly™ TPO Membrane Securement Layout at Penetration (Cover Strips)

No.: T - P - 8
5/2009
Systems
All

Approved Plates Fastened with Appropriate Fasteners
UltraPly TPO Membrane
Outside Edge of Penetration Flashing
UltraPly TPO Membrane
### 5.5 Drains

<table>
<thead>
<tr>
<th>No.</th>
<th>UltraPly TPO Detail</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-D-1</td>
<td>Field Fabricated Roof Drain</td>
<td>All</td>
</tr>
<tr>
<td>T-D-2</td>
<td>TPO Coated Drain</td>
<td>All</td>
</tr>
<tr>
<td>T-D-3</td>
<td>Drain with Clamping Ring</td>
<td>All</td>
</tr>
<tr>
<td>T-D-4</td>
<td>TPO Pre-molded Scupper</td>
<td>All</td>
</tr>
<tr>
<td>T-D-5</td>
<td>TPO Insert Piece Roof Drain</td>
<td>All</td>
</tr>
</tbody>
</table>
5. Installation Details

**UltraPly™ TPO**

**Field Fabricated Roof Drain**

**No.: T - D - 1**

**Systems**

All

---

**Note:** When reinforcement of TPO membrane is exposed, a bead of Cut Edge Sealant is required.
5. Installation Details

UltraPly™ TPO
Drain with Clamping Ring

No.: T - D - 3
5/2009

Systems
All

Note: Maximum slope to Drain is 1:12.

---

Extend TPO into Bowl 15 to 20 mm (Min.)

Insulation
Substrate

UltraPly TPO Membrane
UltraPly TPO Bonding Adhesive
Continuous Bead of Water Block
Approved Plates Fastened with Appropriate Fasteners

UltraPly TPO Membrane or UltraPly TPO Flashing (Unsupported)
TPO Pre-molded Scupper
Welded Splice

---

UltraPly™ TPO
TPO Pre-molded Scupper

No.: T - D - 4
5/2009

Systems
All
5. Installation Details

UltraPly™ TPO
TPO Insert Piece
Roof Drain

No.: T - D - 5
5/2009

Systems
All
## 5.6 Expansion Joints

<table>
<thead>
<tr>
<th>No.</th>
<th>UltraPly TPO Detail</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-E-1</td>
<td>Flat Expansion Joint with Welded Splice</td>
<td>All</td>
</tr>
<tr>
<td>T-E-2</td>
<td>Raised Expansion Joint</td>
<td>All</td>
</tr>
<tr>
<td>T-E-3</td>
<td>Raised Expansion Joint with Metal Joint Cover</td>
<td>All</td>
</tr>
<tr>
<td>T-E-4</td>
<td>Wall Expansion Joint</td>
<td>All</td>
</tr>
</tbody>
</table>
5. Installation Details

**UltraPly™ TPO**

- **Flat Expansion Joint with Welded Splice**
- **No.:** T - E - 1
- **Systems:** All

**UltraPly™ TPO**

- **Raised Expansion Joint**
- **No.:** T - E - 2
- **Systems:** All
### UltraPly™ TPO

**No.:** T - E - 3  
**Systems:** All  
**Date:** 5/2009

- **Raised Expansion Joint with Metal Joint Cover**
- **Fastener 300 mm o.c. (Max.)**
- **Wood Nailer**
- **UltraPly TPO Bonding Adhesive**
- **Expansion Joint Cover by Others**
- **Welded Splice**
- **Approved Plates Fastened with Appropriate Fasteners (Max. 300 mm)**

### UltraPly™ TPO

**No.:** T - E - 4  
**Systems:** All  
**Date:** 5/2009

- **Wall Expansion Joint**
- **Fastener 300 mm o.c. (Max.)**
- **Compressible Insulation with Insulation Retainer**
- **Insulation**
- **Substrate**
- **Welded Splice**
- **UltraPly TPO Membrane**
- **Approved Plates Fastened with Appropriate Fasteners (Max. 300 mm)**
- **Compressible Tube**

---

**Note:** The diagrams illustrate the details for installation of TPO systems, including expansion joints, fasteners, and bonding adhesives. Each system is specified for use with UltraPly™ TPO membranes and is applicable across all systems and projects as noted.
## 5.7 Roof Edges

