



TPO ULTRAPLY

Technical Guidelines

Firestone
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**DETAIL
DRAWINGS**

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5 Detail drawings

The information on this chapter is complementary to Chapter 1 (Design) and Chapter 3 (Installation) and serves to complete the design and execution of Firestone UltraPly™ TPO roofing systems in a safe and durable way.

Specifiers and installers will find a vast list of standard drawings that contain information about the correct build-up of the different Firestone UltraPly™ TPO roofing details.

Please note that these drawings are not designed on scale and do not include any information on vapor control layers. Therefore, they need to be considered as details that are applicable in standard roofing situations.

For an easy tracking, we have organized the Firestone UltraPly™ TPO details in the following sections:

5.1	Welded seams	5.3
5.2	Base tie-ins	5.15
5.3	Corners	5.25
5.4	Penetrations	5.33
5.5	Drains	5.43
5.6	Expansion joints	5.49
5.7	Roof edges	5.55
5.8	Wall terminations	5.63

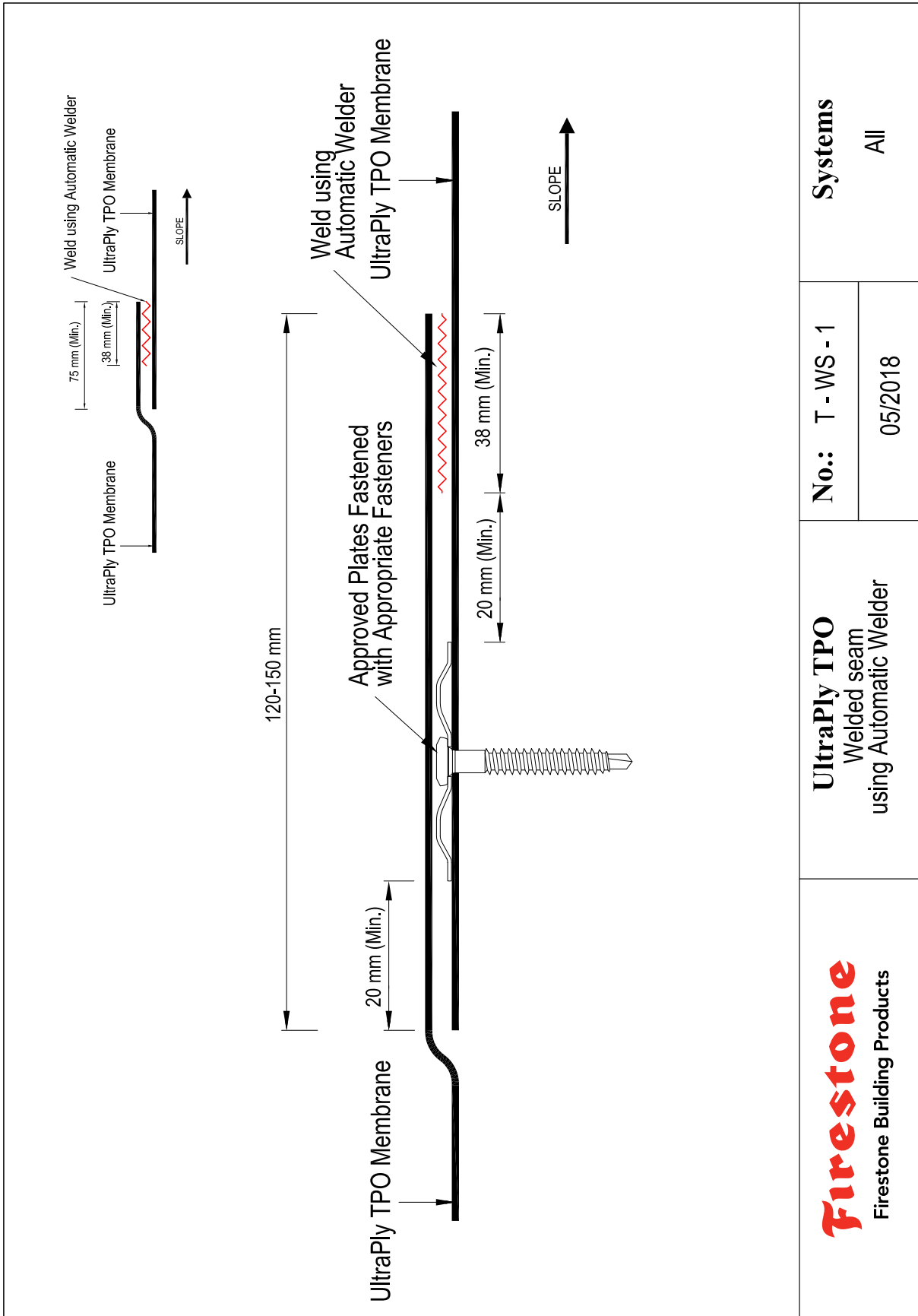
As the situation on site may differ from the conditions represented in these details, please contact Firestone's technical department or a Firestone technician for design and approval of an alternative detail.



5.1 Welded seams

T-WS-1	Welded seam using automatic welder
T-WS-2	Welded seam using hand welder
T-WS-3	Fastener layout and factory markings
T-WS-4	TPO induction welding plate
T-WS-5	Membrane repair over TPO induction welding plate
T-WS-6	Cut edge treatment
T-WS-7	T-joint with Unsupported Flashing
T-WS-8	T-joint with Unsupported Flashing at intersection of two seams
T-WS-9	T-joint with Unsupported Flashing at base of curb or wall
T-WS-10	T-joints at 4 T-crossing membranes





Systems

All

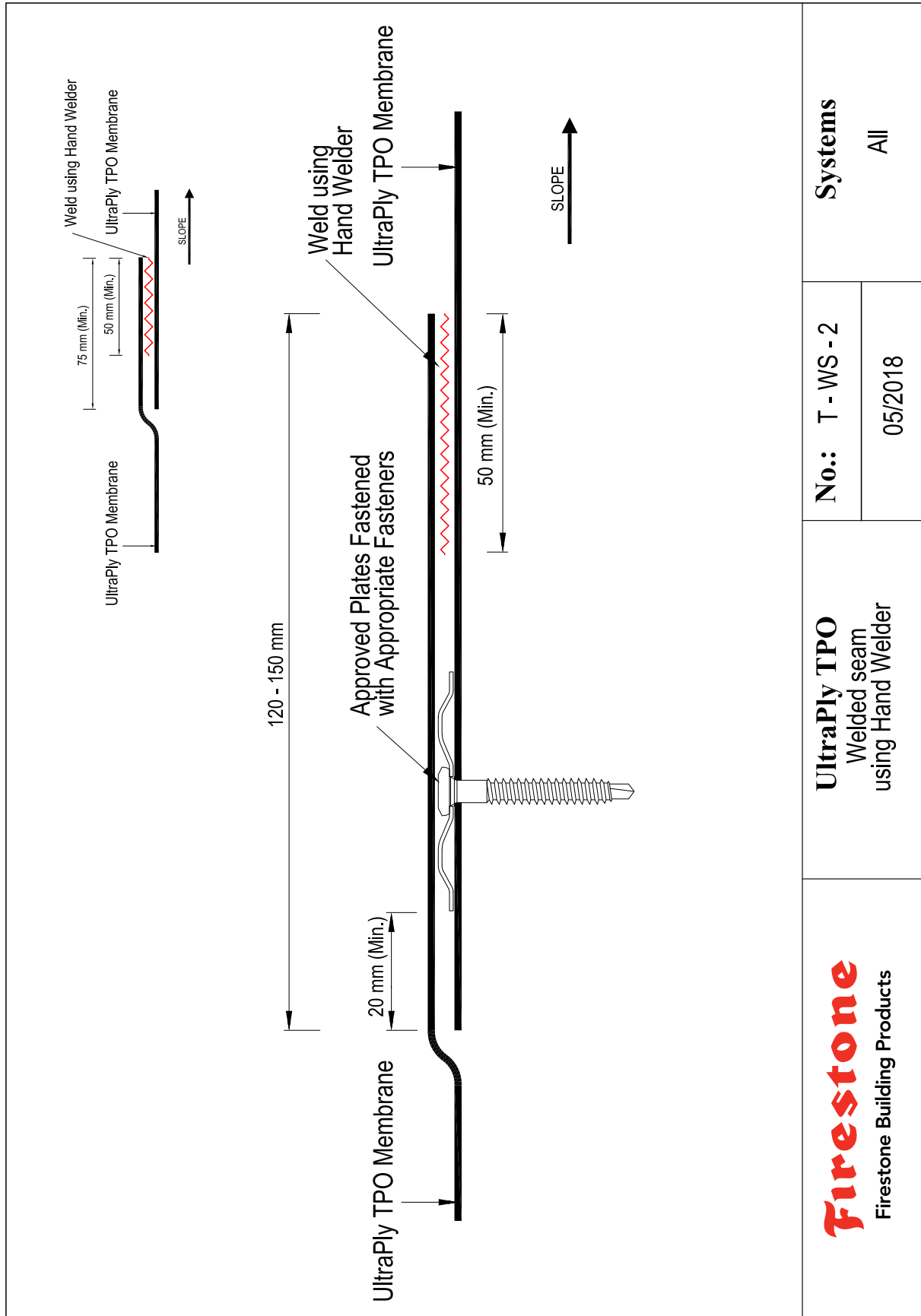
No.: T - WS - 1

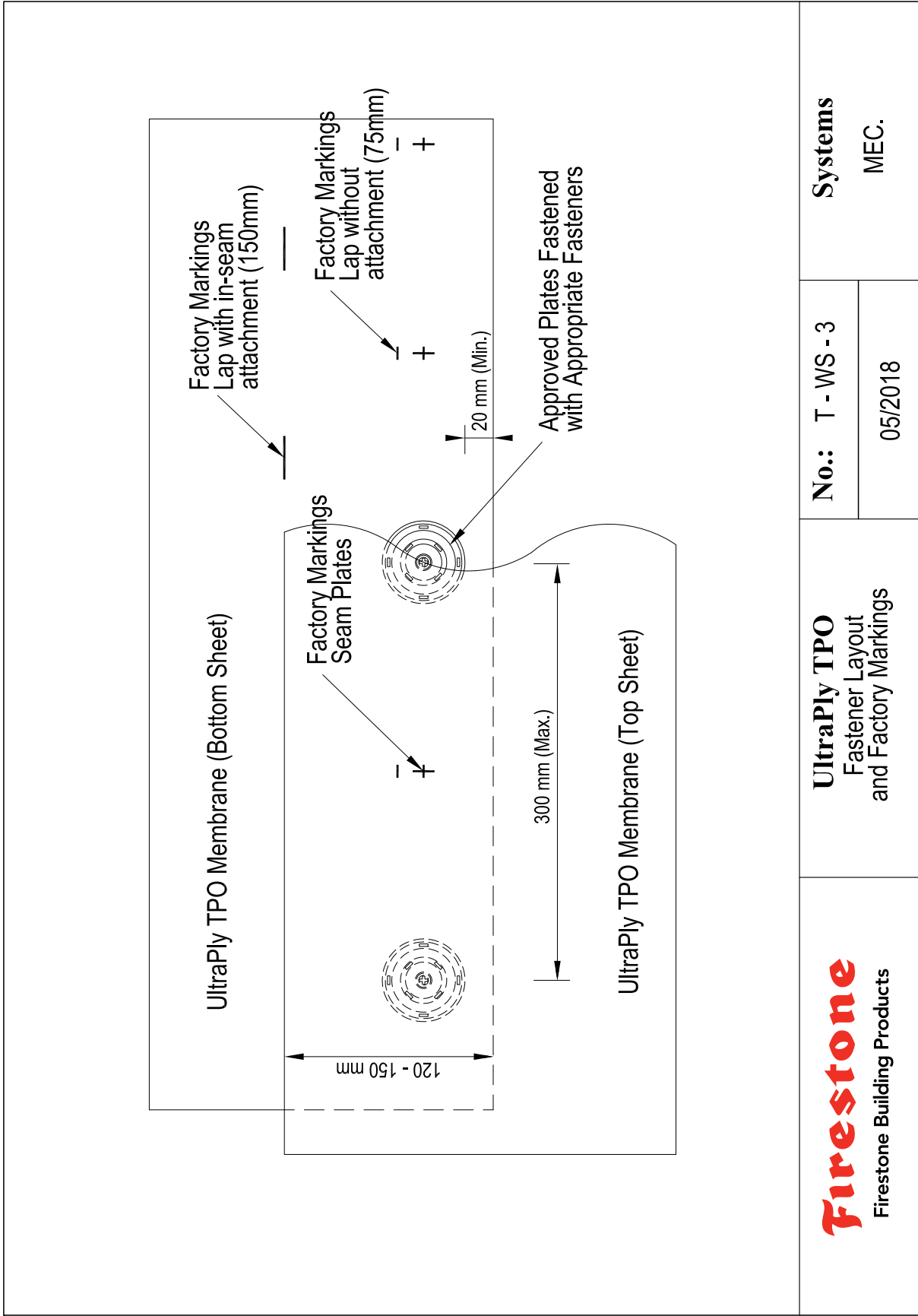
05/2018

UltraPly TPO
Welded seam
using Automatic Welder

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Systems
MEC.

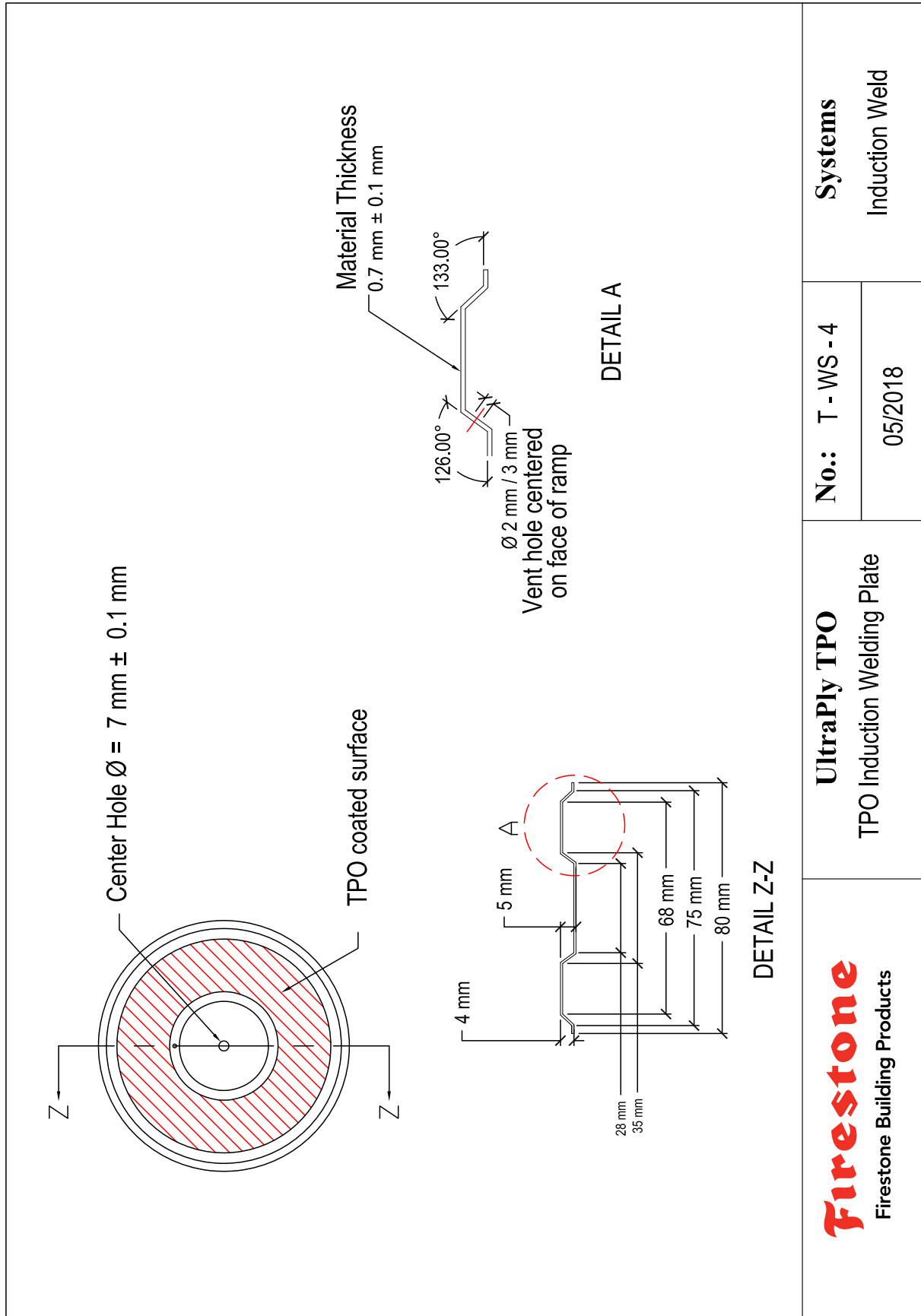
No.: T - WS - 3

05/2018

UltraPly TPO
Fastener Layout
and Factory Markings

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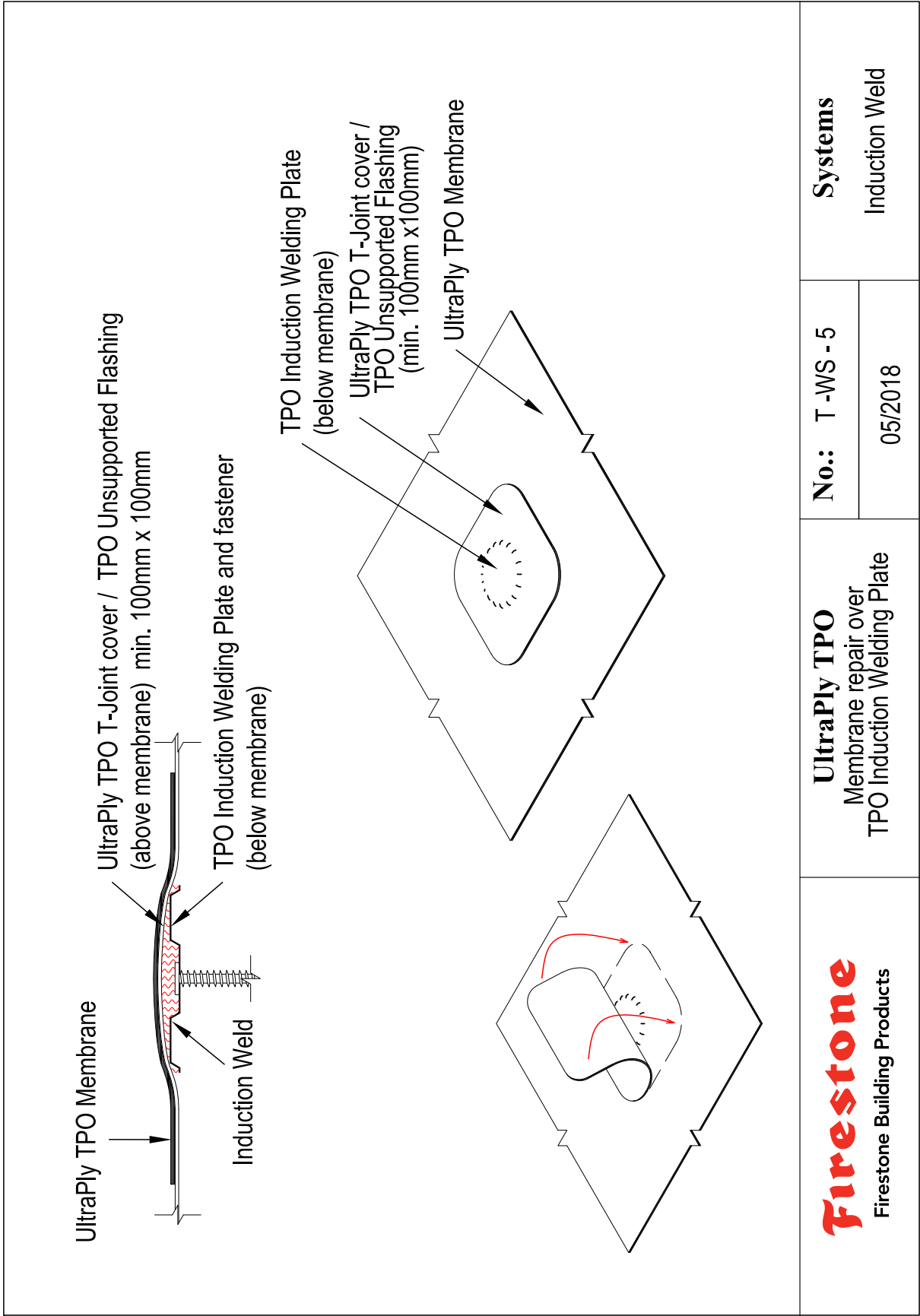
Firestone
Firestone Building Products

UltraPly TPO
TPO Induction Welding Plate

No.: T - WS - 4

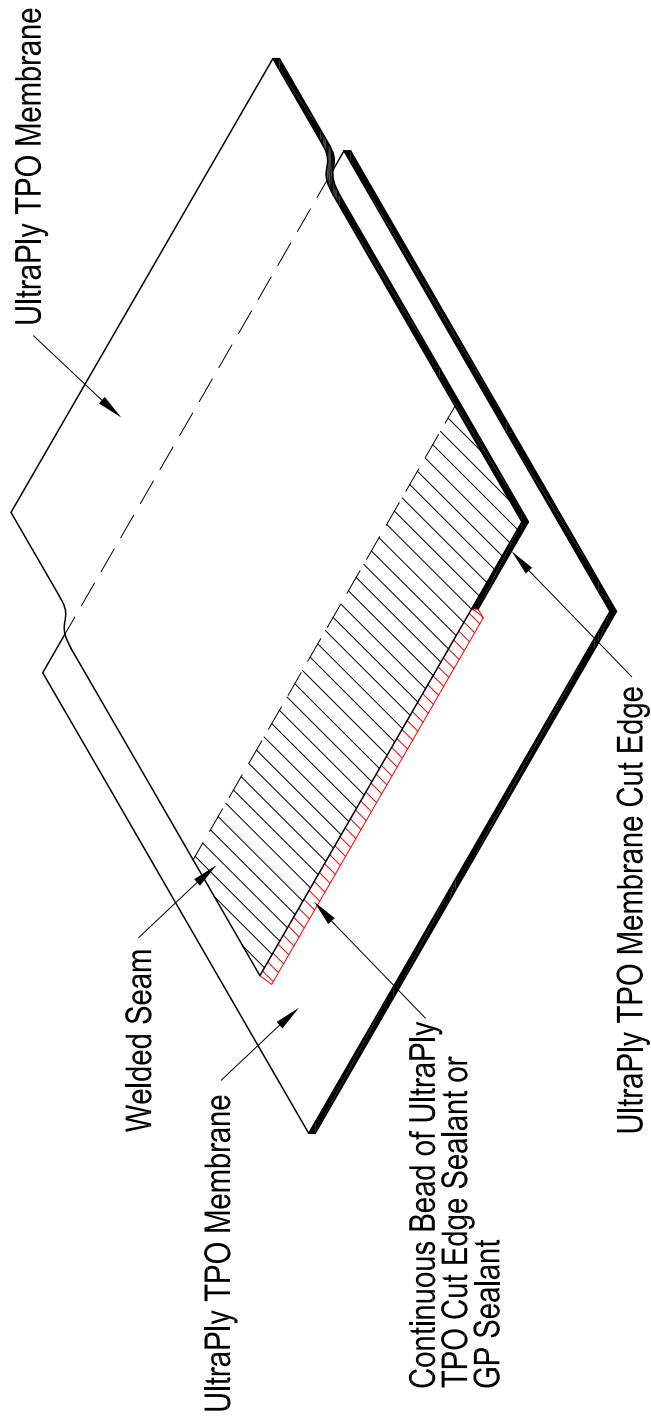
05/2018

Systems
Induction Weld



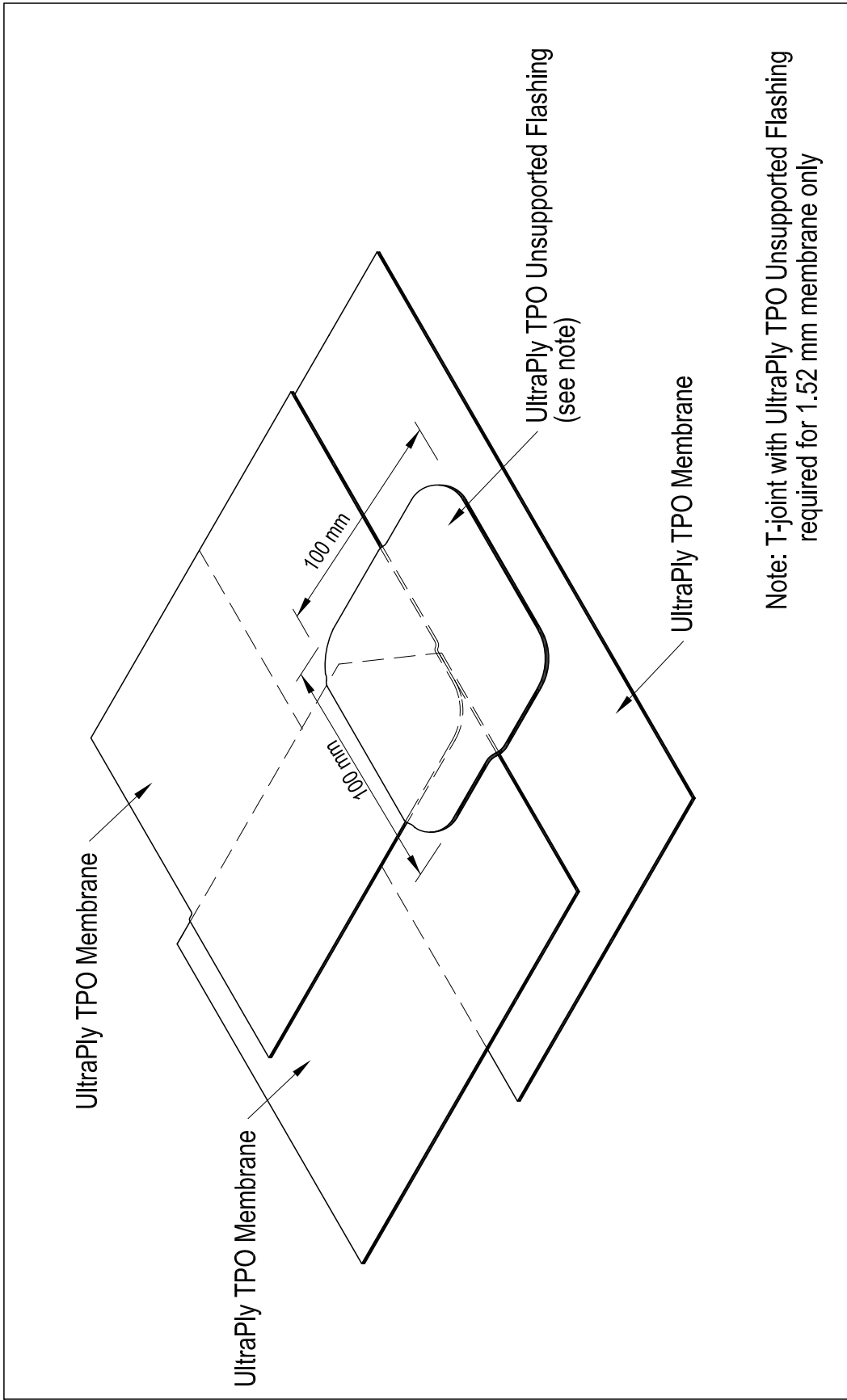
Firestone Firestone Building Products	UltraPly TPO Membrane repair over TPO Induction Welding Plate		No.: T-WS-5	Systems Induction Weld
			05/2018	





