VERSIFLEX PVC

Mechanically Attached and Fully Adhered Roofing Systems

July 2025

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Note: In addition to information listed in this section Specifiers and Authorized contractors should reference Spec Supplement and Design Reference Sections for other pertinent information.

VERSICO ROOFING SYSTEMS

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VersiFlex™ PVC/VersiFlex™ FRS PVC/ VersiFlex™ KEE HP Mechanically Attached and Fully Adhered Roofing Systems

July 2025

The information contained in this generic specification represents a part of Versico's requirements for obtaining a roofing system warranty. Construction materials and practices, building siting and operation, climatic conditions, and other site-specific factors will have an impact on the performance of the roofing system. Versico recommends that the building owner retain a design professional to determine appropriate design measures to be taken in order to address these factors.

This section is to serve as criteria for Specifiers and Authorized Contractors regarding the design and installation of Versico's Fully Adhered and Mechanically Attached VersiFlex Membrane Roofing Systems. Additional information essential for the design and installation of the roof system mentioned herein are also included in the Design Reference Section and also listed in the form of a Specification Supplement at the end of the Technical Manual. Specifiers and Authorized Contractors are advised to reference all applicable sections.

Various Warranty Tables have been included in Paragraph 1.05 citing various requirements by which specific warranty coverage can be obtained. Appropriate Warranty Table should be referenced to ensure proper warranty coverage.

PART I – GENERAL

1.01 Description

A. Mechanically Attached Systems (VersiFlex)

1. **The VersiFlex Mechanically Attached Roofing System** incorporates 50, 60 or 80-mil thick Polyester Reinforced VersiFlex Polyvinyl Chloride (PVC) membrane (white, gray, light gray, slate gray and tan) OR 50, 60 or 80-mil thick Polyester Reinforced VersiFlex KEE HP (High Performance) Membrane (white, gray, light gray or tan). Either membrane is available in 10' wide (white, gray, light gray, slate gray and tan) field sheets and 5' perimeter sheets. Standard Polyester Reinforced membrane is also available in 81" wide (white, gray or tan) field sheets and 40.5" perimeter sheets. VersiFlex sheets are available in 75' or 100' rolls. All sheets are mechanically attached over an approved insulation/underlayment to an acceptable roof deck with the appropriate Versico Fasteners and Fastening Plates. Adjoining sheets of VersiFlex membrane are overlapped and joined together with a minimum 1-1/2" wide heat weld. Membrane fastening requirements are outlined in Warranty Tables in Paragraph 1.05 of this Specification.

   NOTE: Either Roofing System may be specified utilizing the RhinoBond attachment method, refer to Attachment I, at the end of this specification for additional information.

   NOTE: Either Roofing System may be specified over an existing standing seam, flat seam or corrugated metal roof (mechanically attached systems incorporate membrane securement into the structural purlins). **Refer to the Metal Retrofit Roofing System Specification**, published separately, for applicable requirements.

B. Fully Adhered Roofing Systems (VersiFlex)

1. The **VersiFlex Fully Adhered Roofing System** incorporates maximum 10' wide, 50-mil, 60-mil or 80-mil thick Fiberglass reinforced VersiFlex FRS Polyvinyl Chloride (PVC) membrane (white, gray, light gray, slate gray and tan). Versico Insulation is mechanically attached to the roof deck or secured with an approved adhesive and the membrane is fully adhered to the substrate with VersiFlex PVC Low-VOC Bonding Adhesive, CAV-GRIP PVC or Hydrobond Water-Based Adhesive. Adjoining sheets of membrane are overlapped and joined together with a minimum 1-1/2" wide heat weld.

   A KEE HP enhanced (white, gray, light gray and tan) VersiFlex KEE HP membrane with Polyester Reinforcement and is available in 5' and 10' width.

   Polyester Reinforced membrane is available in widths of 40.5", 5', 81" and 10' wide (white, gray, light gray, slate gray and tan).
   Fiberglass Reinforced membrane is available in widths of 10' (white, gray, light gray or tan).

1.02 General Design Considerations

Various Warranty Tables have been included in Paragraph 1.05 citing various requirements by which specific

warranty coverage can be obtained. Appropriate Warranty Table should be referenced to ensure proper warranty coverage.

A. The maximum roof slope for Mechanically Attached Roofing Systems is 18" in one horizontal foot. There are no maximum slope restrictions for the application of the Fully Adhered Roofing System.

B. The mechanically attached roofing system is **not acceptable** for installations on steel decks lighter than 22 gauge unless the steel deck is used in conjunction with lightweight concrete and a minimum of 360 pounds pullout per fastener is achieved with HPVX Fasteners into the steel deck below. A Fully Adhered Roofing System may be specified or refer to the Metal Retrofit Roofing System Specification, published separately for other roofing options.

C. Certain petroleum based products, chemicals, and waste products may not be compatible with these roofing membranes. Contact Versico for verification of compatibility and recommendations concerning an acceptable roofing membrane.

D. Metal-Edge Systems and Copings should be designed in compliance with Section 1504.5 of the International Building Code and shall be tested in accordance with ANSI/SPRI ES-1.

E. Concentrated loads from rooftop equipment may cause deformation of insulation/underlayment and possible damage to the membrane if proper protection is not provided. A protection course or sleepers must be specified.

F. It is the responsibility of the specifier to review local, state and regional codes to determine their impact on the specified Versico Roofing System.

G. It is the responsibility of the building owner or his/her designated representative to verify structural load limitation. In addition, a core cut may be taken to verify weight of existing components when the roofing system is to be specified on an existing facility.

H. **Construction Generated Moisture / Vapor Drive**

1. On new construction projects, especially in cold climate regions, moisture generated due to the construction process could adversely impact various components within the roofing assembly if not addressed. Refer to **Design Reference DR-01 "Construction Generated Moisture"** included in the Versico Technical Manual.

2. On structural concrete decks, when a vapor retarder is not used, gaps in the deck along the perimeter and around penetrations must be sealed along with vertical joints between tilt-up panels, if present, to prevent infiltration of hot humid air and possible moisture contamination resulting from condensation. This is specifically important when adhesive is used to attach the roof insulation.

NOTE: If left unaddressed, collected moisture could weaken insulation boards and facers resulting in a blow-off or increase the probability of mold growth.

I. **Vapor Retarders**

1. Versico does not require a vapor retarder for the protection of the membrane; however, it should be considered by the specifier for the protection of the roofing assembly (i.e. primarily insulation, underlayment and adhesives). The following criteria should be considered by the specifier:

2. Use of a vapor retarder to protect insulation and reduce moisture accumulation within an insulated roofing assembly, should be investigated by the specifier.

3. In the generally temperate climate of the United States, during the winter months, water vapor flows upward from a heated, more humid interior toward a colder, drier exterior. Vapor retarders are more commonly required in northern climates than in southern regions, where downward vapor pressure may be expected and the roofing membrane itself becomes the vapor retarder.

4. All Versico roofing membranes are tested and pass in accordance with ASTM E 2178 and shall qualify as an air barrier when following Versico specifications and details for roofing applications.

J. **Drainage**

1. Drainage must be evaluated by the specifier in accordance with all applicable codes. Slopes may be provided by tapering the structure or through the use of tapered insulation; a sufficient number of roof drains should also be specified and properly located to allow for positive drainage. Significant ponding that could remain after 48 hours should be eliminated with the addition of auxiliary drains in low areas where ponding is anticipated.

Versico specifically disclaims responsibility for the design and selection of an adequate drainage system and drain accessories. Selection must be made by the building owner or the owner's design

professional.

2. Small incidental areas of ponded water will not impact the performance of this roofing system; however, in accordance with industry standards, the roofing assembly **should be designed to prevent ponding** of water on the roof for prolonged periods (longer than 48 hours). Good roofing practice dictates proper drainage to prevent possible excessive live load and, in the event of a roof leak, to minimize potential interior damage to the roofing assembly and to the interior of the building.

3. **Tapered edge strips, crickets or saddles** are recommended where periodic ponding of water may occur. When the slope of the taper exceeds 2 inches to one horizontal foot, additional membrane securement at the base of the tapered edge strip will be required.

4. Subject to code requirement, it is recommended that a minimum roof slope of 1/8" per horizontal foot be provided to serve long-term aesthetics. On new construction projects, roof drains should be positioned in areas where minimum deflection is anticipated. Slopes greater than 1/8" per foot should be considered due to possible roof deflection.

K. **Retrofit - Recover Projects** (when the existing roofing material is left in place)

1. The removal of existing wet insulation and membrane must be specified. The specifier shall select an appropriate and compatible material as filler for voids created by removal of old insulation or membrane.

2. Entrapment of water between old and new membrane can damage and deteriorate new insulation/underlayment between the two membranes. **If a vapor retarder or air barrier is not specified**, Versico recommends existing membrane be perforated to avoid potential moisture accumulation to allow for detection of moisture to enable the building owner to take corrective action. This can be accomplished by drilling approximately 3/4" diameter holes every 100 square feet in the existing built-up roof or single-ply membrane (excluding non-reinforced PVC membrane).

3. If total removal of existing non-reinforced PVC membrane is not specified, existing membrane may be cut into maximum 10' x 10' sections, when the new insulation or membrane underlayment is to be mechanically attached.

4. Regardless of the type of membrane or assembly selected, any loose flashings at the perimeter, roof drains and roof penetrations must be removed.

1.03 Quality Assurance

Building codes are above and beyond the intended purpose of this specification. The building **owner, owner's representative** or **Specifier** should verify local codes for applicable requirements and limitations. It is the responsibility of the specifier to review local, state and regional codes to determine their impact on the specified Versico Roofing System.

NOTE: **For code approvals** achieved with the Versico Roofing Systems, refer to the Versico Code Approval Guide, DORA (Directory of Roof Assemblies), Factory Mutual (FM) Approval Guide or Underwriters Laboratories (UL) Fire Resistance or Roofing Materials and Systems Directories.

A. When recovering or retrofitting an existing roof system, the addition of new insulation (type and thickness) may alter the fire performance characteristics of the assembly. Building owners or their designated representatives shall consult the local code enforcement agency to avoid potential code violation.

B. Versico recommends the use of Versico supplied products for use with VersiFlex Roofing Systems. The performance or integrity of products by others, **when selected by the specifier and accepted as compatible by Versico**, is not the responsibility of Versico and is **expressly disclaimed** by the Versico warranty.

C. This roofing system must be installed by a Versico Authorized Roofing Contractor in compliance with drawings and specifications as approved by Versico.

D. There must be no deviations made from Versico's specifications or Versico's approved shop drawings without the **PRIOR WRITTEN APPROVAL** of Versico.

E. After completion of the installation, upon request, an inspection shall be conducted by a Technical Representative of Versico to ascertain that the membrane roofing system has been installed according to Versico's published specifications and details applicable at the time of bid. This inspection is to determine whether a warranty shall be issued. It is not intended as a final inspection for the benefit of the owner.

F. Coordination between various trades is essential to avoid unnecessary rooftop traffic over completed sections of the roof and to prevent subsequent damage to the membrane roofing system.

G. Provide polyisocyanurate insulation that meets PIMA Quality Mark Certified LTTR value through third party verification meeting ASTM C 1289, Type II, Class 1, Grade 2.

H. The solar reflectance of this roofing product may decrease over time due to environmental defacement such as dirt, biological growth, ponded water, etc. The roof should be monitored at regular intervals and maintained or cleaned when necessary to assure the maximum solar reflectance.

I. Refer to the **Design Reference DR-07 "CRRC/LEED Information"** for information. (i.e. solar emittance, solar reflectance and recycled content)

1.04 Submittals

A. To ensure compliance with Versico's minimum warranty requirements, the following projects should be forwarded to Versico for review prior to installation, preferably prior to bid:

1. Air pressurized buildings, canopies and buildings with large openings where the total wall openings exceed 10% of the total wall area on which the openings are located (such as airport hangars, warehouses and large maintenance facilities).

2. Cold storage buildings and freezer facilities.

3. Fully Adhered Roofing System projects over 250' in height (maximum 15 year warranties) and 100' in height (warranties greater than 15 years).

4. Mechanically Attached Roofing System projects over 100' in height regardless of warranty duration.

5. Projects where the VersiFlex membrane is expected to come in direct contact with petroleum-based products or other chemicals.

6. Mechanically Attached systems specified with a fastener length exceeding 12 inches.

B. Along with the project submittals (shop drawings and Request for Warranty), the roofing contractor must include pullout tests when results are below the requirements identified in this specification.

C. Shop drawings must be submitted to Versico by the Versico Authorized Roofing Contractor along with a completely executed Copy-A Job Approval Request for approval. Approved shop drawings are required for inspection of the roof and on projects where on-site technical assistance is requested.

Shop drawings must include:

1. Outline of roof and size
2. Deck type (for multiple deck types)
3. Location and type of **all** penetrations
4. Perimeter and penetration details
5. Key plan (for multiple roof areas) with roof heights indicated
6. Sheet width and number of perimeter sheets for Mechanically Attached systems
7. Fastener type, length and maximum spacing (for membrane securement) for Reinforced Mechanically Attached systems.

Along with the project submittals (shop drawing and Request for Warranty), the roofing contractor must include **pullout test** results when the results are below the requirements identified in, Table included in **Design Reference DR-06 "Withdrawal Resistance Criteria"**.

When field conditions necessitate modifications to originally approved shop drawings, a copy of the shop drawing outlining all modifications must be submitted to Versico for revision and approval prior to inspection and warranty issuance.

D. **As-Built Projects** (roofing systems installed prior to project approval by Versico)

The Versico Authorized Contractor may supply Versico with an As-Built drawing for a project completed prior to Versico's approval. The As-Built drawings:

1. Must conform to Versico's most current published specifications and details applicable at the time of bid.
2. Must be submitted along with a completely executed Copy-B Job Completion.
3. Must include the items identified in Paragraph 1.04.C.

NOTE: As-Built projects are not recommended for those projects referenced in Paragraph 1.04A in order to ensure Versico warranty requirements have been met.

E. **Copy-B Job Completion**

After project completion, a Copy-B - Job Completion Date must be submitted to Versico to schedule the necessary inspection of the project prior to issuance of the Versico Warranty.

1.05 Warranty

A. A Total System Warranty is available for roofing systems on commercial buildings within the United States and applies only to **products marketed by Versico**. The total system is defined as membrane, flashings, adhesives, sealants and other Versico brand products utilized in the installation. For a complete description of these products, refer to the Part II "Products" Section in this Specification and **Spec Supplement "Related Products" P-01**.

B. See Tables Below for information regarding Warranted Systems and Design Criteria:

1. **TABLE I – Minimum Membrane Thickness for Various Warranty Options** Identifies minimum membrane thickness for Reinforced membranes used in fully adhered or mechanically attached roofing systems.

2. **TABLE II - Mechanically Attached Roofing Systems – PVC / KEE HP PVC Membrane Fastening Criteria - Steel/Concrete Decks** Identifies fastening density, field membrane width and number perimeter sheets required for the various wind zones. The assemblies are categorized based on various building height and specific wind speed warranty coverage.

3. **TABLE III - Mechanically Attached Roofing Systems – PVC / KEE HP PVC Membrane Fastening Criteria - Wood Decks** Identifies fastening density, field membrane width and number perimeter sheets required for the various wind zones. The assemblies are categorized based on various building height and specific wind speed warranty coverage.

4. **TABLE IV - Mechanically Attached Roofing Systems – PVC / KEE HP PVC Membrane Fastening Criteria – Up to 20 Yrs - Lightweight Insulating Concrete over Steel/Gypsum/Cementitious Wood Fiber Decks** Identifies fastening density, field membrane width and number perimeter sheets required for the various wind zones. The assemblies are categorized based on various building height and specific wind speed warranty coverage.

5. **TABLE V – Fully Adhered Roofing Systems - Underlayment and Fastening Density for PVC / KEE HP PVC Assemblies with Warranties Up to 20 Yrs** Identifies required underlayments for fully adhered roofing systems with warranties up to 20 years based on the various wind speed coverages available. The Table also identifies fastening density or adhesive bead spacing and required edge terminations.

6. **TABLE VI – Fully Adhered Roofing Systems – Underlayment and Fastening Density for PVC / KEE HP PVC Assemblies with Warranties – 25 to 30 YR** Identifies required underlayments for fully adhered roofing systems with warranties from 25-30 year based on the various wind speed coverage available. The Table also identifies fastening density or adhesive bead spacing and required edge terminations.

Table I

Mechanically Attached or Fully Adhered Membrane Systems Warranty Options (9)

Years	VersiFlex PVC / VersiFlex KEE HP							
	55, 72, 80 or 90 mph		100 mph		110 to 120 mph		Minimum Membrane Thickness (2)	Additional Hail/Puncture Coverage
	Fully Adhered	Mech. Attached	Fully Adhered	Mech. Attached	Fully Adhered	Mech. Attached		
5,10, or 15 year	√	√	√	N/A(1)	√	N/A	VersiFlex 50-mil (4)	See Below
20 year	√(3)	√	√	N/A	√	N/A	VersiFlex 60 mil (4) OR VersiFlex KEE HP 50-mil	See Below
25 year (7)	√	√	√	N/A	N/A	N/A	VersiFlex 80-mil (4)(6)(8)	See Below
30 year (7)	√	√	√	N/A	N/A	N/A	VersiFlex KEE HP 80-mil (8)	See Below

Notes: N/A = Not Acceptable √= Acceptable

(1) Contact Versico for specific requirements.
(2) All "T-joints" must be overlaid with appropriate flashing material when using 60- or 80-mil PVC/KEE HP membrane.
(3) Hydrobond Adhesive may be used for projects with 20 year maximum warranty and wind speed coverage up to 90 mph.
(4) VersiFlex FRS membrane can be used in lieu of VersiFlex Polyester reinforced membrane for Fully Adhered Roofing Systems Only.
(5) VersiFlex KEE HP PVC 50-mil membrane can be used in lieu of VersiFlex 60-mil membrane for Warranties Up to 20 Year.
(6) VersiFlex KEE HP PVC 60-mil membrane can be used in lieu of VersiFlex 80-mil membrane for Warranties Up to 25 Year.
(7) Enhancements may be required for certain flashing details. Publish details must be referenced for applicable requirements.
(8) VersiFlex PVC 60- or 80-mil membranes in Slate Gray are limited to Warranties Up to 20 Year.

VersiFlex PVC and KEE HP Membrane
Hail
- 1” Dia. Hail Coverage requires a minimum of 60-mil PVC or KEE HP PVC Adhered to cover board.
- 2” Dia. Hail Coverage requires 80-mil PVC or KEE HP PVC Adhered to cover board.

Additional Design Requirement:
- Cover board (SecurShield HD, SecurShield HD Eco, SecurShield HD Plus or DuraFaceR Composite, DensDeck Prime, DensDeck StormX Prime, Securock DEXcell® Glass Mat, DEXcell FA™, DEXcell FA VSH®, or DEXcell® Cement Board – Adhered Only).

Puncture
- Minimum 80-mil PVC with Polyester Reinforcement: 16 hours of Puncture Coverage.
- Versico’s Accidental Puncture Warranty covers labor hours and material used during the repair. Maximum labor and material hours are dependent upon system design. Refer to the Warranty Availability Quick Reference Guide for coverage.

Table II

PVC / KEE HP PVC Membrane Fastening Criteria (All Warranties) for Mechanically Attached Roofing Systems 22 GA. Steel Deck or Structural Concrete Only

CAUTION: Projects with 25 or 30 year warranties an additional perimeter sheet is required beyond those listed in the table below.

Peak Gust Wind Speed Warranty	Max. Building Height	Min. Number of Perimeter Sheets			Field* Membrane Width	Perimeter* Sheet Width	Fastening Density* (Field & Perimeter Sheets)
		Building Distance from Coastline					
		Greater than 7 miles	3 to 7 miles	Less than 3 miles			
55 MPH	Up to 60'	1	2	3	10'	5'	12" O.C.
					81"	40.5"	12" O.C.
	61' to 100'	2	2	3	10'	5'	** See Note
					81"	40.5"	12" O.C.
72 MPH	Up to 60'	2	2	3	10'	5'	12" O.C.
					81"	40.5"	12" O.C.
	61' to 100'	3	4	4	10'	5'	** See Note
					81"	40.5"	12" O.C.
80 MPH	Up to 60'	3	3	4	10'	5'	12" O.C.
					81"	40.5"	12" O.C.
	61' to 100'	3	4	4	10'	5'	** See Note
					81"	40.5"	12" O.C.
90 MPH	Up to 60'	3	4	4	10'	5'	6" O.C.
					81"	40.5"	12" O.C.
	61' to 100'	4	5	5	10'	5'	** See Note
					81"	40.5"	12" O.C.

*Using HPVX Fasteners for steel decks and MP 14-10 or CD-10 for structural concrete decks.

** Structural Concrete Decks use 12” O.C. spacing utilizing MP 14-10 or CD-10. Steel Decks use 6” O.C. utilizing HPVX Fasteners. Steel Decks use 12” O.C. spacing utilizing HPV-XL Fasteners.

PVC / KEE HP PVC Membrane Fastening Criteria
(Up to 20 Year Warranty – Up to 60' Building Height)
for Mechanically Fastening Roofing Systems
Plywood or OSB Decks

Table III

Wood (Plywood or OSB) Decks **Peak Gust Wind Speed Warranty**	**Deck Type**	**Projected Pull-Out Values**	**Min. Number of Perimeter Sheets**			**Field Membrane Width**	**Perimeter Sheet Width**	**Fastening Density (Field & Perimeter Sheets)**
			Building Distance from Coastline					
			Greater than 7 miles	3 to 7 miles	Less than 3 miles			
55 MPH	7/16" OSB	210 lbs	2	3	3	10'	5'*	9" O.C.
			2	3	3	81"	5'*	12" O.C.
	15/32" 3-Ply Plywood	240 lbs	2	2	3	81"	5'*	12" O.C.
	15/32" 5-Ply Plywood	530 lbs	1	2	3	10'	6.5'	12" O.C.
	5/8" OSB	310 lbs	2	3	3	10'	5'*	12" O.C.
			2	3	3	81"	5'*	12" O.C.
72 MPH	15/32" 3-Ply Plywood	240 lbs	2	2	3	81"	5'*	12" O.C.
	15/32" 5-Ply Plywood	530 lbs	2	2	3	10'	6.5'	12" O.C.
	5/8" OSB	310 lbs	2	3.	3	10'	5'*	12" O.C.
			2	3	3	81"	5'*	12" O.C
80 MPH	*Contact Versico for Approval and Evaluation*							

*Maximum duration for OSB NOT to exceed 20 Years.

PVC / KEE HP PVC Membrane Fastening Criteria

Table IV **Up to 20 Warranty for Mechanically Attached Roofing Systems**

Lightweight Insulating Concrete over Steel/Gypsum/Cementitious Wood Fiber

Peak Gust Wind Speed Warranty	Building Height 50' Max.	Min. Number of Perimeter Sheets			Field Membrane Width	Perimeter Sheet Width	Fastening Density (Field & Perimeter Sheets)
		Building Distance from Coastline					
	Deck Type	Greater than 7 miles	3 to 7 miles	Less than 3 miles			
55 MPH	Lightweight Concrete over Steel Deck	1	2	4	10'	5'	12" O.C.(1)
		2	3	4	81" (3)	40.5"	12" O.C.(2)
	Gypsum Deck or Cementitious Wood Fiber	2	3	N/A	10'	5' or 6'	9" O.C.
		2	3	4	81"	4'	12" O.C.

N/A is Not Acceptable

(1) For Buildings 51' to 75' with 10' field sheets – Fastening Density must be secured 9" O.C. for field and perimeter sheets.

(2) Fasteners may be spaced at 18" O.C. in the field for buildings Up to 50' in height.

(3) Building Height may be Up to 75' in height.

Additional Design Considerations

1- Membrane configuration and fastening density in Table above is based on HPVX Fasteners penetrating metal pan below Lightweight Insulating Concrete and for Polymer Gyptec Fasteners engaging into Gypsum and Cementitious Fiber Decks.

2-See **Design Reference DR-06 "Withdrawal Resistance Criteria"** for more information.