<table>
<thead>
<tr>
<th>No.</th>
<th>UltraPly TPO Detail</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-RE-1</td>
<td>Roof Edge Gutter with UltraPly TPO Coated Metal</td>
<td>All</td>
</tr>
<tr>
<td>T-RE-2</td>
<td>Roof Edge Gutter with UltraPly TPO Coated Metal</td>
<td>All</td>
</tr>
<tr>
<td>T-RE-3</td>
<td>Roof Edge using TPO QuickSeam Flashing</td>
<td>All</td>
</tr>
<tr>
<td>T-RE-4</td>
<td>Roof Edge with Edge Profile</td>
<td>All</td>
</tr>
<tr>
<td>T-RE-5</td>
<td>Roof Edge Splice with UltraPly TPO Coated Metal</td>
<td>All</td>
</tr>
<tr>
<td>T-RE-6</td>
<td>Alternative Roof Edge with Edge Profile</td>
<td>All</td>
</tr>
</tbody>
</table>
## UltraPly™ TPO Installation Details

**No.:** T - RE - 1

- **Systems:** All

### No.: T - RE - 1

<table>
<thead>
<tr>
<th>System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Substrate</strong></td>
<td>Wood Nailer</td>
</tr>
<tr>
<td><strong>Insulation</strong></td>
<td>Welded Splice</td>
</tr>
<tr>
<td><strong>UltraPly TPO Coated Metal</strong></td>
<td>Appropriate Fastener (200 mm o.c.)</td>
</tr>
<tr>
<td><strong>UltraPly TPO Membrane</strong></td>
<td></td>
</tr>
</tbody>
</table>

---

## UltraPly™ TPO Installation Details

**No.:** T - RE - 2

- **Systems:** All

### No.: T - RE - 2

<table>
<thead>
<tr>
<th>System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Substrate</strong></td>
<td>Wood Nailer</td>
</tr>
<tr>
<td><strong>Insulation</strong></td>
<td>Welded Splice</td>
</tr>
<tr>
<td><strong>UltraPly TPO Coated Metal</strong></td>
<td>Appropriate Fastener (200 mm o.c.)</td>
</tr>
<tr>
<td><strong>UltraPly TPO Membrane</strong></td>
<td></td>
</tr>
</tbody>
</table>

---

---

---
5. Installation Details

**UltraPly™ TPO**
- Roof Edge using TPO QuickSeam Flashing

**No.:** T - RE - 3
**Systems:** All
**Date:** 5/2009

**UltraPly™ TPO**
- Roof Edge with Edge Profile

**No.:** T - RE - 4
**Systems:** All
**Date:** 5/2009
UltraPly™ TPO
Roof Edge Splice with UltraPly TPO Coated Metal

No.: T - RE - S
5/2009

Systems
All

**Step #1**
UltraPly TPO Coated Metal

**Step #2**
Heat Resistant Tape
Wood Nailer

**Step #3**
UltraPly TPO Membrane Heat Welded to UltraPly TPO Coated Metal

**Step #4**
UltraPly TPO Flashing (Unsupported)
5. Installation Details

System: No.: T - RE - 6

---

- **UltraPly TPO Bonding Adhesive**
- **Appropriate Fastener** (200 mm o.c.)
- **Insulation**
- **UltraPly TPO Membrane**
- **Substrate**
- **Wood Nailer**
- **UltraPly TPO Membrane**
- **Welded Splice**
- **Water Dam**
- **Edge Profile**

---

**Firestone BUILDING PRODUCTS**

No.: T - RE - 6

5/2009

Systems: All
### 5.8 Terminations

<table>
<thead>
<tr>
<th>No.</th>
<th>UltraPly TPO Detail</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-T-1</td>
<td>Termination with Termination Bar</td>
<td>All</td>
</tr>
<tr>
<td>T-T-2</td>
<td>Termination with Termination Bar on Outside of Parapet Wall</td>
<td>All</td>
</tr>
<tr>
<td>T-T-3</td>
<td>Termination with Coping Stone</td>
<td>All</td>
</tr>
<tr>
<td>T-T-4</td>
<td>Termination with Metal Coping</td>
<td>All</td>
</tr>
<tr>
<td>T-T-5</td>
<td>Termination with Counter flashing</td>
<td>All</td>
</tr>
<tr>
<td>T-T-6</td>
<td>Termination with Termination Bar – Elevation Change</td>
<td>All</td>
</tr>
<tr>
<td>T-T-7</td>
<td>Termination with Termination Bar – Joint in Precast Concrete Panel</td>
<td>All</td>
</tr>
<tr>
<td>T-T-8</td>
<td>Termination with Termination Bar at Wall Expansion Joint</td>
<td>All</td>
</tr>
<tr>
<td>T-T-9</td>
<td>Termination with Monotrim Profile Flashing Termination</td>
<td>All</td>
</tr>
<tr>
<td>T-T-10</td>
<td>Termination with Intermediate Attachment at Wall Flashing</td>
<td>All</td>
</tr>
</tbody>
</table>
5. Installation Details

**UltraPly™ TPO**

<table>
<thead>
<tr>
<th>No.:</th>
<th>T • T • 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems</td>
<td>All</td>
</tr>
<tr>
<td>Date</td>
<td>5/2009</td>
</tr>
</tbody>
</table>