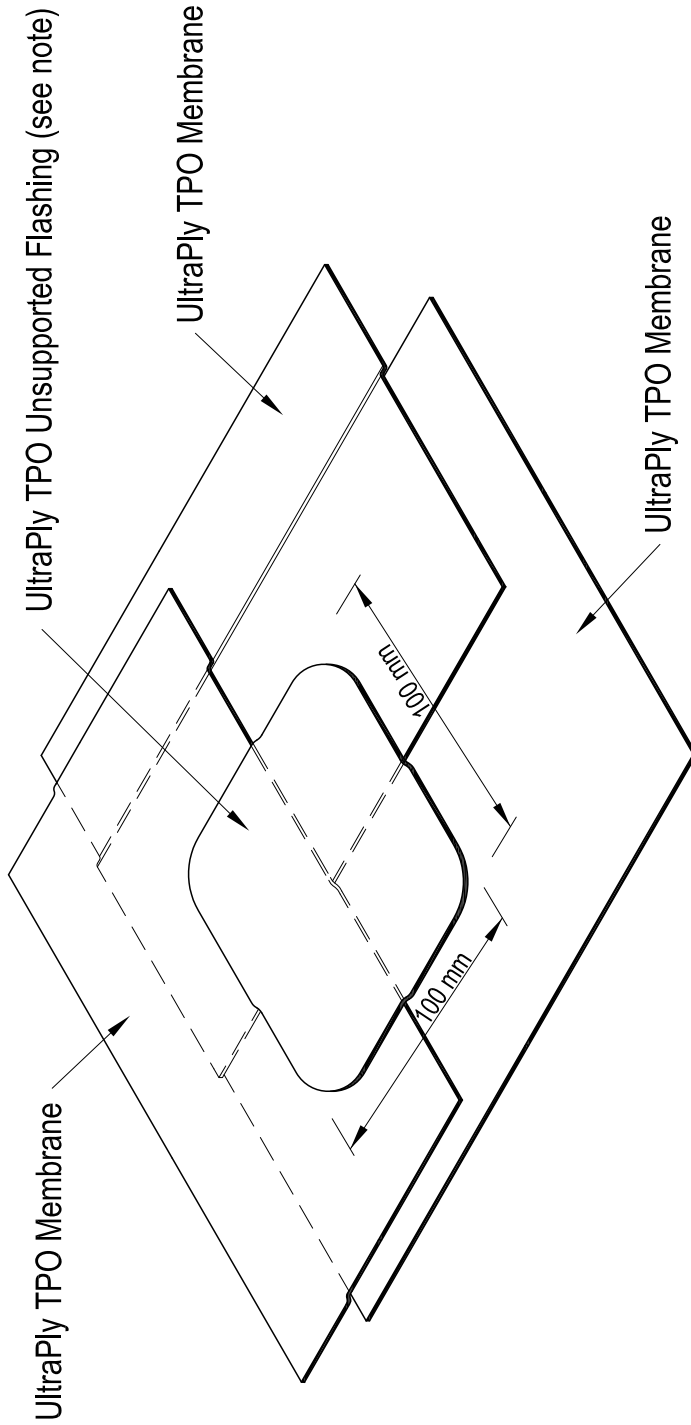
Note: When polyester reinforcement of TPO is exposed, apply Cut Edge or GP Sealant to entire exposed edge.

Firestone Firestone Building Products	UltraPly TPO Cut Edge Treatment	No.: T - WS - 6	Systems All
		05/2018	



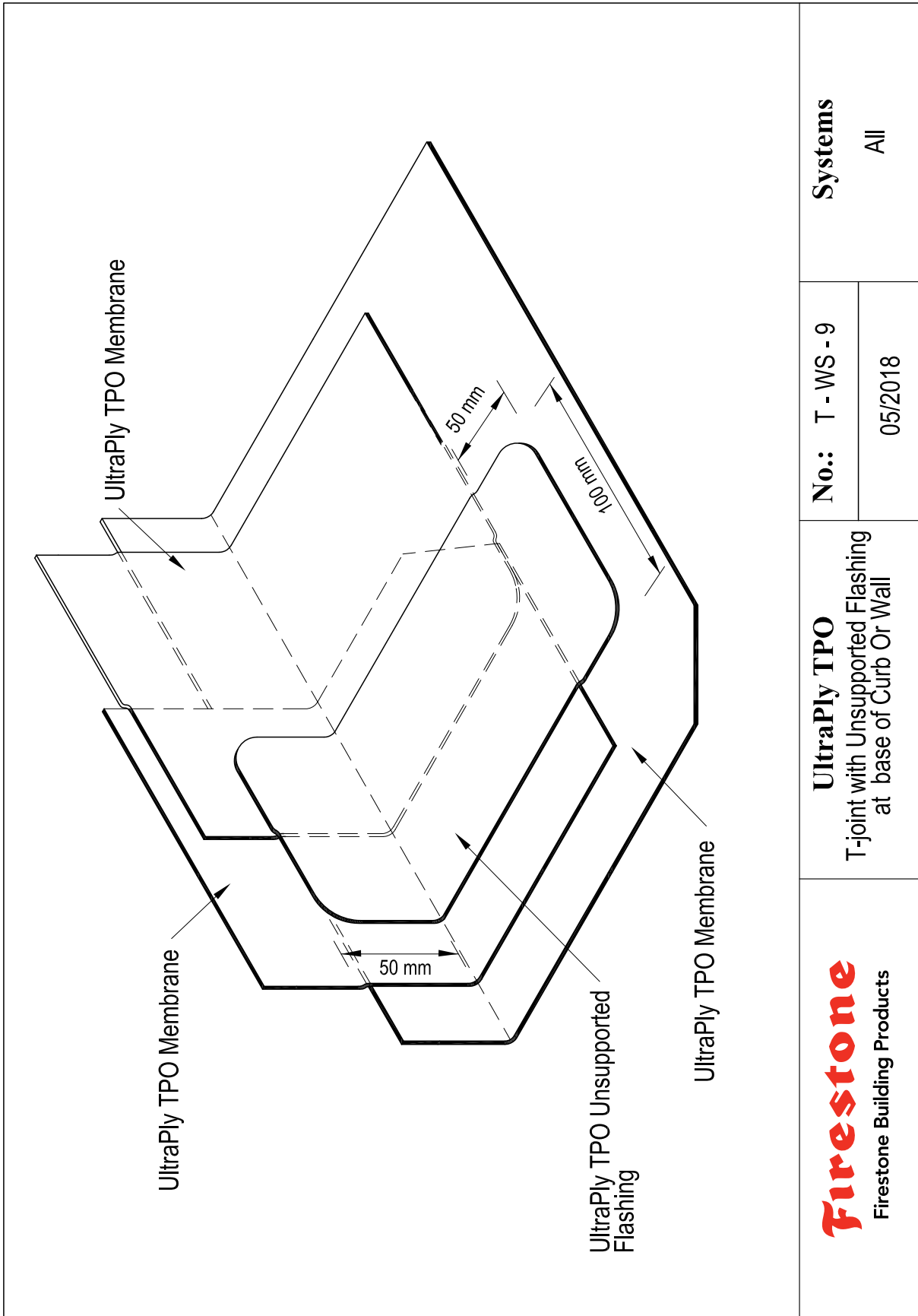
Firestone Firestone Building Products	UltraPly TPO T-joint with Unsupported Flashing	No.: T - WS - 7 05/2018	Systems All





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

Firestone Firestone Building Products	UltraPly TPO T-joint with Unsupported Flashing at intersection of two seams	No.: T - WS - 8	Systems All
		05/2018	



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UltraPly TPO
T-joint with Unsupported Flashing
at base of Curb Or Wall

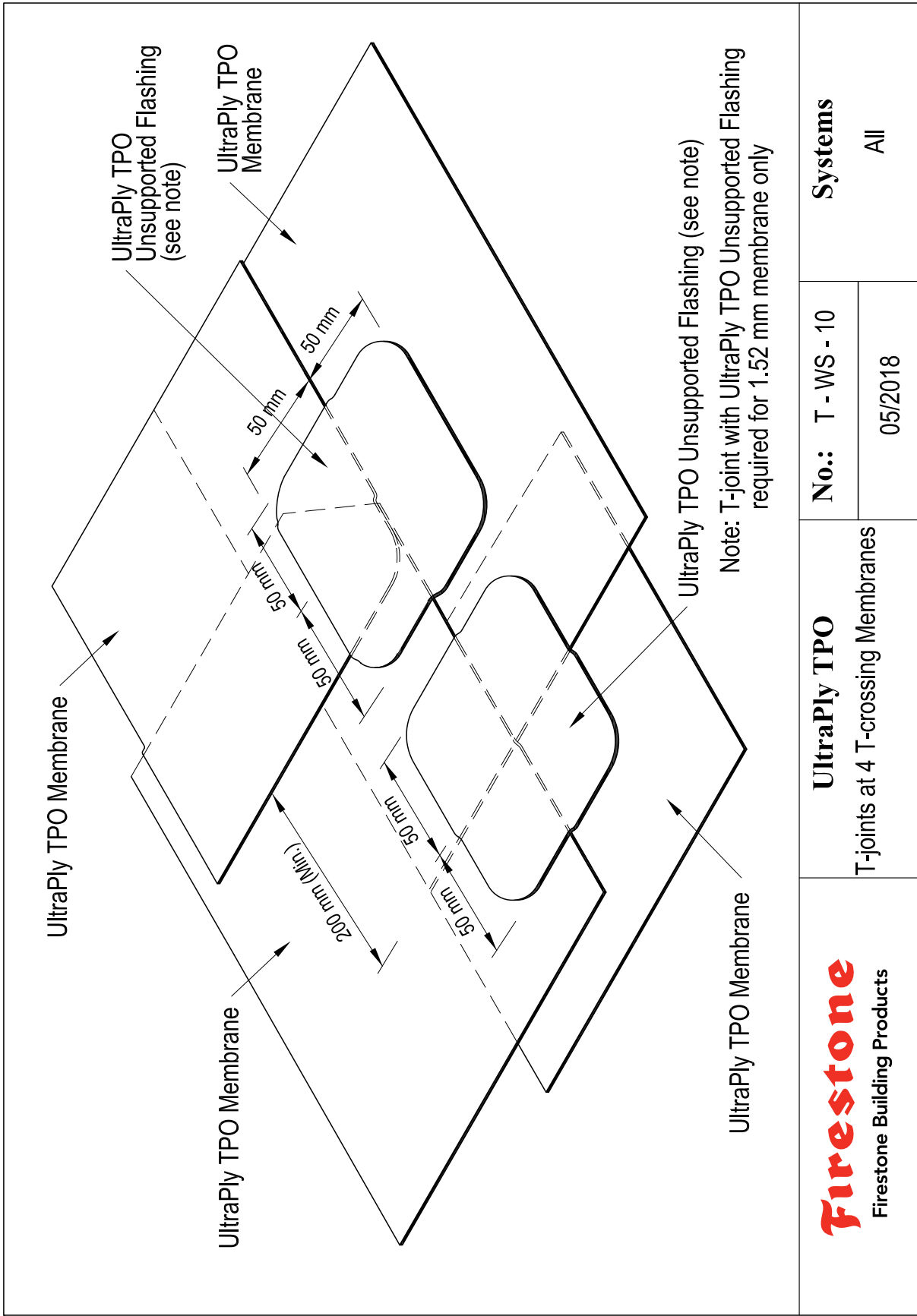
No.: T - WS - 9

05/2018

Systems

All



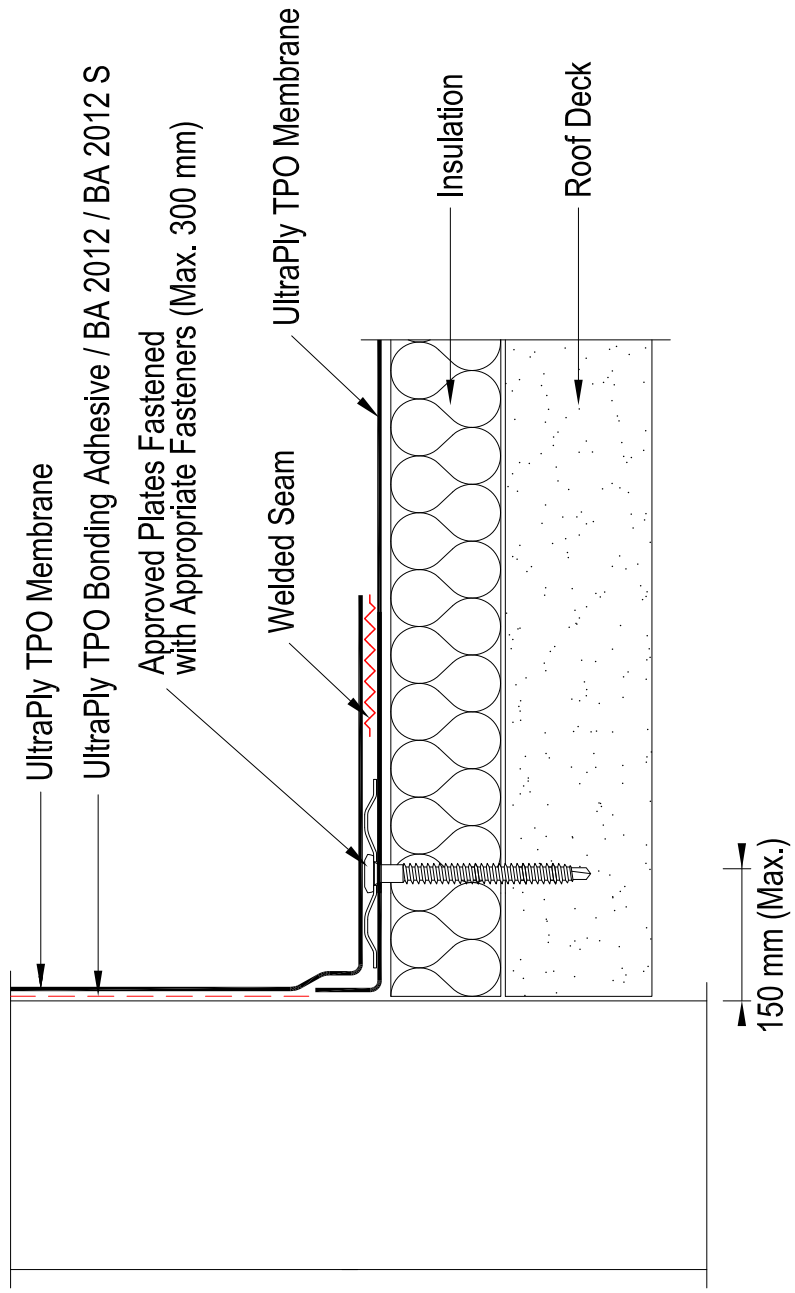


Firestone Firestone Building Products	UltraPly TPO T-joints at 4 T-crossing Membranes	No.: T - WS - 10	Systems All
		05/2018	

5.2 Base tie-ins

T-BT-1	Base tie-in using plates fastened to deck
T-BT-2	Base tie-in using plates fastened to upstand
T-BT-3	Base tie-in using plates fastened to upstand with existing cant
T-BT-4	Base tie-in at inside corner using HD seam plates
T-BT-5	Base tie-in at inside corner using non-Firestone plates
T-BT-6	Base tie-in at outside corner using HD seam plates
T-BT-7	Base tie-in at outside corner using non-Firestone plates
T-BT-8	Base tie-in with TPO induction welding plates





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Firestone Building Products

UltraPly TPO
Base Tie-In
using Plates Fastened to Deck

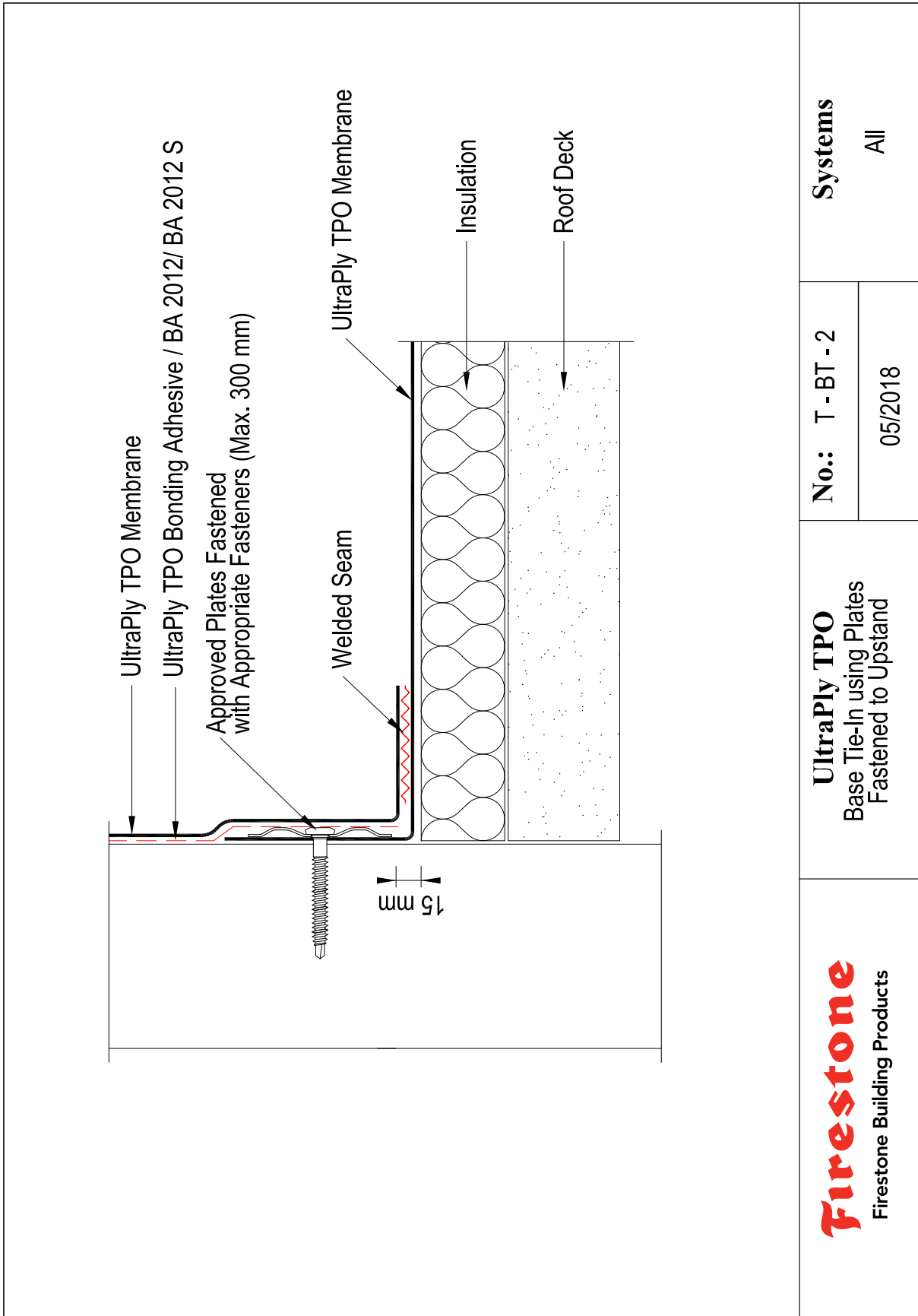
No.: T - BT - 1

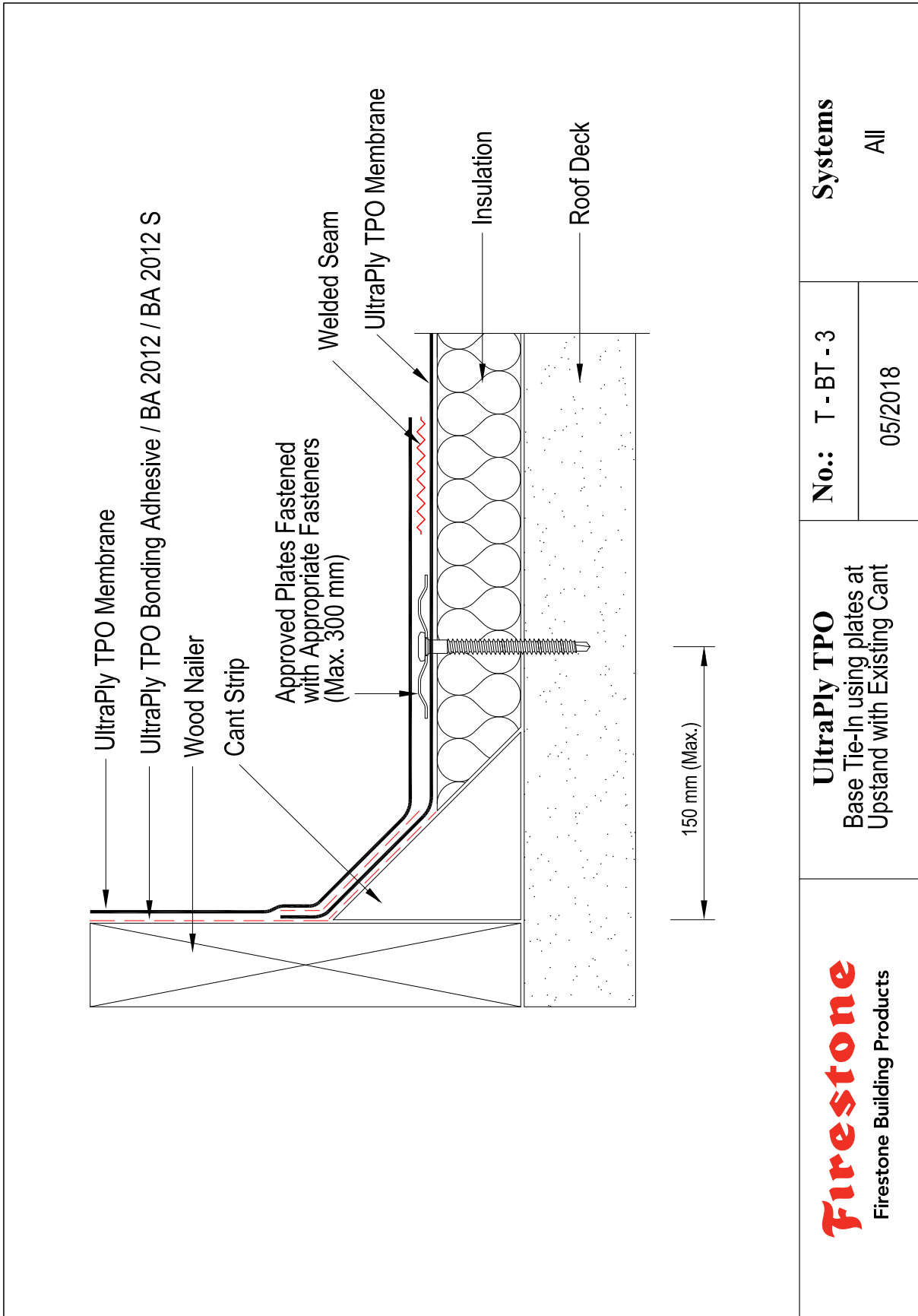
05/2018

Systems

All





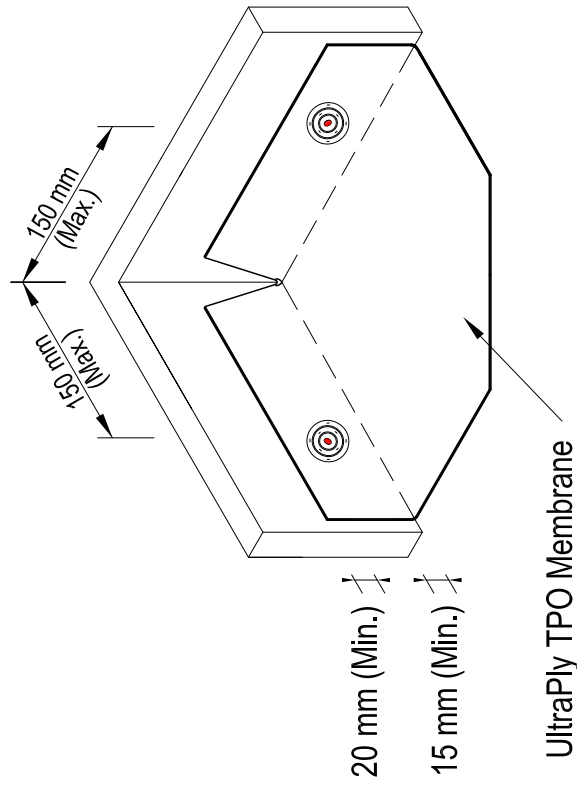


Firestone Firestone Building Products	UltraPly TPO Base Tie-In using plates at Upstand with Existing Cant	No.: T - BT - 3	Systems All
		05/2018	