Underlayment/Insulation & Required Attachment Assemblies

Table V Up to 20 YR Warranty for Fully Adhered PVC / KEE HP PVC Roofing

Other Requirements are Listed in Additional Design Considerations following this Table

All Versico Products listed for higher wind speed coverage can also be used for Warranties for a lower wind speed coverage. (i.e. 72 MPH underlayment may be used for 55 MPH underlayment)

Peak Gust Wind Speed Warranty	Minimum Membrane Underlayment*	Insulation Attachment			Metal Edging
		# of Fasteners per 4' x 8' board size	Adhesive Ribbon Spacing for 4' x 4' size board		
			Field	Perimeter	
55 or 72 MPH	1" (20 psi) Polyisocyanurate	16	12" (5)(6)	6"(5)	VersiTrim Drip Edge or VersiTrim 200
	1/1/2" (20 psi) Polyisocyanurate	10			
	2"(20 psi) Polyisocyanurate	8			
	1/2" SecurShield HD or 1/2" SecurShield HD Eco (1)(2)	12			
	1/4" DensDeck, 1/4" Securock, (1) 1/4" DEXcell® Glass Mat, or 1/4" DEXcell FA™	12			
80 MPH	1/2" SecurShield HD Plus (2)	8	12"(5)(6)(7)	6"(5)(7)	VersiTrim Drip Edge or VersiTrim 200 (11)
	1/2" Versico Recovery Board (1)	16			
	1/2" SecurShield HD or 1/2" SecurShield HD Eco (1)	16			
	2" SecurShield HD Composite	6			
	1/2" DensDeck Prime, 1/2" Securock, 1/2" DEXcell® Glass Mat or 1/2" DEXcell FA™ (1)	8			
	1-1/2" (25 psi) Polyisocyanurate	10			
	2" (25 psi) Polyisocyanurate	8			
90 MPH	1/2" DensDeck Prime, 1/2" Securock, 1/2" DEXcell® Glass Mat or 1/2" DEXcell FA™ (1)	12	6"(9)	6"(7)(8)	VersiTrim Drip Edge (3), VersiTrim 200 (3)(4) or VersiTrim 2000 or 3000.
	1/2" SecurShield HD(1), 1/2" SecurShield HD Eco(1), 1-1/2" (20 psi) SecurShield Polyiso or 1-1/2" (20 psi) SecurShield Eco (2)	16			
	1/2" SecurShield HD Plus	12			
	2" (20 psi) SecurShield Polyiso, 2" (20 psi) SecurShield Eco or 2" SecurShield HD Composite	8			
	1-1/2" DuraFaceR (OSB/Polyiso Composite) or 1/2" DuraStorm VSH (1)	8			
	1-1/2" Insulfoam HD Composite	16			
100 MPH	2" (25-psi) SecurShield Polyiso or 2" (25 psi) SecurShield Eco	16	FS	FS	VersiTrim Drip Edge (3), VersiTrim 200 (3)(4) or VersiTrim 2000 or 3000.
110 MPH	1-1/2" DuraFaceR (OSB/Polyiso Composite) or 1/2" DuraStorm VSH (1)	16	FS	FS	VersiTrim 2000 or 3000
	1/2" SecurShield HD Plus (2)				
120 MPH	5/8" DensDeck Prime, 5/8" DensDeck StormX Prime or 5/8" Securock, 5/8" DEXcell® Glass Mat, 5/8" DEXcell FA™, 5/8" DEXcell® Cement Roof Board or 5/8" DEXcell FA VSH® (1)	16	FS	FS	VersiTrim 2000 or 3000
	1-1/2" DuraFaceR (OSB/Polyiso Composite) (1) or 1/2" DuraStorm VSH (1)	17			
	1/2" SecurShield HD Plus (2)	24			
	2" SecurShield HD Composite	16			

FS = Full Spray or Ribbons @ 4" O.C.

***For Direct Application over Wood Decks and Lightweight Cellular Concrete, Refer to Roof Deck & Substrate Criteria Table.**

(1) For Steel decks (New or tear-off) cover boards must be installed over a min. 1" thick approved Versico Insulation.
(2) 1/2" SecurShield HD and 1/2" SecurShield HD Eco limited to 90 mph. 1/2" SecurShield HD Plus limited to 120 mph.
(3) Versico HPV or HPVX Fasteners must be used to secure VersiTrim Drip Edge or VersiTrim 200 Metal Fascia to perimeter wood nailers.
(4) Membrane securement is required at the base of the VersiTrim 200 waterdam.
(5) Gravel Surface BUR - Field @ 6" O.C. / Perimeter @ 4" O.C.
(6) Steel Decks - Field & Perimeter @ 6" O.C.
(7) Cementitious Wood Fiber - Field @ 6" O.C. / Perimeter @ 4" O.C.
(8) Smooth BUR - Field @ 6" O.C. / Perimeter @ 4" O.C.
(9) Gravel Surface BUR - 4" O.C.
(10) Not used.
(11) May be fastened with ring shank nails staggered 4" on center. Versico HPV or HPVX Fasteners may also be used fastened 12" on center.
(12) Gypsum deck Bead Spacing @ 6" O.C. for 80 mph.

Table V - Additional Design Considerations

1 – Refer to Table I in paragraph 1.05 for applicable membrane thickness.
2 - Building height shall not exceed 100'*
3 - Local Wind Zone per ASCE 7 shall not exceed 130 mph*
4 - Acceptable decking: 22-gauge or heavier steel, structural concrete, 1-1/2" wood plank, or 15/32" plywood.**
5 - All "T-Joints" must be overlaid with Versico "T-Joint" Covers.
6 - For Building heights between 51'-100', enhance 12'-wide perimeter with 50% more fasteners and plates.
7 - See DR-05 for insulation fastening criteria.
* Projects where building height exceeds 100', shall be submitted to Versico for review.
** 16 fasteners per 4' x 8' board are required for the following decks: OSB, gypsum, cementitious, wood fiber (Tectum), lightweight insulated concrete over steel roof deck thinner than 22-gauge and steel roof deck thinner than 22-gauge. Warranties are limited to a 20-year, 72-mph wind speed.

Underlayment/Insulation & Required Attachment Assemblies

Table VI 25 YR or 30 YR Warranty for Fully Adhered PVC / KEE HP PVC Roofing Systems

Other Requirements are Listed in Additional Design Considerations following this Table.

All Versico Products listed for higher wind speed coverage can also be used for Warranties with a lower wind speed coverage. (i.e. 72 MPH underlayment may be used for 55 MPH underlayment)

Peak Gust Wind Speed Warranty	Minimum Membrane Underlayment	Insulation Attachment			Metal Edging
		# of Fasteners per 4' x 8' board size (1)	Adhesive Ribbon Spacing for 4' x 4' size board		
			Field	Perimeter	
55 or 72 MPH	1" to 2" (25 psi) Polyisocyanurate	16	6" (3)(5)	6" (5)	VersiTrim Drip Edge or VersiTrim 200
	1/2" Versico Recovery Board (1) (9)				
	1/4" DensDeck Prime, 1/4" Securock, 1/4" DEXcell® Glass Mat or 1/4" DEXcell FA™				
	1/2" SecurShield HD or 1/2" SecurShield HD Eco (2)				
80 MPH	1-1/2" to 2" (25-psi) SecurShield Polyisocyanurate or SecurShield Eco	20	6" (4)(5)(6)	6" (5)(6)	VersiTrim Drip Edge (7), VersiTrim 200 (7)(8)or VersiTrim 2000 or 3000
	1/2" DensDeck Prime, 1/2" Securock, 1/2" DEXcell® Glass Mat or 1/2" DEXcell FA™ (2)	16			
	1/2" SecurShield HD Plus (2)				
	1/2" SecurShield HD or 1/2" SecurShield HD Eco (2)	20			
90 MPH	1/2" SecurShield HD or 1/2" SecurShield HD Eco (2)	24	FS	FS	VersiTrim2000 or 3000
	1/2" SecurShield HD Plus (2)	20			
	1/2" DensDeck Prime, 1/2" Securock, 1/2" DEXcell® Glass Mat or 1/2" DEXcell FA™ (2)				
100 MPH	5/8" DensDeck Prime or 5/8" DensDeck StormX Prime, 5/8" Securock, 5/8" DEXcell® Glass Mat, 5/8" DEXcell FA™, 5/8" DEXcell® Cement Roof Board or 5/8" DEXcell FA VSH® (2)	16	FS	FS	VersiTrim 2000 or 3000
	1-1/2" DuraFaceR (OSB/Polyiso Composite) or 1/2" DuraStorm VSH (2)				
	2" SecurShield HD Composite (2)				
	1/2" SecurShield HD Plus (2)	24			

FS = Full Spray or Ribbons @ 4" O.C.

(1) For Building heights between 51'-100', enhance 12'-wide perimeter with 50% more fasteners and plates.
(2) Hail coverage offered with substrate.
(3) Structural Concrete - Field @ 12" O.C. / Perimeter @ 6" O.C.
(4) 80- mph warranty wind speed coverage over Structural Concrete, Adhesive Ribbon Spacing, for Field & Perimeter 6" O.C.
(5) Cementitious Wood Fiber & Wood - 4" O.C.
(6) 80-mph warranty wind speed coverage over Gypsum Decks – Adhesive Ribbon spacing shall be at 4" O.C.
(7) Versico HPV or HPVX Fasteners must be used to secure VersiTrim Drip Edge or VersiTrim 200 Metal Fascia to perimeter wood nailers.
(8) Membrane securement is required at the base of the VersiTrim 200 waterdam.
(9) 1/2" Recovery Board limited to 55 mph.

Table VI - Additional Design Considerations

1 - Minimum membrane thickness 80-mil PVC or KEE HP PVC
2 - Building height shall not exceed 100'*
3 - Local Wind Zone per ASCE 7 shall not exceed 130 mph*
4 - Acceptable decking: 22-gauge or heavier steel, structural concrete, 1-1/2" wood plank, or 15/32" plywood.
5 - Enhancements are required for certain flashing details. Published details must be referenced for applicable requirements.
6- New construction or complete tear-off of existing roofing material.
7 - See DR-05 for insulation fastening criteria.

* Projects where building height exceeds 100' or warranty wind speed exceeds 100 mph, shall be submitted to Versico for review.

Table VII

Minimum Perimeter Width For Insulation Attachment
For All Warranties

Width of Perimeter	Building Height
4 feet	25 feet
8 feet	26 to 50 feet
12 feet	51 to 75 feet
16 feet	76 to 100 feet
24 feet	Greater than 100 feet

Note: This Table is for reference for Versico System Warranties and does not replace FM requirements for FM insured projects.

C. **Access for warranty service**

It shall be the owner's responsibility to expose the membrane in the event that warranty service is required when access is impaired. Such impairment includes, but is not necessarily limited to:

1. Design features, such as window washer systems, which require the installation of traffic surface units in excess of 100 pounds per unit.

2. Any equipment, ornamentation, building service units and other top surfacing materials which are not defined as part of this specification.

3. Photovoltaic and Mounting systems or other Rooftop equipment that does not provide Versico with reasonable access to the membrane system for purposes of warranty investigation and related repairs.

4. Severely ponded conditions.

CAUTION: APPLICATIONS SUCH AS WALKING DECKS, TERRACES, PATIOS OR AREAS SUBJECTED TO CONDITIONS NOT TYPICALLY FOUND ON ROOFING SYSTEMS WILL **NOT** BE ELIGIBLE FOR A MEMBRANE SYSTEM WARRANTY.

D. The formation or presence of mold or fungi in a building is dependent upon a broad range of factors including, but not limited to, the presence of spores and nutrient sources, moisture, temperatures, climatic conditions, relative humidity, and heating/ventilating systems and their maintenance and operating capabilities. These factors are beyond the control of Versico and Versico shall not be responsible for any claims, repairs, restoration or damages relating to the presence of any irritants, contaminants, vapors, fumes, molds, fungi, bacteria, spores, mycotoxins, or the like in any building or in the air, land, or water serving the building.

1.06 Job Conditions

A. On phased roofing, temporary closures should be provided to prevent moisture infiltration. When a temporary roof is specified, Versico 725-TR in conjunction with CCW-702, CCW-702LV or CAV-GRIP 3V Low-VOC Adhesive/Primer may be used. Refer to Product Section Part II for additional product information and **Specification Supplement G-07**.

B. When possible on multiple level roofs, begin the installation on the highest level to avoid or minimize construction traffic on completed roof sections.

C. On projects at high altitudes (6,000' and above) rapid flash-off (drying) of Adhesives will occur due to low atmospheric pressure.

D. When roof slopes exceed 5 inches per horizontal foot, use of an Automatic Heat Welder may be more difficult. A Hand Held Hot Air Welder should be specified.

E. Vapor Retarders

1. Versico does not require a vapor retarder for the protection of the membrane; however, the following criteria should be considered by the specifier:

   a) Use of a vapor retarder to protect insulation and reduce moisture accumulation within an insulated roofing assembly, should be investigated. Consult latest publications by ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.) and NRCA (National Roofing Contractors Association) for specific information.

   b) In the generally temperate climate of the United States, during the winter months, water vapor flows upward from a heated, more humid interior toward a colder, drier exterior. Vapor retarders are more commonly required in northern climates than in southern regions, where downward vapor pressure may be expected and the roofing membrane itself becomes the vapor retarder.

   c) On cold storage/freezer facilities, the perimeter and penetration details must be selected to provide an air seal and prevent outside air from infiltrating and condensing within the roofing assembly.

2. When a vapor retarder is specified, Versico 725TR Air and Vapor Barrier may be used. Refer to Part II "Products" for necessary information and **Spec Supplement G-07 "Application Procedures for 725TR Air and Vapor Barrier"** for product Installation.

F. Wood nailers are required for the securement of metal edgings, scuppers, and insulated pipes. Wood Nailer shall be secured per specifier recommendation or in accordance with Factory Mutual's property Loss Prevention Data Sheet 1-49. Refer to **Design Reference DR-08 "Wood Nailers Securement Criteria"** in Versico Technical Manual shall be referenced.

G. When any of the Roofing Systems are specified on a portion of a roof, tie-ins to existing roofing membranes will be required. Depending on the type of the existing roofing system, the tie-in method will vary. Total isolation between two roofing systems or weep holes may be required to address moisture migration from one roofing system to the other. Prior to the selection of any tie-in detail, ensure the selected detail will not restrict drainage.

H. On new construction projects, located in colder climates, special consideration should be given to construction practices and the possible migration of hot, humid air and moisture generated during construction. Refer to Paragraph 1.02 I and **Spec Supplement DR-01 "Construction Generated Moisture".**

1.07 Product, Delivery, Storage and Handling

A. Deliver materials to the job site in the original, unopened containers.

B. When loading materials onto the roof, the Versico Authorized Roofing Contractor must comply with the requirements of the specifier/owner to prevent overloading and possible disturbance to the building structure.

C. Job site storage temperatures in excess of 90°F (32°C) may affect shelf life of curable materials (i.e., adhesives and sealants).

D. When the temperature is expected to fall below 40°F (4°C), outside storage boxes should be provided on the roof for temporary storage of liquid adhesives and sealants. Adhesive and sealant containers should be rotated to maintain their temperature above 40°F (4°C). Refer to Technical Data Bulletins for individual products for temperature restrictions.

E. Do not store adhesive or cleaner containers with opened lids due to the loss of solvent that will occur from flash-off.

F. Store Versico membrane on provided pallets in the original undisturbed plastic wrap in a cool, shaded area and cover with light-colored, breathable tarpaulins.

G. Insulation/underlayment must be stored so that it is kept dry and is protected from the elements. Store bundles flat and upright with the bottom of the bundles elevated (2" or more) above the finished surface.

H. Slit the insulation bundle packaging vertically down the center of the two short sides to prevent moisture accumulation within the package. Completely cover the bundle with a waterproof tarp and secure to prevent wind damage and / or displacement.

Part II – PRODUCTS

2.01 General

The components of this roofing system are to be products of Versico or accepted by Versico as compatible. The installation, performance or integrity of products by others, **when selected by the specifier and accepted by Versico**, is not the responsibility of Versico and is expressly disclaimed by the Versico warranty.

2.02 Membranes

A. **VersiFlex Membranes**

1. General

   a) The VersiFlex PVC membrane (white) meets the emittance requirements set forth by the USGBC (US Green Building Council) for their LEED (Leadership in Energy and Environmental Designs) Program. When tested in accordance with ASTM E408, an emittance of 0.89 was achieved and an SRI (solar reflectance index) of 108 was calculated using ASTM E1980.

   b) The VersiFlex KEE HP PVC membrane (white) meets the emittance requirements set forth by the USGBC (US Green Building Council) for their LEED (Leadership in Energy and Environmental Designs) Program. When tested in accordance with ASTM E408, an emittance of 0.89 was achieved and an SRI (solar reflectance index) of 103 was calculated using ASTM E1980.

2. VersiFlex 50-mil, 60-mil or 80-mil thick **Polyester Reinforced PVC** (Polyvinyl Chloride) Membrane conforms to the following physical properties

   a) Physical properties of the membrane are enhanced by a strong, polyester fabric that is encapsulated between the PVC based top and bottom plies. The combination of the fabric and PVC plies provide VersiFlex Reinforced PVC membranes with high breaking strength, tearing strength, and puncture resistance.

   b) Field membrane sheets are packaged in rolls 81” or 120” wide. Perimeter membrane sheets are available in a width of 40.5” or 5’ wide. 50-mil thick membrane is available in lengths of 100’, 60-mil is available in 100’ lengths and 80-mil is available in 75’ lengths. VersiFlex PVC Membrane is available in white, gray, light gray, slate gray and tan. VersiFlex PVC KEE HP Membrane is available in white, gray, light gray, and tan.

   OPTION: 60-mil VersiFlex PVC or 60-mil VersiFlex KEE HP PVC (white color only) reinforced membrane is available with an optional APEEL Protective Film. APEEL Protective Film can be left in place for up to 90 days without affecting the integrity of the film, guarding the PVC/KEE HP membrane’s surface from scuffs and dirt accumulation during installation. Durable and easy to remove, APEEL Protective Film improves aesthetics and long-term reflectivity. Available 5’ and 10’ widths by 100’ long rolls. Also available, APEEL 6” Cover Tape, allowing 100% coverage of the PVC surface.

VersiFlex Polyester Reinforced PVC Membrane				
Physical Property	**ASTM D4434 Requirement**	**50-mil Min.**	**60-mil Min.**	**80-mil Min.**
Thickness Over Scrim, in. (mm) ASTM D4434 optical method average of 3 areas	0.016 min. (0.40)	0.022 (0.559)	0.028 (0.711)	0.038 (0.965)
Weight, lbs/ft^2 (kg/m^2)	No requirement	0.33 (1.61)	0.40 (1.95)	0.55 (2.68)
Breaking Strength (MD X CD), lbf/in (kN/m) ASTM D751 grab method	275 min. (48)	320 x 300 (56 x 53)	330 x 300 (58 x 55)	360 x 330 (63 x 58)
Elongation break of reinforcement (MD x CD), % ASTM D751 grab method	25 min.	30 x 30	30 x 30	30 x 30
Seam Strength, min. ASTMD751 grab method (% of breaking strength)	>75	PASS	PASS	PASS
Tearing Strength (MD x CD), lbf (N) ASTM D751 proc. B, 8 in. x 8 in.	90 min. (400)	100 x 120 (445 x 534)	100 x 130 (445 x 578)	100 x 132 (445 x 587)
Low Temperature Bend, ASTM D2135, no cracks 5x at -40ºC	PASS	PASS (-40ºC)	PASS (-40ºC)	PASS (-40ºC)
Linear Dimensional Change, % ASTM D1204, 6 hours at 176ºF	+/- 0.5 max.	0.4	0.4	0.4
Ozone Resistance, no cracks 7x ASTM D1149, 100pphm, 168 hrs	PASS	PASS	PASS	PASS
Water Absorption Resistance, mass % ASTM D570, 166 hours at 158ºF	+/- 3.0 max.	2.0	2.0	2.0
Field Seam Strength, lbf/in. (kN/m) ASTM D1876 tested in peel	No Requirement	25 (4.4) min. 60 (10.5) max.	25 (4.4) min. 60 (10.5) max.	25 (4.4) min. 60 (10.5) max.
Water Vapor Permeance, Perms, ASTM E96 proc. B	No Requirement	0.10 max. 0.05 typ.	0.10 max. 0.05 typ.	0.10 max. 0.05 typ.
Puncture Resistance – Federal, lbf (kN) FTM 101C, method 2031	No Requirement	280	320	380
Puncture Resistance – Dynamic, J (ft-lbf) ASTM D5635	20 (14.7)	PASS	PASS	PASS
Puncture Resistance – Static, lbf (N) ASTM D5602	33 (145)	PASS	PASS	PASS
Xenon-Arc Resistance, no cracks/crazing 10x, ASTM G155 0.35 W/m^2 at 340-nm, 63ºC B.P.T. 12,600 kJ/m^2 total radiant exposure 10,000 hours	PASS	PASS	PASS	PASS
Properties After Heat Aging, ASTM D3045, 56 days at 176ºF Breaking Strength, % retained Elongation reinf., % retained	90 min. 90 min.	90 min. 90 min.	90 min. 90 min.	90 min. 90 min.
B.P.T. is black panel temperature				

3. VersiFlex 50-mil, 60-mil or 80-mil thick **Reinforced FRS PVC** (Polyvinyl Chloride) Membrane is designed specifically for Fully Adhered applications and conforms to the following physical properties.

   a) Dimensional stability of the membrane is enhanced by fiberglass that is encapsulated between the PVC based top and bottom plies. The combination of fiberglass and PVC plies provide VersiFlex FRS PVC membranes with enhanced dimensional stability for fully adhered roof systems using liquid applied bonding adhesives.

   b) Membrane sheets are packaged in rolls 10' wide. 50-mil thick membrane is available in lengths of 100', 60-mil is available in 80' lengths and 80-mil is available in 65' lengths. VersiFlex Reinforced FRS PVC membrane is available in white, gray, light gray and tan.

VersiFlex Reinforced FRS PVC Membrane			
Physical Property	**Test Method**	**Property of Unaged Sheet**	**Property After ASTM D3045 aging 56 days @ 176° F**
Tolerance on Nominal Thickness, %	ASTM D 638	± 10	
Thickness over scrim, in. (mm) 50-mil & 60-mil 80-mil	ASTM D 4434 Optical Method (avg. of 3 areas)	 0.016 (0.406) min. 0.025 (0.635) min.	
Tensile Strength, psi (MPa) (machine & cross-machine direction)	ASTM D 638 (Grab Method)	1500 (10.4) min. 1900 (13.1) typical	90% min. retention of original breaking strength
Elongation at Break, % Machine direction Cross-machine direction	ASTM D 638	 250 min. (270 typical) 220 min. (250 typical)	 90% min. retention of original elongation
Tear Resistance, lbf (N)	ASTM D 1004	10 (45) min. 12 (53) typical	
Low Temperature Bend at -40° F (-40° C)	ASTM D 2136	Pass	
Linear Dimensional Change (shrinkage), % after 6 hours at 176° F (80° C)	ASTM D 1204	+/- 0.1 max. 0.05 typical	
Ozone resistance, 100 pphm, 168 hours	ASTM D1149	No cracks	
Resistance to water absorption After 7 days immersion 158° F (70° C) Change in mass, %	ASTM D 570	 3.0 max. 0.5 typical	
Seam strength, % of tensile strength	ASTM D638	75 min. 80 typical	
Water vapor permeance, Perms	ASTM E 96	0.10 max. 0.05 typical	
Puncture resistance (see supplemental section for additional puncture data)			
Resistance to xenon-arc weathering Xenon-Arc, 12,600 kJ/m² total radiant exposure, visual condition at 10X (ASTM D 4434 light & spray cycle)	ASTM G155 0.35 W/m² 63 ° C B.P.T. (5,000 hours)	 No cracks No crazing	
B.P.T. is black panel temperature			

4. VersiFlex KEE HP 50-mil, 60-mil or 80-mil thick Polyester Reinforced **PVC** (Polyvinyl Chloride) **KEE HP** (High Performance) Membrane is designed for **Fully Adhered or Mechanically Attached applications** and conforms to the following physical properties.

    a) Physical properties of the membrane are enhanced by a strong, polyester fabric that is encapsulated between the KEE HP enhanced PVC based top and bottom plies. The combination of the fabric and PVC plies provide VersiFlex KEE HP membranes with high breaking strength, tearing strength, and puncture resistance.

    b) Field membrane sheets are packaged in rolls of 5’ and 10’ wide. 50-mil thick membrane is available in lengths of 100', 60-mil is available in 100' lengths and 80-mil is available in 75' lengths. VersiFlex KEE HP Membrane is available in white, gray, light gray, slate gray and tan.