**Continuous Bead of Water Block**

**Appropriate Fastener (200 mm o.c.)**

**Firestone Termination Bar**

**UltraPly TPO Membrane**

**UltraPly TPO Bonding Adhesive**

---

**UltraPly™ TPO**

<table>
<thead>
<tr>
<th>No.:</th>
<th>T • T • 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems</td>
<td>All</td>
</tr>
<tr>
<td>Date</td>
<td>5/2009</td>
</tr>
</tbody>
</table>

**Continuous Bead of Water Block**

**Appropriate Fastener (200 mm o.c.)**

**Firestone Termination Bar**

**UltraPly TPO Membrane**

**UltraPly TPO Bonding Adhesive**

---
5. Installation Details

**UltraPly™ TPO**

Termination with Coping Stone

**No.: T - T - 3**

5/2009

**Systems**

All

---

**UltraPly™ TPO**

Termination with Metal Coping

**No.: T - T - 4**

5/2009

**Systems**

All
### 5. Installation Details

#### UltraPly™ TPO

**No.: T - T - 5**
- Termination with Counterflashing
- Systems: All
- No.: T - T - 5
- Date: 5/2009

<table>
<thead>
<tr>
<th><strong>Wall/Substrate</strong></th>
<th><strong>Continuous Bead of High Grade Sealant</strong></th>
<th><strong>Continuous Bead of GP Sealant</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Termination Bar</strong></td>
<td><strong>Appropriate Fastener</strong> (300 mm o.c. Max.)</td>
<td><strong>Metal Counterflashing</strong></td>
</tr>
<tr>
<td><strong>Gap 10 mm</strong></td>
<td><strong>UltraPly TPO Membrane</strong></td>
<td><strong>UltraPly TPO Bonding Adhesive</strong></td>
</tr>
</tbody>
</table>

---

### 5. Installation Details

#### UltraPly™ TPO

**No.: T - T - 6**
- Termination with Termination Bar Elevation Change
- Systems: All
- No.: T - T - 6
- Date: 5/2009

<table>
<thead>
<tr>
<th><strong>Wall/Substrate</strong></th>
<th><strong>Continuous Bead of GP Sealant</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UltraPly TPO Membrane</strong></td>
<td><strong>Appropriate Fastener (200 mm o.c.)</strong></td>
</tr>
</tbody>
</table>

---

**Firestone BUILDING PRODUCTS**
5. Installation Details

**UltraPly™ TPO**

- **No.: T - T - 7**
- **Wall/Substrate:**
  - 25 mm (Max.)
  - Continuous Bead of GP Sealant
  - Termination Bar
  - Do not fasten Termination Bar on this side of joint
  - 25 mm (Max.)
- **FBPCO**
  - 25 mm (Max.)
- **UltraPly TPO Membrane**
- **Appropriate Fastener (200 mm o.c.)**

---

**UltraPly™ TPO**

- **No.: T - T - 8**
- **Wall/Substrate:**
  - 75 mm (Max.)
  - Continuous Bead of GP Sealant
  - Termination Bar
  - Appropriate Fastener (200 mm o.c.)
  - Metal Counterflashing in Reglet
  - 75 mm (Max.)
- **FBPCO**
  - 75 mm (Max.)
- **UltraPly TPO Membrane**
- **Wall/Substrate:**

---

**Firestone BUILDING PRODUCTS**

**Systems**

- All

---

**Firestone BUILDING PRODUCTS**

**Systems**

- All

---

TPO Installation Details
## Installation Details

### UltraPly™ TPO Systems

<table>
<thead>
<tr>
<th>No.:</th>
<th>T - T - 9</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5/2009</td>
<td>All</td>
</tr>
</tbody>
</table>

**Monotrim Profile Flashing Termination**
- Wood Nailer
- Monotrim Profile
- UltraPly™ TPO Membrane
- UltraPly TPO Bonding Adhesive
- Continuous Bead of Cut Edge Sealant
- Approved Plates Fastened with Appropriate Fasteners
- Welded Splice
- UltraPly TPO Membrane as Cover Strip
- UltraPly™ TPO Bonding Adhesive
- Continuous Bead of Cut Edge Sealant

---

<table>
<thead>
<tr>
<th>No.:</th>
<th>T - T - 10</th>
<th>Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5/2009</td>
<td>All</td>
</tr>
</tbody>
</table>

**Intermediate Attachment at Wall Flashing**
- UltraPly™ TPO Membrane
- Approved Plates Fastened with Appropriate Fasteners
- Welded Splice
- UltraPly TPO Bonding Adhesive
- Continuous Bead of Cut Edge Sealant
- UltraPly™ TPO Membrane
- Welded Splice
- Continuous Bead of Cut Edge Sealant

---