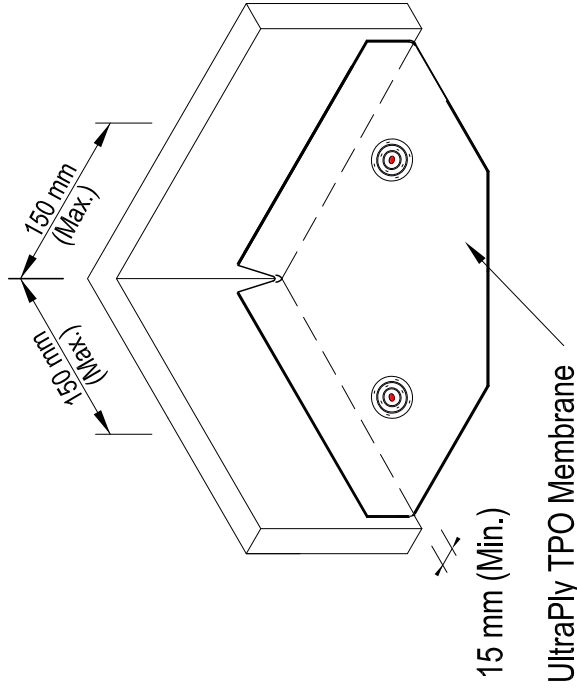




Wall / Upstand Attachment



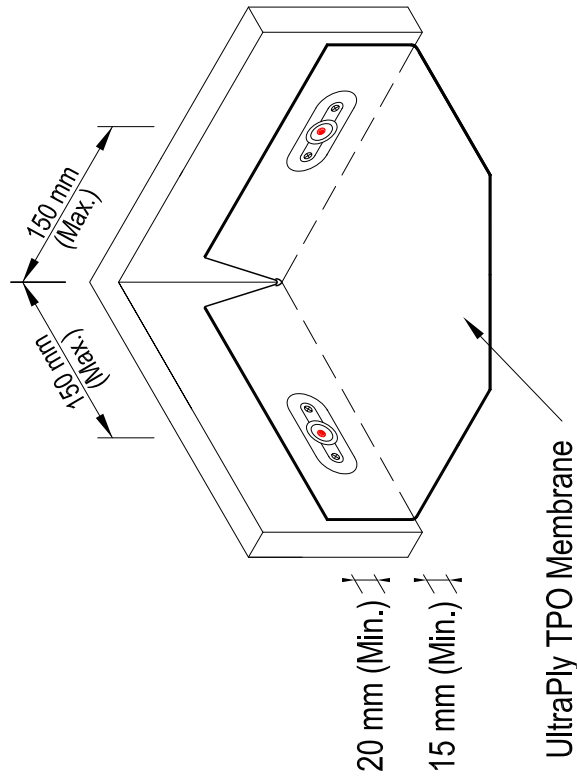
Roof Deck Attachment



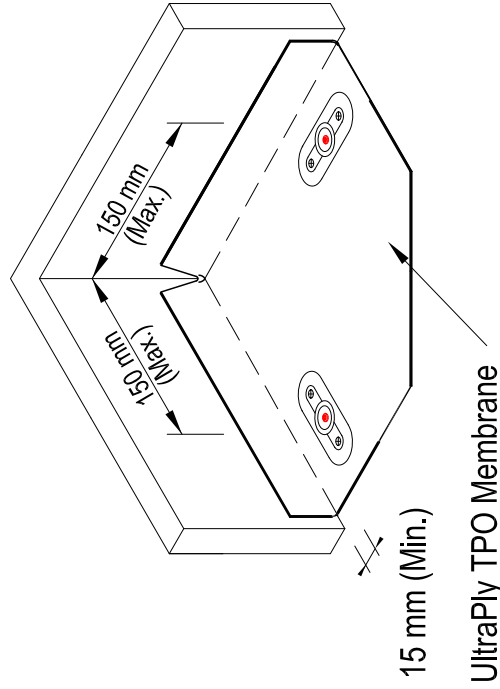
Note: Base Flashings and Terminations are not shown for clarity.
Refer to appropriate Termination & Base Tie-In details.

Firestone Firestone Building Products	UltraPly TPO Base Tie-In at Inside Corner using HD Seam Plates	No.: T - BT - 4	Systems All
		05/2018	

Wall / Upstand Attachment



Roof Deck Attachment



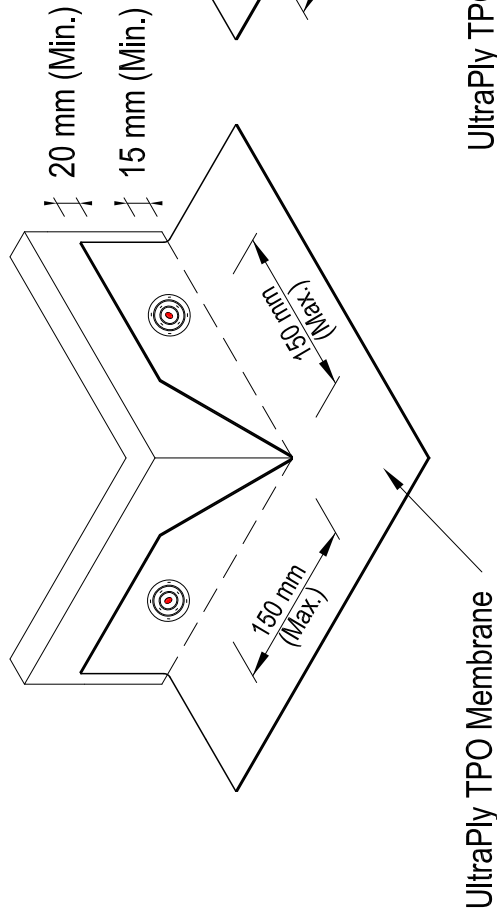
Note: Base Flashings and Terminations are not shown for clarity.
Refer to appropriate Termination & Base Tie-In details.

	<p>UltraPly TPO Base Tie-In at Inside Corner using non-Firestone Plates</p>	<p>No.: T - BT - 5</p>	<p>Systems All</p>
		<p>05/2018</p>	

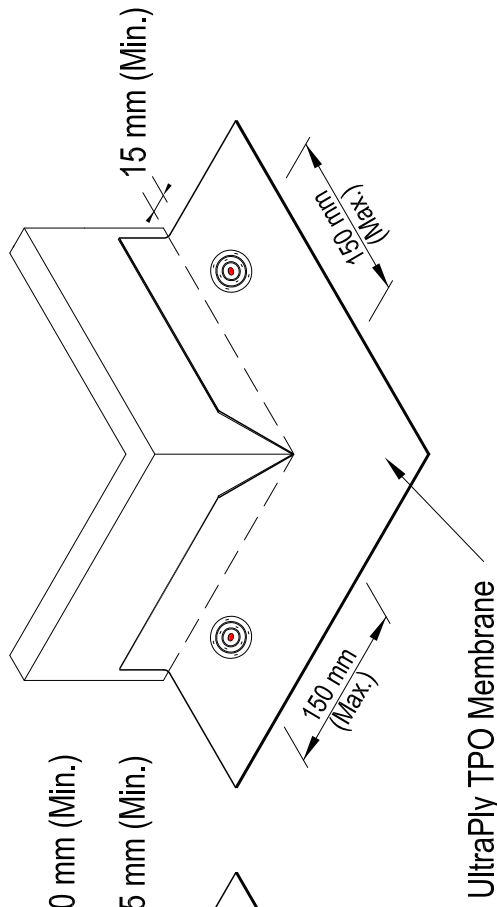




Wall / Upstand Attachment

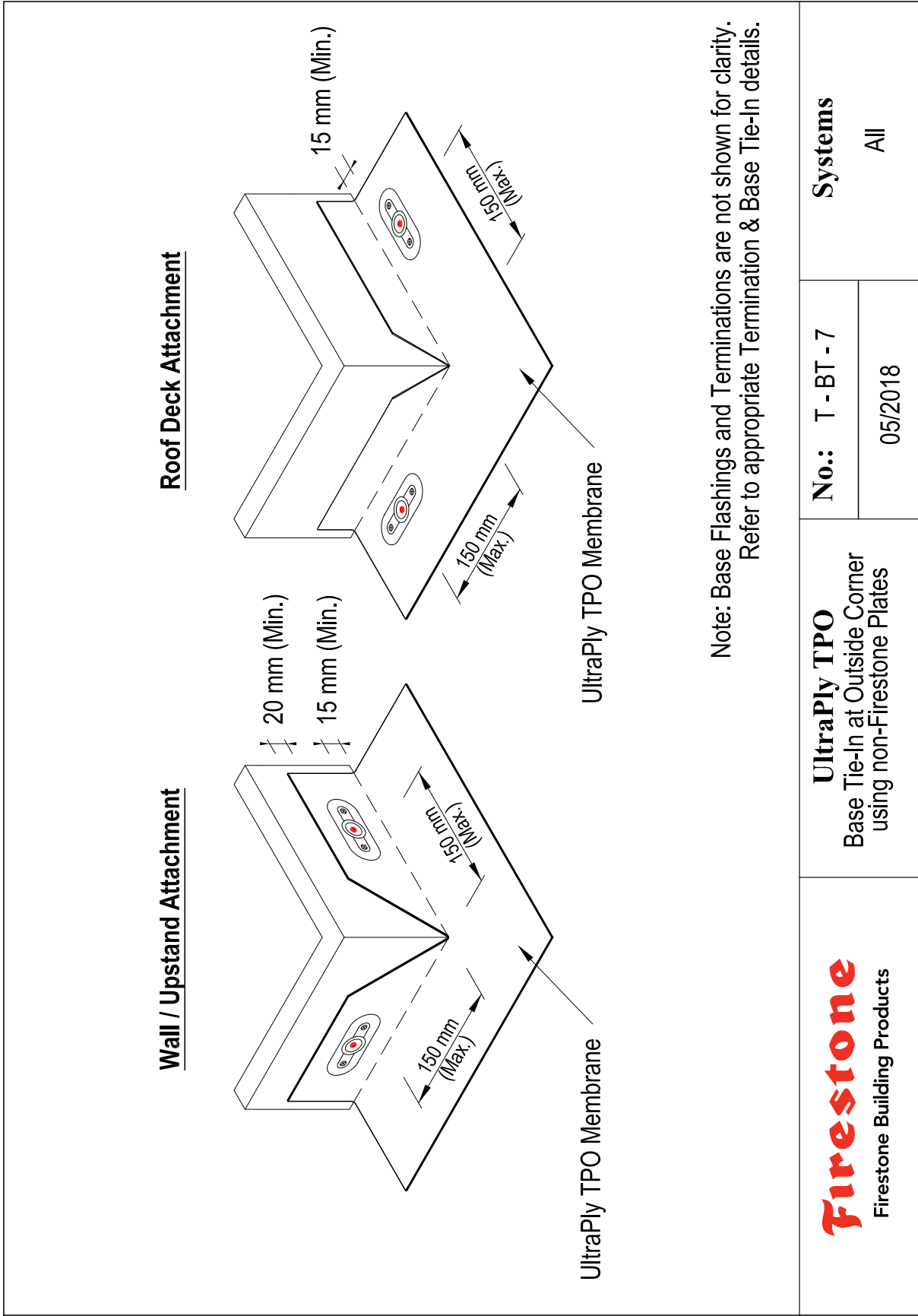


Roof Deck Attachment



Note: Base Flashings and Terminations are not shown for clarity.
Refer to appropriate Termination & Base Tie-In details.

Firestone Firestone Building Products	UltraPly TPO Base Tie-In at Outside Corner using HD Seam Plates	No.: T - BT - 6	Systems All
		05/2018	



Firestone
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UltraPly TPO
Base Tie-In at Outside Corner
using non-Firestone Plates

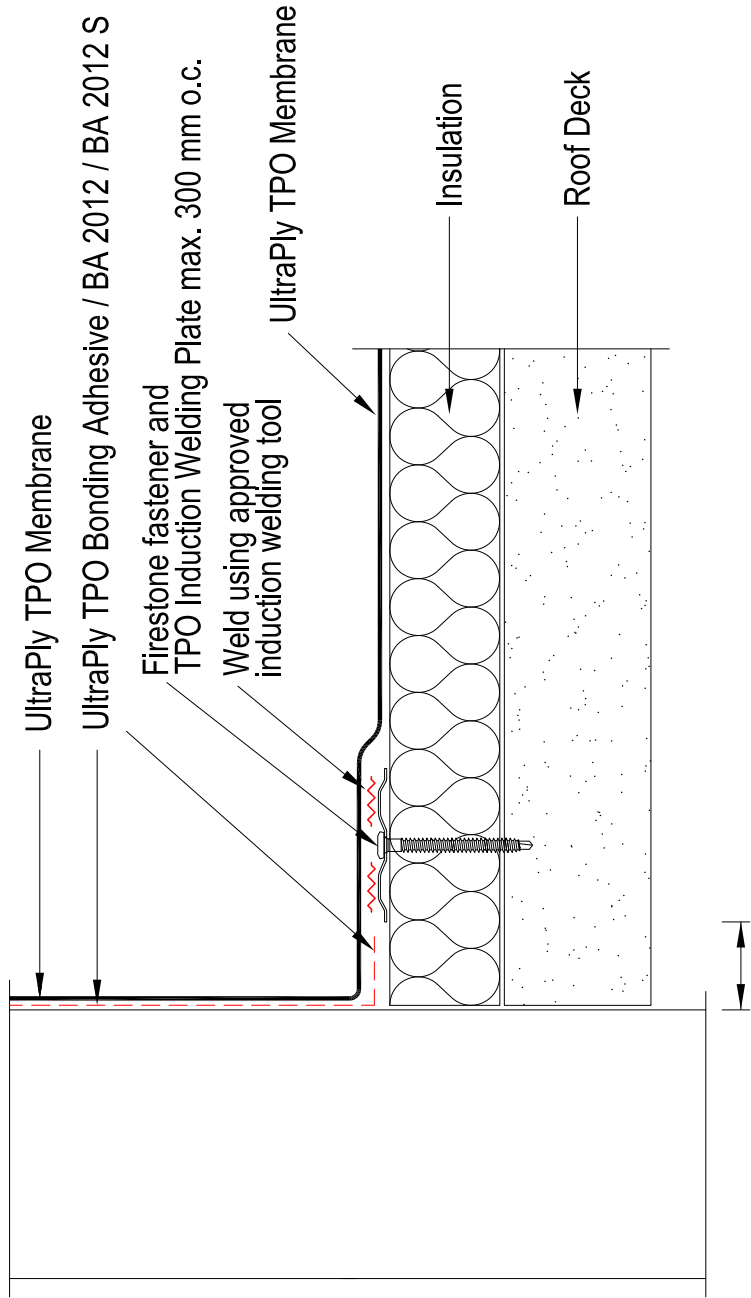
No.: T - BT - 7

05/2018

Systems

All





Induction Welding Plate must be at least 25 mm away from angle-change but not more than 150 mm

Firestone Firestone Building Products	UltraPly TPO Base Tie-In with TPO Induction Welding Plates (Field membrane continues flashing upstand)	No.: T - BT - 8	Systems Induction weld
		05/2018	

5.3 Corners

- T-C-1 Outside corner using pre-molded UltraPly TPO corner piece

- T-C-2 Inside corner using pre-molded UltraPly TPO corner piece

- T-C-3 Inside corner with continuous wall flashing using pre-molded UltraPly TPO corner piece

- T-C-4 Field-fabricated inside corner with continuous wall flashing

- T-C-5 Field-fabricated inside corner

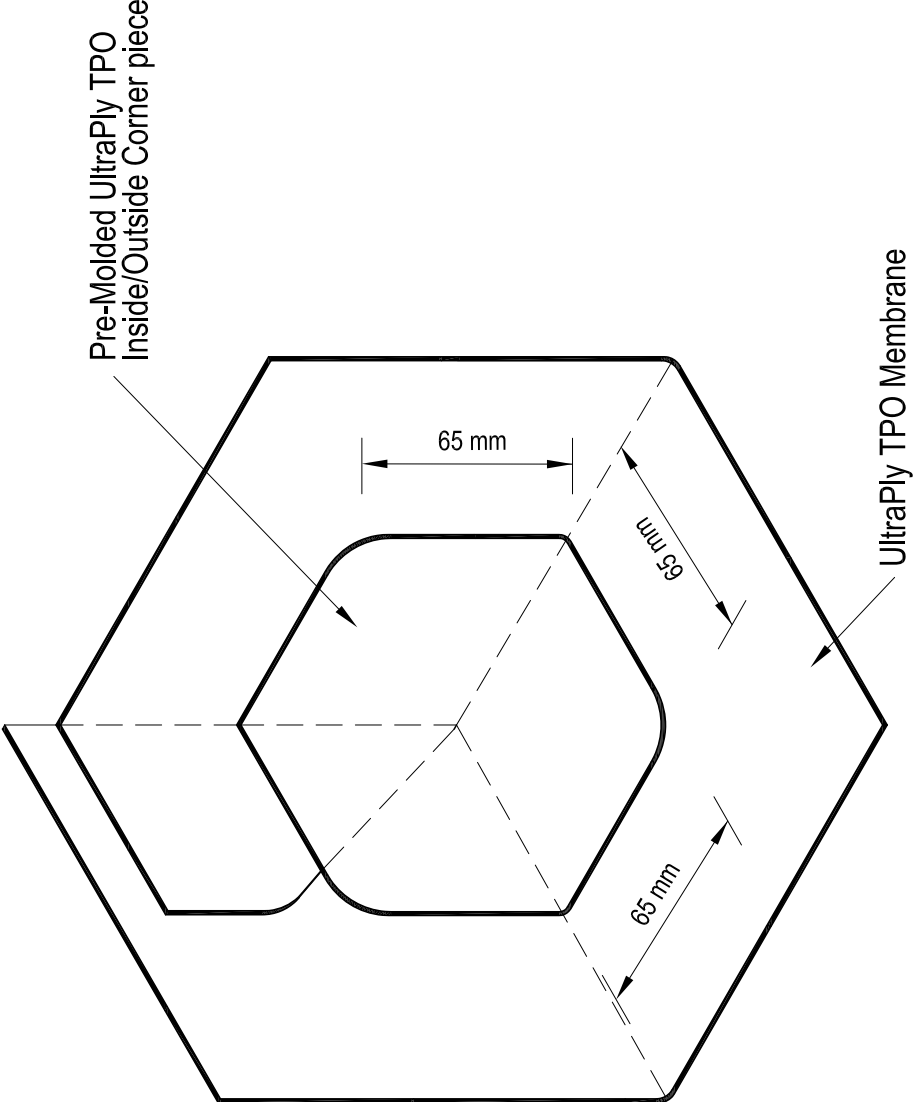
- T-C-6 Field-fabricated outside corner

- T-C-7 Field-fabricated outside corner with reinforcement patch

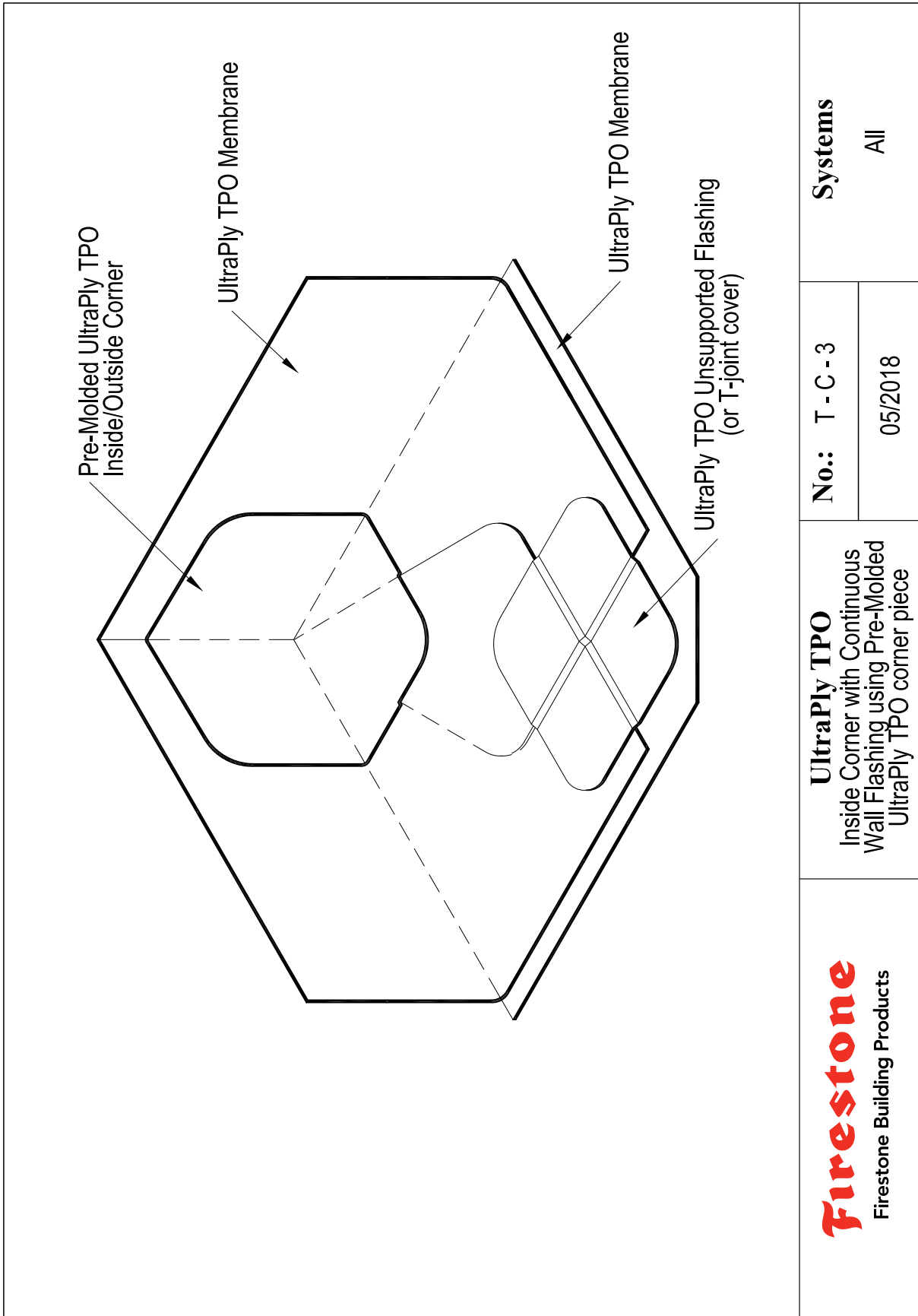


	<p>UltraPly TPO Outside Corner using Pre-Molded UltraPly TPO corner piece</p>	<p>Firestone Firestone Building Products</p>
<p>No.: T - C - 1</p>	<p>05/2018</p>	<p>Systems All</p>



	<p>Firestone Firestone Building Products</p>	<p>UltraPly TPO Inside Corner using Pre-Molded UltraPly TPO corner piece</p>	<p>No.: T - C - 2</p>	<p>Systems All</p>
		<p>05/2018</p>		





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UltraPly TPO
Inside Corner with Continuous
Wall Flashing using Pre-Molded
UltraPly TPO corner piece