VersiFlex KEE HP Polyester Reinforced PVC Membrane				
Physical Property	**ASTM D4434 Requirement**	**50-mil**	**60-mil**	**80-mil**
Thickness Over Scrim, in. (mm) ASTM D4434 optical method average of 3 areas	0.016 min. (0.40)	0.024 (0.61)	0.029 (0.74)	0.036 (0.91)
Weight, lbs/ft^2 (kg/m^2)	No requirement	0.33 (1.61)	0.40 (1.95)	0.55 (2.68)
Breaking Strength (MD X CD), lbf/in (kN/m) ASTM D751 grab method	275 min. (48)	290 x 290 (51 x 51)	320 x 300 (56 x 52)	330 x 320 (58 x 56)
Elongation break of reinforcement (MD x CD), % ASTM D751 grab method	25 min.	30 x 30	30 x 30	30 x 30
Tearing Strength (MD x CD), lbf (N) ASTM D751 proc. B, 8 in. x 8 in.	90 min. (400)	120 x 125 (534 x 556)	120 x 125 (534 x 556)	140 x 150 (623 x 667)
Low Temperature Bend, ASTM D2135, no cracks 5x at -40ºC	PASS	PASS (-46ºC)	PASS (-46ºC)	PASS (-46ºC)
Linear Dimensional Change, % ASTM D1204, 6 hours at 176ºF	+/- 0.5 max.	0.4 typ.	0.4 typ.	0.4 typ.
Ozone Resistance, no cracks 7x ASTM D1149, 100pphm, 168 hrs	PASS	PASS	PASS	PASS
Water Absorption Resistance, mass % ASTM D570, 166 hours at 158ºF	+/- 3.0 max.	1.25	0.87	0.89
Puncture Resistance – Dynamic, J (ft-lbf) ASTM D5635	20 (14.7)	PASS	PASS	PASS
Puncture Resistance – Static, lbf (N) ASTM D5602	33 (145)	PASS	PASS	PASS
Xenon-Arc Resistance, no cracks/crazing 10x, ASTM G155 0.35 W/m^2 at 340-nm, 63ºC B.P.T. 12,600 kJ/m^2 total radiant exposure 10,000 hours	PASS	PASS	PASS	PASS
Properties After Heat Aging, ASTM D3045, 56 days at 176ºF Breaking Strength, % retained Elongation reinf., % retained	90 min. 90 min.	90 min. 90 min.	90 min. 90 min.	90 min. 90 min.
B.P.T. is black panel temperature				

2.03 Insulations/Underlayments

A. General

1. Roof insulation thickness must be determined by the thermal value required for each project and may be subject to code approval limitations. On projects where a vapor retarder is used, the specifier must calculate insulation thickness to ensure the temperature at the vapor retarder will not fall below the calculated dew point.

2. Multiple layers of insulation are recommended with all joints staggered between layers.

2. For minimum recommended R-Values, previously published by American Society of Heating and Air-Conditioning Engineers (ASHRAE), consult local building code official for applicable requirements.

3. For Insulation fastening pattern and densities refer to Versico Applicable Details and **Design Reference DR-05 "Insulation Fastening Patterns"**.

4. Versico Insulation/underlayment must be specified for all Total System Warranty projects or when the insulation is to be covered by the Versico Warranty. Any of the Versico Insulation/Underlayment may be specified subject to design restrictions included with each table.

B. **Versico Polyisocyanurate**

Table B1 Polyisocyanurate (See below for product descriptions)				
			Roofing System Acceptability	
Insulations / Underlayment	Minimum Thickness	ASTM	Fully Adhered	Mechanically Fastened
Versico VersiCore Polyiso, Versico VersiCore Eco	*1.5"	C1289, Type II, Class 1, Grade 2 or 3	√	√
Versico VersiCore NH Polyiso	*1.5"	C1289, Type II, Class 1, Grade 2 or 3	√	√
Versico VersiCore HD, Versico VersiCore HD Eco	0.5"	C1289, Type II, Class 1, Grade 3	N/A	√
SecurShield Polyisocyanurate, SecurShield Eco	*1.5"	C1289, Type II Class 2, Grade 2 or 3	√	√
SecurShield NH Polyisocyanurate	*1.5"	C1289, Type II Class 2, Grade 2 or 3	√	√
HD Polyiso Composite (SS HD)	2"	C1289, Type IV, Grade 2 or 3	√	√
DuraFaceR Polyiso Composite (OSB)	1.5"	C1289, Type V, Grade 2 or 3	√	√
Design Restrictions				
-Extended Warranty, those with longer duration, higher wind speed, or puncture coverage, may require the use of a cover board over Polyiso Insulation, refer to Warranty Tables in Paragraph 1.04 for applicable requirements. -Maximum Flute Spanability shall be limited to 2-5/8" when 1" Minimum Polyiso Insulation is to be used. -Minimum thickness of insulation board may be restricted by wind speed coverage and warranty duration, refer to Tables V and VI in Paragraph 1.05. *1.5 minimum for fully adhered systems. 1" minimum for mechanically attached systems or as a base layer for fully adhered. Notes: N/A = Not Acceptable √ = Acceptable				

NOTE: SecurShield HD is listed in Paragraph F below.

1. **Versico VersiCore Polyiso** – A foam core insulation board covered on both sides with a medium weight fiber-reinforced felt facer meeting ASTM C 1289, Type II, Class 1, Grade 2 (20 psi) or Grade 3 (25 psi). The product is available in 4' x 8' standard size with a thickness from 1 to 4 inches. 4' x 4' tapered panels are also available.

2. **Versico VersiCore Eco** - A rigid roof insulation panel with 5% ISCC-certified bio-attributed content composed of a closed-cell polyisocyanurate foam core bonded to glass-reinforced felt (GRF) facers, meeting ASTM C 1289, Type II, Class 1, Grade 2 (20 psi) or Grade 3 (25 psi). The product is available in 4' x 8' standard size with a thickness from 1 to 4 inches. 4' x 4' tapered panels are also available. UL and FM approved for direct application over steel decks, polyiso provides the highest R-value per inch of any commercially available insulation product.

3. **Versico VersiCore NH Polyisocyanurate** – A foam core insulation board covered on both sides with a glass-reinforced felt meeting ASTM C 1289, Type II, Class 1, Grade 2 (20 psi) or Grade 3 (25 psi). The product is available in 4' x 4' and 4' x 8' standard size with a thickness from ½ inch to 4 inches. VersiCore NH Polyisocyanurate contains zero halogenated flame retardants.

4. **Versico VersiCore HD** – A high-density, foam core insulation board covered on both sides with a glass-reinforced felt meeting ASTM C 1289, Type II, Class 1, Grade 3 (25 psi). The product is available on 4' x 4' and 8' x 8' standard size with a thickness of one-half inch.

5. **Versico VersiCore HD Eco** - A rigid-roof insulation cover board with 5% ISCC-certified bio-attributed content composed of a high-density closed-cell polyisocyanurate foam core bonded on each side to glass-reinforced felt (GRF), meeting ASTM C1289, Type II, Class 1, Grade 3. UL and FM approved for direct application over steel decks. Available in 1/2" thick, 4' x 4' and 4' x 8' panels with an R-value of 2.5. Suitable for both re-roofing and new construction applications, InsulBase HD is specifically designed for use as a cover board in mechanically-attached single-ply systems only. InsulBase HD delivers an R-value of 2.5.

6. **SecurShield Polyisocyanurate** – A foam core insulation board covered on both sides with a coasted glass fiber mat facer meeting ASTM C 1289, Type II, Class 2, Grade 2 (20 psi) or Grade 3 (25 psi). The product is available in 4' x 8' standard size with a thickness from 1 to 4 inches. 4' x 4' tapered panels are also available. These flat board products feature a dark-colored coated-glass facer (CGF) on one side of the insulation board and a light-colored CGF on the other, labeled Ready Flash. Ready Flash Technology allows applicators to manage adhesive flash-off times by choosing between two different-colored facers on every board.

7. **SecurShield Eco** – A rigid roof insulation panel with 5% ISCC-certified bio-attributed content composed of a closed-cell polyisocyanurate foam core bonded to high performance coated glass facers (CGF). ASTM C 1289, Type II, Class 2, Grade 2 (20 psi) or Grade 3 (25 psi), available in 4' x 8' standard size with a thickness from 1 to 4 inches. 4' x 4' tapered panels are also available. Ideal for use in adhered membrane systems. Achieves a UL Class A fire rating direct to combustible deck.

8. **SecurShield NH Polyisocyanurate** – A foam core insulation board covered on both sides with a coated glass facer meeting ASTM C 1289, Type II, Class 2, Grade 2(20 psi) or Grade 3 (25 psi). The product is available in 4' x 4' and 4' x 8' standard size with a thickness from ½ inch to 4 inches. SecurShield NH contains zero halogenated flame retardants.

9. **SecurShield HD Composite** – Composite insulation panel comprised of 1/2-inch high-density (109 psi max) Polyiso cover board laminated during the manufacturing process to SecurShield rigid Polyiso roof insulation meeting ASTM C1289 Type IV, Grade 2 (20 psi) or Grade 3 (25 psi). Available in 4' x 8' boards with thickness from 2" to 4.5". 4' x 4' panels are also available.

10. **DuraFaceR Polyiso Composite (OSB)** –Polyiso insulation bonded on the bottom side with a medium weight fiber-reinforced felt face and laminated with a top surface of 7/16" or 5/8" thick Oriented Strand Board (OSB) meeting ASTM C1289, Type V, Grade 2 (20 psi) or Grade 3 (25 psi). Available in 4' x 8' boards with thickness from 1-1/2" to 4".

C. **EPS : Expanded Polystyrene**

Table C1 EPS : Expanded Polystyrene (See below for product descriptions)

Insulations / Underlayment	Minimum Thickness	ASTM	Roofing System Acceptability	
			Adhered	Mechanically Fastened
InsulFoam I	1"	C578 Type I	N/A	√ (1)(3)
InsulFoam VIII	.75"	C578 Type VIII	N/A	√ (1)
InsulFoam II	.75"	C578 Type II	N/A	√ (1)
InsulFoam IX	.75"	C578 Type IX	N/A	√ (1)
InsulFoam HD Composite (SecurShield HD)	1.5"	C578 Type (I, VIII, II, or IX)	√	√
InsulLam (Various Cover Boards)	1.5"	C578 Type (I, VIII, II. or IX)	√	N/A
InsulFoam SP	1"	C578 Type VIII	N/A	√
InsulFoam SP	2"	C578 Type VIII	N/A	√

Design Restrictions

-Local Codes must be consulted regarding the acceptance of expanded insulation directly over steel decks. When specified, minimum thickness shall be designated by the manufacturer.
-Expanded polystyrene roof insulations cannot be installed directly over coal-tar pitch roof surfaces or existing PVC membranes. A separation layer of minimum 1/2" SecurShield HD, Versico Recovery Board or Polyiso Insulation shall be used.
(1) VersiFlex PVC and KEE HP Membrane is not acceptable for this application.
(2) May be used as a substrate for VersiWeld QA TPO membrane Only.
(3) Minimum 1.25 lbs/cubic ft (pcf) density required For VersiWeld TPO Membrane (White Membrane Only)

Notes: N/A = Not Acceptable √ = Acceptable

NOTE: R-Tech Fanfold Recover Board is listed in Paragraph F below.
NOTE: Insulation boards listed in a through d may be specified beneath SecurShield HD, Versico Recovery Board, Dens-Deck Prime, DensDeck StormX Prime or Securock.

2. **InsulFoam I –** A closed-cell lightweight expanded polystyrene (EPS) that meets ASTM C578, Type I. Nominal density of 1.0 lbs/cubic ft (pcf) available in 4' x 4' or 4' x 8' sizes with thickness from 1/4" to 40". Custom lengths, widths and tapered boards are available. May be specified beneath Sure-Seal HP Recovery Board, DensDeck Prime, DensDeck StormX Prime, Securock or DEXcell

3. **InsulFoam VIII –** A closed-cell lightweight expanded polystyrene (EPS) that meets ASTM C578, Type VIII. Nominal density of 1.25 lbs/cubic ft (pcf) available in 4' x 4' or 4' x 8' sizes with thickness from ¼" to 40". Custom lengths, widths and tapered boards are available. May be specified beneath Sure-Seal HP Recovery Board, DensDeck Prime, DensDeck StormX Prime, Securock or DEXcell.

4. **InsulFoam II –** A closed-cell lightweight expanded polystyrene (EPS) that meets ASTM C578, Type II. Nominal density of 1.5 lbs/cubic ft (pcf) available in 4' x 4' or 4' x 8' sizes with thickness from 1/4" to 40". Custom lengths, widths and tapered boards are available. May be specified beneath Sure-Seal HP Recovery Board, DensDeck Prime, DensDeck StormX Prime, Securock or DEXcell.

5. **InsulFoam IX –** A closed-cell lightweight expanded polystyrene (EPS) that meets ASTM C578, Type IX. Nominal density of 2.0 lbs/cubic ft (pcf) available in 4’ x 4’ or 4’ x 8’ sizes with thickness from 1/4” to 40”. Custom lengths, widths and tapered boards are available. May be specified beneath Sure-Seal HP Recovery Board, DensDeck Prime, DensDeck StormX Prime, Securock or DEXcell.

6. **InsulFoam HD Composite –** InsulFoam expanded polystyrene (EPS) insulation laminated with a top surface of 1/2” thick SecurShield HD. Available in 4’ x 8’ boards with thickness from 1-1/2” to 7”.

7. **InsulLam –** InsulFoam expanded polystyrene (EPS) insulation laminated with a top surface of 7/16” or 5/8” thick Plywood or Oriented Strand Board (OSB). Available in 4’ x 8’ boards with thickness from 1-1/2” to 7”.

8. **InsulFoam SP –** A closed-cell lightweight expanded polystyrene (EPS) with a factory-laminated fiber glass facer. Nominal density of 1.25 lbs/cubic ft (pcf), available in 4’ x 8’ size, and meets ASTM C578, Type VIII. Designed for low-sloped roof applications that employ mechanically attached or VersiWeld QA TPO membranes.

D. **XPS: Extruded Polystyrene –** Available through Versico is dimensionally stable with high thermal and low water absorption performance capability. XPS is available in varying compressive strengths thicknesses and sizes. Refer to specific Technical Data Bulletins for physical properties and additional technical information.

Table D1 **XPS: Extruded Polystyrene** (See below for product descriptions)				
Insulations / Underlayment	**Minimum Thickness**	**ASTM**	**Roofing System Acceptability**	
			Fully Adhered	**Mechanically Attached**
Thermapink 18	.75"	Refer to Technical Data Bulletin	N/A	√ (1)
Thermapink 25	1"	Refer to Technical Data Bulletin	N/A	√ (1)
Foamular 400	1"	Refer to Technical Data Bulletin	N/A	√ (1)
Dow Styrofoam Deckmate Plus	1"	Refer to Technical Data Bulletin	N/A	√ (1)
Design Restrictions				
-Local Codes must be consulted regarding the acceptance of expanded insulation directly over steel decks. When specified, minimum thickness shall be designated by the manufacturer. -Extruded polystyrene roof insulations cannot be installed directly over coal-tar pitch roof surfaces or existing PVC membranes. A separation layer of minimum 1/2" SecurShield HD, Versico Recovery Board or Polyiso Insulation shall be used. -Refer to related products listed in **Spec Supplement P-01 "Related Products"** for other products which may be suitable for use. Versico must be contacted for specific requirements. (1) VersiFlex PVC and KEE HP Membrane is not acceptable for this application. Notes: N/A = Not Acceptable √ = Acceptable				

2. **Thermapink 18 or 25 Extruded Polystyrene**
3. **Foamular 400 Extruded Polystyrene**
4. **Dow Styrofoam Deckmate Plus Extruded Polystyrene**

E. **Versico Vacuum Insulated Panel (VIP)**

Table E1 **Vacuum Insulated Panel (VIP)** (See below for product descriptions)				
Insulations / Underlayment	**Minimum Thickness**	**ASTM**	**Roofing System Acceptability**	
			Adhered	**Mechanically Fastened**
Versico Optim-R VIP	*1.6"	C1484	√	N/A
Design Restrictions				
*2.6" minimum for total installed system including an additional 2 layers of 1/2" SecurShield HD panels; 1 layer on top and 1 layer on bottom of Optim-R. For adhered systems only. Note: Optim-R VIP cannot be cut or punctured. Notes: N/A = Not Acceptable √ = Acceptable				

1. **Optim-R Vacuum Insulated Panel (VIP)** – a high R-Value vacuum insulated panel (VIP) used to provide a low-profile solution when height restrictions exist, such as windows, doors, equipment curbs, etc. Provides an R-38 insulating value in a 2.6" system thickness with up to 35% infill (non-VIP material). Available in 23.6" x 23.6" and 23.6" x 47.2" board sizes.

F. **Cover Boards / Slip Sheets**

Table F1 **Cover Boards / Slip Sheets** (see below for product descriptions)				
Insulations / Underlayment	**Minimum Thickness**	**ASTM**	**Roofing System Acceptability**	
			Fully Adhered	**Mechanically Attached**
SecurShield HD, SecurShield HD Eco	.5"	C1289, Type II, Class 4 (109 psi max)	√	√
SecurShield HD Plus	.5"	C1289, Type II, Class 4 (109 psi max)	√	√
VersiCore HD, VersiCore HD Eco	.5"	C1289, Type II, Class 1, Grade 3	N/A	√
DuraStorm VSH	.5"	Refer to Technical Data Bulletin	√	√
Securock Cover Board	.25"	Refer to Technical Data Bulletin	√	√
Securock UltraLight Coated Glass-Mat Board	.25"	Refer to Product Data Sheet	√	√
DensDeck StormX Prime	.625"	C1177	√	√ (1)
DensDeck Prime	.25"	C1177	√	√ (1)
DensDeck	.25"	C1177	N/A	√ (1)
R-Tech Fanfold Recovery Board	.5"	C578 Type (I, VIII, II. or IX)	N/A	√ (2)
HP Protection Mat	6 oz	Refer to Technical Data Bulletin	N/A	√
DEXcell® Glass Mat	.25"	C1177	N/A	√
DEXcell FA™	.5"	C1177	√	√
DEXcell® Cement Roof Board	.4375"	C1325	√	√
DEXcell FA VSH®	.625"	C1177	√	√ (1)
Design Restrictions				
-Versico Recovery Board and R-Tech Fanfold not recommended for direct use over Type B and F steel decks. -Securock Cover Board, Versico Recovery Board, DensDeck Prime, DensDeck StormX Prime, DensDeck or DEXcell may not be used directly over New or Existing Lightweight Insulating Concrete Decks existing or Structural Concrete. -Due to some warranty restrictions, DensDeck, DensDeck StormX Prime, DensDeck Prime and DEXcell not recommended for use directly over existing roofing membrane without prior written approval from Versico. Contact Versico for specific requirements. -R-Tech Fanfold primarily for use in existing roof re-covers applications or directly over structural or lightweight insulating concrete. (1) Permitted for use on combustible decks with slopes greater than 2" per foot for compliance with external fire codes, refer to UL listings or contact Versico. (2) Install Polymeric Side Up when installing VersiFlex PVC and KEE HP membrane. Notes: N/A = Not Acceptable √ = Acceptable				

1. **SecurShield HD** – A rigid insulation panel composed of a high-density (109 psi max), closed-cell polyisocyanurate foam core laminated to coated-glass fiber-mat facer meeting ASTM C1289, Type II, Class 4, Grade 1, for use as a cover board or recover board. Available 1/2" thick 4' x 8' panel weight 11 lbs with an R-value of 2.5.

   Features Ready Flash, a dark-colored coated-glass facer (CGF) on one side of the insulation board and a light-colored CGF on the other. Ready Flash Technology allows applicators to manage adhesive flash-off times by choosing between two different-colored facers on every board.

2. **SecurShield HD Eco** – A rigid roof insulation panel with 5% ISCC-certified bio-attributed content composed of ½" high-density, closed-cell polyisocyanurate foam core bonded to a premium performance coated glass facer (CGF) specifically designed for use as a cover board, meeting ASTM C1289, Type II, Class 4, Grade 1. Provides 5 times the R-value at one-fifth the weight of traditional gypsum cover boards. Achieves a UL Class A fire rating direct to combustible deck. Available in 1/2" thick, 4' x 4' (5.5 lbs) and 4' x 8' (11 lbs) panels with an R-value of 2.5.

3. **SecurShield HD Plus** – A rigid insulation panel composed of a high-density (109 psi max), closed-cell polyisocyanurate foam core laminated to premium-performance coated-glass fiber-mat facer, meeting ASTM C1289, Type II, Class 4, Grade 1, for use as a cover board or recover board. Available 1/2" thick 4' x 8' panel weight 11 lbs with an R-value of 2.5. Meets an FM 1-90 using only 8 fasteners per 4' x 8' board.

4. **VersiCore HD –** a closed-cell polyisocyanurate foam core insulation board covered on both sides with glass-reinforced felt (GRF) facer meeting ASTM C 1289, Type II, Class 1, Grade 3. The product is available in 4' x 4' and 4' x 8' standard sizes with a thickness of one half inch.

5. **VersiCore HD Eco** - A rigid-roof insulation cover board with 5% ISCC-certified bio-attributed content composed of a high-density closed-cell polyisocyanurate foam core bonded on each side to glass-reinforced felt (GRF), meeting ASTM C1289, Type II, Class 1, Grade 3. UL and FM approved for direct application over steel decks. Available in 1/2" thick, 4' x 4' and 4' x 8' panels with an R-value of 2.5.. Suitable for both re-roofing and new construction applications, InsulBase HD is specifically designed for use as a cover board in mechanically-attached single-ply systems only. InsulBase HD delivers an R-value of 2.5.

6. **Securock Cover Board –** A uniform composition of fiber-reinforced gypsum without a facer, for use as a cover board or a thermal barrier. Available in 1/4" to 5/8" thick and 4' x 4' or 4' x 8' size boards. Long uninterrupted runs (>200') may require slight gapping due to thermal expansion.

7. **Securock UltraLight Coated Glass-Mat Board –** A high-performance roof board with glass-mat facers and a specially treated core for use as a cover board, fire barrier or thermal barrier for low-slope commercial roofing applications. Available in 1/4", 1/2" and 5/8" thicknesses and 4' x 4' and 4' x 8' size boards. The 5/8" thickness meets requirements for Type X per ASTM C1177.

8. **DuraStorm VSH Cover Board** - an engineered composite building material made from a proprietary blend of plastic and cellulose fiber sourced from post-industrial and post-consumer waste streams. DuraStorm VSH is a durable, extremely moisture and mold resistant building material with a core that does not disintegrate or delaminate in the presence of water. Available in 1/2" thick and 4' x 8' size board.

9. **DensDeck StormX Prime** – a reinforced gypsum cover board with an enhanced, moisture-resistant core and coated glass mat facers on the top and bottom side. The top surface is pre-primed and provides excellent bond strength for adhered membrane for use as a cover board. DensDeck StormX Prime is extremely durable and is approved for use in assemblies meeting FM's Very Severe Hail (VSH) Classification. Available in 5/8" thickness and 4' x 4' or 4' x 8' size boards.

5. **DensDeck Prime** –gypsum core that incorporates glass-mat facings on the top and bottom side. The top surface is pre-primed and provides excellent bond strength for fully adhered membrane for use as a cover board. Available in 1/4" to 5/8" and 4' x 4' or 4' x 8' size boards.

6. **DensDeck Cover Board** –gypsum core that incorporates glass-mat facings on the top and bottom side for use as a cover board. Available in 1/4" to 5/8" and 4' x 4' or 4' x 8' size boards.

7. **R-Tech FanFold Recover Board –** Closed-cell lightweight expanded polystyrene (EPS) with polymeric laminated faces which meets ASTM C 578 for use as a recover board. Polymeric facer compatible with PVC and KEE HP membrane, while metallic side used with EPDM. Available in thicknesses of 3/8" to 3/4" with coverage 4' x 50' (2 squares). 4' x 8' units are also available.

8. **HP Protection Mat –** A nominal 6-oz per square yard UV resistant polypropylene needle punched fabric used either above the membrane as a slip-sheet for ballast or as an underlayment to the membrane. Available 15' x 300' roll (4500 square foot) weighing 0.06 lbs per square foot.

9. **DEXcell® Glass Mat –** A mold & mildew resistant, gypsum substrate board with coated fiberglass facers, used for thermal protection and acoustical enhancement of roof systems. May be used as a substrate for a vapor retarder and /or the continuous substrate for the application of commercial roofing applications. Available in 1/4", 1/2" and 5/8" thicknesses in 4' x 8' boards.

10. **DEXcell FA™ –** A mold & mildew resistant, gypsum substrate board with heavy duty, coated fiberglass facers, used for thermal protection and acoustical enhancement of roof systems. May be used as a substrate for a vapor retarder and /or the continuous substrate for the application of commercial roofing applications. The precoated, fiberglass facers are designed to increase adhesive coverage and enhance performance of the bond strength of the system. Available in 1/4", 1/2" and 5/8" thicknesses in 4' x 4' and 4' x 8' boards.

11. **DEXcell® Cement Roof Board –** A mold & mildew resistant, Portland Cement, lightweight aggregate roof board with heavy-duty fiberglass mesh facers used as a substrate board, thermal barrier and cover board for commercial roofing applications. Available in 7/16" and 5/8" thicknesses in 4' x 4' and 4' x 8' boards.

12. **DEXcell FA VSH® –** A reinforced gypsum panel with enhanced moisture resistant gypsum core and heavy duty coated glass facers used as a substrate board, thermal barrier and cover board for commercial roofing applications, approved for use in single-ply and multi-ply assemblies meeting FM Very Severe Hail rating. Available in 5/8" thickness in 4' x 4' and 4' x 8' boards.

2.04 Related Materials

A. **VersiFlex Flashing (for use with VersiFlex PVC, VersiFlex FRS PVC and VersiFlex KEE HP Membrane Assemblies)**

1. **VersiFlex PVC non-reinforced Flashing** (white, gray, light gray, slate gray and tan) is 60-mil thick and available in rolls **12" and 24" wide by 50' long**. Flashing is used for inside/outside corners and field fabricated pipe flashings when use of pre-molded accessories is not feasible.

2. **VersiFlex PVC Reinforced Cover Strip:** A 8” wide, nominal 60-mil and 80-mil thick, polyester reinforced PVC membrane. Used for stripping in rows of fasteners and plates and covering the butt joints of VersiFlex PVC membranes. Available in rolls 8" wide by 75' long in colors of white, gray or tan. Also available in 60-mil in rolls of 8” wide by 100’ long in white only.

3. **VersiFlex KEE HP Reinforced Cover Strip:** A 8” wide, nominal 60-mil and 80-mil thick, polyester reinforced KEE HP PVC membrane. Used for stripping in rows of fasteners and plates and covering the butt joints of VersiFlex KEE HP PVC membranes. Available in rolls 8" wide by 75' long in colors of white, gray or tan, also available in 60-mil in rolls of 8” wide by 100’ long in white only.

4. **VersiFlex PVC Pressure-Sensitive Cover Strip:** A 6” wide, nominal 35-mil thick non-reinforced KEE HP flashing laminated to a nominal 35-mil, fully cured, pressure-sensitive, synthetic rubber adhesive. Used for stripping in flat metal edgings (i.e. drip edge) of VersiFlex PVC and KEE HP PVC membranes. Available in rolls 6" wide by 100' long in colors of white, gray or tan. Used in conjunction with PVC Step 1 Activator and PVC Step 2 Primer.

5. **VersiFlex PVC Overlayment Strip:** An 80-mil non-reinforced thermoplastic polyvinyl chloride-based membrane used for stripping in PVC Coated Metal roof edging. VersiFlex PVC Overlayment Strip is available in 6” x 100’ rolls with a white top side and gray or tan bottom side to match white and gray VersiFlex PVC membranes.

6. **VersiFlex PVC “T” Joint Cover:** A 4-1/2" diameter, 60-mil thick (white) or 40-mil (gray or tan), pre-cut non-reinforced PVC flashing used to overlay “T” joints at field splices when 60-mil or 80-mil VersiFlex PVC or VersiFlex KEE HP membrane is used.

7. **APEEL Cover Tape:** A 6"-wide, 1,640' long roll of APEEL Protective Film used to protect areas of VersiFlex PVC/KEE HP membrane where APEEL Protective Film has been removed (around details) or was not factory applied (seams). APEEL Cover Tape allows contractors to keep 100 percent of the PVC/KEE HP surface clean during installation and is applied using the APEEL Cover Tape Applicator.

8. **VersiFlex PVC Yellow Pressure-Sensitive Warning Strip:** a nominal 30-mil-thick, non-reinforced membrane flashing laminated to a nominal 30-mil-thick, fully cured, synthetic rubber, pressure-sensitive adhesive and is available in 6"-wide by 100'-long rolls. Pressure-Sensitive Warning Strip can be applied to VersiFlex PVC or KEE HP systems to provide a visual warning of an impending hazard (e.g., roof edge, deep drain sump, skylight, etc.).

9. **VersiFlex PVC Rib Profile:** Used to obtain the appearance of standing seam metal roofing with the performance of a PVC single-ply membrane. The Rib Profile measures 1-1/4” tall and 2-1/8” wide, including the welding flanges, while the vertical profile is a substantial 3/8” thick. The profile has a continuous 1/8” diameter alignment hole, for use with fiberglass connecting pins, as well as a 1/8” fiberglass reinforcing cord for added strength. The Rib Profile is available in white, gray, light gray, slate gray and tan, 10’ lengths and packaged 20 per carton.

10. **Pre-Molded Accessories:**

    a) **VersiFlex PVC Inside Corners:** A pre-molded flashing for inside corners. Available in white or gray on tan; 60-mil thick.

    b) **VersiFlex PVC Outside Corners:** A pre-molded flashing for outside corners. Available in white, gray or tan; 60-mil thick.

    c) **VersiFlex PVC Curb Wrap Corners**: Fabricated flashings are made of 60-mil thick reinforced VersiFlex KEE HP PVC Detail membrane designed to reduce installation time to flash a curb when compared to conventional methods. Each corner is fabricated with a 6" wide base flange and a 12" overall height. Three sizes are available to fit curbs up to 3' by 3' in size. One curb requires 4 corners for a complete installation. PVC Curb Wrap Corners are packaged in boxes containing twelve corners. Custom sizes are available as a special order product requiring lead time.

    d) **PVC Universal Corners:** a pre-molded flashing for use in a variety of corner details, including inside and outside corners. Available in white, tan, gray, and light gray;60-mil thick.

    e) **VersiFlex PVC Pipe Flashings:** A pre-molded (white, tan, gray, and light gray) pipe flashing used for pipe penetrations. Available in white, gray or tan, for 3/4" – 8" diameter pipes with clamping rings included.

    f) **VersiFlex PVC Split Pipe Seals:** A prefabricated flashing consisting of 60-mil thick reinforced VersiFlex

Membrane for pipes 1" – 6" in diameter. A split (cut) and overlapped tab are incorporated to allow the pipe seal to be opened and wrapped around the pipe when it is not possible to pull a standard pipe flashing over a round penetration. Available in white, gray or tan.

g) **VersiFlex PVC Square Tubing Wraps:** Fabricated flashings made of 60-mil thick reinforced VersiFlex membrane for square tubing. A split (cut) and overlap tab are incorporated into these parts to allow the seals to be opened and wrapped around a square penetration. Available for 3", 4" and 6" diameter square tubing. Available in white and gray.

h) **VersiFlex PVC Molded Sealant Pockets:** A pre-fabricated, interlocking, 2-piece, injection molded, flexible pocket with a rigid PVC vertical wall and pre-formed deck flanges. Used in conjunction with White One-Part Pourable Sealer for waterproofing pipe clusters or other odd shaped penetrations. Pockets can be adjusted from 11.5" to 7.5" in length by 6" in width by following the cutting lines molded in the pocket. Available in white only.

B. **Primers, Adhesives, Sealants and Cleaners**

Refer to Technical Data Bulletins for material coverage rates and proper usage. Prior to the use of any of the products listed below, consult the Safety Data Sheets for applicable cautions and warnings.

1. **VersiWeld Products**

a) **VersiWeld Bonding Adhesive:** A high-strength, synthetic rubber adhesive used for bonding VersiWeld membrane to various surfaces. The adhesive is applied to both the membrane and the substrate at a coverage rate of approximately 60 square feet per gallon per finished surface (includes coverage on both surfaces).

b) **Aqua Base 120 Bonding Adhesive:** A semi pressure-sensitive, water based adhesive used as a two-sided contact adhesive. Coverage rate is 120 square feet per gallon finished surface (applied to membrane and substrate). Refer to **Spec Supplement G-09 "Aqua Base 120 Bonding Adhesive"** for Warranty limitations and other considerations.

c) **CAV-GRIP 3V Low-VOC Aerosol Contact Adhesive/Primer:** a low-VOC, spray-applied aerosol contact adhesive and primer used for a variety of applications: adhering standard VersiWeld TPO and VersiGard EPDM membranes to horizontal and vertical surfaces, adhering VersiFleece membranes to vertical surfaces, as a primer for VapAir Seal 725TR, and as an unexposed asphalt primer for Flexible DASH for insulation attachment.

d) **Cut-Edge Sealant:** A clear colored sealant used to seal cut edges of reinforced VersiWeld membrane. A coverage rate of approximately 225 - 275 linear feet per squeeze bottle can be achieved when a 1/8" diameter bead is applied.

e) **Water Cut-Off Mastic:** Used as a mastic to prevent moisture migration at drains, compression terminations and beneath conventional metal edging (at a coverage rate of approximately 10' per tube or 100' per gallon).

f) **Universal Single-Ply Sealant:** A 100% solids, solvent free, VOC-free, one part polyether sealant that provides a weather tight seal to a variety of building materials. It is white in color and is used for general caulking such as above termination bars and metal counter flashings and at scuppers.

g) **White One-Part Pourable Sealer**: A one-part, moisture curing, elastomeric polyether sealant used to fill Molded Pourable Sealant Pockets. Packaged in 4, 2-liter foil pouches inside a reusable plastic bucket. 1 pouch will fill 122 cubic inches of volume within a sealant pocket.

2. **VersiFlex Products**

a) **Low-VOC PVC Bonding Adhesive:** A high-strength solvent based adhesive that allows bonding of PVC and KEE-enhanced PVC membrane to various porous and non-porous substrates. The adhesive is applied to both the membrane and the substrate at a coverage rate of approximately 60 square feet per gallon per finished surface (included coverage on both surfaces).

b) **Hydrobond Adhesive:** A wet lay-in, one-sided dispersion adhesive. Compatible with only VersiFlex PVC smooth-backed and VersiFleece membranes, this product is ideal for bonding only PVC membranes to various porous and non-porous substrates (cannot be used with any KEE or KEE HP PVC bareback membranes). Coverage rates vary between 100-133 square foot per gallon using roller or spray applications.

c) **CAV-GRIP PVC Aerosol Contact Adhesive:** a low-VOC, methylene chloride-free adhesive that can be

used for a variety of applications including: adhering PVC bareback membranes to a variety of horizontal substrates and vertical walls (cannot be used with any KEE or KEE HP bareback membranes), as well as adhering VersiFleece membranes to vertical walls. Coverage rate is approximately 400 sq. ft. per #40 cylinder and 800 sq. ft. per #85 cylinder as an adhesive for vertical walls, in a double-sided application; 750 sq. ft. per #40 cylinder and 1,500 sq. ft. per #85 cylinder as an adhesive, horizontally, for the field of the roof, in a double-sided applications.

d) **VersiFlex PVC Cut-Edge Sealant:** A clear-colored sealant used to seal cut edges of reinforced VersiFlex membrane. A coverage rate of approximately 225 - 275 linear feet per squeeze bottle can be achieved when a 1/8" diameter bead is applied. Use of Cut-Edge Sealant to seal cut edges of PVC or KEE HP Membranes is not required.

e) **Water Cut-Off Mastic:** Used as mastic to prevent moisture migration at drains, compression terminations and beneath conventional metal edging (at a coverage rate of approximately 10' per tube or 100' per gallon).

f) **Universal Single-Ply Sealant:** A 100% solids, solvent free, one-part, polyether sealant that provides a weather tight seal to a variety of building substrates. Can be used as a termination bar sealant or for use in counterflashing, coping, and scupper details.

g) **White One-Part Pourable Sealer:** A one-part, moisture curing, elastomeric polyether sealant used to fill Molded Sealant Pockets. Packaged in four 1/2 gallon pouches per plastic bucket. One pouch will fill 122 cubic inches of volume within a molded sealant pocket.

h) **PVC and KEE HP Membrane Cleaner:** Used to prepare PVC/KEE HP membranes that have been exposed to the elements prior to heat welding or to remove general construction dirt at an approximate coverage rate of 400 square feet per gallon (one surface).

i) **VersiFlex Low-VOC PVC Step 1 Activator:** A high-strength, solvent-based activator that allows PVC Pressure-Sensitive (PS) Cover Strip to be bonded to VersiFlex PVC or KEE HP membranes. Low-VOC PVC Step 1 Activator meets the < 250 gpl VOC content requirements of the OTC Model Rule. It is specially formulated using a blend of VOC-exempt and non-exempt solvents and follows the state of California Clean Air Act of 1988 (updated in 1997) as further regulated by California's Air Quality Control Districts listing VOC limitations.

j) **VersiFlex Low-VOC PVC Step 2 Primer:** A high-solids-content, polymer based splice primer. This product is applied to KEE HP and PVC membranes to improve the adhesion of PVC Pressure-Sensitive Cover Strip. Low-VOC PVC Step 2 Primer meets the < 250 gpl VOC content requirements of the OTC Model Rule.

k) **VersiFlex PVC Step 2 Primer:** A high-solids-content, clear (translucent color), polymer-based splice primer used to prepare KEE HP and PVC membranes to be bonded to PVC Pressure-Sensitive Cover Strip.

2.05 Fastening Components

A. **Fasteners**

The following Table illustrates criteria for fastening of Versico Insulation with the referenced roof deck and includes minimum penetration requirements and pilot hole criteria.

Insulation Fastening Criteria

Deck Type	Versico Fasteners (1)	Min. Penetration	Pilot Hole Depth	Pilot Hole Diameter
Steel or Lightweight Insulating Concrete over Steel	HP, HP-X, ASAP or InsulTite	3/4"	N/A	N/A
Structural Concrete, rated 3,000 psi or greater	CD-10	1"	Note (2)	7/32"
	MP 14-10	1"	Note (2)	3/16"
Wood Plank, min. 15/32" thick Plywood or min. 7/16" OSB	HPV, HP-X, ASAP or InsulTite	Min. 1" (3)	N/A	N/A
Cementitious Wood Fiber	Polymer Gyptec	1-1/2"	Note (4)	N/A
Gypsum	Polymer Gyptec	1-1/2"	Note (2)	7/16", 1/2" or 9/16" (5)

Notes: N/A = Not Applicable

(1) For Fully Adhered Systems, only 3" diameter insulation fastening plates can be used for insulation attachment.
(2) The pilot hole must be predrilled to a sufficient depth to prevent contact between the fastener point and any accumulated dust in the predrilled hole. This will help prevent bottoming out of the fastener during installation.

(3) For wood planks only, fastener penetration shall not exceed 1-1/2".
(4) Most cementitious wood fiber decks do not require pre-drilling; however, Versico should be contacted prior to installation for verification of specific types that may require a pilot hole to be predrilled.

(5) Pilot hole size may be varied to maximize pullout resistance.

All Fasteners listed below can be used with VersiFlex Roofing Systems. Refer to the applicable specification for specific requirements.

1. **HPVX Fastener:** A heavy duty #15 threaded fastener with a #3 Phillips drive used with Versico's HPVX Fastening Plate to secure Mechanically Attached Roofing Systems. It is used on minimum 22 gauge steel decks or minimum 15/32" CDX plywood decks. It is also designed to offer an optimum combination of driving performance, back-out and corrosion resistance with excellent pullout performance.

2. **HPV-XL Fastener:** An oversized diameter #22(.315") steel, threaded fastener used in conjunction with HPV-XL Plates for membrane securement into minimum 22 gauge steel or wood decks on Mechanically Attached Roofing Systems.

3. **HPV Fastener:** A threaded E-coat square head fastener **for insulation attachment only**. Used into steel, wood plank, minimum 15/32" thick plywood or minimum 7/16" thick oriented strand board (OSB).

4. **Pre-Assembled InsulTite ASAP Fastener**: Versico's InsulTite Fastener pre-assembled with a 3" diameter plastic plate used for **insulation attachment only** on Fully Adhered and Mechanically Attached Roofing Systems. Installed using Olympic Fasteners' Fastening Tool.

5. **InsulTite Fastener**: A threaded Phillips drive fastener used with Versico Insulation Plates for **insulation attachment** to steel or wood decks.

6. **CD-10 Fastener:** A hammer-driven, non-threaded E-Coat fastener for use with structural concrete decks rated 3,000 psi or greater.

7. **MP 14-10 Concrete Fastener:** A #14 threaded fastener with a #3 Phillips drive used for minimum 3,000 psi concrete decks.

8. **Polymer Gyptec Fastener:** A glass-filled nylon auger fastener designed for securing insulation and/or membrane to specialty decks such as cement wood fiber or gypsum.

B. **Fastening Plates**

1. **HPVX Plate**: A 2-3/8" diameter metal barbed fastening plate used with Versico HPVX CD-10 or MP 14-10 Fasteners for membrane or insulation securement. This plate can be used for membrane or insulation securement on Mechanically Attached Roofing Systems.

2. **HPV-XL Plate**: A 2-3/8" diameter metal barbed fastening plate with an oversized hole for use with Versico HPV-

XL Fasteners for membrane securement on Mechanically Attached Roofing Systems.

3. **Seam Fastening Plate**: A 2" diameter metal plate used for insulation attachment on Mechanically Attached Systems or membrane securement at angle changes on Fully Adhered Systems in conjunction with the appropriate Versico Fastener.

4. **Insulation Fastening Plate**: A nominal 3-inch metal plate used for insulation attachment in conjunction with the appropriate Versico Fastener.

5. **SecurFast Insulation Fastening Plates:** A nominal 2-7/8" hexagon metal plate used for insulation attachment in conjunction with the appropriate Versico Fastener.

6. **Accutrac Insulation Plates:** A nominal 3" square, recessed or flat bottomed, metal plate used for insulation attachment in conjunction with the appropriate Versico Fastener. Flat bottom plate is used with manufactured Philips Head fasteners only.

7. **Oval Plate:** A 2-3/4" x 1-1/2" oval metal barbed fastening plate for use with Versico HPVX fasteners for securement of 10' wide PVC and KEE HP membranes on Mechanically Attached Roofing Systems.

2.06 Insulation Securement Adhesive

1. **Flexible DASH Adhesive:** A two-component (Part A and B), low-rise polyurethane adhesive designed for bonding VersiFleece membrane and/or insulation to various substrates. Coverage rates can be found in Paragraph 3.05 'Membrane Placement and Securement'. Flexible DASH Adhesive is packaged in 50- and 15-gallon drums, as well as, 5-gallon Jug and Dual Cartridges that can be applied in full spray or extrusion, depending on dispensing type.

2. **Flexible DASH Dual Tank:** A two component (Part A and B), extrusion applied, low rise adhesive for bonding insulation to various surfaces. DASH Dual Tanks utilize an HFO blowing agent. HFO (hydrofluoroolefin) blowing agents are widely recognized as the next-generation environmentally friendly blowing agent, replacing their HFC (hydrofluorocarbon) predecessor. When extruded at 12" on center the coverage rate is 3,500 to 3,700 sq.ft. per set of Dual Tanks.

3. **Flexible DASH Dual Cartridge and 5-gallon Jug Adhesive:** A two component (Part A and B), extrusion applied, low rise adhesive for bonding insulation to various surfaces. When extruded at 12" on center the coverage rate is 400-600 sq.ft. per carton of Dual Cartridges or 2,000-2,500 sq.ft. per set of 5-gallon Jug Adhesive.

4. **OlyBond 500 Bag in a Box** – A two-component, polyurethane, low-rise expanding adhesive used to bond insulation to various substrates. Packaged in 5-gallon boxes of Part A and Part B formulations that are applied using a mechanical dispenser system. Applied in 1/2" to 3/4" beads or ribbons at the rate of 1 gallon per 150-250 square feet for 12" o.c. bead spacing. Perimeter bead spacing patterns and acceptable insulation and deck types are listed in the applicable Product Data Sheet.

5. **OlyBond 500 BA Spot Shot** - A two-component, polyurethane construction grade, low-rising expanding adhesive designed for bonding insulation to various substrates. Applied in 1/2" to 3/4" beads or ribbons using a portable 1:1 applicator (oversized, dual-cartridge caulking gun). Refer to the Product Data Sheet for bead spacing with reference to building height.

2.07 Vapor / Air Barrier

1. **General**

   a) The use of a vapor retarder to protect insulation and reduce moisture accumulation within an insulated roofing assembly should be investigated by the specifier, especially on projects with high interior humidity, such as, swimming pools, breweries, pulp mills, etc.

   b) If insulation is to be fully adhered to the vapor retarder with Flexible DASH Adhesive, the vapor retarder must be compatible and shall be fully adhered to the substrate. Available products include Versico 725 Air and Vapor Barrier and spray or roller applied butyl coatings. Installation requirements for Versico's VapAir Seal 725TR Air and Vapor Barrier are identified in Spec Supplement G-07 "Application Procedures for 725TR Air and Vapor Barrier" and Versico's VapAir Seal MD Air and Vapor Barrier are identified in Spec Supplement G-12 "Application Procedures for VapAir Seal MD air and Vapor Barrier" in the Versico Technical Manual.

2. **Versico VapAir Seal 725TR Air and Vapor Barrier** - A 40-mil thick composite consisting of 35-mil self-adhering rubberized asphalt membrane laminated to an 5-mil UV resistant poly film with an anti-skid surface which is fully compatible with Flexible DASH Adhesive. 725TR can also function as a temporary roof for up to 120 days.

Available in rolls 39" wide by 100' long (325 square feet).

3. **Versico VapAir Seal MD Air and Vapor Barrier** – a reinforced composite aluminum foil with self-adhesive SBS backing and removable poly release film. Used for direct application over metal decks. Used for direct application over metal decks. Available in rolls 42.5" wide by 131.23" long (460 square feet).

4. **CAV-GRIP 3V Low-VOC Aerosol Contact Adhesive/Primer:** a low-VOC, methylene chloride-free adhesive that can be used for a variety of applications including: enhancing the bond between Versico's VapAir Seal 725TR and various substrates. Coverage rate is approximately 2,000-2,500 sq. ft. per 40 lb cylinder and 4,000-5,000 sq. ft. per 85 lb cylinder as a primer, in a single-sided application.

5. **CCW-702 Primer and 702LV Primer (Low-VOC)** - A single component, solvent based, high-tack primer used to provide maximum adhesion between Versico 725TR Air and Vapor Barrier and an approved substrate. Applied by spray or long nap roller with a coverage rating ranging from approximately 300 to 350 square feet per gallon on smooth finishes (i.e., concrete) to 75 square feet per gallon on porous surfaces (i.e., Dens-Deck Prime gypsum board). Available in 5-gallon containers. CCW-702LV Primer contains less than 250g/L VOCs and meets South Coast Air Quality Management District (SCAQMD) and Leadership in Energy and Environmental Design (LEED) Requirements for Volatile Organic Compounds.