No.: T - C - 3

05/2018

Systems

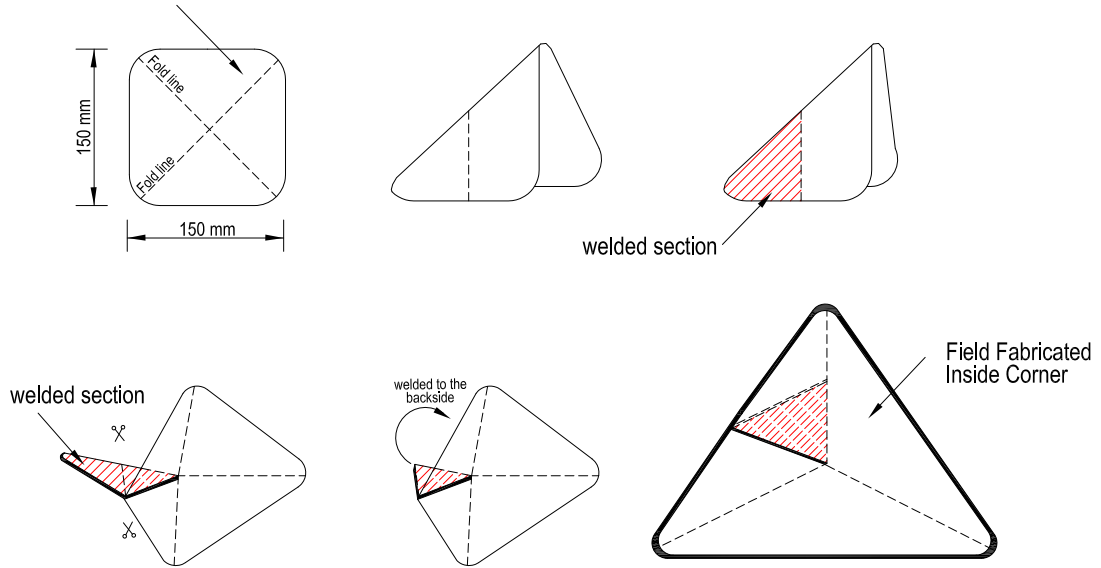
All



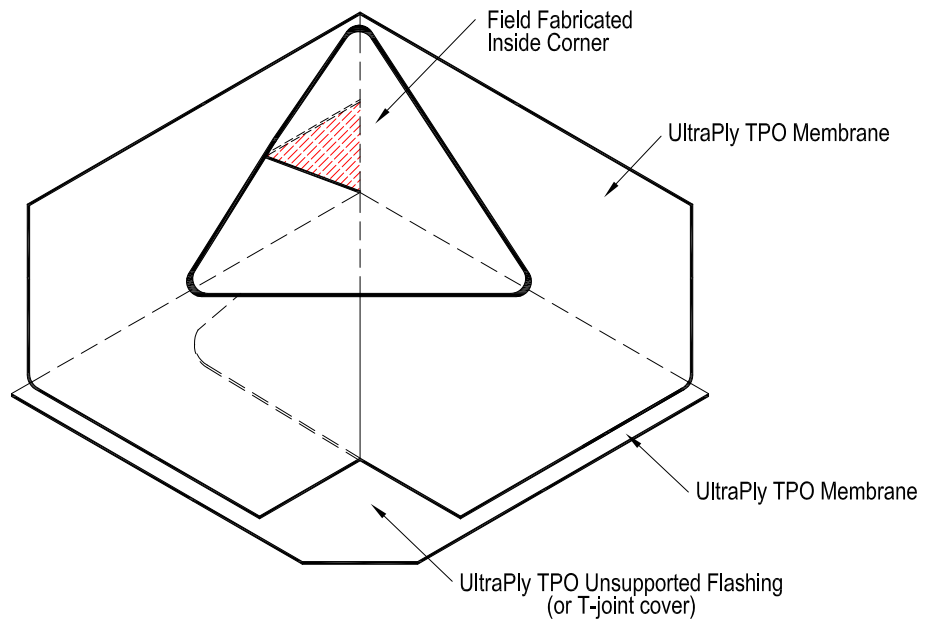
STEP #1


UltraPly TPO Unsupported Flashing
to Field Fabricated Inside Corner

UltraPly TPO Unsupported Flashing

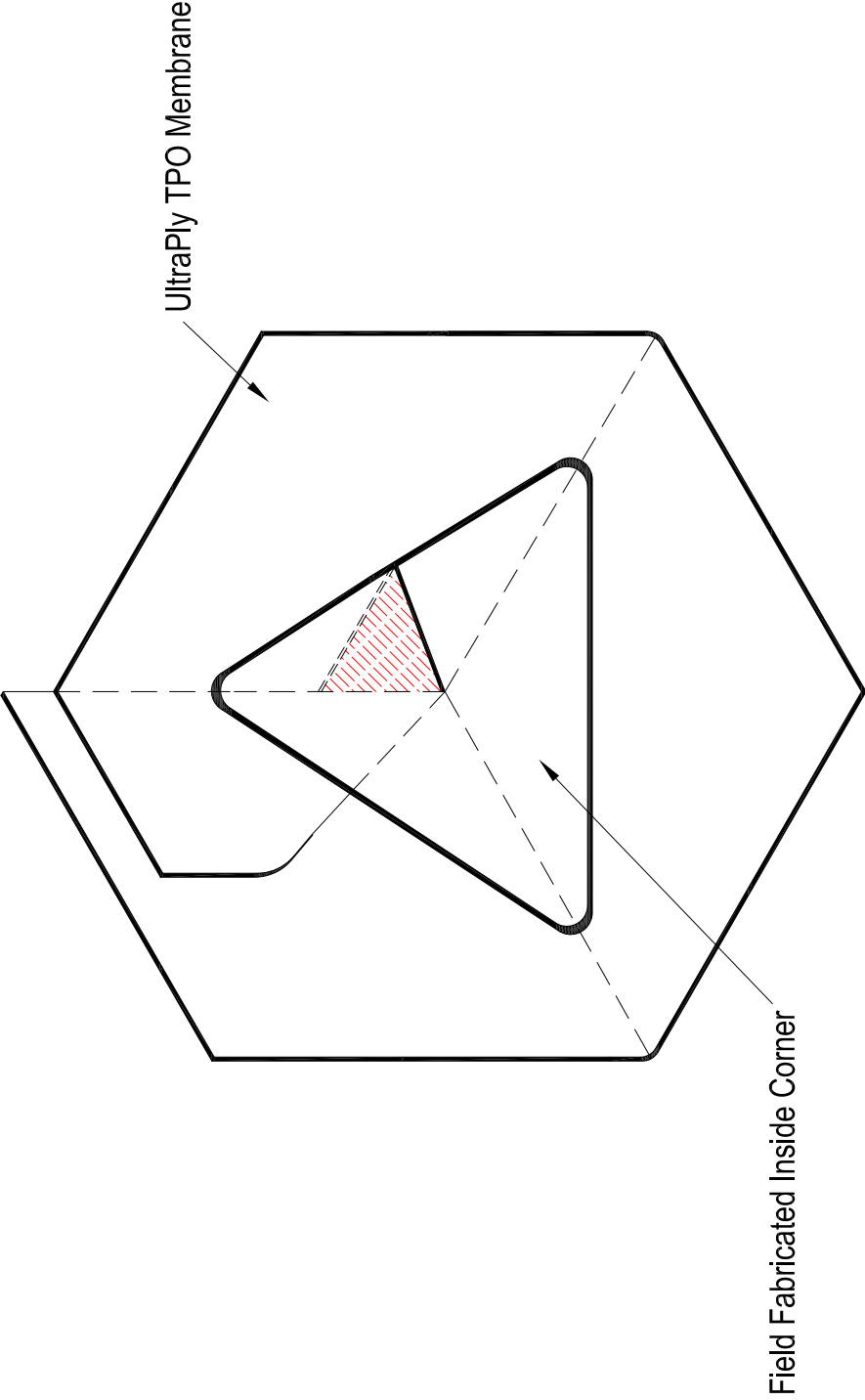


STEP #2

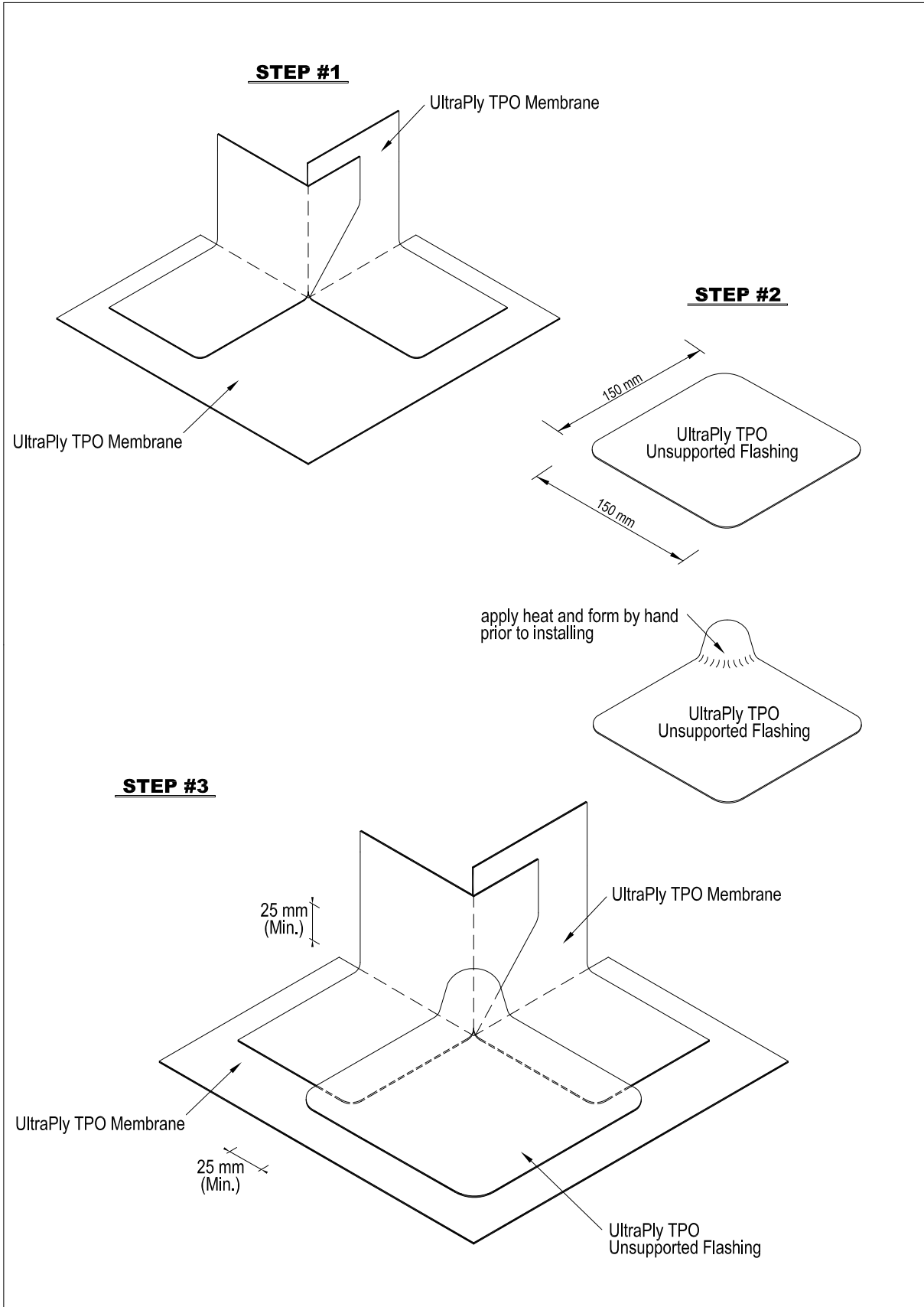


 Firestone Firestone Building Products	UltraPly TPO Field Fabricated Inside Corner with Continuous Wall Flashing	No.: T - C - 4	Systems All
		05/2018	



 <p>UltraPly TPO Membrane</p> <p>Field Fabricated Inside Corner</p>	<p>Systems</p> <p>All</p>
<p>No.: T - C - 5</p> <p>05/2018</p>	<p>UltraPly TPO Field Fabricated Inside Corner</p>
<p>Firestone Firestone Building Products</p>	





Firestone Firestone Building Products	UltraPly TPO Field Fabricated Outside Corner	No.: T - C - 6	Systems All
		05/2018	



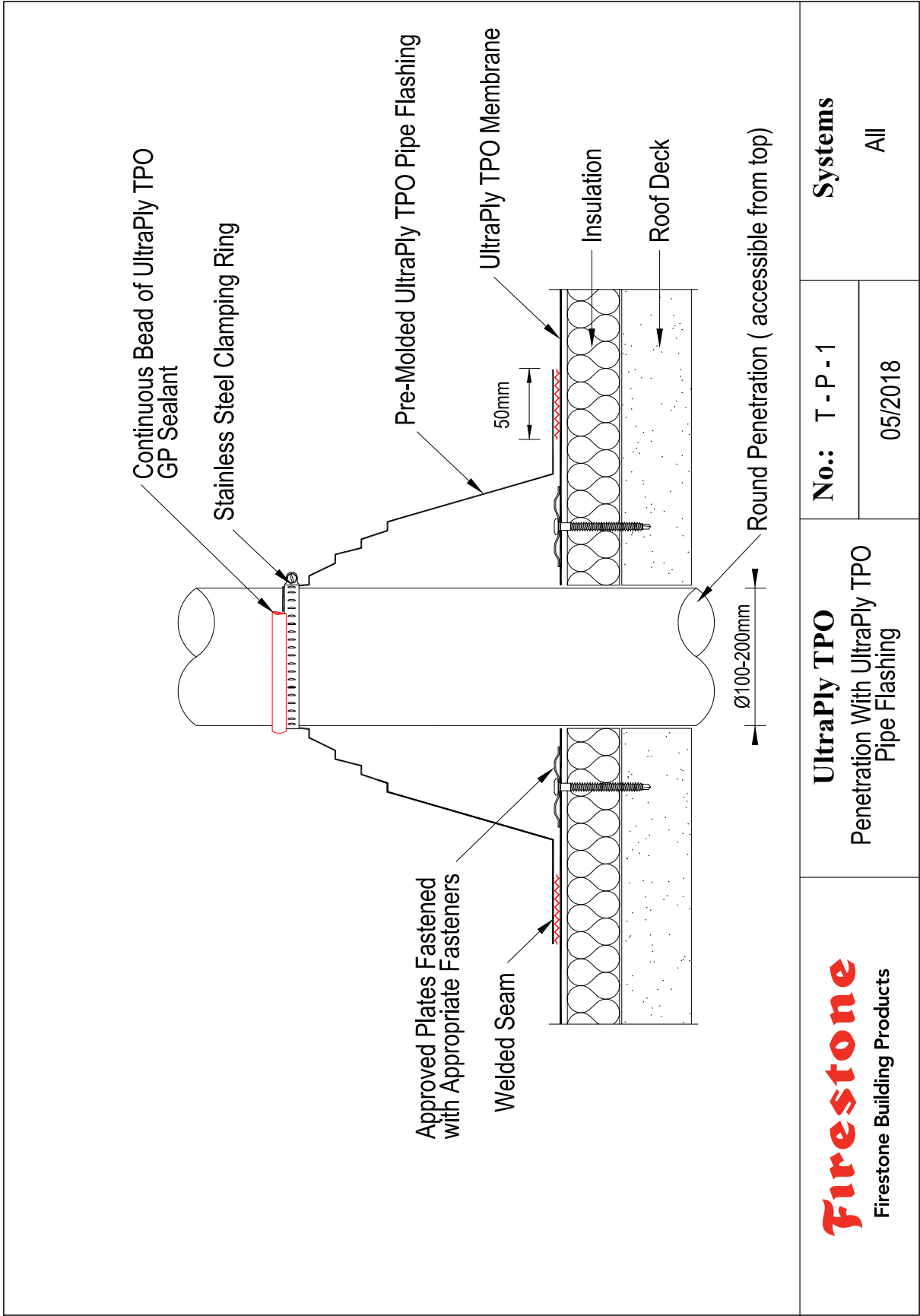


		<p>No.: T - C - 7</p>	<p>Systems</p> <p>All</p>
		<p>05/2018</p>	
<p>Firestone Firestone Building Products</p>	<p>UltraPly TPO Field Fabricated Outside Corner with Reinforcement Patch</p>		

5.4 Penetrations

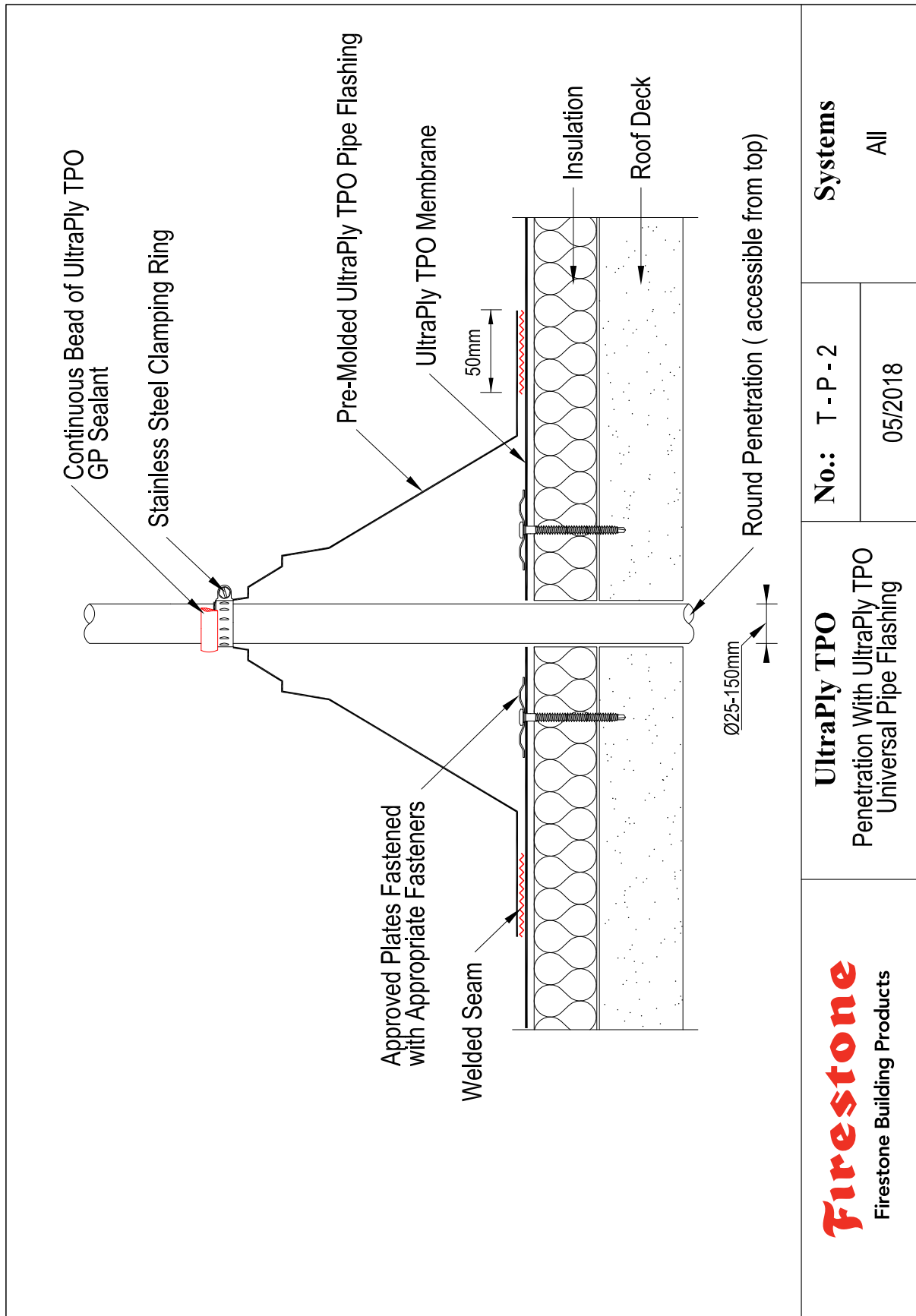
T-P-1	Penetration with UltraPly TPO Pipe Flashing
T-P-2	Penetration with UltraPly TPO Universal Pipe flashing
T-P-3	Penetration with UltraPly TPO Unsupported Flashing
T-P-4	Penetration with UltraPly TPO Unsupported Flashing (alternative method)
T-P-5	Hot pipe penetration
T-P-6	Penetration using TPO Penetration Pocket Kit
T-P-7	Penetration pocket using UltraPly TPO Coated Metal
T-P-8	Membrane securement layout at penetration (target patch)
T-P-9	Membrane securement layout at penetration (cover strips)





Firestone Firestone Building Products	UltraPly TPO Penetration With UltraPly TPO Pipe Flashing		No.: T - P - 1	Systems All
			05/2018	





Firestone
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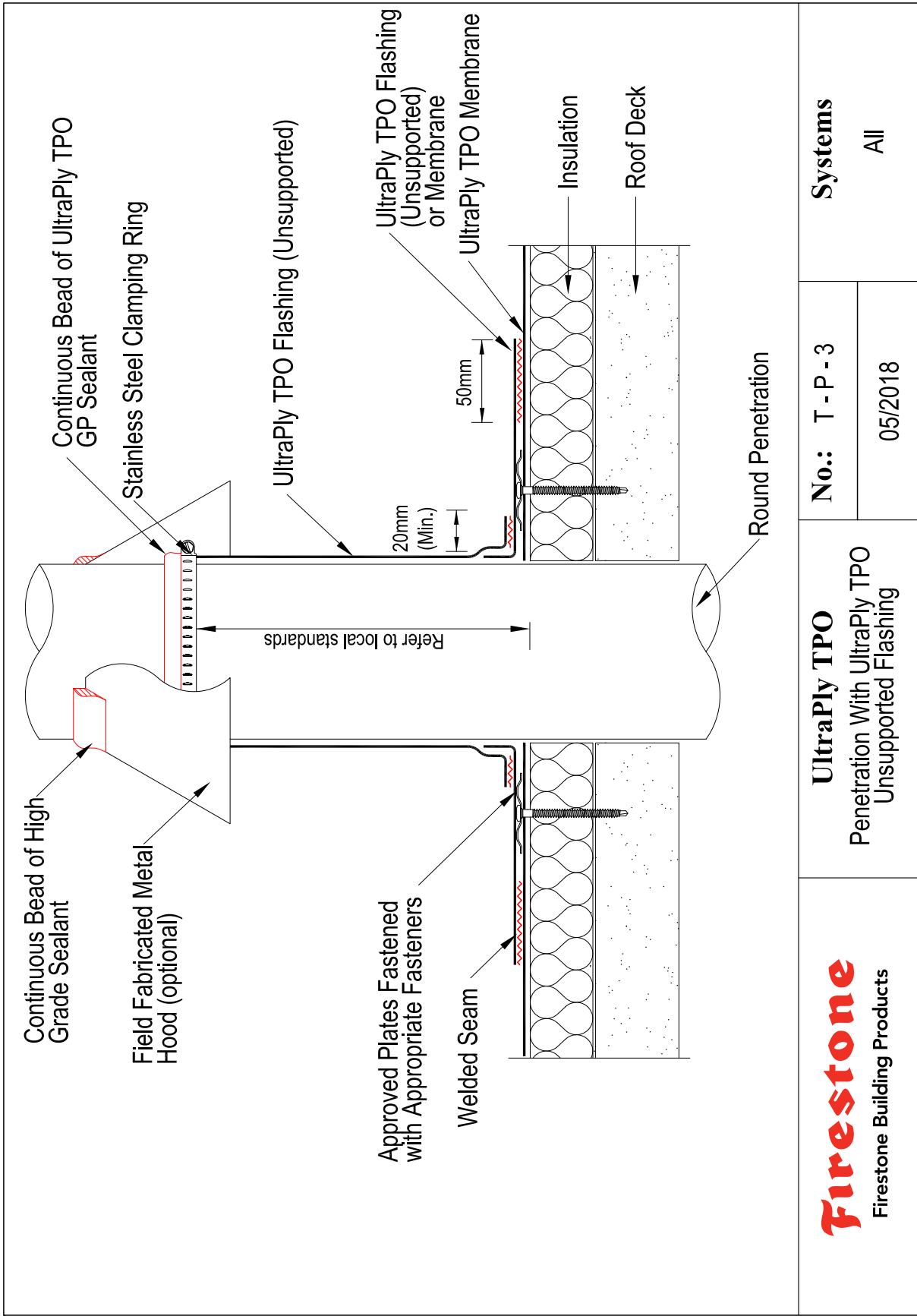
UltraPly TPO
Penetration With UltraPly TPO
Universal Pipe Flashing

No.: T - P - 2

05/2018

Systems

All



Firestone
Firestone Building Products

UltraPly TPO
Penetration With UltraPly TPO
Unsupported Flashing

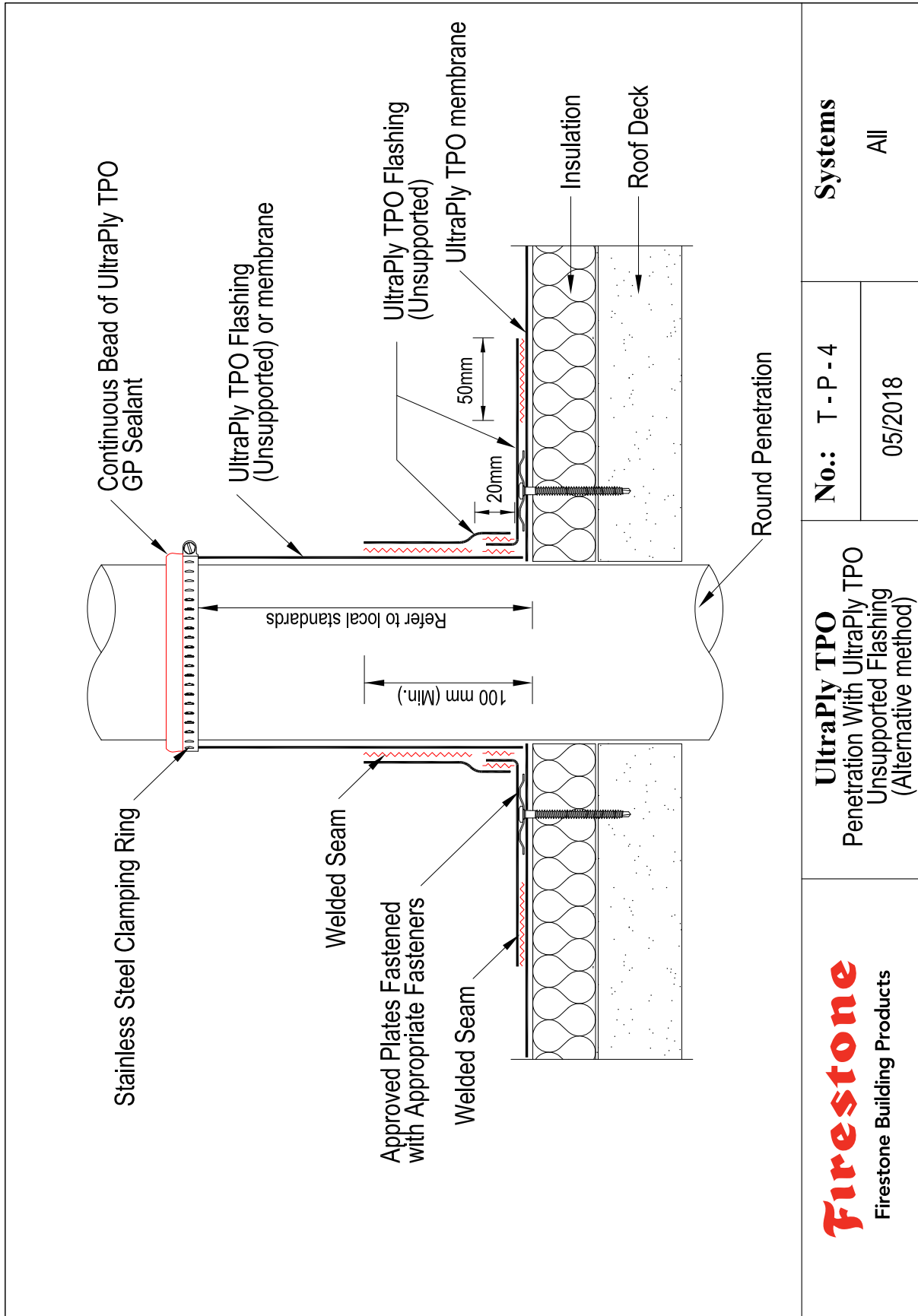
No.: T - P - 3

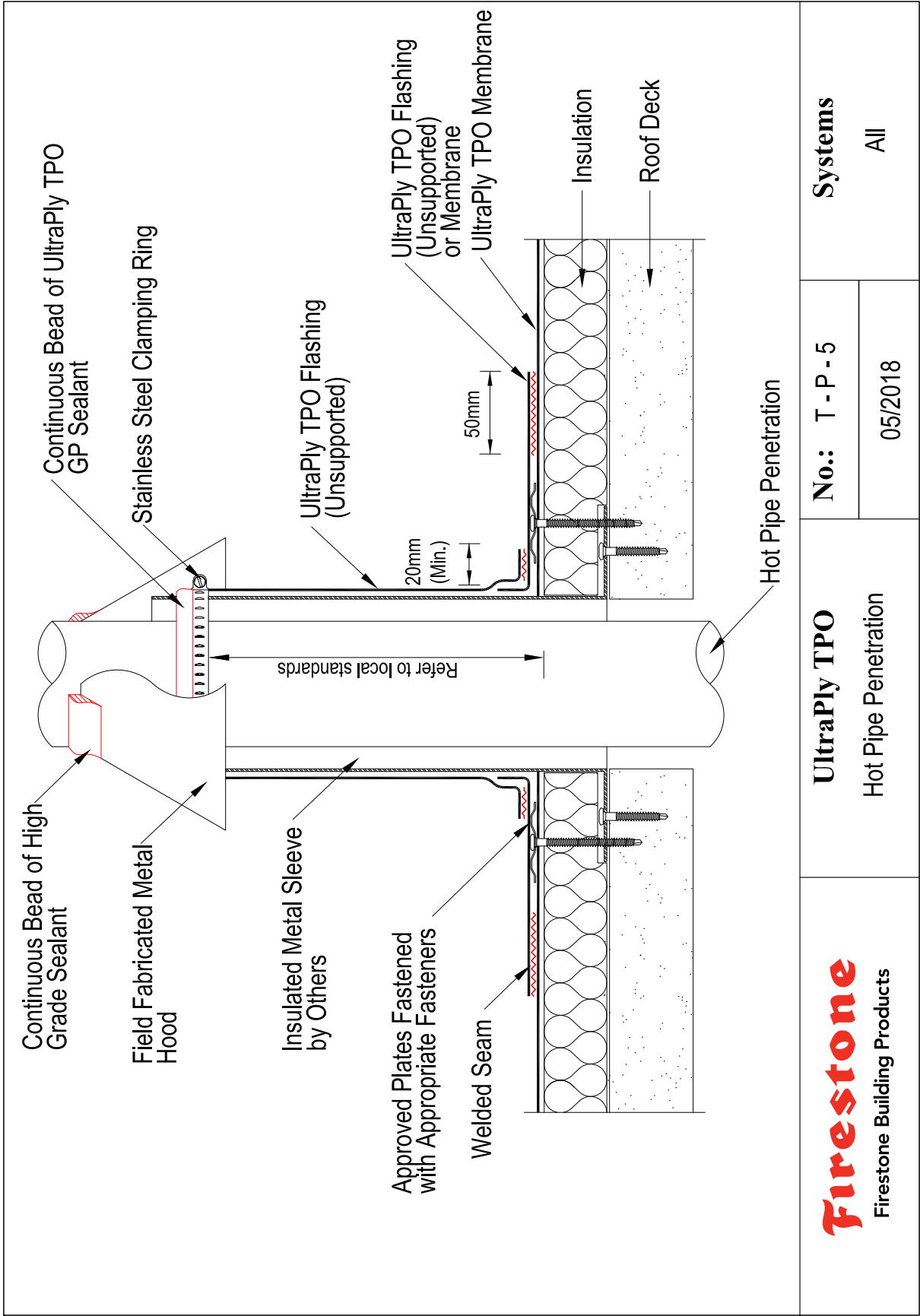
05/2018

Systems

All

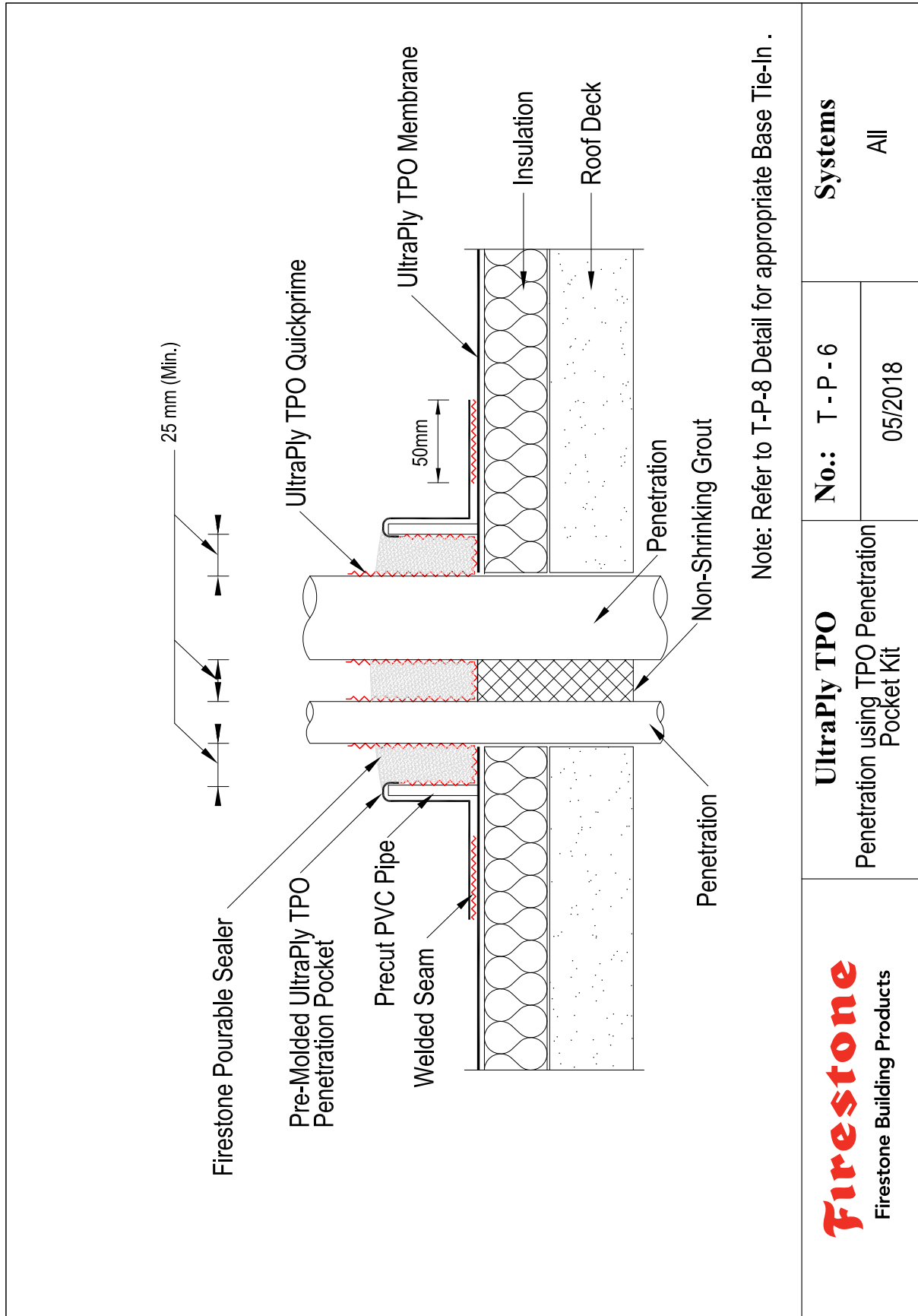






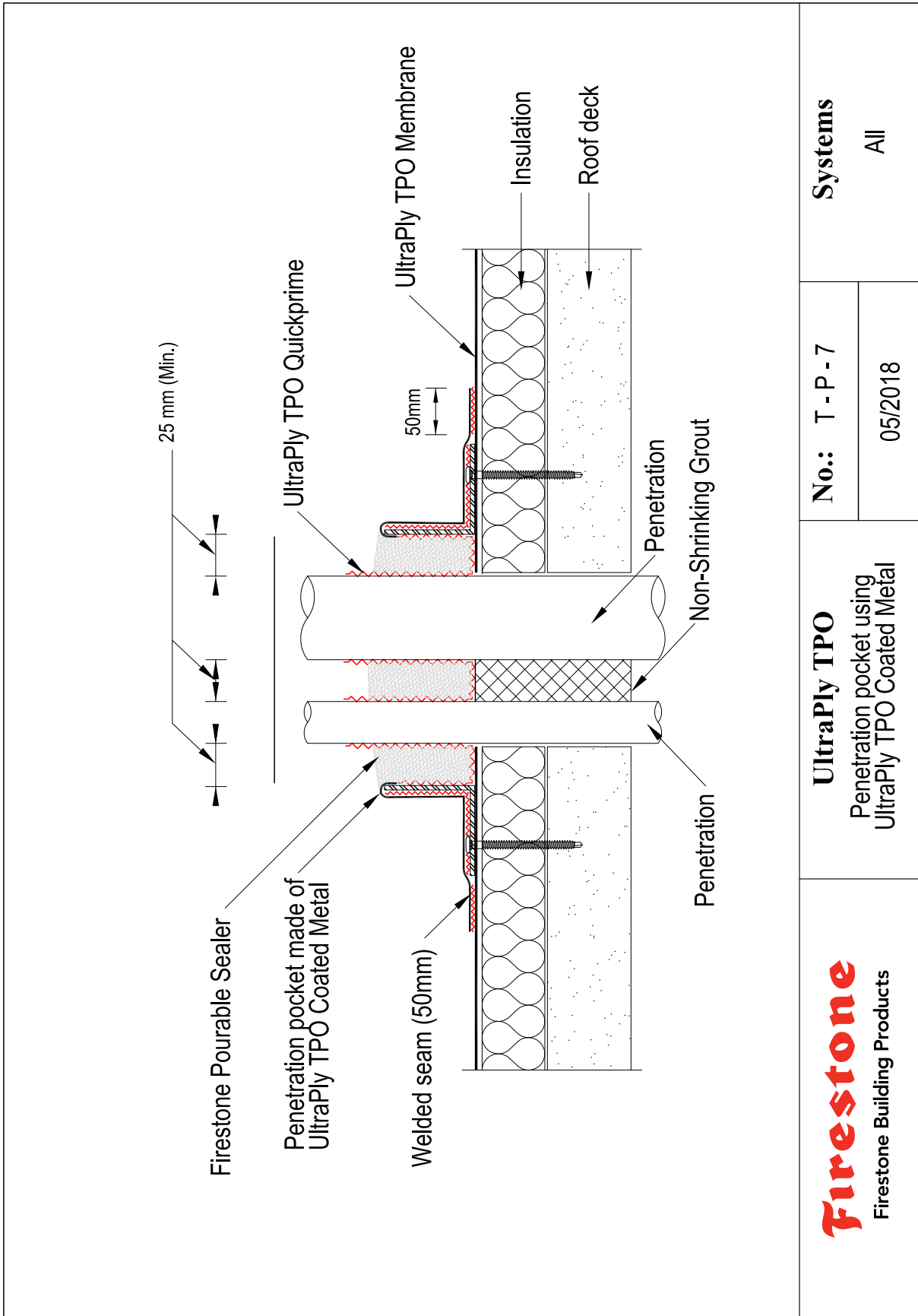
Firestone Firestone Building Products	UltraPly TPO Hot Pipe Penetration		No.: T - P - 5	Systems All
			05/2018	





Note: Refer to T-P-8 Detail for appropriate Base Tie-In .

Firestone Firestone Building Products	UltraPly TPO Penetration using TPO Penetration Pocket Kit	No.: T - P - 6	Systems All
		05/2018	



Firestone
Firestone Building Products

UltraPly TPO
Penetration pocket using
UltraPly TPO Coated Metal

No.: T - P - 7

05/2018

Systems

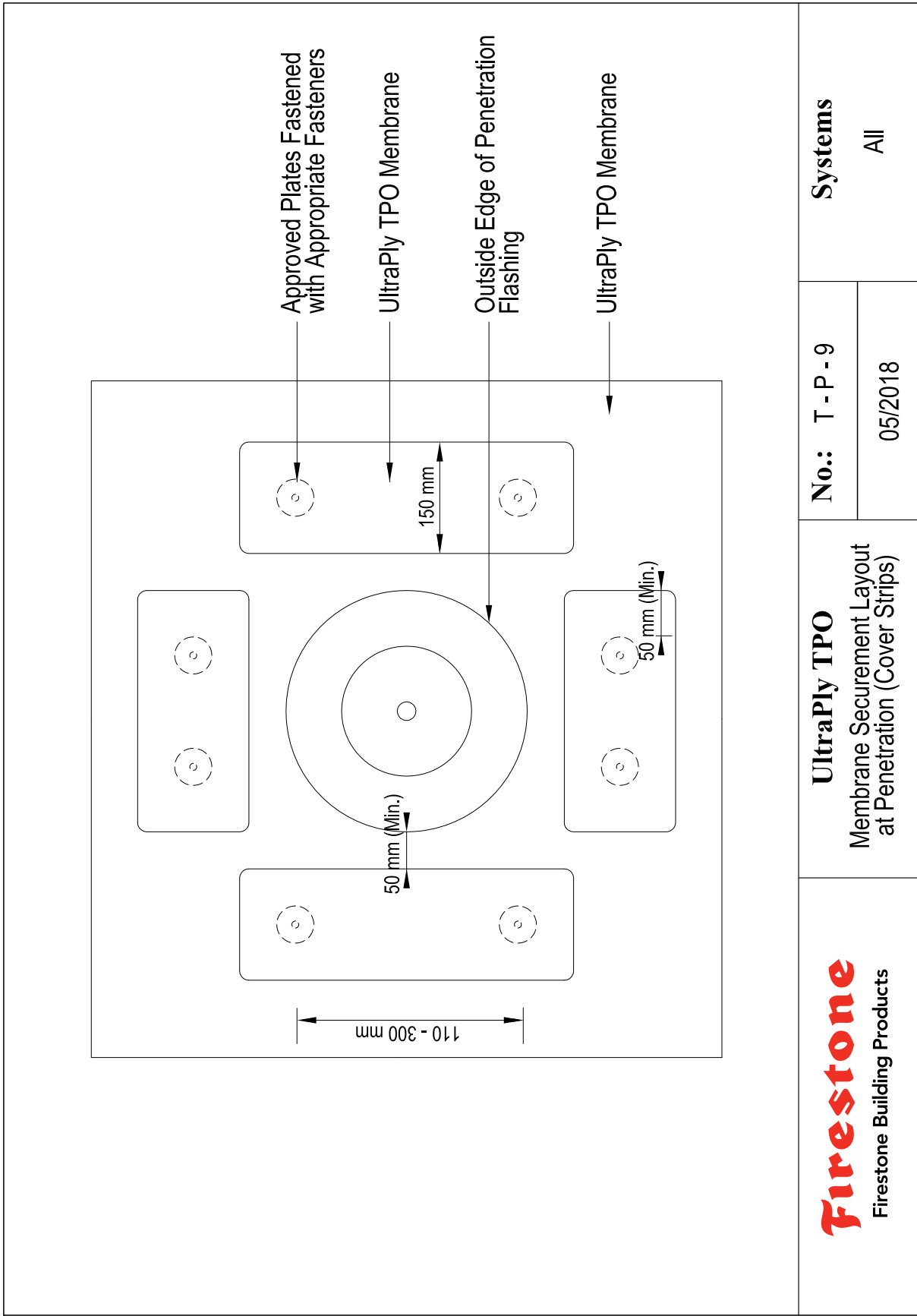
All





<p>UltraPly TPO Target Patch</p> <p>Approved Plates Fastened with Appropriate Fasteners</p> <p>Welded Seam (min. 50mm)</p> <p>Outside Edge of Penetration Flashing</p> <p>UltraPly TPO Membrane</p>	UltraPly TPO Membrane Securement Layout at Penetration (Target Patch)	No.: T - P - 8	Systems All
			05/2018

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Firestone
Firestone Building Products

UltraPly TPO
Membrane Securement Layout
at Penetration (Cover Strips)

No.: T - P - 9

05/2018

Systems

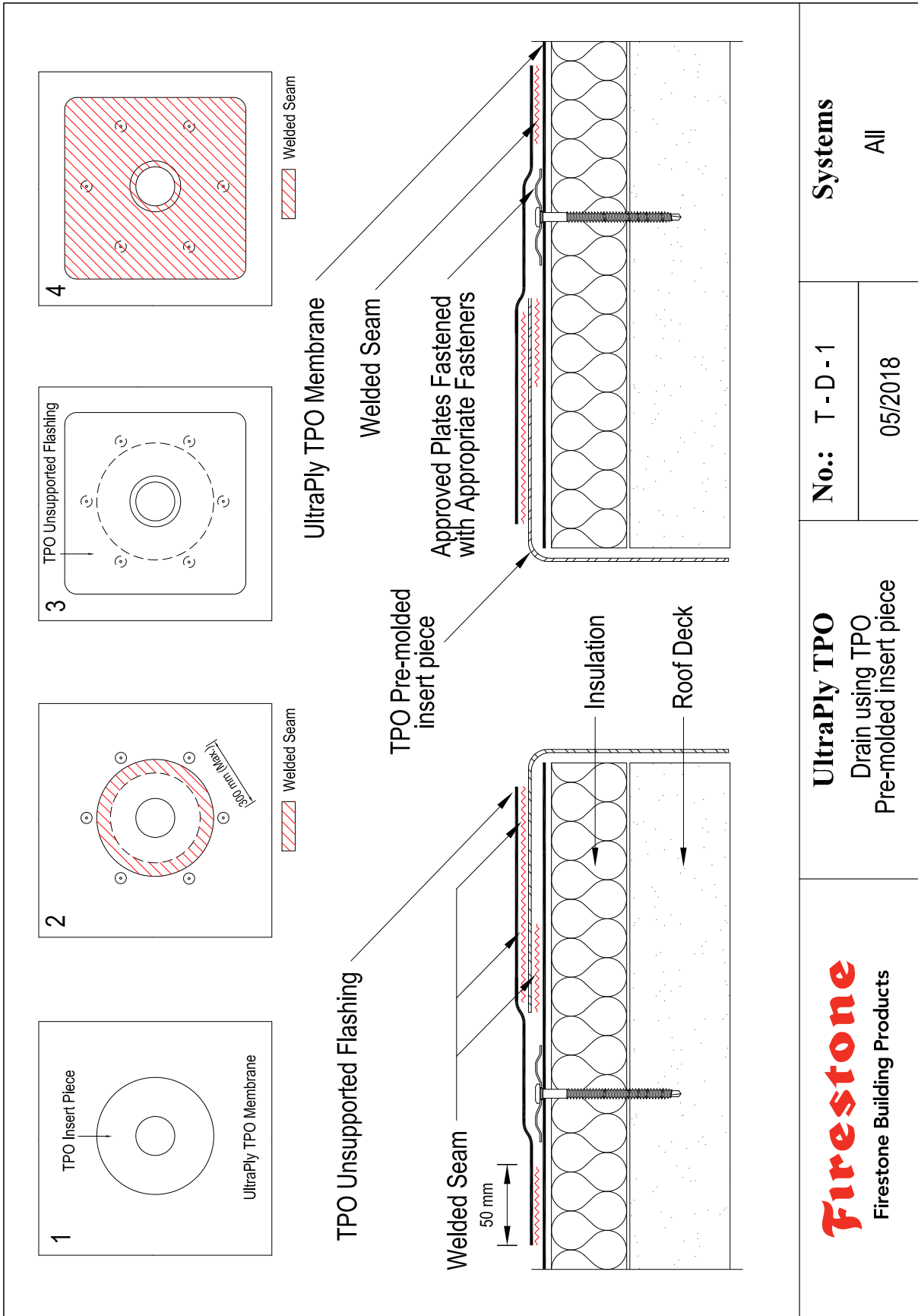
All



5.5 Drains

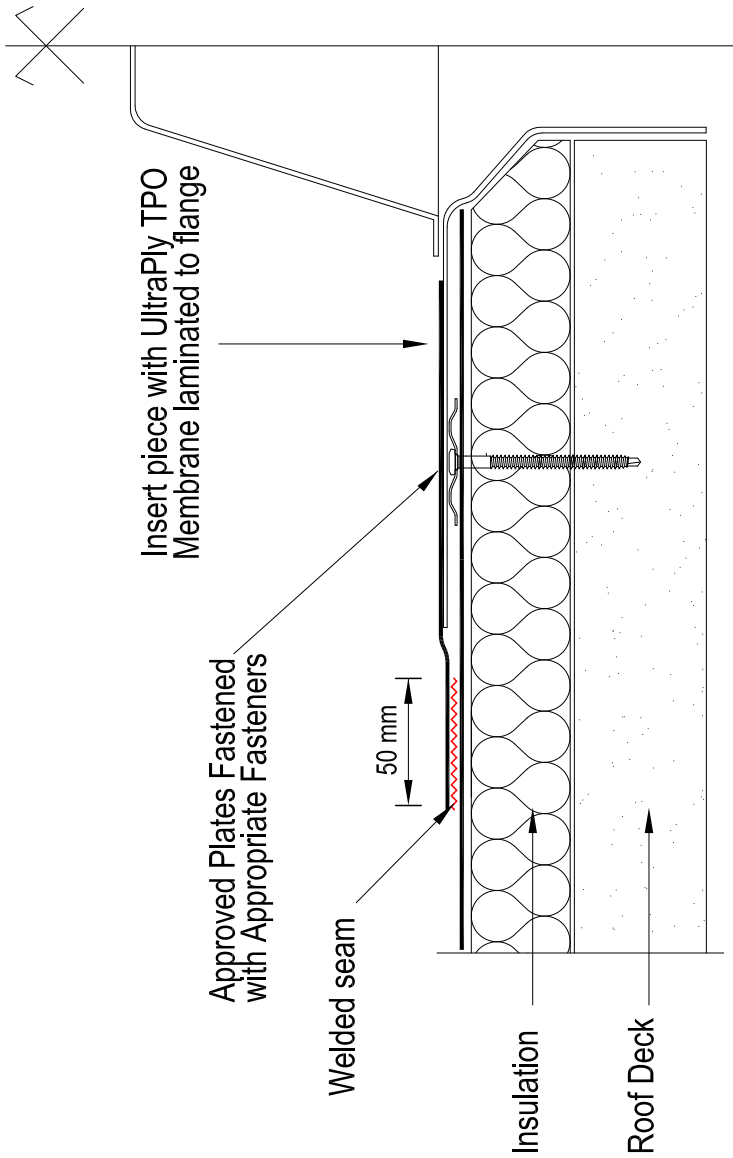
- T-D-1 Drain using TPO pre-molded insert piece
- T-D-2 Drain using insert piece with UltraPly TPO membrane laminated to flange
- T-D-3 Drain with clamping ring
- T-D-4 TPO pre-molded scupper