6. **CCW-702WB –** a high-tack, water-based contact adhesive for promoting adhesion of Versico air/vapor barrier membranes and an approved substrate (i.e., concrete, Dens-Deck Prime, Securock and DEXcell). Applied by roller, brush or spray with an application rate of approximately 200 sq. ft. per gallon. Available in 5-gallon containers. CCW-702WB Primer contains 57g/L VOCs and meets South Coast Air Quality Management District (SCAQMD) and Leadership in Energy and Environmental Design (LEED) Requirements for Volatile Organic Compounds.

2.08 Metal Accessories, Edgings, Coping and Terminations

A. General

Products listed below can be used with any of the available Versico Roofing Systems. Refer to the applicable Versico details and installation instruction manuals for specific installation criteria.

B. Products

1. Fascia Products

   a. **VersiTrim Snap-on Fascia:** A two-part snap-on assembly including a base plate and decorative snap-on cover. Includes a 20-gauge retainer base plate with pre-slotted holes for fasteners. **The fascia is available in 0.040" or .050" aluminum with mill-finish, anodized-finish or Kynar** ® 500 finish or 22- or 24-gauge galvanized steel with Kynar ® 500 finish or acrylic coated galvalume finish. Available in a variety of standard colors. Custom colors are available upon request. Available in sizes from 3-1/2" to 12-1/4" face heights. ANSI/SPRI/FM-4435 ES-1 certified.

   b. **VersiTrim One Fascia:** A snap-on edge system consisting of a 20-gauge galvanized steel formed rail with pre-punched slots, a 6" stainless steel spring clip. corrosion resistant fasteners with a 24 gauge galvanized steel or 0.040", 0.050" or 0.063" Kynar® finished aluminum fascia cover. Available in a variety of standard colors. Custom colors are available upon request. Available in 12' standard lengths with face sizes of 4", 5", 6" and 8". ANSI/SPRI/FM-4435 ES-1 certified.

   c. **VersiTrim Snap-On Canted Fascia**: A snap-on edge system consisting of a 24-gauge galvanized metal water dam with pre-punched holes, a 24-gauge stainless steel spring clip and a snap-on cover. The cover is available in 0.040", 0.050" or 0.063" thick mill-finish, anodized, or Kynar® 500 finish aluminum or 22- or 24-gauge steel with Kynar® 500 finish. The fascia is available in a variety of standard colors. Custom colors are available upon request. Available in 12' standard lengths and heights varying from 5" to 12-1/2". ANSI/SPRI/FM-4435 ES-1 certified.

   d. **VersiTrim Crimp-On Canted Fascia**: A crimp-on edge system featuring a 24-gauge, galvanized metal water dam with pre-punched holes, a 24-gauge stainless steel spring clip and a snap-on cover. The fascia cover is available in 0.040", 0.050" or 0.063" thick mill-finish, anodized, or Kynar® 500 finish aluminum or 22- or 24-gauge steel with Kynar® 500 finish. The fascia is available in a variety of standard colors. Custom colors are available upon request. Available in 12' standard lengths and heights varying from 5-1/4" to 12-3/4". ANSI/SPRI/FM-4435 ES-1 certified.

   e. **VersiTrim EX Snap-On Fascia:** An anchor bar roof edge fascia system consisting of heavy 0.100" thick extruded aluminum bar, corrosion resistant stainless-steel fasteners and snap-on fascia cover used with Adhered, Mechanically Fastened assemblies. The fascia cover is available in 0.040", 0.050" or 0.063" thick

mill-finish, anodized, or Kynar® 500 finish aluminum or 22- or 24-gauge steel with Kynar® 500 finish. The fascia is available in a variety of standard colors. Custom colors are available upon request. Available in 12' standard lengths and 4”, 5-1/2”, 7” and 8-1/2” heights. ANSI/SPRI/FM-4435 ES-1 certified.

2. Coping Products

   a. **VersiTrim Gold Coping**: A snap-on coping system that incorporates 20-gauge, galvanized steel anchor clips and 12”, 20-gauge, factory-applied stainless-steel springs. Available with 22- and 24-gauge steel with Kynar® 500 finish or 0.040”, 0.050” and 0.063” mill-finish, anodized or Kynar® 500 coated aluminum. A variety of standard colors are available. Custom colors are available upon request. ANSI/SPRI/FM-4435 ES-1 Certified.

   b. **VersiTrim Snap-on Coping:** A snap-on coping system that incorporates 20-gauge, galvanized steel anchor cleats with pre-slotted holes, a concealed joint cover and 0.040”, 0.050” and 0.063” thick mill-finish, anodized or Kynar® 500 finish or 22- or 24-gauge Kynar 500® coated steel. The coping cap is available in a variety of colors and widths, including custom pieces such as tees, crosses, and radius copings. Custom colors are available upon request. Available in standard 12’ lengths with 6” to 16” wall heights. ANSI/SPRI/FM-4435 ES-1 certified.

      Also available in **VersiTrim CF Gold Coping** with 16-gauge anchor cleats for added performance.

   c. **VersiTrim One Coping:** A mechanically fastened coping system consisting of a 22-gauge retainer bar (face side only), corrosion resistant fasteners and a .040”, .050” or .063” mill-finish, anodized or Kynar® 500 coated aluminum and 22- or 24-gauge, Kynar® 500 coated steel coping cover. A variety of standard colors are available. Custom colors are available upon request. Available for wall thicknesses up to 12”. ANSI/SPRI/FM-4435 ES-1 Certified.

   d. **VersiTrim Continuous Cleat Coping:** An engineered coping system, featuring continuous, 20-gauge galvanized steel cleats on both the inside and outside face of the parapet. Available with 0.040”, 0.050” and 0.063” mill-finish, anodized or Kynar® 500 coated aluminum and 22- and 24-gauge Kynar® 500 coated steel. A variety of standard colors are available. Custom colors are available upon request. Custom fabricated for specific project requirements. Cleat available in standard 12’ lengths. ANSI/SPRI/FM 4435/ES-1 Certified. Miami-Dade approved.

3. Water Control Products

   a. **VersiTrim Gravel Stop**: A two-piece assembly that consists of a continuous 22-gauge steel cleat with pre-punched holes and snap-on gravel stop cover. The gravel cover is available in 0.040”, 0.050”, and 0.063” mill-finish, anodized or Kynar® 500 coated aluminum or 22- and 24-gauge steel with galvanized Kynar® 500 coated or acrylic coated galvalume finish. Available in a variety of standard colors. Custom colors are available upon request. Available in 12' standard lengths with 3” to 10” heights and 1” and 3” flange widths. ANSI/SPRI/FM-4435 ES-1 Certified.

   b. **VersiTrim Drip Edge**: Designed for use on Adhered and Mechanically Fastened Roofing Systems. Includes a 22-gauge continuous 12' pre-punched, 90-degree angle cleat and 10’ or 12' long fascia sections, including concealed joint covers. Available in 0.032” or 0.040” mill-finish, anodized or Kynar® 500 coated aluminum or 24-gauge Kynar 500 coated steel. A variety of standard colors are available. Custom colors are available upon request. ANSI/SPRI/FM-4435 ES-1 Certified.

   c. **VersiTrim EX Drip Edge:** Featuring an extruded aluminum anchor bar with pre-punched holes for roof membrane securement. The cover is manufactured from 0.040” aluminum with mill-finish, anodized or Kynar® 500 finish or 24-gauge steel with Kynar® 500 finish. Available in standard 12’ lengths with sizes ranging from 3” to 7.5” face heights. A variety of standard colors are available. Custom colors are available upon request. ANSI/SPRI/FM 4435/ES-1 Certified. Miami-Dade approved.

   d. **VersiTrim PVC Coated Drip Edge:** Prefabricated, non-reinforced, PVC-coated metal edging featuring a 22-gauge, 90-degree, angle cleat with pre-slotted holes and PVC-coated, and a 24-gauge metal cover used to heat-weld the roofing membrane directly to the metal edge. Available in standard PVC colors including white, gray, tan, light gray and slate gray. Available in sizes up to 8” fascia height. Available in standard 10’ lengths with a variety of sizes up to 8” fascia height. ANSI/SPRI/FM 4435/ES-1 Certified.

   e. **VersiTrim PVC Skirted Drip Edge:** Prefabricated PVC-coated metal edging, featuring a 22-gauge, 90-degree, angle cleat with pre-slotted holes, a PVC coated, and a 24-gauge metal cover used to heat-weld the roofing membrane directly to the metal edge. Available in standard PVC colors of white, gray, tan, light gray, and slate gray. Available in 10’ standard lengths with a variety of sizes up to 8” fascia height. ANSI/SPRI/FM 4435/ES-1 Certified.

f. **VersiTrim WR Gutter:** system incorporates 1” wide extruded internal gutter brackets and aluminum or galvanized steel gutter. Available in 0.040”, 0.050 or 0.063” aluminum, and 22-gauge or 24-gauge with Kynar® 500 finish. Gutter support brackets are extruded aluminum. Available in box style, chamfer style, and offset profiles. ANSI/SPRI/FM 4435/ES-1 Certified.

g. **Versico Ballast Retaining Bar** – A ballast retaining perimeter securement system comprised of a slotted (4” on center) extruded mil aluminum retention bar with an integrated compression fastening strip. 1-1/2” stainless steel fasteners with Neoprene washers are provided for stable securement.

h. **Termination Bar** – A 1” wide and 98-mil thick extruded aluminum bar pre-punched 6” on center which incorporates a sealant ledge to support Lap Sealant and provide increased stability for membrane terminations.

i. **SureTite Snap-On Fascia Cleat:** Prefabricated, 22-gauge, Galvalume steel, continuous, snap-on cleat with pre-punched holes. Used for use on single ply roofing applications when Versico metal flat sheets are used to shop fabricate the fascia or coping cover. Available in 12’ standard lengths and 4-1/4” to 8-1/4” face heights. ES-1 certified.

j. **SureTite Drip Edge Cleat:** Prefabricated, 22-gauge, Galvalume steel, continuous, cleat with pre-punched holes. Used for use on single ply roofing applications when Versico metal flat sheets are used to shop fabricate the drip edge, gravel stop or flat coping cover. Available in 12’ standard lengths and 3”, 5” 6” and 7” heights. ES-1 certified.

4. Refer to **Spec Supplement P-01 “Related Products”** for other edgings and coping materials.

2.09 Roof Walkways

Walkways are to be specified at all traffic concentration points (i.e., roof hatches, access doors, rooftop ladders, etc.), and if regular maintenance, once a month or more, is necessary to service rooftop equipment.

1. Walkway Types

a) **VersiFlex PVC Heat Weldable Walkway Rolls:** Manufactured from specially compounded PVC, offering superior tear, puncture and weather resistance. Designed to protect VersiFlex (PVC/KEE HP) membranes in those areas exposed to repetitive foot traffic or other hazards. Walkway material may be heat welded to VersiFlex (PVC/KEE HP) membranes using an automated heat welder or hand held heat welder. Walkway Rolls are 36" wide by 60' long and are nominal 80-mil and 110-mils thick. Available in gray only.

c) **VersiFlex PVC Crossgrip Walkway Rolls:** Manufactured from PVC and may be used in lieu of standard VersiFlex PVC Walkway Rolls when a walkway is to be loose-laid and not secured to the membrane. Loose-laid Crossgrip PVC Walkway Rolls are effective for winds up to 55 mph. Rolls are 36” wide by 33’ long, available in white, gray and yellow.

d) **Versico Interlocking Rubber Pavers:** 24" X 24" X 2" thick rubber paver weighing approximately 24 pounds per unit, 6 pounds per square foot manufactured from recycled rubber, which provides a resilient, shock absorbing, weather resistant surface. Designed primarily for use as a walkway or on terrace areas offering a unique, environmentally sound advantage over concrete pavers. Features include freeze/thaw stability, bi-directional drainage and no breakage concerns. Available in black and terra cotta.

e) **Hanover Ballast and Lightweight Ballast Pavers:** The standard, 24” x 24” x 1-13/16” thick, Ballast Paver comes in a natural color and a non-slip Diamond finish and weighs 22 lbs/sq. ft. The Lightweight, 23-1/2” x 23-1/2” x 1-1/4” thick, Ballast Paver comes in a natural color and a non-slip diamond finish and weighs 15 lbs/sq. ft. Both pavers can be used as ballast or walkways.

2.10 Other Versico Accessories

Refer to **Spec Supplement P-01 “Related Products”** for additional accessories.

Part III – Execution

Prior to commencing with the installation of any of the VersiFlex Membrane Systems refer to Paragraph 1.05 "Warranty Tables" for applicable components and proper securement method suitable for the appropriate warranty coverage.

Requirements listed in this specification are considered minimum and are intended for the sole purpose of obtaining a Versico Warranty. Additional requirements dictated by Regulatory Agencies, Building Insurance or Specifiers must be complied with and are considered to be beyond the scope of this specification.

3.01 General

A. Safety Data Sheets (SDS) must be on location at all times during transportation, storage and application of materials. The contractor shall follow all safety regulations as recommended by OSHA and other agencies having jurisdiction.

B. Subject to project conditions, it is recommended to begin the application of this roofing system at the highest point of the project area and work to the lowest point to prevent water infiltration. This will include completion of all flashings, terminations and daily seals.

C. A proper substrate shall be provided by the building owner. The structure shall be sufficient to withstand normal construction loads and live loads.

3.02 Roof Deck /Substrate Criteria

A. Proper decking shall be provided by the building owner. The building owner or its designated representative must ensure that the building structure is investigated by a registered engineer to assure its ability to withstand the total weight of the specified roofing system, as well as construction loads and live loads, in accordance with all applicable codes. The specifier must also designate the maximum allowable weight and location for material loading and storage on the roof.

B. Withdrawal resistance tests are strongly suggested to determine the suitability of a roof deck. Refer to **Design Reference DR-06 "Withdrawal Resistance Criteria"** in the Versico Technical Manual proper procedures for conducting pullout tests.

C. Defects in the substrate must be reported and documented to the specifier, general contractor and building owner for assessment. The Versico Authorized Contractor shall not proceed with installation unless defects are corrected.

D. On structural concrete decks, when a vapor retarder is not used, gaps in the deck along the perimeter and around penetrations must be sealed along with vertical joints between tilt-up panels, if present, to prevent infiltration of hot humid air and possible moisture contamination resulting from condensation. This is specifically important when adhesive is used to attach the roof insulation. (Migrating warm air through gaps left unsealed can result in condensation and weakening of the insulation bottom facer leading to possible board dislodgement.)

E. **For all projects** (new or retrofit), the substrate must be relatively even without noticeable high spots or depressions. Accumulated water, ice or snow must be removed to prevent the absorption of moisture in the new roofing components and roofing system.

F. Prior to the placement of membrane underlayment, clear the substrate of debris and foreign material that may be harmful to the roofing system. Gaps greater than 1/4" must be filled with an appropriate material.

G. For direct application over an acceptable roof deck/substrate or when HP Protective Mat is specified and approved by Versico as the membrane underlayment in accordance with the Roof Deck and Substrate Criteria Table, the substrate must be smooth, steel trowel finished (structural concrete), free of debris, protrusions, sharp edges and loose and foreign material. Cracks or voids in the substrate, greater than 1/4", must be filled with an appropriate material.

H. The following chart identifies the acceptable roof decks/substrates and the minimum underlayment requirements, Tables in Paragraph 1.05 for specific acceptable underlayment types, based on warranty duration:

Roof Deck & Substrate Criteria

Acceptable Roof Deck/Substrate	PVC / KEE HP PVC Membrane	
NEW CONSTRUCTION	Adhered	Mechanically Fastened
Steel (min. 22 gauge) (1)(2), Wood Plank (3/4" min.), or Fibrous Cement	Insulation	Insulation
Structural Concrete (min. 3000 psi)	Direct Application	Insulation
Plywood (min. 15/32" thick) or Oriented Strand Board (min. 7/16" thick)	Direct Application (5)	Direct Application (5)
Lightweight Insulating Concrete	Direct Application (5)(10)	Insulation
RETROFIT / NO TEAR-OFF	Adhered	Mechanically Fastened
Existing Smooth Surface BUR (3)(8)(9) or Mineral Surface Cap Sheet	Insulation	Insulation
Gravel Surfaced BUR (3)(4) or Coal Tar Pitch (3)(4)(12)	Insulation	Insulation
Modified Bitumen (7)(9)(11)	Insulation	Insulation
Existing Single-Ply (11)	Insulation	Direct Application (6)
Sprayed-in-place Urethane	Complete Tear-off Required	Complete Tear-off Required
RETROFIT / TEAR-OFF	Adhered	Mechanically Fastened
Existing roof material removed (regardless of deck type)	Insulation	Insulation

Notes:
(1) Local codes must be consulted regarding thermal barrier requirements.
(2) Mechanically Fastened Systems cannot be specified on steel decks less than 22 gauge or for corrugated steel decks, regardless of gauge. Refer to the Metal Retrofit Roofing System Specification, published separately, for installation options.
(3) Loose gravel must be removed to avoid entrapment of moisture.
(4) Existing coal tar could drip back into the building, especially when new insulation does not provide sufficient thermal value to prevent the surface of the coal tar from softening.
(5) Maximum Warranty Duration of 20 Years.
(6) An approved underlayment is required over existing ballasted (ballast removed) single-ply systems and PVC roofing systems of any type.
(7) Direct application permitted over smooth surfaced modified bitumen. To reduce the probability of cold welds, membrane shall be positioned with length of sheets parallel to modified bitumen field seams. At end laps or other locations where splices intersect modified bitumen field seams, 6" wide VersiFlex Flashing must be heat welded over intersections.
(8) Existing Type III or IV smooth asphalt BUR Only.
(9) Possible staining/discoloration of the membrane may result when installing this system directly over existing smooth surfaced BUR or modified bitumen. If aesthetics are critical, an approved insulation should be specified beneath the membrane.
(10) New approved cellular lightweight insulating concrete must have a minimum compressive strength of 225 psi. Except when the lightweight concrete is poured over slotted steel decks, pressure relief vents must be installed every 2,000 square feet. Direct application is not permitted where lightweight concrete is poured over an existing roofing material. Equilibrium moisture content after hydration/curing shall not exceed 12%.
(11) Maximum warranty available 20 YR with 55 MPH peak gust wind speed coverage. Versico may be contacted for other warranty options.
(12) If insulation is specified to be secured to an existing coal tar pitch roof with Versico Flexible DASH Adhesive or hot asphalt, minimum 1.5” thick Polyisocyanurate is the required minimum thickness when white membrane is specified.

I. **On retrofit - recover projects**, cut and remove wet insulation, as identified by the specifier, and fill all voids with new insulation of type specified so it is relatively flush (+/- 1/4") with the existing surface.

1. Entrapment of water between the old and new membrane can damage and deteriorate new insulation/underlayment between the two membranes. **If a vapor retarder or air barrier is not specified**,

Versico recommends the existing membrane be perforated to avoid potential moisture accumulation and to allow the detection of moisture to enable the building owner to take corrective action. This can be accomplished by drilling approximately 3/4" diameter holes every 100 square feet in the existing built-up roof or single-ply membrane (excluding non-reinforced PVC membrane).

2. If total removal of existing PVC membrane is not specified, existing non-reinforced membrane may be cut into maximum 10' x 10' sections, when the new insulation or membrane underlayment is to be mechanically attached.

3. Regardless of the type of membrane or assembly selected, any loose flashings at the perimeter, roof drains and roof penetrations must be removed.

4. When installing this roofing system over an existing **gravel surfaced built-up roof, loose gravel must be removed.** Power brooming is recommended by Versico to remove the loose gravel, which may trap moisture. Any uneven areas of the substrate must be leveled to prevent insulation from bridging.

8. On retrofit projects, all existing phenolic insulation must be removed.

9. Refer to table above for other Recover/Retro-fit considerations.

J. **Vapor Retarder Installation**

For Versico's Vapor Retarder refer to **Spec Supplement G-07 "Application Procedures for 725TR Air and Vapor Barrier**". Follow the respective vapor retarder manufacturer's recommended installation procedures and the specifier's instructions for the installation of the product specified. When insulation is to be set in adhesive, verify compatibility with Versico when Vapor Retarder by others is specified.

K. **Wood Nailers**

1. Install wood nailers in locations that have been designated by the specifier and as approved by Versico. Refer to **Design Reference DR-08 "Wood Nailers and Securement Criteria"** for Wood Nailer Criteria.

2. Wood nailers are not covered by the Versico Warranty.

3.03 Insulation/Underlayment

A. **General**

1. Roof insulation thickness must be determined by the thermal value required for each project and may be subject to code approval limitations. On projects where a vapor retarder is used, the specifier must calculate insulation thickness to ensure the temperature at the vapor retarder will not fall below the dew point.

2. New construction projects in cold climate regions, the use of vapor retarders or air barriers is strongly recommended to protect insulation from moisture generated during construction.

3. Multiple layers of insulation are recommended with all joints staggered between layers.

4. Do not install more insulation/underlayment than can be covered by membrane in the same day.

5. All insulation boards must be butted together with no gaps greater than 1/4". Gaps greater than 1/4" are not acceptable.

6. Restrictions:

a) Versico Roofing Systems cannot be specified in conjunction with Phenolic Insulation.

b) Fiberglass insulation cannot be specified even if overlaid with additional insulation or membrane underlayment.

c) For all Thermoplastic Roofing Assemblies, the use of insulation by others is not acceptable when a Versico Membrane System Warranty is specified. Versico insulation must be used.

d) The direct application of VersiFlex Membrane over expanded or extruded polystyrene insulation is not permitted.

3.04 Insulation Attachment

A. General

1. Prior to proceeding with insulation securement refer to Warranty Tables, Paragraph 1.05, for attachment method and appropriate fastening density required for the specific Versico Warranty.

B. Fully Adhered Roofing Systems

1. **Mechanical Attachment**, insulation fastening density will vary based on insulation type, thickness, and required warranty. Warranty Tables in Paragraph 1.05 should be referenced for fastening density and the appropriate Versico detail may be consulted to identify acceptable fastening pattern.

   a) For code compliance, increased fastening density may be required depending upon project wind speed and wind uplift requirement. Refer to **Design Reference DR-05 "Insulation Fastening Patterns"** for fastening pattern reference.

   b) When insulation securement is to comply with Factory Mutual (FM) approvals, follow the requirements of the specifier concerning additional securement at the roof perimeter and corners. Also refer to **Design Reference DR-05 "Insulation Fastening Patterns"** for various fastening patterns.

   c) On Reroof/No Tear off projects with a maximum roof height of 40', 1/2" SecurShield HD requires 12 fasteners per board. Versico Recovery Board and Polyisocyanurate less than 1-1/2" thick require 16 fasteners per board.

   d) When Oriented strand board (OSB) is specified for membrane underlayment, utilize DuraFaceR OSB/Polyiso Composite, mechanically fastened to the deck at the rate 17 fasteners for 4 x 8 board in accordance with Versico Details. When positioning OSB, butt edges and stagger joints of adjacent panels.

2. **Adhesive attachment**, Versico Urethane Adhesive (Flexible DASH or Olybond) may be used. When bead adhesive is specified bead spacing will vary based on Warranty coverage, refer to Warranty Tables, Paragraph 1.05 and appropriate Versico Details.

   CAUTION: Apply adhesive bead so that the distance from the edge of the board does not exceed half the bead spacing (i.e. within 6" of bead spacing of 12" O.C.).

   CAUTION: **Do not apply urethane adhesives directly to un-weathered asphalt, (new or residual)**.

   CAUTION: **Especially in cold regions on tear-off projects or new construction gaps between horizontal and vertical surfaces of the roof area as well as gaps around penetrations must be sealed to prevent interior warm air from infiltrating and condensing within the roofing assembly. Condensing moisture could weaken bottom insulation facer and eventually result in dislodgement or loose boards when adhesive is used.**

   a) On FM Global insured projects, consult FM Global's local representative concerning the use of adhesive to attach insulation to steel decks.

   b) Check to ensure the substrate is clean, free of debris, other contaminants, and dry. Adhesive cannot be applied to a wet or a damp surface.

   c) Apply Adhesive over the dry substrate area at the coverage rates indicated in **Spec Supplement G-02 "VersiFleece Membrane and Insulation Attachment with Flexible DASH Adhesive"**.

   d) Allow the adhesive to rise up approximately 1/8" and develop strings prior to setting insulation boards into adhesive.

      NOTE: String-time is measured by touching the adhesive with a splice wipe and looking for development of "strings" of adhesive as you pull the splice wipe out of the adhesive. With Flexible DASH Adhesive, string time is generally around 1-1/2 – 2 minutes after application at room temperature.

   e) **Walk the boards into the adhesive and roll using the 30" wide, 150 pound weighted segmented steel roller** to ensure full embedment. Optimal set up time should be approximately 5 to 7 minutes.

      CAUTION: Walking on the boards immediately after placement in adhesive can cause slippage/movement until the adhesive has started to set up.

On roofs with a slope greater than 1/2" in 12", begin adhering insulation at the low point and work upward to avoid slippage.

A person should be designated to walk/roll-in all boards and trim/slit or apply weight as needed to ensure adequate securement.

3. **Alternate attachment method**, the specifier may select an alternate insulation attachment that incorporates a solid mopping of the insulation with hot asphalt (ASTM D312, Type III or IV). If the attachment method is to be covered by the Versico Warranty, Versico must be contacted for specific requirements. Upon review and acceptance by Versico, the maximum warranty coverage available is limited to 15 Year with maximum Peak Gust Wind Speed Coverage of 55 mph, for other warranties contact Versico.

   a) Extruded or Expanded Polystyrene insulation are not acceptable when this alternate attachment method is specified.

   b) The existing gravel surfaced built-up roof must be scraped to remove all loose gravel. Large blisters that may prevent continuous embedment of insulation must be repaired. The surface of the substrate must also be dry and clear of foreign material.

   c) On coal tar pitch, when deemed compatible by the specifier, minimum 1.5" Polyisocyanurate is the required membrane underlayment when using darker heat weldable membranes (tan or gray). If VersiFlex white membrane is used, minimum 1" thick Polyisocyanurate is required.

   d) For successful attachment, proper asphalt temperatures must be maintained and the specifier's requirements concerning the installation of a base sheet (where required) and quantity of hot asphalt must be followed.

   e) The maximum insulation board size shall not exceed 4' X 4'. Trim insulation boards around crickets and saddles to ensure continuous embedment.

   f) Care must be exercised to prevent contamination of the top surface of the insulation. Asphalt oozing through insulation joints must be wiped from the surface. Contact with fresh asphalt can result in discoloration of the VersiFlex membrane.

   g) A grid shall be installed subdividing the roof in individual sections of 2400 square feet. Required for warranties up to 10 years with wind speed coverage up to 55mph.

   h) The wood nailers are installed relatively flush with the insulation surface and the membrane is to be fastened with seam fastening plates and Versico HPV or HPVX Fasteners on 12” o.c. For wood nailer installation, refer to **Design Reference DR-08 “Wood Nailers and Securement Criteria**”.

C. **Mechanically Attached Roofing Systems**

1. **Versico Fasteners and Fastening Plates are required for insulation securement**. Refer to Insulation Fastening Criteria Table in Paragraph 2.05 for appropriate fastener and deck penetration. The fastener can be used with either 2-3/8" diameter HPVX/HPV-XL Plates OR 3" diameter Insulation Fastening plate.

2. **Any Versico approved insulation or cover board** shall be mechanically fastened to the roof deck at the minimum rate of **1.25 fasteners and plates per every 8 square feet (**5 fasteners in a 4 x 8 board) for minimum 1-1/2” thick insulation and coverboards. Insulation less than 1-1/2” thick requires the use of 8 fasteners and plates in a 4’ x 8’ board (1 per 4 square feet).

   CAUTION: Versico Polyisocyanurate Insulation with a thickness less than 1.5" installed over an existing roofing membrane without a tear-off must be mechanically attached to the roof deck with a minimum of **1 fastener and plate for every 4 square feet** or less of insulation.

2. Use of DensDeck, DensDeck Prime, DensDeck StormX Prime and DEXcell should be limited to assemblies with slopes greater than 2” per foot to ensure compliance with external fire codes.

3.05 Membrane Placement and Securement

A. **General**

1. **Ensure** that water does not flow beneath any completed sections of the membrane system by completing all flashings, terminations and daily seals by the end of each workday.

2. **Sweep** all loose debris from the substrate.

3. If aesthetics are of concern, protection should be specified to avoid discoloration of the white membrane surface resulting from adhesive residue or excess foot traffic.

4. In addition to the primary membrane securement (Bonding for Fully Adhered and Fastening for Mechanically Attached Assemblies), additional membrane securement is required at the perimeter of each roof level, roof section, curb, skylight, interior wall, penthouse, etc., at any inside angle change where slope or combined slopes exceed 2" in one horizontal foot, and at other penetrations in accordance with the applicable Versico details. Refer to Paragraph F for additional membrane securement.

B. **Membrane Placement**

Maximum 10' wide VersiFlex Membrane is fully adhered or mechanically attached to an approved insulation or substrate.

1. **Position** VersiFlex membrane over the acceptable substrate. For a mechanically attached assembly ensure the proper number of perimeter sheets are positioned along the perimeter of the roof as outlined in Paragraph 1.05 "Warranty Tables".

2. **Position** field sheets perpendicular to the steel deck flutes in Mechanically Attached Applications.

3. **Place** adjoining membrane sheets in the same manner, overlapping edges appropriately to provide for the minimum overlap width. It is recommended all overlaps be shingled to avoid bucking of water.

C. **Membrane Securement / Bonding - Fully Adhered Roofing System**

1. **Adhere** VersiFlex membrane to an acceptable substrate with Versico Bonding Adhesive. CAV-GRIP PVC aerosol adhesive may be utilized with VersiFlex PVC membranes (cannot be used with any KEE or KEE HP bareback membranes). Comply with Labels, Safety Data Sheet (SDS) and Technical Data Bulletins for installation procedures and use. Adhesive must be applied to both the membrane and the surface to which it is being bonded.

2. On projects at high altitudes (6,000' and above), rapid flash-off (drying) of Bonding Adhesive and Primers will occur due to low atmospheric pressure.

3. **Fold** membrane sheet back so half the underside is exposed. Sheet fold should be smooth without wrinkles or buckles.

4. **Stir** Bonding Adhesive thoroughly scraping the sides and the bottom of the can (minimum 5 minutes stirring is recommended). Bonding surfaces must be dry and clean.

5. **Apply** Bonding Adhesive to the exposed underside of the membrane and the corresponding substrate area. Do not apply Bonding Adhesive along the splice edge of the membrane to be heat welded over adjoining sheet.

   When using **VersiFlex Low-VOC Bonding Adhesive**, a coverage rate of approximately 120 square feet per gallon per one surface (membrane or substrate) or approximately 60 square feet per gallon per finished surface (includes coverage on both membrane and substrate) shall be achieved. **Apply** adhesive evenly, without globs or puddles with a plastic core, medium nap paint roller to achieve continuous coating of both surfaces. A 9-inch roller will easily fit into the 5-gallon containers.

   A mechanical roller dispenser can be used to apply Bonding Adhesive when the continuous coating and coverage rate noted above are maintained.

   CAUTION: Due to solvent flash-off, condensation may form on freshly applied Bonding Adhesive when the ambient temperature is near the dew point. If condensation develops, possible surface contamination may occur and the application of Bonding Adhesive must be discontinued. Allow the surface to dry and apply a thin freshener coat at the coverage rate which is approximately half the coverage rate stated above to the previously coated surface when conditions allow for continuing.

   NOTE: When Aqua Base 120 is specified refer to **Spec Supplement G-09 "Aqua Base 120 Bonding Adhesive"** for application methods and warranty requirements.

6. **Allow** adhesive to flash-off until it does not string but remains tacky to a dry finger touch.

   CAUTION: Care must be exercised to ensure proper drying. Avoid thin areas of adhesive because over drying

can occur and proper adhesion may not be achieved.

7. **Roll** the coated membrane into the coated substrate while avoiding wrinkles.

8. **Brush** down the bonded section of the membrane sheet immediately after rolling the membrane into the adhesive with a soft bristle push broom to achieve maximum contact.

9. **HydroBond Adhesive** can be applied directly to the substrate using an airless spray machine or a medium nap roller. Do not apply HydroBond to splice areas to be hot-air welded. When applying HydroBond, ensure that the adhesive has not dried before the membrane is laid in place. This is a wet lay-in adhesive; drying occurs rapidly during high temperatures, and care must be taken to ensure the membrane is laid into wet adhesive. To ensure a wet lay-in, adjust the application technique according to weather conditions. Avoid heavy or thin application of adhesive. Roll the membrane into the wet, adhesive coated substrate while avoiding wrinkles. Immediately brush down the bonded portion of the membrane with a soft-bristle push broom or a clean, dry roller applicator to achieve maximum contact and to work out any air bubbles. Immediately after brooming out from the center, roll the membrane in all directions with a minimum 100–150-lb (45–68 kg) weighted roller to achieve maximum contact.

   NOTE: When using Hydrobond Adhesive, do not apply when the surface and/or ambient temperatures are below 40 degrees or when the temperature is expected to drop below 32 degrees within 72 hours of application. Hydrobond Adhesive is a wet lay-in, one-sided adhesive with coverage rate is 100-133 square feet per gallon finished surface.

10. **Fold** back the unbonded half of the sheet and repeat the bonding procedures. **Apply** Bonding Adhesive to the remaining exposed underside of membrane and adjacent substrate and complete this section as described above.

11. **Install** adjoining membrane sheets in the same manner, overlapping edges a minimum of 2 inches to provide for a minimum 1-1/2 inch heat weld. It is recommended that all splices be shingled to avoid bucking of water.

    CAUTION: If aesthetics are of concern, protect completed sections of the roof so Bonding Adhesive will not discolor the membrane surface. Do not place Bonding Adhesive containers or their lids directly on the surface of the VersiFlex membrane.

D. **Membrane Securement / Fastening - Mechanically Attached Roofing Systems**

1. Thermoplastic membranes shall be mechanically attached to the structural deck with specified Versico Fasteners and designated Plates, for fastening densities and numbers of perimeter sheets refer to Warranty Tables, Paragraph 1.05.

2. Membrane Fastening Selection Table:

Membrane Fastener Selection

Deck Type	Versico Fasteners*	Versico Plate	Min. Penetration
Steel or Lightweight Insulating Concrete over Steel**	HPVX	HPVX Plates	3/4"
	HPV-XL	HPV-XL Plates	
Structural Concrete, rated 3,000 psi or greater	CD-10	HPVX Plates	1"
	MP 14-10	HPVX Plates	
Wood Plank, min. 15/32" thick Plywood or min. 7/16" OSB**	HPVX	HPVX Plates	Min. 1"
	HPV-XL	HPV-XL Plates	
Cementitious Wood Fiber	Polymer Gyptec	Gyptec Plates – 2” Dia.	1-1/2"
Gypsum	Polymer Gyptec	Gyptec Plates – 2” Dia.	1-1/2"

Refer to Warranty Tables in Paragraph 1.05 for fastening densities and number of perimeter sheets.
*Determine proper fastener length for deck penetration, refer to Table 2.05B.
**For mechanically attached PVC and KEE HP assemblies, 2-3/4” x 1-1/2” oval metal barbed fastening plates can used in conjunction with HPVX fasteners for membrane securement. (Not recommended for insulation Securement)

3. On steel decks, membrane shall be positioned with seams perpendicular to the steel deck flutes. This allows the external forces on the roof assembly to be distributed between multiple steel deck panels. Refer to **Design Reference DR-06 “Withdrawal Resistance Criteria”** in the Versico Technical Manual.

4. Perimeter Sheets

   The number of perimeter sheets and fastener spacing is dependent on the building height, wind zone location

and warranty duration as outlined in Warranty Tables in Paragraph 1.05.

The roof perimeter is defined as all edges of each roof section (i.e., parapets, building expansion joints at adjoining walls, penthouse walls, etc.). When multi-level roofs meet at a common wall, the adjacent edge of the upper roof is treated as a roof perimeter if the difference in height is greater than 10'. Perimeter sheets are not required at the base of the wall at the lower level.

NOTE: Expansion joints, control joints and fire walls in the field of the roof or roof ridges with slopes less than 3" to the horizontal foot are not considered as part of the roof perimeter.

For VersiFlex membranes, perimeter sheets can be formed by using individual 40.5” or 5’-0” wide sheets.

a) **Individual perimeter sheets** (PVC - 40.5” or 5’ wide)(KEE HP PVC – 5’ wide)

Position membrane along the perimeter of the roof over the acceptable insulation/underlayment. The perimeter membrane width from line of securement to line of securement should be approximately 3’-6” to 4’-0” wide.

b) **Fastening Plates Method**

In lieu of the RUSS securement method, position a row of seam fastening plates in the locations identified in Paragraph 4.b.1 and 4.b.2, secure plates with appropriate fastener and overlay plates either 6” wide Pressure-Sensitive TPO Cover Strip (TPO Only) overlay the plates as follows:

1) Projects with Warranties greater than 20 Years OR VersiFlex projects regardless of warranty duration center 6” wide section of PVC/KEE HP PVC membrane (equal thickness to the deck membrane) over the plates and heat weld the field sheets. All cut edges of TPO overlay must be sealed with TPO Cut-Edge Sealant to seal any exposed scrim, cut edge sealant is not required for PVC or KEE HP.

NOTE: Perimeter sheets can also be formed by positioning RhinoBond plates placed along the center of a field membrane (if heat induction welder is available on job-site). Refer to “Attachment I” for additional information.

c) **Building with Special Conditions:**

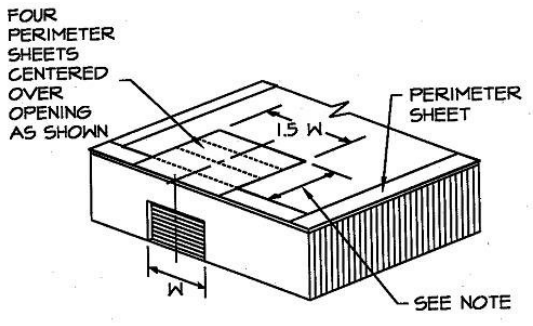
Air pressurized buildings, canopies and buildings with large openings where the total wall openings exceed 10% of the total wall area on which the openings are located (such as airport hangars, warehouses and large maintenance facilities) will typically require additional perimeter membrane securement, an increased fastening density or other enhancement.

d) **Buildings with large openings**

When any wall contains major openings with a combined area which exceeds 10% of the total wall area on which the openings are located, four (4) perimeter sheets (centered over the opening) must be specified as shown.

As an option to the above perimeter securement, a fully adhered membrane section may be used in lieu of the mechanically attached membrane at large openings in accordance with the Versico Specification for the VersiFlex Fully Adhered Roofing System.

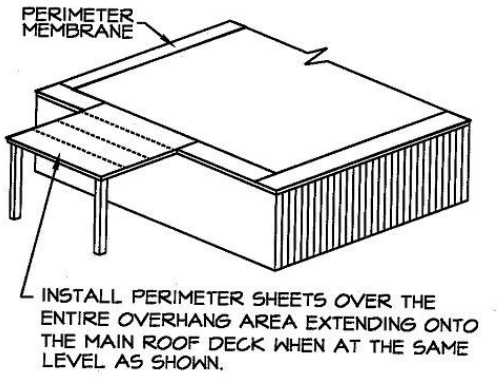
NOTE: Depth of perimeter area, noted above, shall not be less than 2.5 times the width of the opening.



e) **Buildings with overhangs**

The membrane must be specified with perimeter sheets installed over the entire overhang area extending onto the main roof deck when at the same level.

As an option, a fully adhered membrane section may be used in lieu of the mechanically attached membrane at building overhangs in accordance with the Versico Specification for the VersiFlex Fully Adhered Roofing System.



5. **Field Membrane**

a) **Position** adjoining field membrane sheets to allow an approximate overlap of 5-1/2" at those locations where Fastening Plates are located (along the length of the membrane); at the same time overlap end roll sections (the width of the membrane) a minimum of 2".

b) **Secure the membrane** at the approved fastening density with the required Versico Fastener and Fastening Plates.

c) For installation of membrane with fullness, tighten the sheet between fasteners as follows:

1) Unroll sheets and position.

2) Place a fastener and plate in one end of the sheet on the appropriate fastener mark. Go to the opposite end of the sheet, pull it tight and place a fastener and plate at the appropriate mark. Place the remaining fasteners into the sheet.

3) Proceed to weld the sheet in place and continue across the roof.

6. **Prevention of membrane distortion during windy conditions:**

a) Unroll sheet approximately 5' and position edge of membrane with overlap line on adjacent sheet.

b) Install fasteners along the 5' exposed edge.

c) While the 5' of exposed membrane is being fastened, begin welding the overlapped edge using the Automatic Heat Welder.

d) As sheet is being welded and fastened concurrently, unroll membrane. Unroll only enough membrane to stay a few feet ahead of welding and fastening process. This reduces amount of unsecured membrane to be distorted by wind.

e) Continue this process for each adjoining sheet.

E. **Additional Membrane Securement**

1. Securement must be provided at the perimeter of each roof level, roof section, expansion joint, curb, skylight, interior wall, penthouse, etc., at any inside angle change where slope exceeds 2 inches to one horizontal foot, and at all penetrations as identified on the Versico details.

2. Securement may be achieved as follows:

a) On Mechanically Attached Roofing Systems, Versico's HPVX Fastening Plates are used to secure the membrane with the appropriate Versico Fastener at the base of walls and penetrations and flashed as shown on the applicable Versico detail (excluding OSB, cementitious wood fiber and gypsum decks where the required Versico Fastener is installed with the associated 2" diameter plate). On **Fully Adhered Roofing Systems**, Versico standard 2" diameter Seam Fastening Plates may be used in lieu of HPVX

Plates.

b) Securement of the membrane shall be a maximum of 12 inches on center. Starting 6 inches minimum to 9 inches maximum from the inside or outside corner.

c) On Mechanically Attached assemblies, additional membrane securement is required around pipes and sealant pockets as shown on the applicable detail. The plates must be positioned a maximum of 12" away from the penetration, spaced a maximum of 12" on center and flashed in accordance with the applicable Versico Detail.

d) After securing the membrane, flash in accordance with the appropriate detail.

3.06 Heat Welding Procedures

A. **General**

1. APEEL Protective Film should be removed from within areas that are to be heat-welded together. In areas that do not require heat welding, the APEEL Protective Film can be left in place for up to 90 days.

2. Heat weld the VersiFlex membrane sheets using the Automatic Heat Welder or Hot Air Hand Welder and silicone roller.

3. When roof slope exceeds 5" per horizontal foot, use of the Automatic Heat Welding Machine may become more difficult; use of the Handheld Hot Air Welder is recommended.

4. **Check the surfaces** of the membrane to be heat welded to ensure they are properly prepared.

   The surfaces to be heat welded must be clean. Membrane overlaps that become contaminated with field dirt must be cleaned with Weathered or PVC and KEE HP Membrane Cleaner (Weathered Membrane Cleaner should not be used to clean VersiFlex PVC). Weathered or PVC and KEE HP Membrane Cleaner should be wiped dry with a clean Splice Wipe prior to welding. No residual dirt or contaminants should be evident.

B. **Automatic and/or Handheld Heat Welder Equipment**

Refer to **Spec Supplement T-01 "Heat Welding Equipment"** for:
a) Temperature Settings
b) Equipment Set-up
c) Additional Information

C. **Membrane Welding**

1. Prepare the Automatic Heat Welder and allow it to warm for approximately 5 to 10 minutes to reach operating temperature.

2. Position the Automatic Heat Welder properly prior to seaming with the guide handle pointing in the same direction the machine will move along the seam.

3. Lift the overlapping membrane sheet and insert the blower nozzle of the Automatic Heat Welder between the overlap. Machine will begin moving along the seam immediately.

4. Weight plates provided on Automatic Welders must be utilized.

5. Proceed along the seam ensuring that the small guide wheel in front of the machine aligns with the edge of the top membrane sheet. Guide the machine from the front only.

   CAUTION: Ensure the power cord has plenty of slack to prevent dragging the machine off course (which could result from a tightly stretched cord).

6. At all splice intersections, roll the seam with a silicone roller to ensure a continuous heat welded seam (the membrane should be creased into any membrane step-off with the edge of the silicone roller). A false weld may result due to surface irregularities created by multiple thicknesses of VersiWeld/VersiFlex membrane sheets.

   When using **60-mil or 80-mil** VersiFlex Membrane, a **PVC "T" Joint Cover** must be applied over all "T" joint splice intersections.

7. To remove the Automatic Heat Welder from the finished splice, disengage and pull the nozzle from the seam area, the machine will stop automatically.

8. Mark the end of the heat welded seam with a water-soluble marker for easy identification. A Handheld Welder will be necessary to complete the weld in the area between where the Automatic Heat Welder is stopped and restarted.

9. Perform a test weld, at least, at the start of work each morning and afternoon. Test welds should be made if any changes in substrate or weather conditions occur.

10. All membranes, at end laps, a minimum 6" wide, reinforced coverstrip must be used in conjunction with applicable primer.

D. **Preventing Membrane Creeping During Welding**

1. The operator of automatic welding equipment must apply foot pressure to the membrane, keeping the membrane tight under the welder. Refer to **Spec Supplement T-01 "Heat Welding Equipment"** for additional information.

E. **Test Cuts**

1. Perform a test weld at least at the start of work each morning and afternoon. Refer to **Spec Supplement T-01 "Heat Welding Equipment"** for additional information.

F. **Seam Probing**

1. A cotter pin puller (blunt or dull for PVC or KEE HP Membranes) is recommended to probe all heat-welded seams. Probing seams must be done once heat welds have thoroughly cooled. Refer to **Spec Supplement T-01 "Heat Welding Equipment"** for additional information.

G. **Cut-Edge Sealant**

1. Cut-Edge Sealant is not required on cut edges of VersiFlex membrane (Horizontal or Vertical).

3.07 Welding Problems / Repairs

A. A Handheld Hot Air Welder and a 2" wide silicone roller must be used when repairing the VersiFlex membrane. When the **entire** heat welded **seam** is to be **overlaid**, an **Automatic Heat Welder** may be used.

B. Prior to proceeding with any repair procedure, the area to be repaired must be cleaned with Weathered or PVC and KEE HP Membrane Cleaner (Weathered Membrane Cleaner should not be used to clean VersiFlex PVC or KEE HP Membrane). The membrane can typically be repaired with standard cleaning methods. In cases where the standard cleaning method is not sufficient, the following procedures must be used.

1. Scrub the area to be welded with a "Scotch Brite" Pad and Weathered or PVC and KEE HP Membrane Cleaner.

2. Clean all residue from the area to be welded with a Splice Wipe or a clean natural fiber (cotton) rag.

3. Weld the new membrane to the cleaned area using standard welding procedures.

C. Voids in welded seams can be repaired using a Handheld Hot Air Welder and a silicone roller. Depending on conditions, a splice overlay may be required.

D. Position the handheld welder facing into void so hot air is forced between overlapping membranes. Roll the top membrane surface using positive pressure toward the outer edge until the heated membrane surfaces are fused.

E. Exposed scrim-reinforcement (resulting from scorching surface of membrane) and test weld areas must be repaired by overlaying the damaged area with a separate piece of VersiFlex reinforced membrane with rounded corners. The overlay must extend a minimum of 2 inches past the area to be repaired.

F. **Probe** all edges of the overlay once cooled to ensure a proper weld has been achieved.

G. Cut-Edge Sealant is not required on cut edges of VersiFlex Membranes.

Note: The same overlay repair procedures may be used for puncture in the VersiFlex membrane.

3.08 Flashings

A. General Considerations

1. The height of new wall flashing must extend above the anticipated water level or slush line.

2. On 15- or 20-year warranty projects, Versico's Termination Bar, in conjunction with Water Cut-Off Mastic, must be specified under all metal counterflashings and surface mounted reglets.