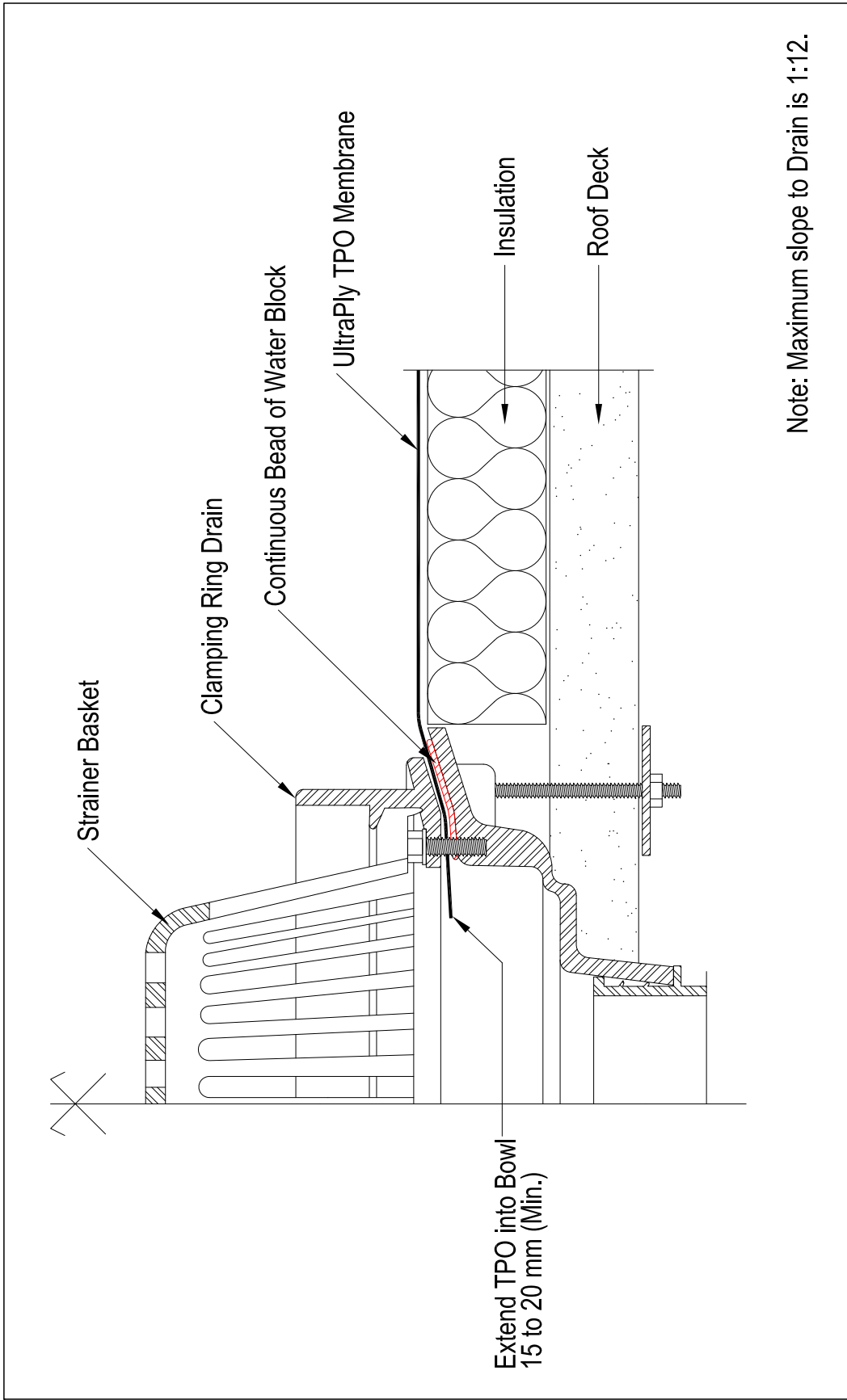
Firestone Firestone Building Products	UltraPly TPO Drain using TPO Pre-molded insert piece		No.: T - D - 1	Systems All
			05/2018	





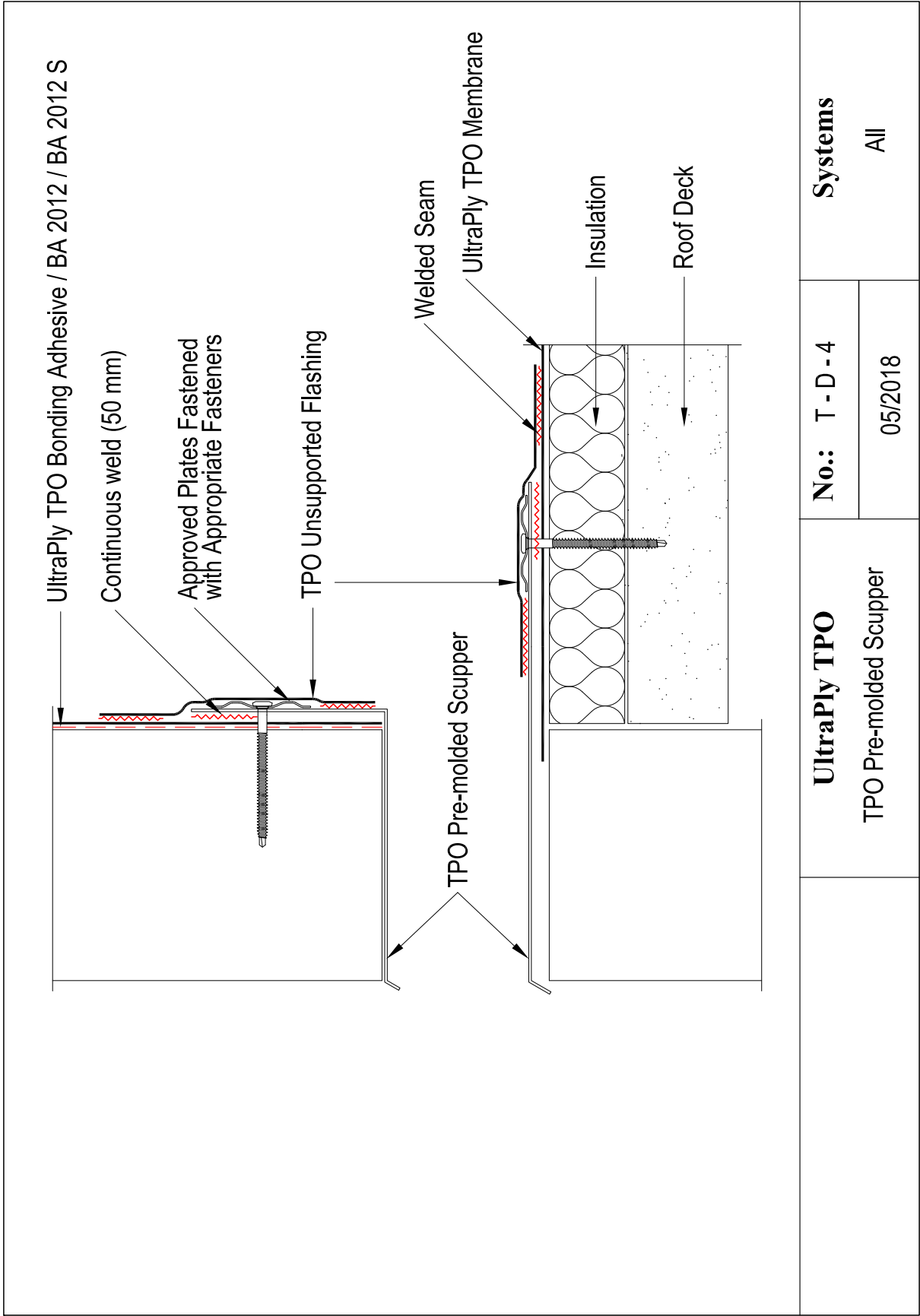
Note: A bead of Cut Edge Sealant is required.

Firestone Firestone Building Products	UltraPly TPO Drain using Insert piece with UltraPly TPO Membrane laminated to flange	No.: T - D - 2	Systems All
		05/2018	



Firestone Firestone Building Products	UltraPly TPO Drain with Clamping Ring		No.: T - D - 3	Systems All
			05/2018	





UltraPly TPO

TPO Pre-molded Scupper

No.: T - D - 4

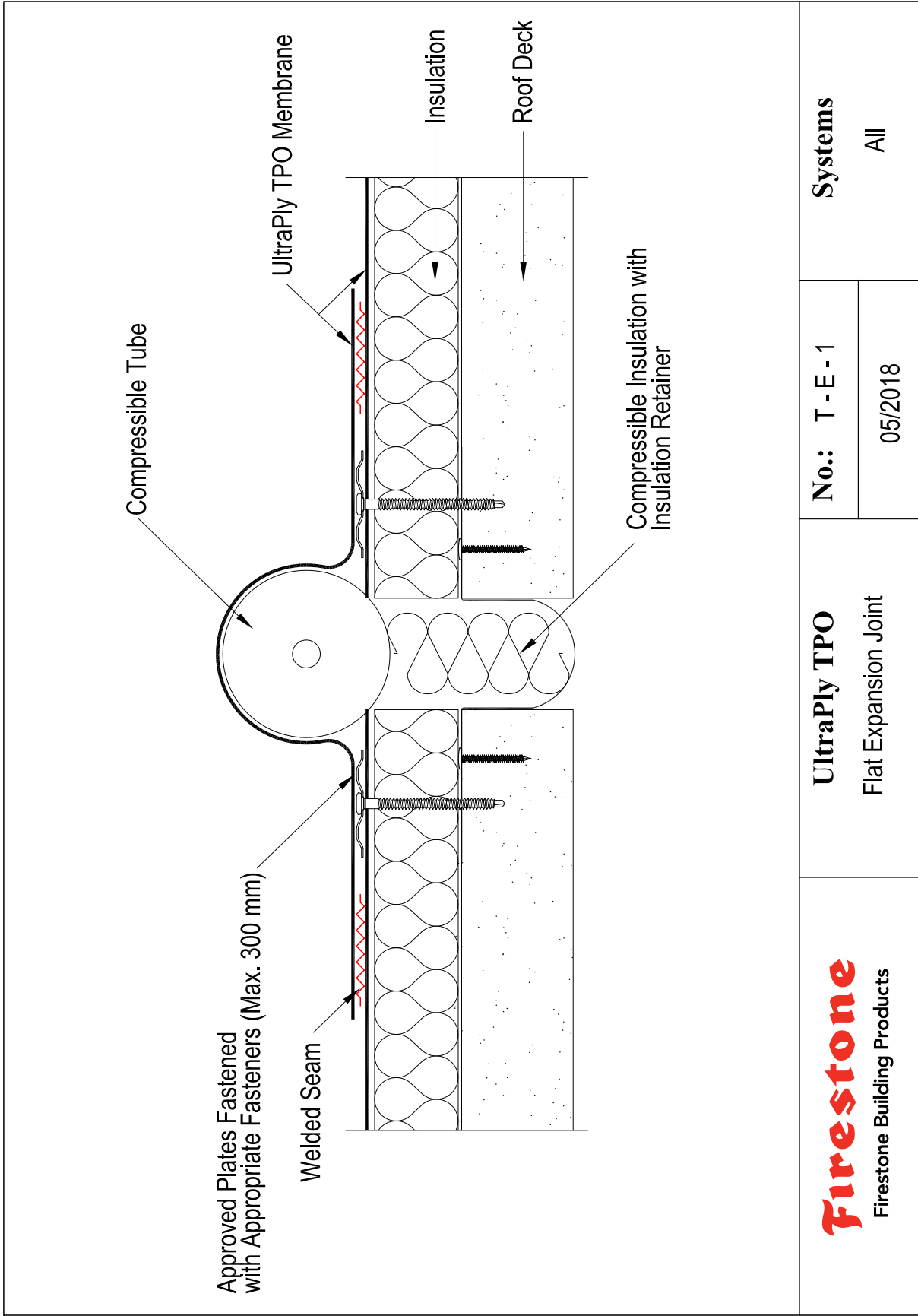
05/2018

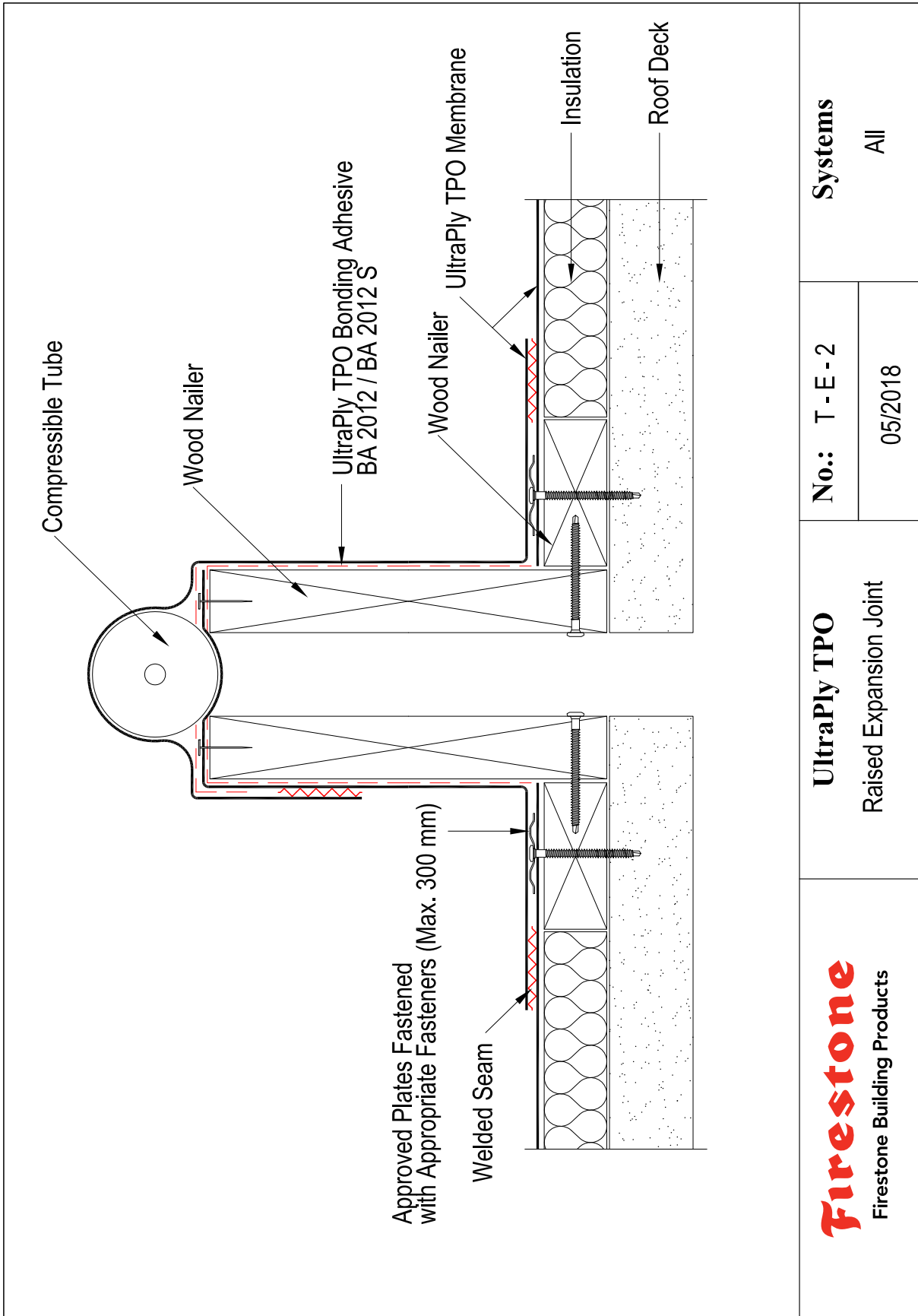
Systems

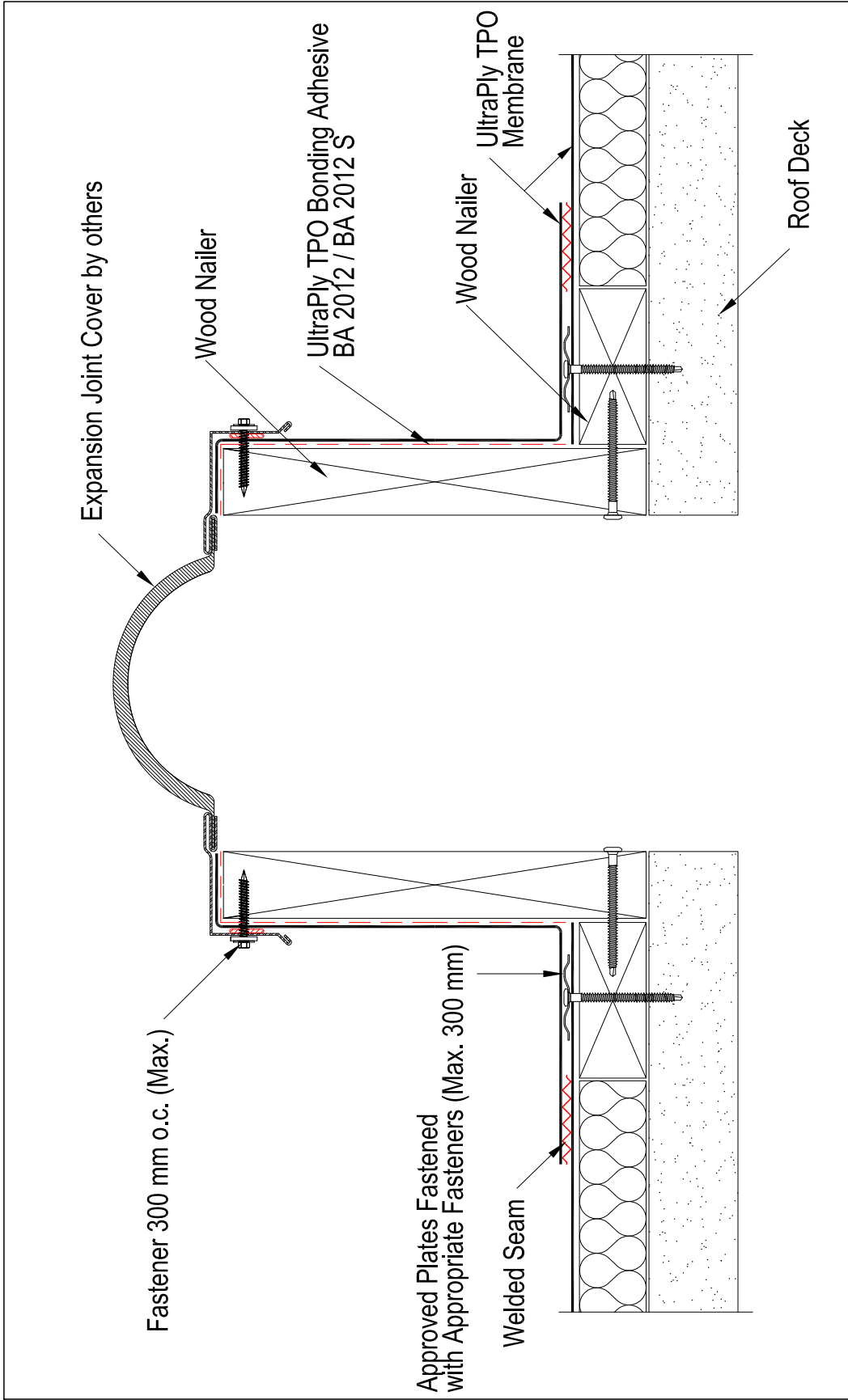
All

5.6 Expansion joints

T-E-1	Flat expansion joint
T-E-2	Raised expansion joint
T-E-3	Raised expansion joint with metal joint cover
T-E-4	Wall expansion joint

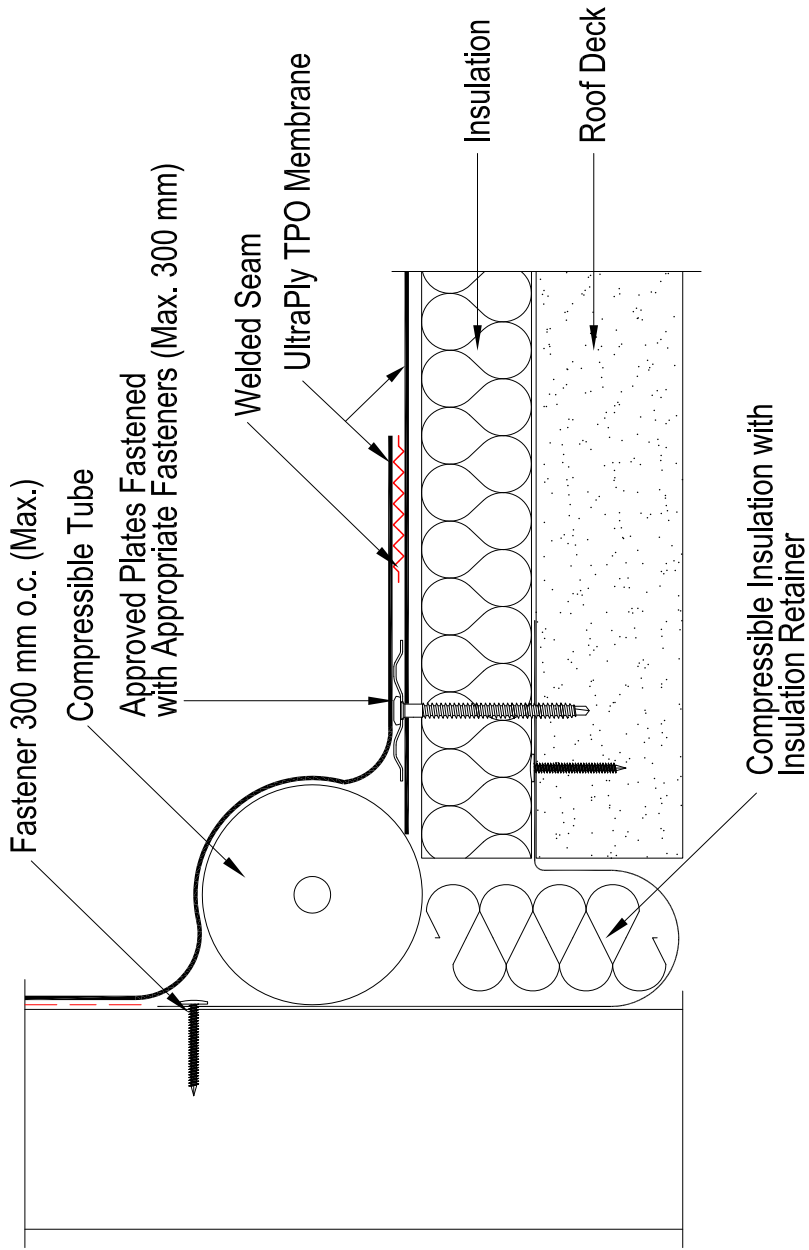






Firestone Firestone Building Products	UltraPly TPO Raised Expansion Joint with Metal Joint Cover		No.: T - E - 3	Systems All
			05/2018	





Firestone
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UltraPly TPO
Wall Expansion Joint

No.: T - E - 4

05/2018

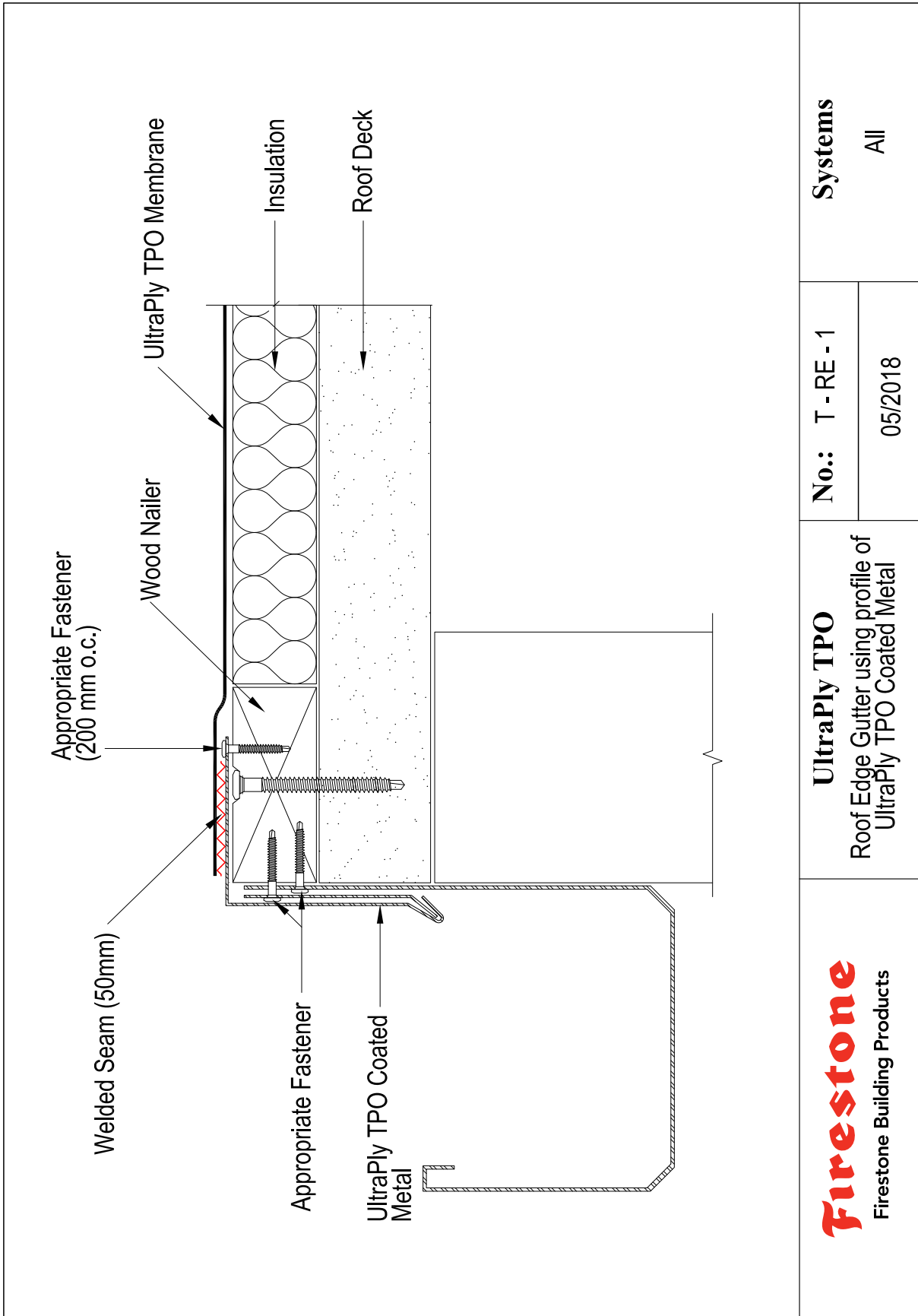
Systems

All

5.7 Roof edges

T-RE-1	Roof edge gutter using profile of UltraPly TPO Coated Metal
T-RE-2	Roof edge using profile of UltraPly TPO Coated Metal
T-RE-3	Joint between profiles of UltraPly TPO Coated Metal
T-RE-4	Roof edge with edge profile
T-RE-5	Alternative roof edge with edge profile
T-RE-6	Roof edge using TPO QuickSeam Flashing