3. To comply with various warranty options, flashing material must equal the required minimum membrane thickness but shall not be less than 60 mils thick. For projects with 20 year or greater warranties Versico Pre-Fabricated accessories must be used when feasible.

4. All Projects, regardless of Warranty Duration, shall incorporate Versico supplied pre-fabricated accessories to seal pipes, corners, sealant pockets, etc., when feasible. When field fabrication is required, the flashing material shall not be less than 60-mils thick.

5. For wall and curb flashing, the required thickness shall equal the deck membrane thickness.

6. **On Retrofit Projects**

   Bitumen-based roof cement and asphaltic-based flashing material, if allowed to remain in contact with the membrane, will cause severe membrane discoloration and for PVC and KEE HP membranes, promote premature plasticizer migration. Existing wall and curb flashing must be removed or concealed with a new acceptable substrate.

   a) The specifier must examine structural supports for rooftop equipment to determine if reasonable access to the membrane beneath the equipment is provided. Versico should be consulted for clarification when access to the membrane system will be restricted.

   b) When hot pipes or other similar penetrations exceed 140°F (60°C) (PVC/KEE HP), they must be designed to incorporate an insulated metal collar and rain hood designed to maintain a surface temperature less than 140°F (60°C) (PVC/KEE HP).

7. When possible, all reinforced membrane splices are heat welded with the Automatic Heat Welder. The Hand Held Hot Air Welder should be utilized in hard to reach areas, smaller curbs, vertical splices and when using non-reinforced membrane.

   a) The new VersiFlex membrane flashing must not conceal weep holes or cover existing throughwall flashing.

   b) Install surface mounted reglets and compression bar terminations directly to the wall surface.

8. In areas where metal counterflashing or surface mounted reglets are used as vertical terminations, the counterflashing must be sealed with a rubber grade caulking to prevent moisture migration behind the new wall flashing.

B. Application of Bonding Adhesive

1. Membrane shall be fully adhered to vertical surfaces with VersiFlex Bonding Adhesive. CAV-GRIP PVC aerosol adhesive may be utilized with VersiFlex PVC membranes (cannot be used with any KEE or KEE HP bareback membranes). The Bonding Adhesive shall be applied continuously, without globs or puddles.

2. **Allow** adhesive to flash-off until it is tacky but will not string or transfer to a dry finger touch.

3. Roll the membrane into the adhesive.

4. Care must be taken when setting the flashing to avoid bridging greater than 3/4 inch at angle changes (i.e., where a parapet or roof penetration meets the roof deck). This can be accomplished by creasing the membrane into the angle change.

5. Terminate the edges of the installed membrane in accordance with Versico's applicable details.

C. Walls, Parapets, Curbs, Skylights, etc.

The flashing height must be calculated so that the VersiFlex membrane flashing includes a minimum 1-1/2 inch heat

weld beyond the Fastening Plates.

1. Fasten at angle change as identified in **Paragraph 3.05 F**, Additional Membrane Securement, with the required Versico Fastener and plate.

2. Flash the fasteners/plates with a separate piece of VersiFlex reinforced membrane; apply heat and crease the flashing into the angle change before attaching it to the vertical surface.

D. **Metal Edge Terminations**

Factory-fabricated metal edge systems must be secured to the wood nailer as specified by the manufacturer. Shop-fabricated edging must be installed in compliance with appropriate Versico Detail using Versico PVC Coated Metal in order to achieve ES-1 Compliance. Refer to the appropriate Universal Details for other flashing options and requirements.

E. **Roof Drains**

1. VersiFlex membrane may extend into the drain sump when the slope of the sump is less than 3" to one horizontal foot.

   When the drain sump is greater than 3" to one horizontal foot, additional membrane securement must be installed.

2. Only drain strainers that have been approved by the specifier in accordance with applicable codes may be used.

F. **VersiFlex Rib Profiles**

1. VersiFlex Rib Profiles are recommended for use with VersiFleece PVC adhered roofing systems.

2. The VersiFlex Rib Profiles should be positioned parallel to the laps of the installed PVC roofing system and parallel with the roof slope where possible.

3. Ensure that all welding surfaces are clean and dry. Inspect all seam areas for proper weld prior to installing VersiFlex Rib Profile.

4. Rib Profile spacing can be individually determined to achieve the desired appearance.

5. Connecting multiple ribs is achieved by using fiberglass pins. Insert a pin half-way into the end of one profile. Connect the adjoining rib by inserting the exposed end of the pin into the alignment hole. Repeat previous steps for additional PVC Rib profiles.

6. Consult the VersiFlex Rib Profile installation guides for instructions on proper installation techniques.

G. **Other Penetrations**

On Mechanically Attached assemblies, additional membrane securement is required around pipes and sealant pockets as shown on the applicable detail. The plates must be positioned a maximum of 12" away from the penetration, spaced a maximum of 12" on center and flashed in accordance with the applicable Versico Detail.

1. **Pipes, Round Supports, etc.**

   a) Flash pipes with Molded Pipe Flashings or Split Pipe Seals where their installation is possible. Molded pipe flashings cannot be cut and patched; deck flanges cannot be overlapped or installed over angle changes.

   b) Where Molded Pipe Flashings or Split Pipe Seals cannot be installed, APPLY FIELD FABRICATED PIPE FLASHING using VersiFlex non-reinforced membrane.

2. **Flexible Penetrations** (braided cables, conduits, wires, etc.) must be enclosed in a stable “goose neck.” Apply a Split Pipe Seal or field fabricated pipe flashing to flash the goose neck.

3. **Hot pipes** that exceed 140°F (60°C) (PVC/KEE HP), must utilize an insulated metal collar and rain hood, flashed with a field fabricated pipe flashing.

4. For **pipe clusters** or unusually shaped penetrations, a Molded Sealant Pocket and White One-Part Sealant

must be utilized.

5. **Existing Roof Tie-Ins** for PVC or KEE HP PVC membranes require total isolation between the two roofing systems.

6. **Flashing of Difficult Penetrations,** refer to **Spec Supplement G-11 for "LIQUISEAL Liquid Flashing"** for additional information and specific requirements.

H. **APEEL Protective Film (Optional)**

When the optional APEEL Protective Film is utilized on PVC/KEE HP, remove and discard the APEEL Protective Film after the installation of the entire PVC/KEE HP Roofing System is complete.

3.09 Roof Walkways

Walkways are to be specified at all traffic concentration points (i.e., roof hatches, access doors, rooftop ladders, etc.), and if regular maintenance (once a month or more) is necessary to service rooftop equipment. **Refer to Spec Supplement G-05 "Roof Walkway Installation"**.

3.10 Daily Seal

On phased roofing, when the completion of flashings and terminations is not possible by the end of each workday, provisions must be taken to temporarily close the membrane to prevent water infiltration. **Refer to Spec Supplement G-06 "Daily Seal & Clean Up"**.

SPECIFICATION ATTACHMENT

Thermoplastic (PVC/KEE HP) Mechanically Fastened Roofing Systems Induction Welding (RhinoBond / Isoweld) Attachment Method

"Attachment I"

July 2025

This is an alternate method for securing the Versico's VersiFlex (PVC/KEE HP) membrane and is intended to be used in conjunction with the Versico's Thermoplastic Mechanically Attached Specification and Details.

A. Description

The Induction Welding (RhinoBond/Isoweld) Attachment Method incorporates 3" diameter corrosion-resistant plate with a hot melt PVC coating. The Plates are installed with HPVX Fasteners to secure an acceptable insulation to minimum 22 gauge steel deck or minimum 15/32" thick plywood. HD 14-10 fasteners are required for concrete deck and Rhinobond or IsoWeld Plates.

Versico's Polyester Reinforced Thermoplastic membrane is positioned over the secured RhinoBond or Isoweld plates and welded to the surface using the RhinoBond or Isoweld Induction Welding Tool.

Induction Welding (RhinoBond/Isoweld) Attachment Method Limited to 20 year maximum warranty and wind speed coverage up to 90 mph. Perimeter enhancements will be required on systems greater than 72 mph and/or projects over 50' in height. Contact Versico for requirements for enhancements.

Table I **Induction Welded - Membrane Systems Warranty Options**

Years	VersiFlex PVC		
	Warranty Wind Speed 55, 72, 80, 90, 100, 110 or 120 mph	Minimum Membrane Thickness (1)	Additional Puncture Coverage(4)
5,10, or 15 year	√(2)	VersiFlex 50-mil	Not Available
20 year	√(2)	VersiFlex 60-mil	Not Available
25 or 30 year	√(2)	VersiFlex 80-mil	Available

Notes: √= Acceptable

(1) All "T-Joints" must be overlaid with appropriate flashing material when using 60-mil or 80-mil PVC/KEE HP membrane.
(2) Perimeter calculation is .4x height of building. The minimum perimeter width is 8-feet up to a 20-year warranty and 16-feet for 25-30-year warranty.
(3) Perimeter enhancements required for wind speed coverage greater than 72mph and/or projects over 50' in height. Contact Versico for requirements.
(4) Versico's Accidental Puncture Warranty covers labor hours and material used during the repair. Maximum labor and material hours are dependent upon system design. Refer to the Warranty Availability Quick Reference Guide for coverage.

Table II

Induction Welded – Induction Plate Density for Induction Welded Roofing Systems (Up to 20 YR Warranty)

Peak Gust Wind Speed Warranty	Max. Building Height	Minimum Perimeter Width	Induction Weld Plate Density					
			Field		Perimeter		Corners	
			8 Ft. Boards	12 Ft. Boards	8 Ft. Boards	12 Ft. Boards	8 Ft. Boards	12 Ft. Boards
55 MPH	Up to 50'	8’	6	10	8	12	8	12
72 MPH	Up to 50'	8’	6	10	8	12	8	12
80 MPH	Up to 50'	8’	8	12	10	16	10	16
90 MPH	Up to 50'	8’	8	12	12	18	12	18
100 MPH	Up to 50'	8’	8	12	12	18	16	24
110 MPH	Up to 50'	8’	10	16	16	24	16	24
120 MPH	Up to 50'	8’	10	16	16	24	20	32

Induction Welded – Induction Plate Density
for Induction Welded Roofing Systems
(Up to 30 YR Warranty)

Table III

Peak Gust Wind Speed Warranty	Max. Building Height	Minimum Perimeter Width	Induction Weld Plate Density					
			Field		Perimeter		Corners	
			8 Ft. Boards	12 Ft. Boards	8 Ft. Boards	12 Ft. Boards	8 Ft. Boards	12 Ft. Boards
55 MPH	Up to 50'	16'	8	12	10	16	10	16
72 MPH	Up to 50'	16'	8	12	10	16	10	16
80 MPH	Up to 50'	16'	10	16	12	18	12	18
90 MPH	Up to 50'	16'	10	16	12	18	12	18
100 MPH	Up to 50'	16'	10	16	16	24	20	32
110 MPH	Up to 50'	16'	12	18	16	24	24	36
120 MPH	Up to 50'	16'	12	18	16	24	24	36

B. Products/Heat Welding Equipment

Products listed in "Part II" of the Versico Thermoplastic Mechanically Fastened Roofing System Specification can be used as part of this alternate securement method in conjunction with the RhinoBond or Isoweld Welding Plates.

1. **RhinoBond or Isoweld PVC Welding Plate:** A 3" diameter, 0.028" thick, corrosion-resistant steel plate with high solids coating on the top surface. The plate is used in conjunction with Versico's HPVX Fasteners to attach the roofing assembly and is activated using the RhinoBond or Isoweld Induction Welding Tool.

2. **RhinoBond or Isoweld Induction Welding Tool:** An induction heating tool is used to emit the magnetic field that activates the hot melt coating on the top surface of the RhinoBond or Isoweld Welding Plate to fuse with the roofing membrane. Refer to RhinoBond or Isoweld Owner's Manual for additional information.

3. **Magnet:** A stand-up device that allows the weld to cool as it holds the membrane to the heated plate. Refer to RhinoBond or Isoweld Owner's Manual for additional information.

C. RhinoBond Induction Tool Calibration

Prior to proceeding with membrane attachment to the plate, the RhinoBond Induction Welding Tool must be calibrated with samples of the project specified insulation thickness and type and project specified membrane thickness. Refer to RhinoBond Owner's Manual for additional information.

1. Loose lay five RhinoBond Plates in a row about 12-24" apart or the specified membrane substrate.

2. Place membrane over the RhinoBond Plates.

3. Centering over the RhinoBond Plate under the membrane, place the Induction Welding Tool and use the device's default setting. Weld the membrane to the first plate, and when ready, completely remove Welding Tool. Immediately place the Magnet on the membrane over the plate and leave in place for 60 seconds.

4. Place Induction Welding Tool on the next plate as previously done and increasing the induction energy one level by depressing the "up" button once. After welding, immediately place the Magnet.

5. Repeat above procedure for the remainder of the plates, increasing induction energy one level for each plate.

6. After allowing the membrane and plates to cool to ambient temperatures, remove Cooling Clamp and use a pair of pliers and apply force to peel RhinoBond Plate from underside of membrane to determine bonding strength. Desired result is welded ply membrane stays fused to RhinoBond Plate.

7. Repeat trial process, if needed, adjusting energy level up or down until desired results are achieved.

   NOTE: Recalibrating induction tool settings is necessary when ambient temperature changes more than +/- 15°F or power to device have been interrupted.

D. Isoweld Induction Tool Calibration

Calibrate the Isoweld induction welding tool using the process outlined in the Owner's Manual.

E. Installation

Caution: To avoid false welds and ensure adequate membrane attachment to the plates, induction tool calibration and test welds (along with the proper positioning of the induction welder over the plate and placement of the magnet) must be performed prior to the start of work each day. All test welds must be completed using the exact components of the assembly to be installed.

1. After placement of insulation on substrate, secure the insulation at a rate of six HPVX Fasteners and RhinoBond or Isoweld Plates per 4' x 8' in the designated field and eight HPVX Fasteners and RhinoBond or Isoweld Plates around the perimeter. Refer to appropriate Versico details for patterns and depth of perimeter area.

   NOTE: Avoiding fastener overdrive to prevent plate from deforming.

2. Place VersiFlex membrane over the appropriate RhinoBond or Isoweld Plates and allow membrane to relax.

3. Place RhinoBond Induction Tool centered over the RhinoBond PVC Welding Plate, under the roofing membrane OR Place the Isoweld Induction Tool over the Isoweld PVC Welding Plate, until the acoustic search mode signals the

inductor is properly positioned.

4. Activate induction welding tool and leave in place until heating cycle is complete.

5. Immediately place Magnet on the membrane over the plate and leave in place for at least 60 seconds.

6. Resume process ensuring membrane is attached to all plates.

F. Membrane Hot Air Welding Procedures & Additional Securement

1. Adjoin membrane sheets by overlapping and heat welding the seam following standard Hot Air Welding Procedures as outlined in the “Part III” of the Thermoplastics Mechanically Attached Roofing System Specification.

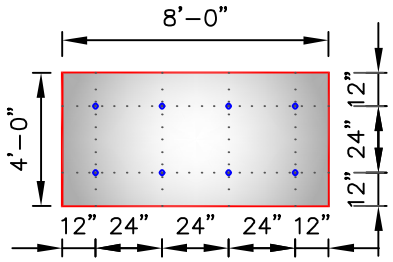
2. Base wall securement and securement around roof penetrations as well as flashings of walls and penetrations must comply with Versico requirements for the Thermoplastics Mechanically Attached Roofing System.

G. Associated Installation Details

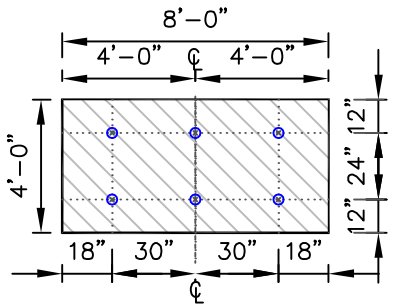
End of Section

NOTES:

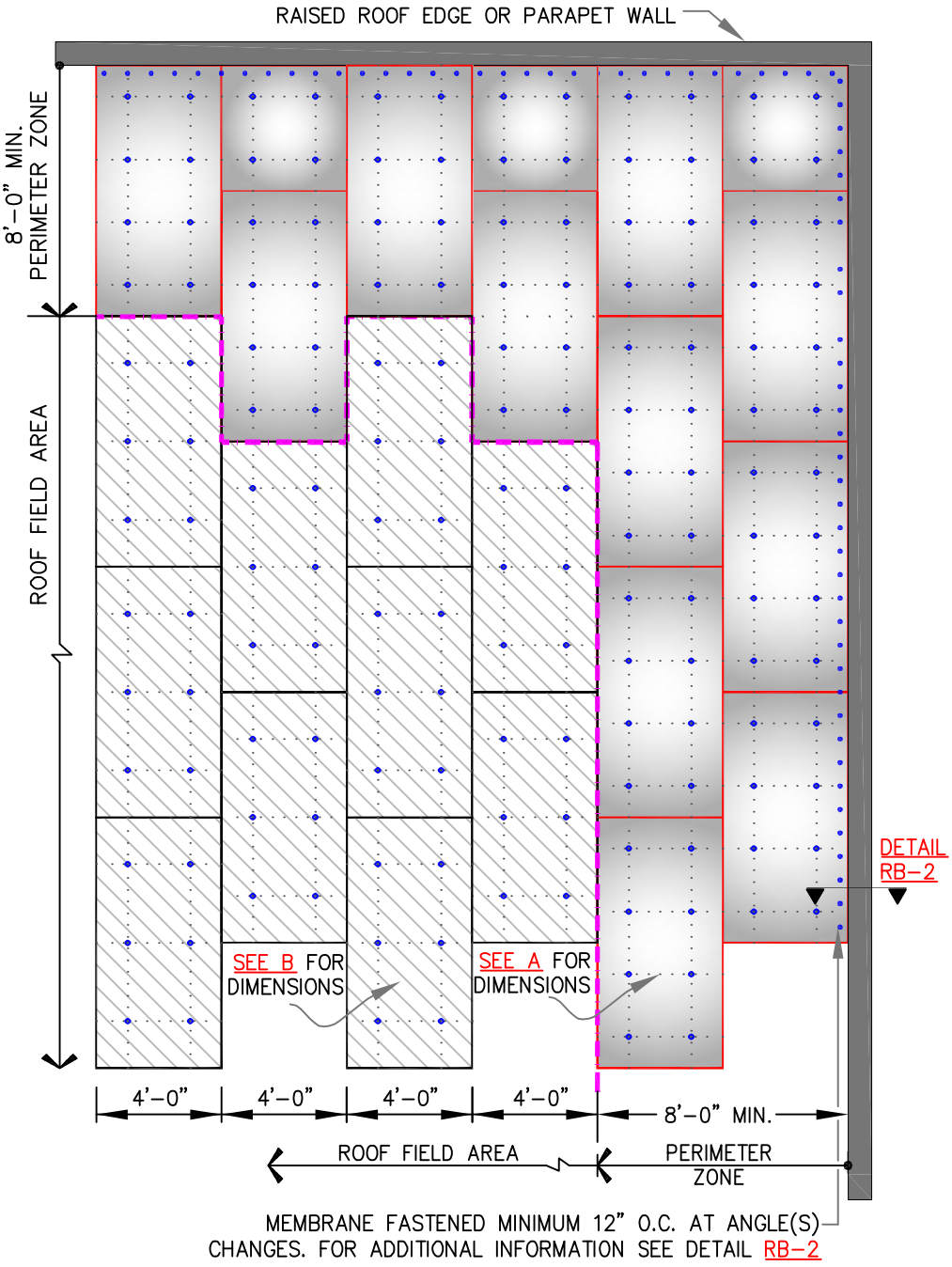
1. RhinoBond METHOD OF MEMBRANE ATTACHMENT IS NOT FOR USE WITH NON-FACED EPS (EXPANDED POLYSTYRENE) OR XPS (EXTRUDED POLYSTYRENE) INSULATIONS.
2. PERIMETER ENHANCEMENTS REQUIRED FOR WIND SPEED COVERAGE GREATER THAN 72MPH. CONTACT VERSICO FOR REQUIREMENTS.
3. ENHANCEMENT SHOWN ARE FOR THE PURPOSE OF THE VERSICO WARRANTY. FOR FM PROJECTS CONSULT FM GLOBAL FOR REQUIRED ENHANCEMENTS.



A PERIMETER ZONE
8 FASTENERS PER 4'X8' BOARD



B FIELD OF ROOF
6 FASTENERS PER 4'X8' BOARD



PERIMETER AREA

FIELD AREA

VERSICO FASTENER & RhinoBond FASTENER PLATE

DECK TYPE	DECK THICKNESS	FASTENER	THERMOPLASTIC COATED PLATE
STEEL	22 GAUGE (0.8mm)	VERSICO HPVX FASTENER	3-1/8" (8cm) DIAMETER
PLYWOOD	15/32" (12mm)		
NOTE: AT IN-FILL MINOR PIECES, USE MIN. 2 FASTENERS.			