Firestone
Firestone Building Products

UltraPly TPO
Roof Edge Gutter using profile of
UltraPly TPO Coated Metal

No.: T - RE - 1

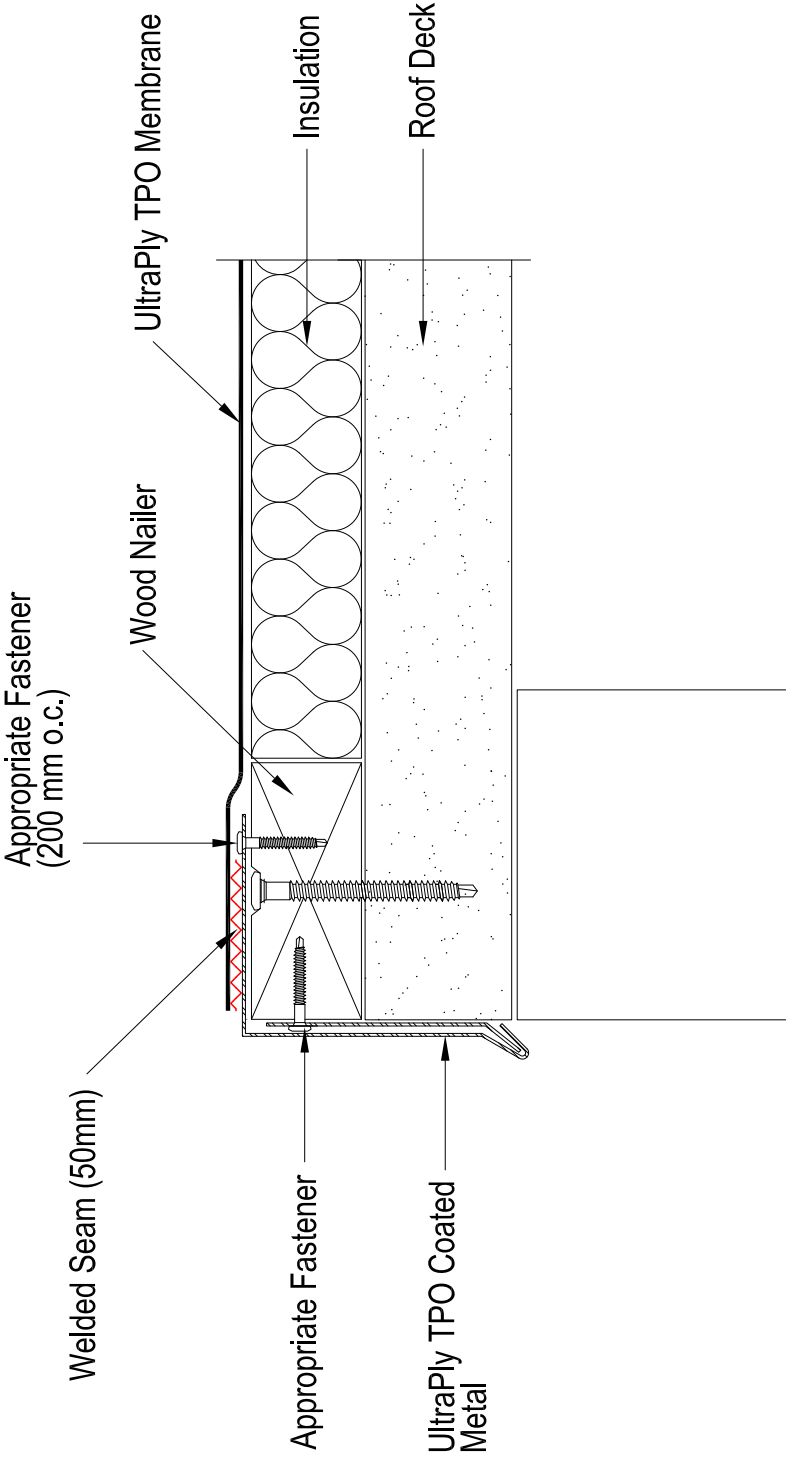
05/2018

Systems

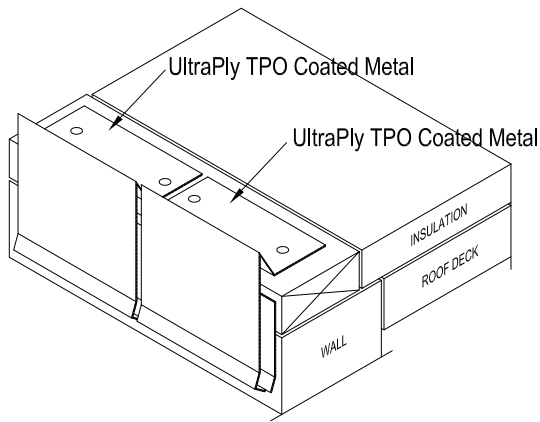
All



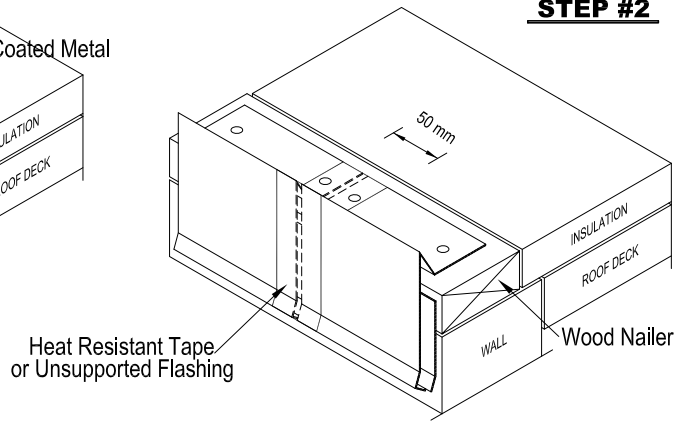


	<p>Firestone Firestone Building Products</p>
<p>UltraPly TPO Roof Edge using profile of UltraPly TPO Coated Metal</p>	<p>No.: T - RE - 2 05/2018</p>
	<p>Systems All</p>

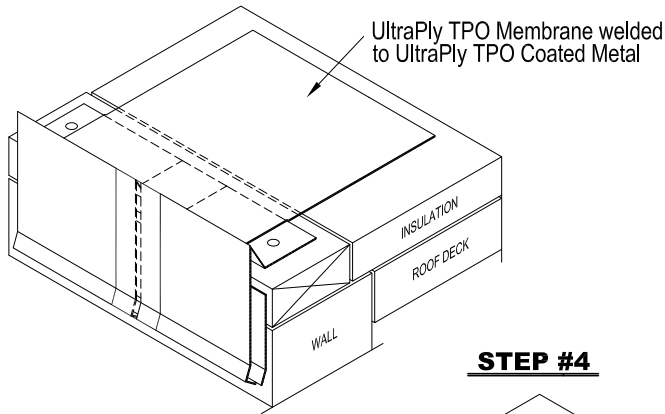
STEP #1



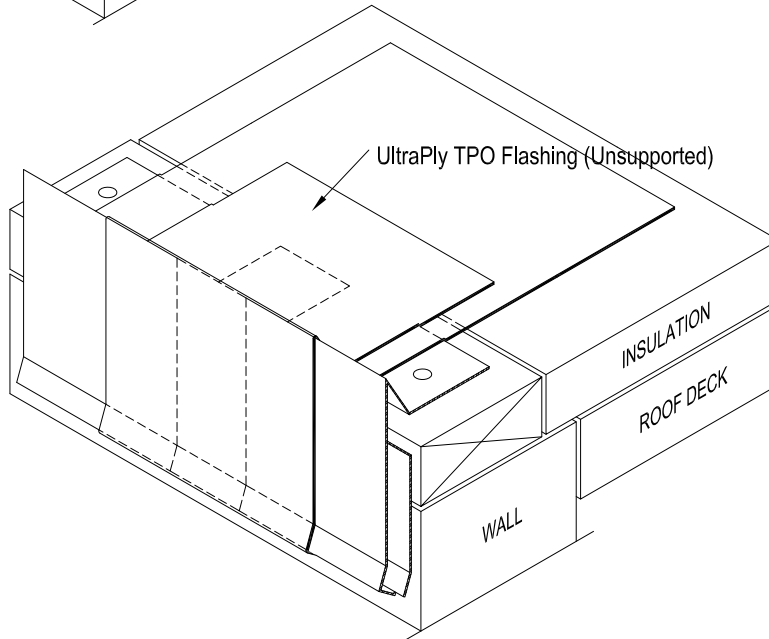
STEP #2



STEP #3



STEP #4



Firestone
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UltraPly TPO
Joint between profiles of
UltraPly TPO Coated Metal

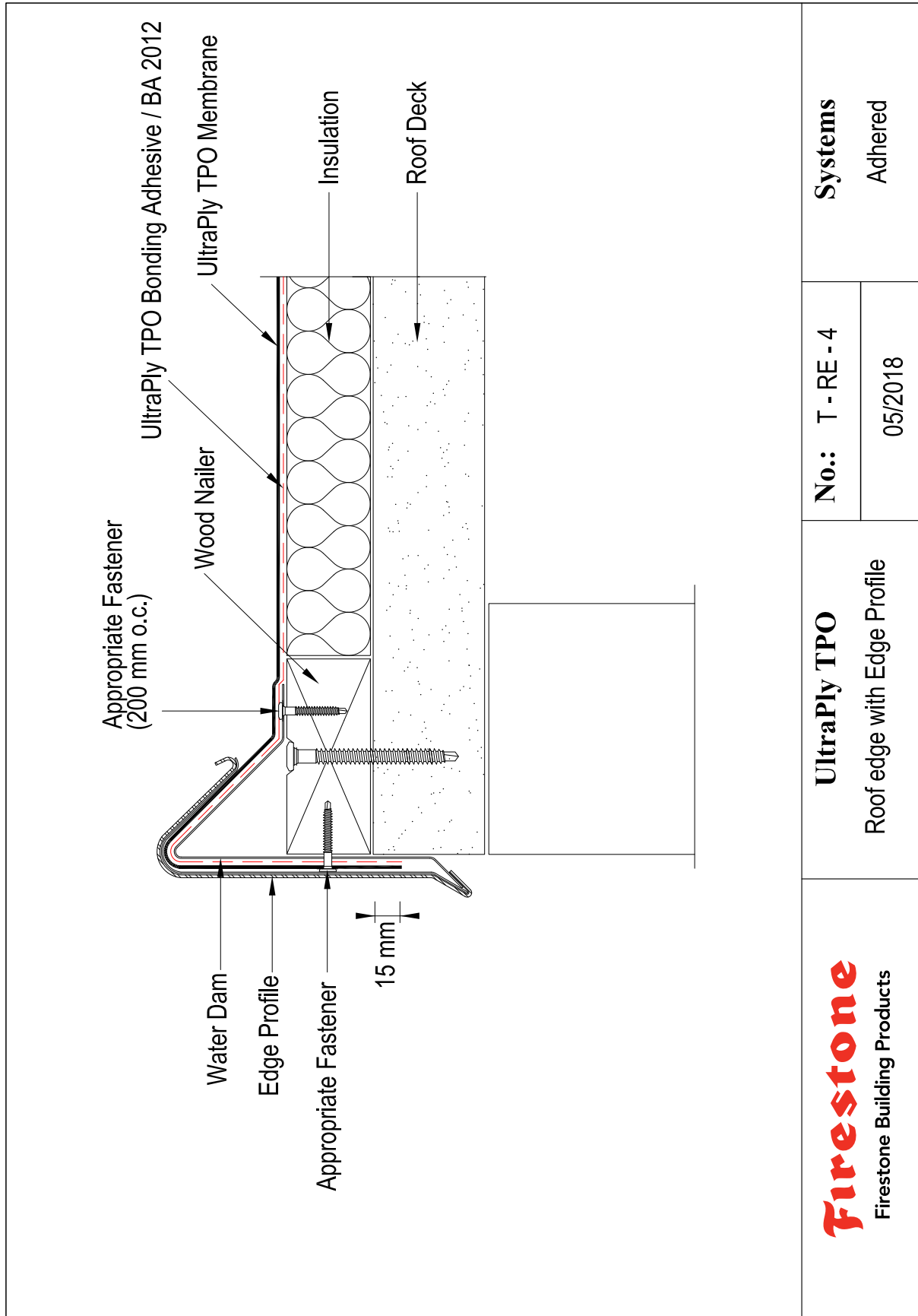
No.: T-RE-3

05/2018

Systems

All





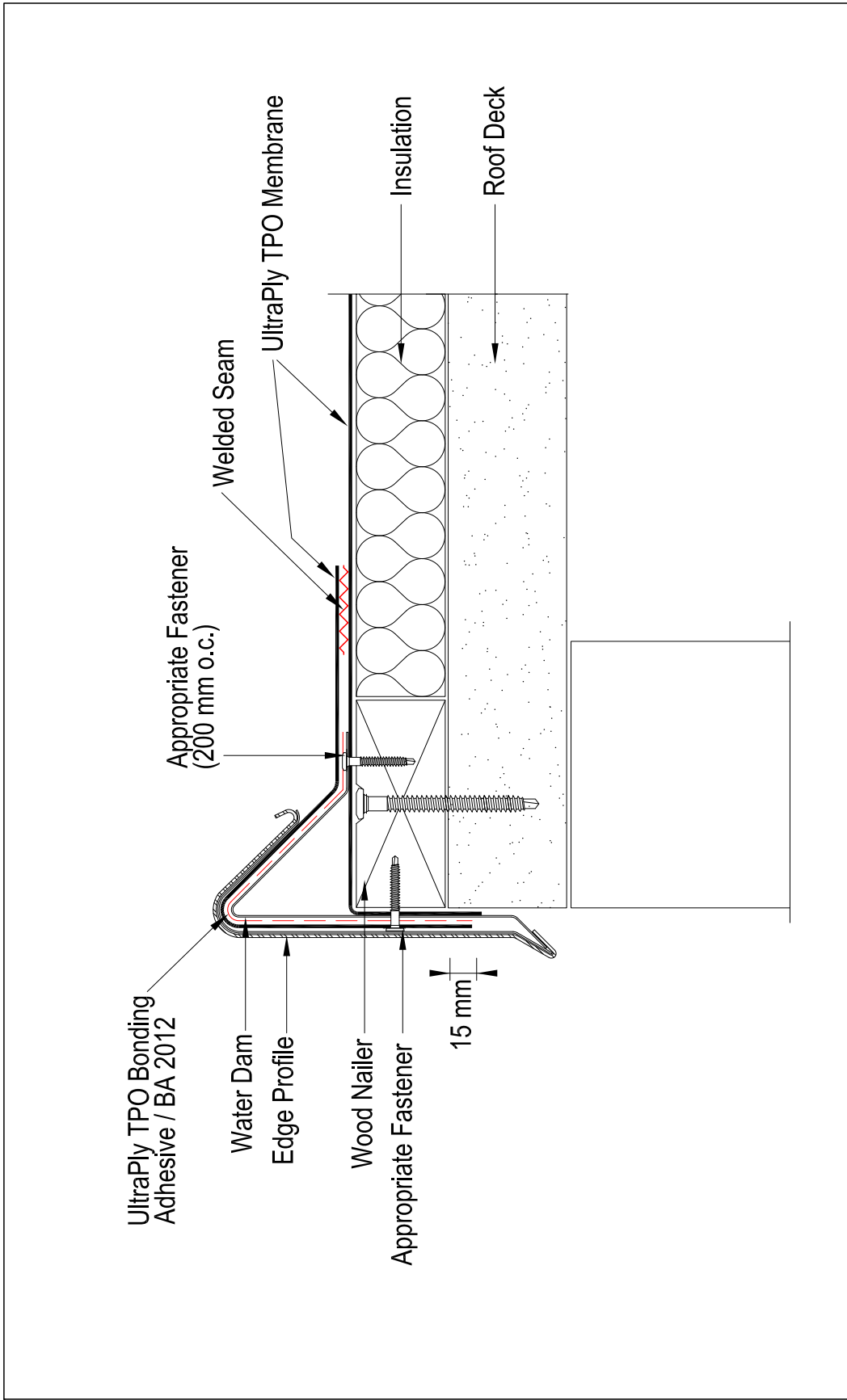
Firestone
Firestone Building Products

UltraPly TPO
Roof edge with Edge Profile

No.: T-RE-4

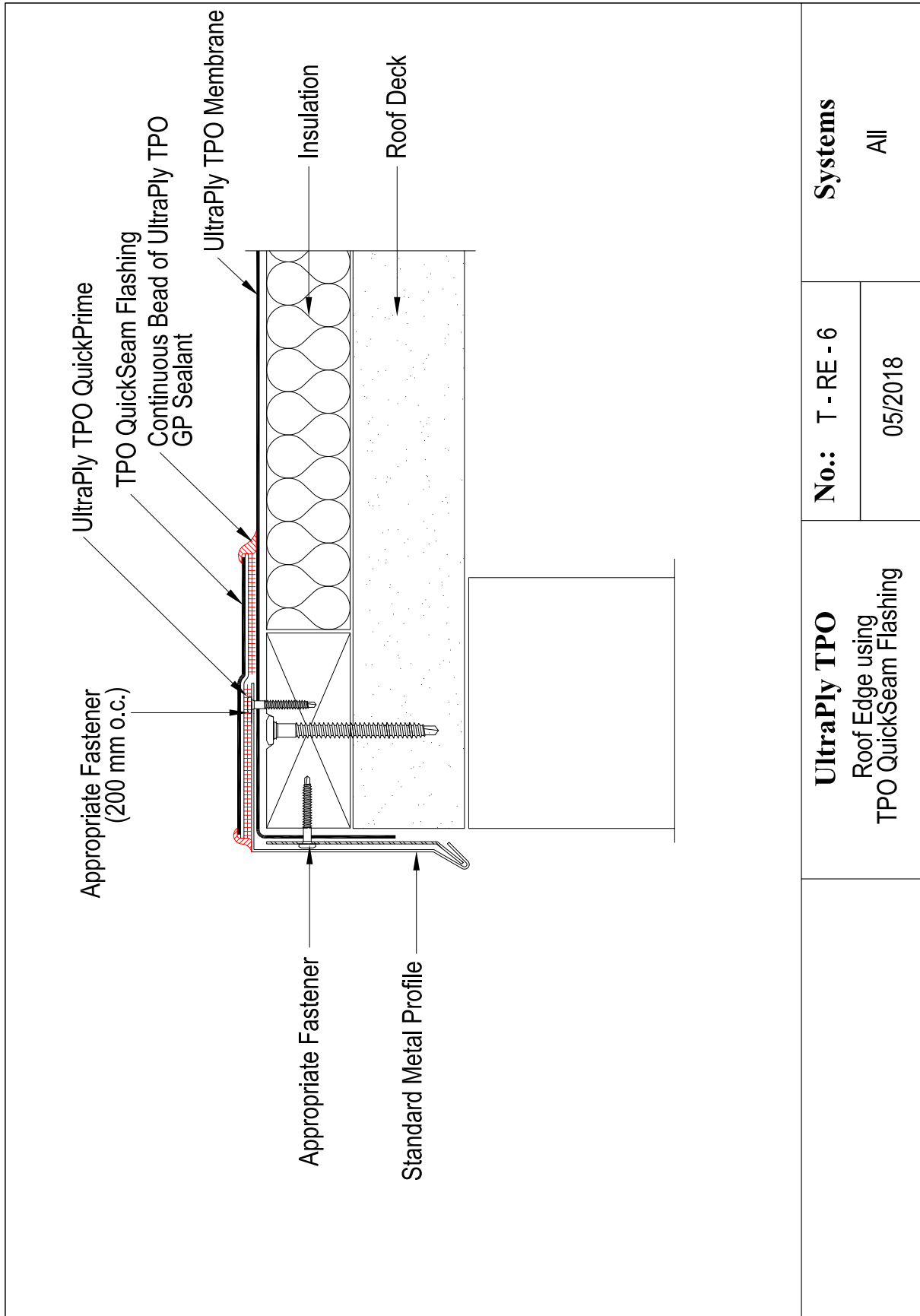
05/2018

Systems
Adhered



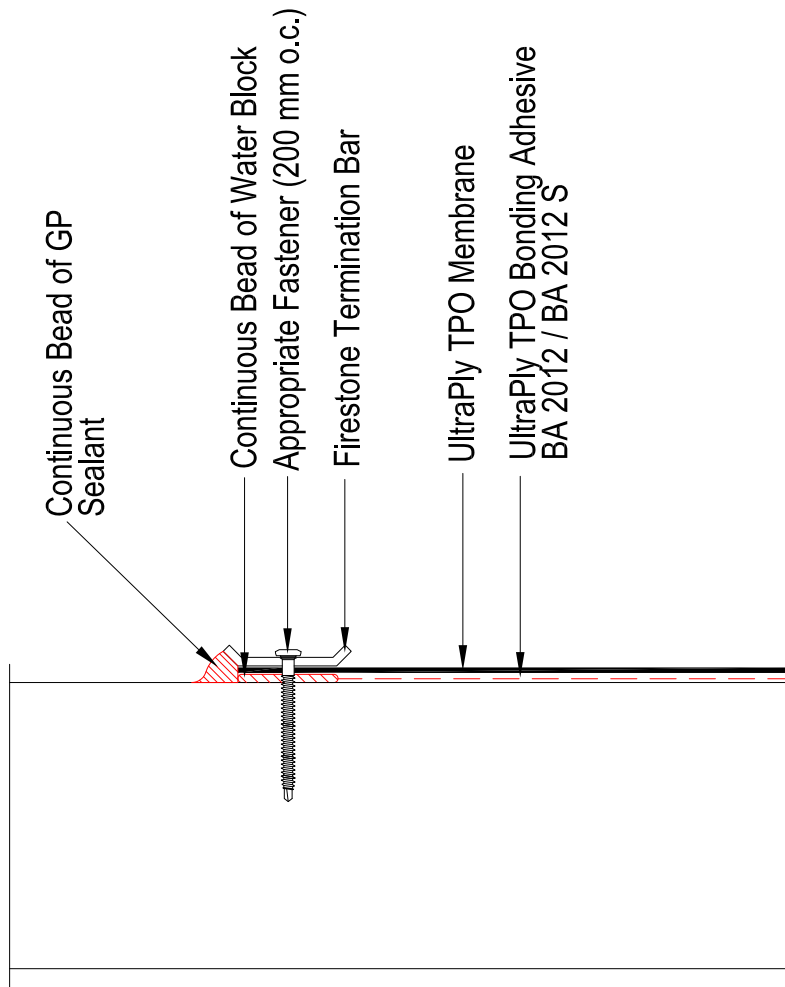
Firestone Firestone Building Products	UltraPly TPO Alternative Roof Edge with Edge Profile		No.: T - RE - 5	Systems All
			05/2018	





5.8 Wall terminations

T-T-1	Termination bar
T-T-2	Termination bar at outside parapet wall
T-T-3	Coping stone
T-T-4	Metal coping
T-T-5	Counterflashing
T-T-6	Termination bar – elevation change
T-T-7	Termination bar at joint in precast concrete panel
T-T-8	Termination bar at wall expansion joint
T-T-9	Monotrim profile
T-T-10	Intermediate attachment at wall flashing



Firestone
Firestone Building Products

UltraPly TPO
Termination Bar

No.: T-T-1

05/2018

Systems

All

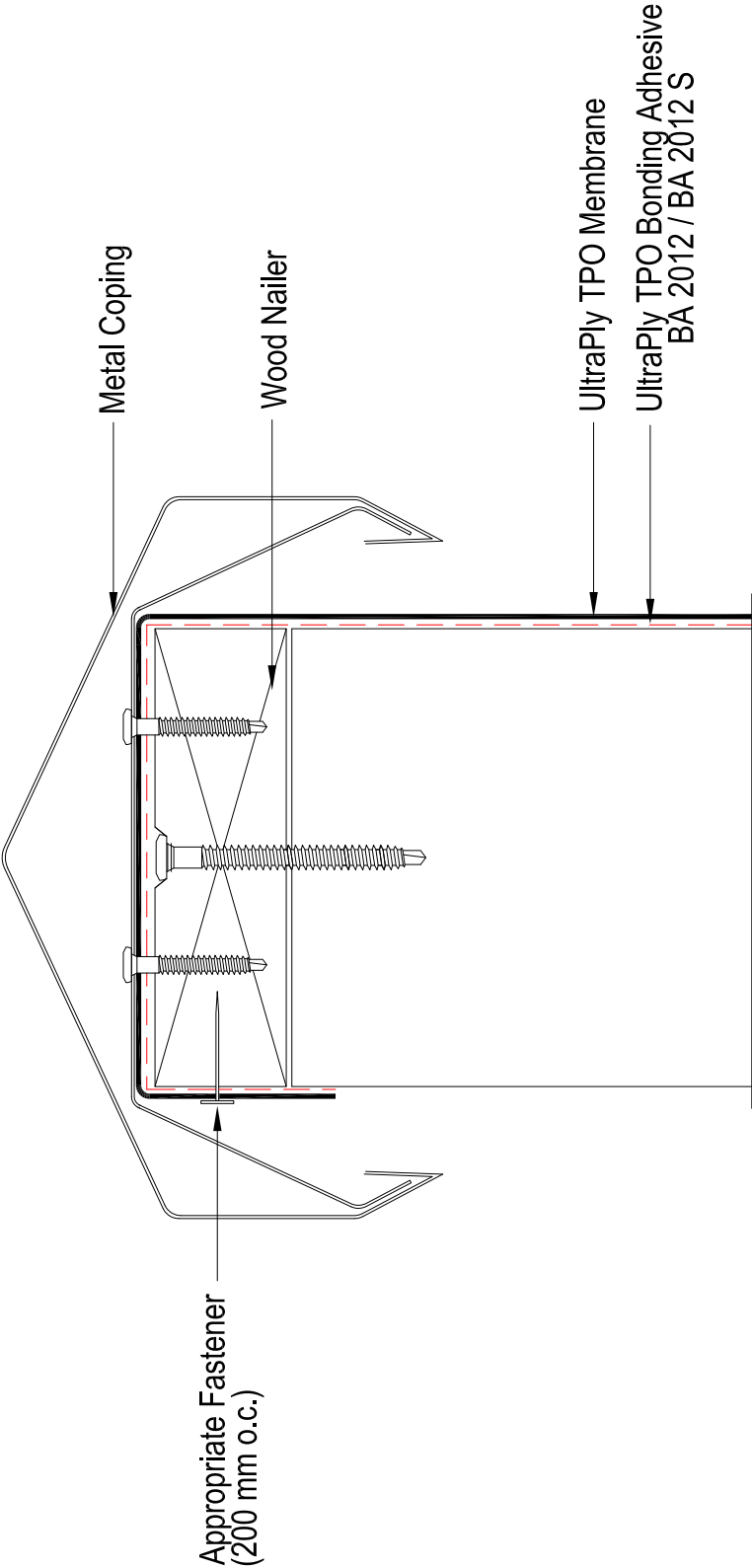


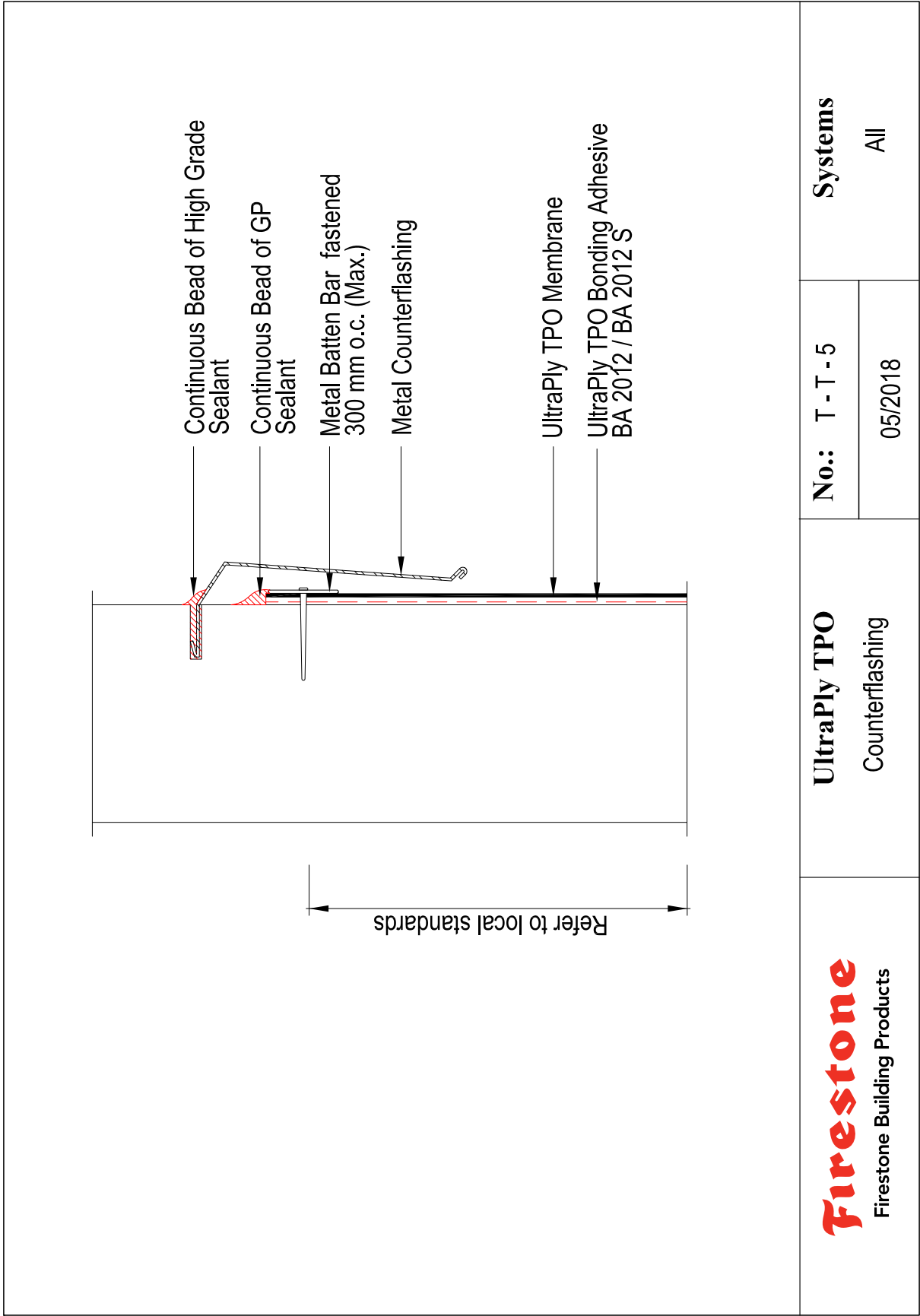
	<p>Systems</p> <p>All</p>	<p>No.: T - T - 2</p>	<p>UltraPly TPO Termination Bar at outside parapet wall</p>
		<p>05/2018</p>	
<p>Firestone Firestone Building Products</p>			

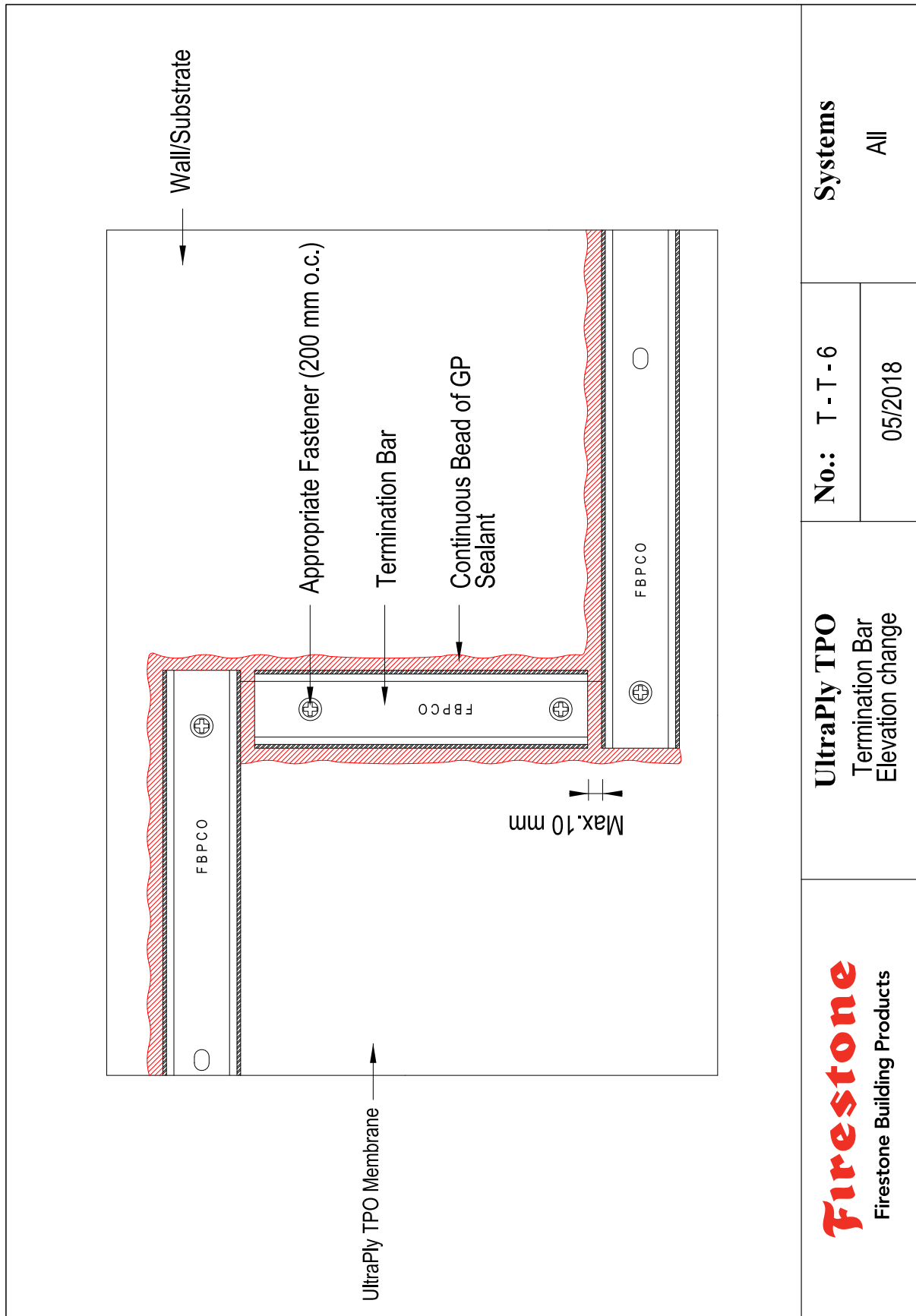
<p>Coping Stone</p> <p>Mortar</p> <p>Metal Flashing (Optional)</p> <p>UltraPly TPO Membrane</p> <p>UltraPly TPO Bonding Adhesive BA 2012 / BA 2012 S</p>	Systems All	No.: T - T - 3
		UltraPly TPO Coping Stone





	UltraPly TPO Metal Coping	No.: T - T - 4	Systems All
		05/2018	
Firestone Firestone Building Products			





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Firestone Building Products

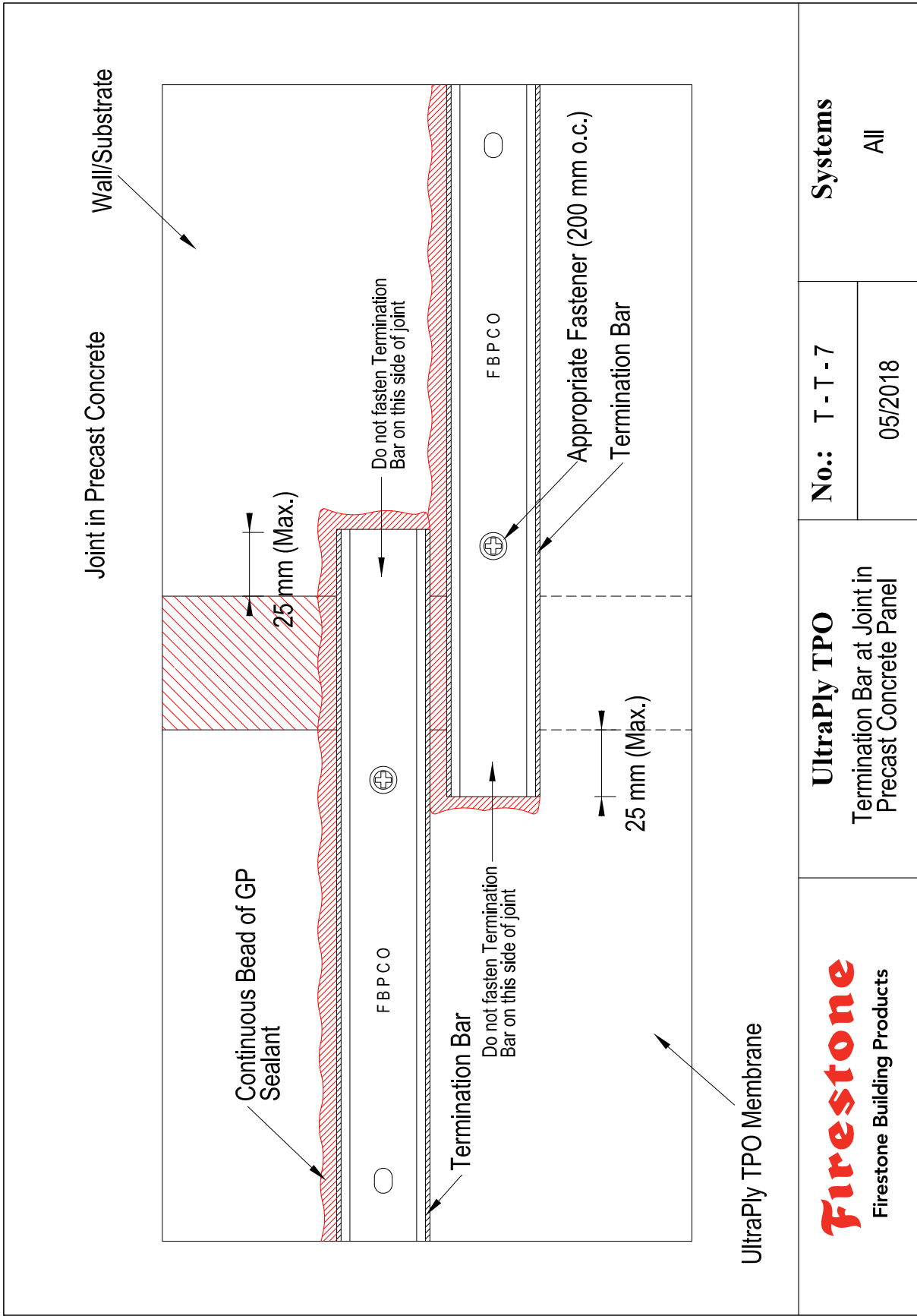
UltraPly TPO
Termination Bar
Elevation change

No.: T - T - 6

05/2018

Systems

All



Systems

All

No.: T - T - 7

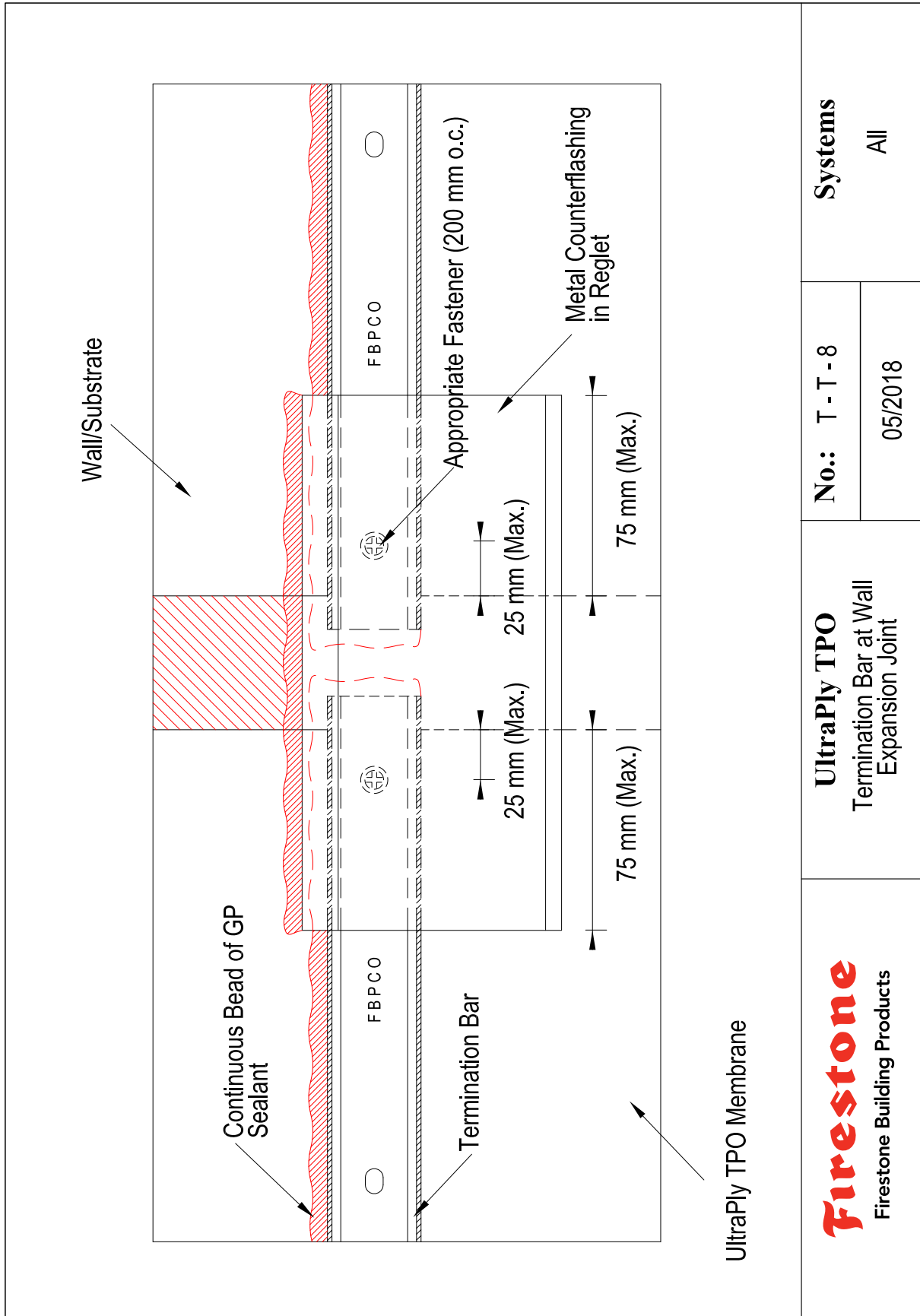
05/2018

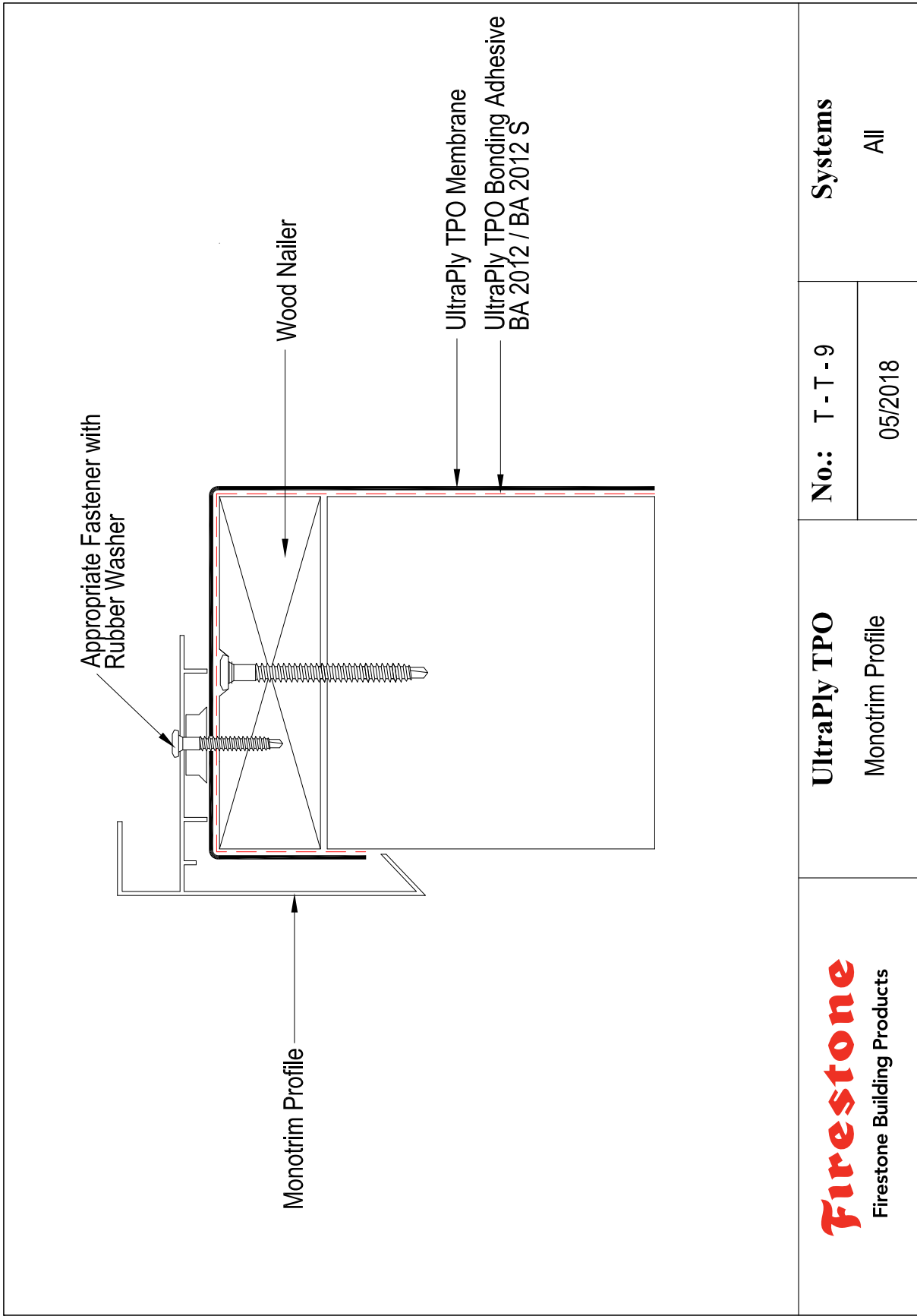
UltraPly TPO

Termination Bar at Joint in
Precast Concrete Panel

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UltraPly TPO
Monotrim Profile

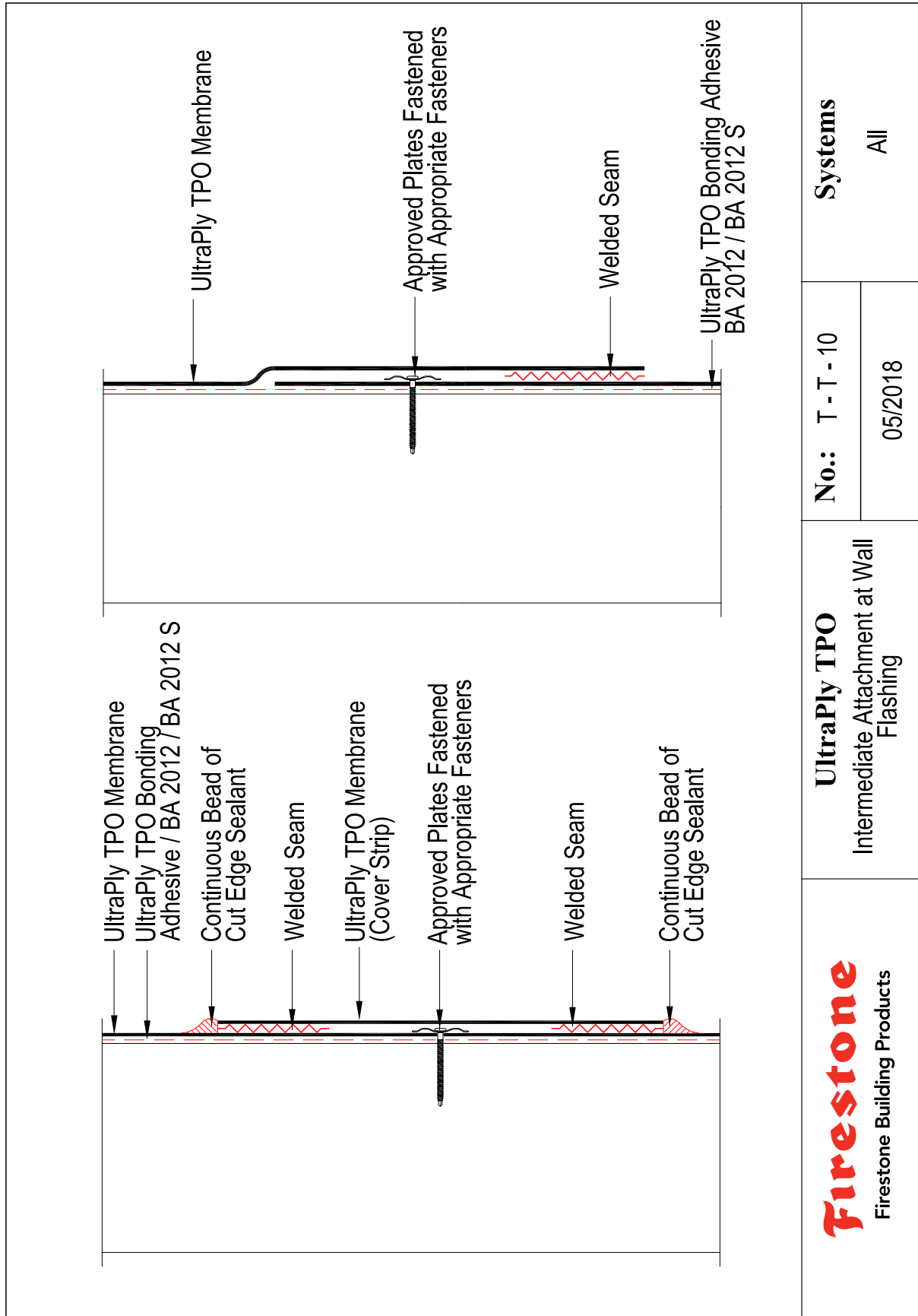
No.: T-T-9

05/2018

Systems

All





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