INCHES TO CENTIMETERS							
inch	2"	3.5"	4"	12"	18"	24"	30"
cm	5	9	10	30	46	61	76

FEET TO CENTIMETERS			
FEET	1'	4'	8'
cm	30	122	244

VERSICO ROOFING SYSTEMS

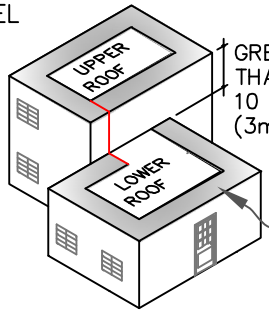
RhinoBond ATTACHMENT METHOD-NUMBER OF FASTENERS AND LOCATION

VERSICO RhinoBond

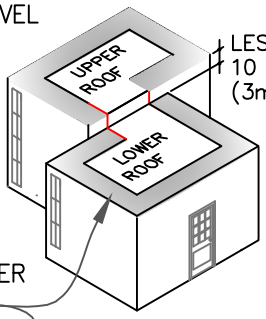
RB-1

ROOF ZONES FOR [MINIMUM ONE FASTENER PER 4 SQUARE FEET (0.372 SQUARE METER)]

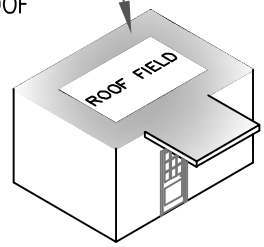
SPLIT LEVEL ROOFS



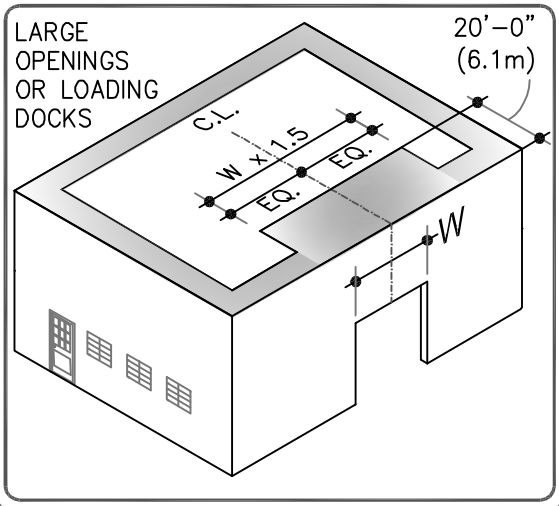
SPLIT LEVEL ROOFS

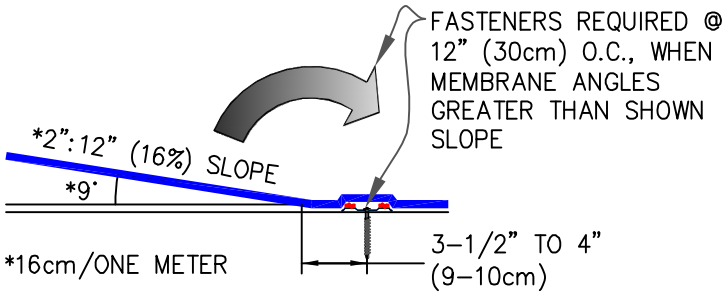


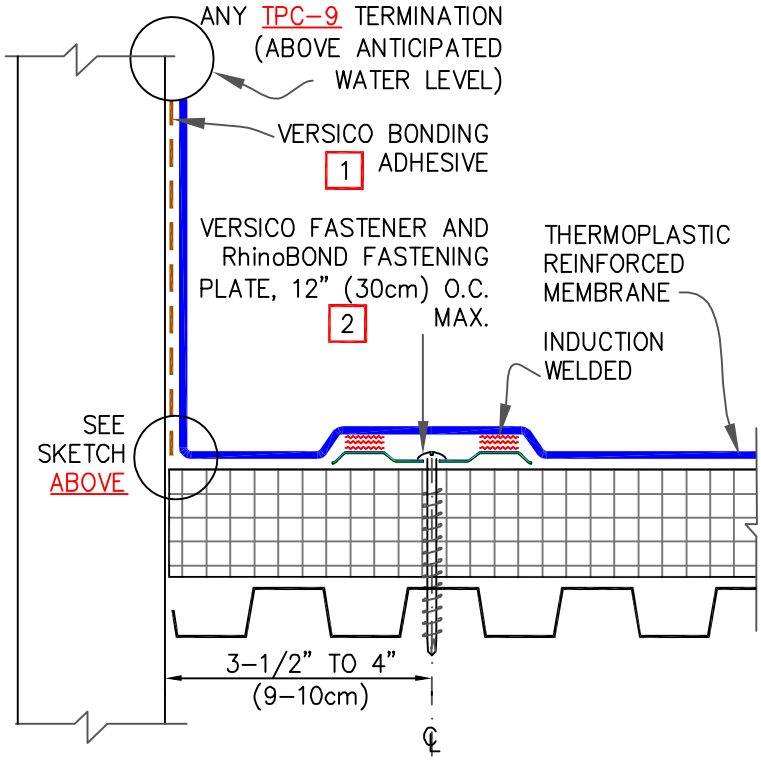
CANOPY ROOF



LARGE OPENINGS OR LOADING DOCKS





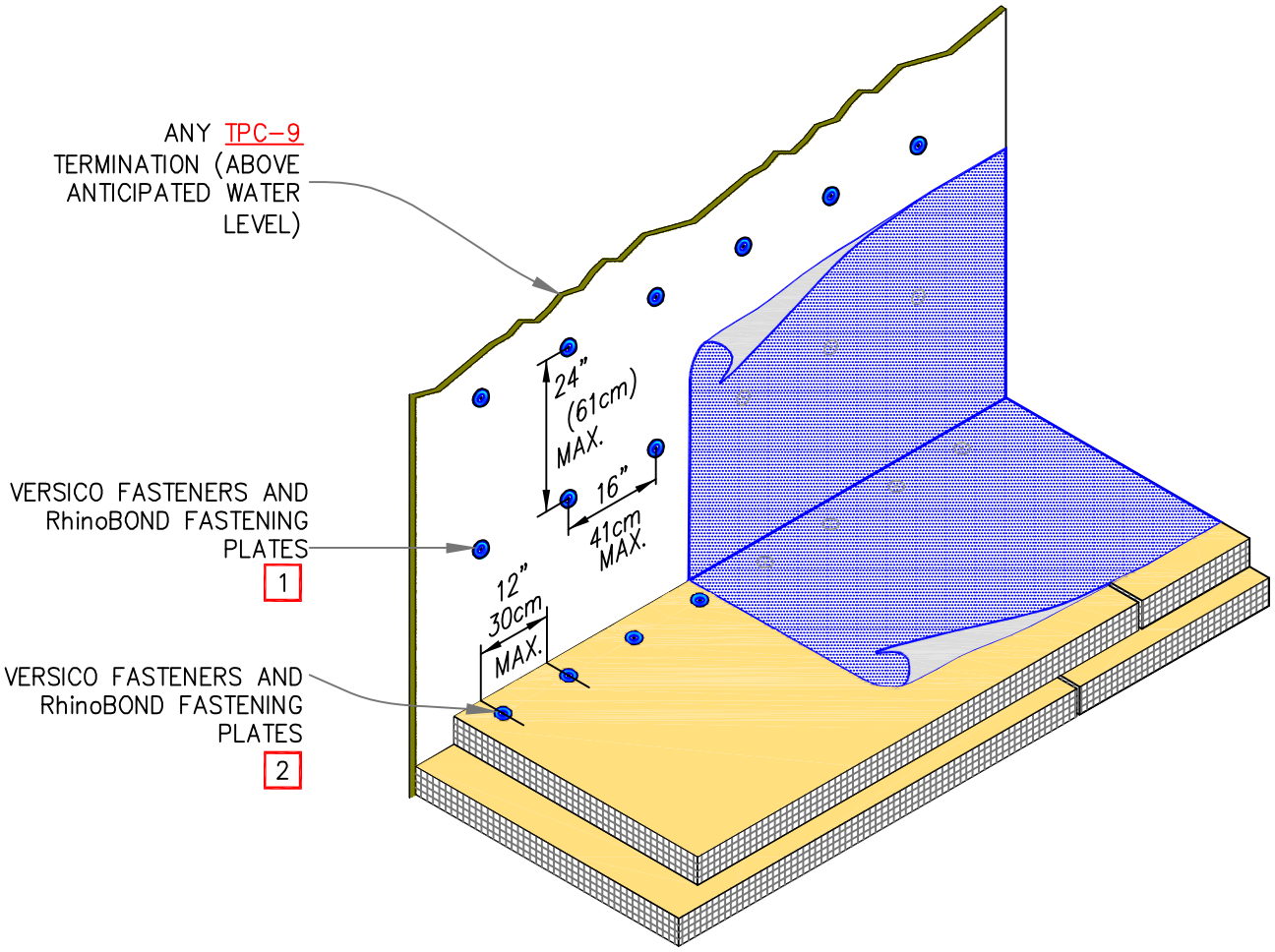


ANGLE CHANGE SECUREMENT

NOTES:

1. VersiWELD MEMBRANE REQUIRES VersiWELD BONDING ADHESIVE AND VersiFLEX MEMBRANE REQUIRES VersiFLEX BONDING ADHESIVE.

2. HPVX FASTENERS AND RhinoBOND PLATES ARE REQUIRED OVER STEEL AND WOOD DECKS. FOR WARRANTY WIND SPEEDS GREATER THAN 72 MPH PLEASE CONTACT VERSICO FOR REQUIRED FASTENING ENHANCEMENTS



NOTES:

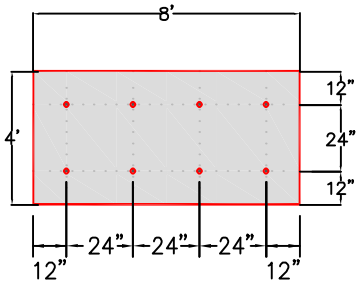
1. FASTENERS MUST PENETRATE INTO WOOD OR METAL STUDS, WHERE WALL IS BUILT WITH STUDS.

2. HPVX FASTENERS AND RhinoBOND PLATES ARE REQUIRED OVER STEEL AND WOOD DECKS.

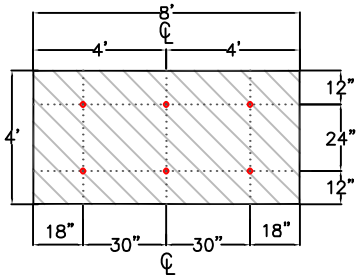
· RhinoBOND – WALL ATTACHMENT

NOTES:

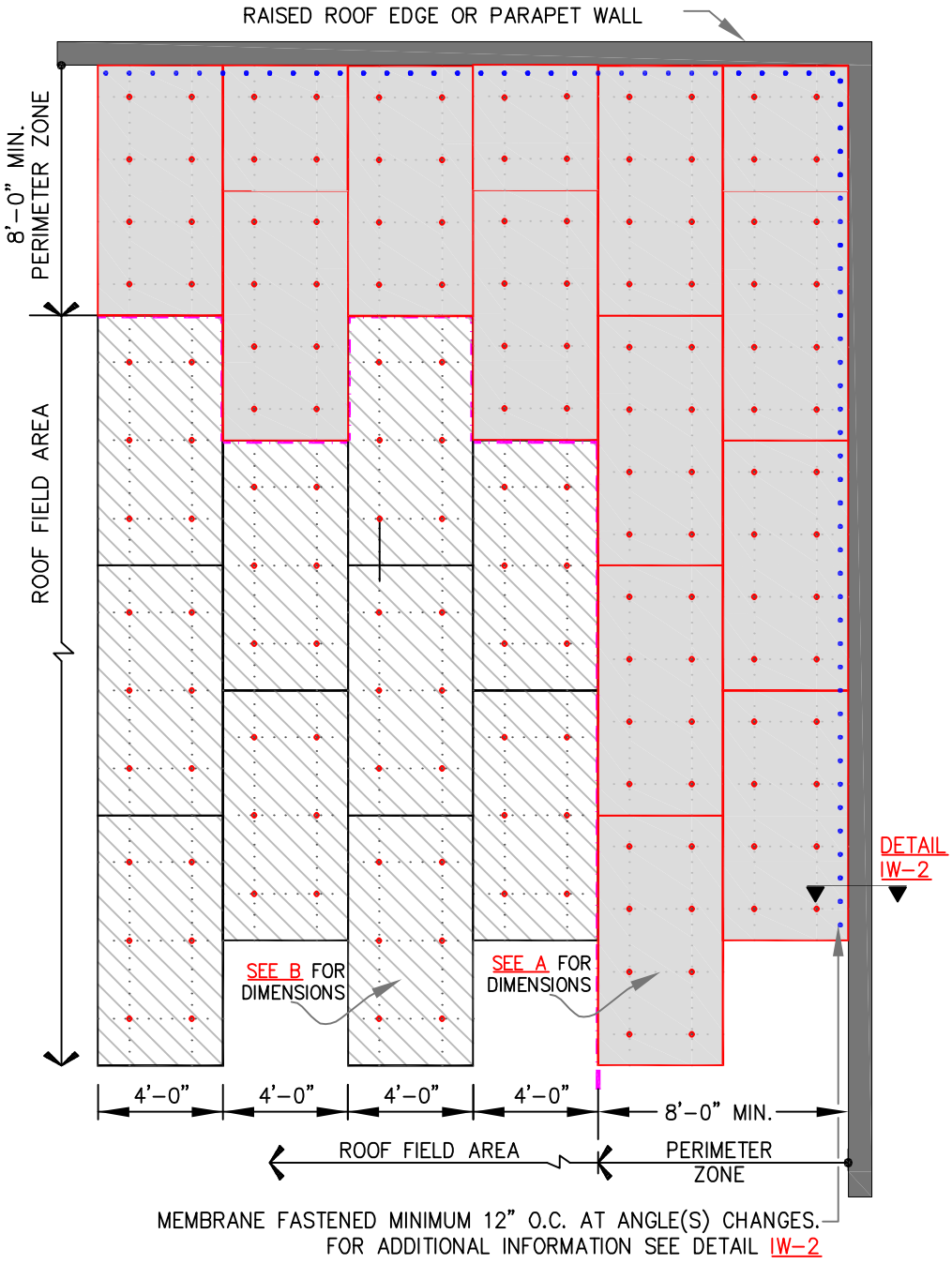
1. Isowled METHOD OF MEMBRANE ATTACHMENT IS NOT FOR USE WITH NON-FACED EPS (EXPANDED POLYSTYRENE) OR XPS (EXTRUDED POLYSTYRENE) INSULATIONS.
2. PERIMETER ENHANCEMENTS REQUIRED FOR WIND SPEED COVERAGE GREATER THAN 72MPH. CONTACT VERSICO FOR REQUIREMENTS.
3. ENHANCEMENT SHOWN ARE FOR THE PURPOSE OF THE VERSICO WARRANTY. FOR FM PROJECTS CONSULT FM GLOBAL FOR REQUIRED ENHANCEMENTS.



(A) PERIMETER ZONE
8 FASTENERS PER 4'X8' BOARD



(B) FIELD OF ROOF
6 FASTENERS PER 4'X8' BOARD



PERIMETER AREA

FIELD AREA

VERSICO FASTENER & Isoweld FASTENER PLATE

DECK TYPE	DECK THICKNESS	FASTENER	THERMOPLASTIC COATED PLATE
STEEL	22 GAUGE (0.8mm)	VERSICO HPVX FASTENER	3-1/8" (8cm) DIAMETER
PLYWOOD	15/32" (12mm)		
NOTE: AT IN-FILL MINOR PIECES, USE MIN. 2 FASTENERS.			

INCHES TO CENTIMETERS							
inch	2"	3.5"	4"	12"	18"	24"	30"
cm	5	9	10	30	46	61	76

FEET TO CENTIMETERS			
FEET	1'	4'	8'
cm	30	122	244

VERSICO ROOFING SYSTEMS

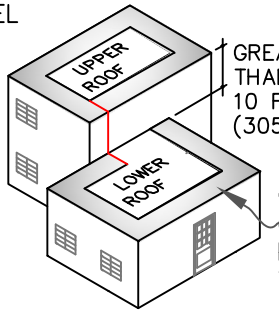
ISOWELD ATTACHMENT METHOD – NUMBER OF FASTENERS AND LOCATIONS

VERSICO Isoweld Attachment

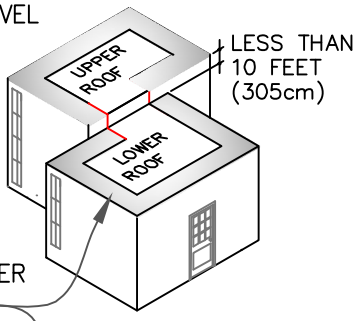
IW – 1

ROOF ZONES FOR MINIMUM ONE FASTENER PER 4 SQUARE FEET (1 FASTENER/0.372 SQUARE METER)

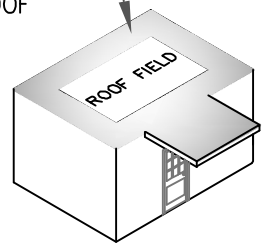
SPLIT LEVEL ROOFS



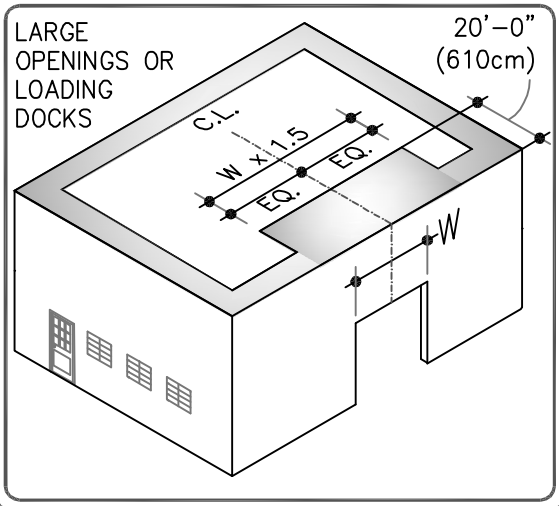
SPLIT LEVEL ROOFS

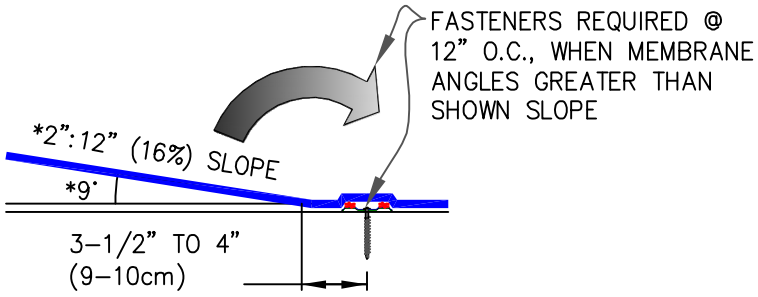


CANOPY ROOF

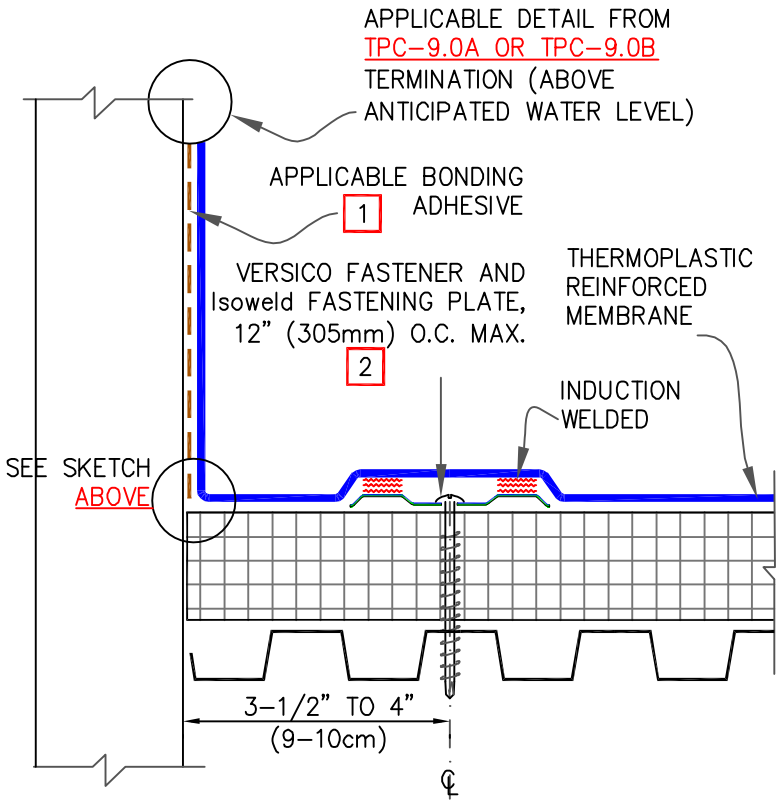


LARGE OPENINGS OR LOADING DOCKS





*100mm HORIZONTAL:16mm VERTICAL

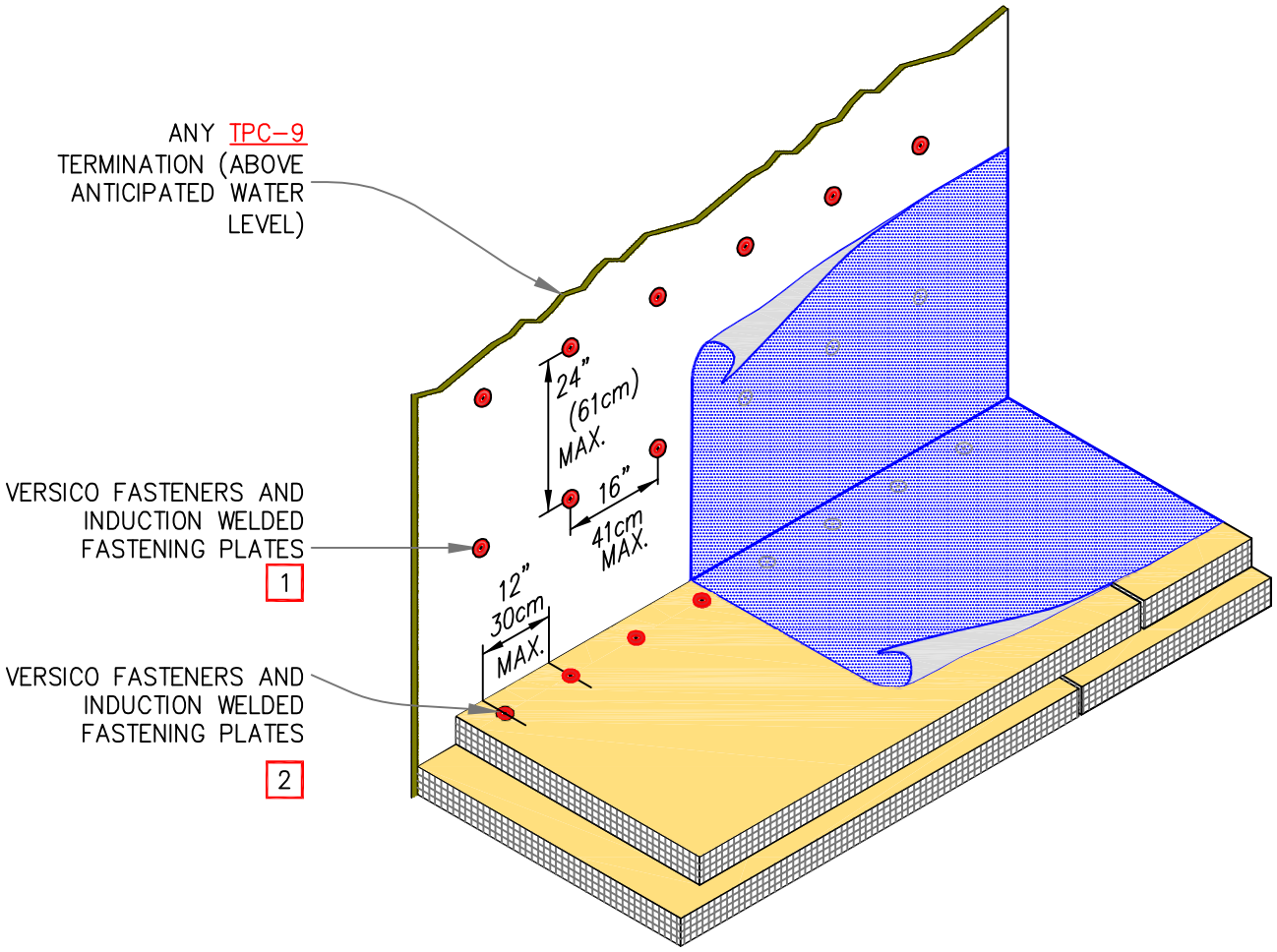


ANGLE CHANGE SECUREMENT

NOTES:

1. VersiWELD MEMBRANE REQUIRES VersiWELD BONDING ADHESIVE AND VersiFLEX MEMBRANE REQUIRES VersiFLEX BONDING ADHESIVE.

2. HPVX FASTENERS AND Isoweld PLATES ARE REQUIRED OVER STEEL AND WOOD DECKS. FOR WARRANTY WIND SPEEDS GREATER THAN 72 MPH PLEASE CONTACT VERSICO FOR REQUIRED FASTENING ENHANCEMENTS.

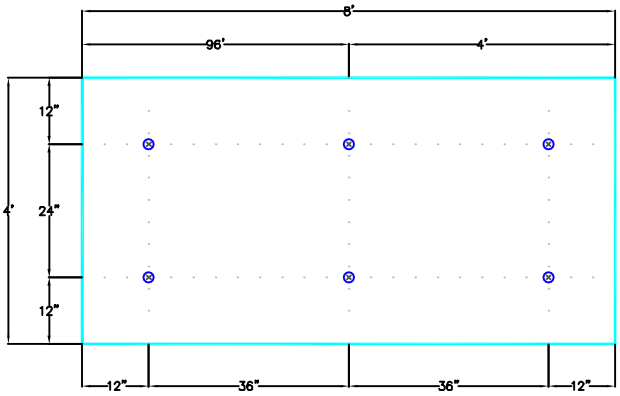


NOTES:

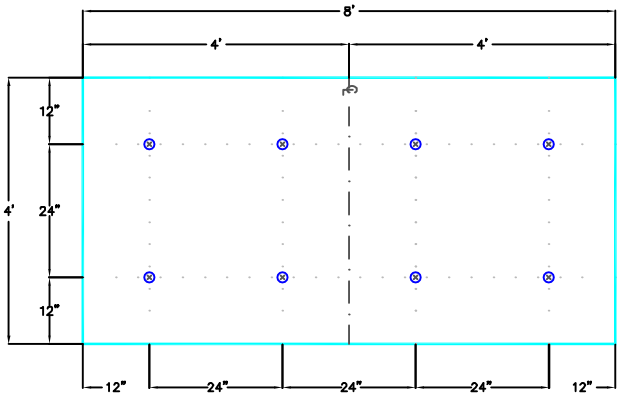
1. FASTENERS MUST PENETRATE INTO WOOD OR METAL STUDS, WHERE WALL IS BUILT WITH STUDS.

2. HPVX FASTENERS ARE REQUIRED OVER STEEL AND WOOD DECKS.

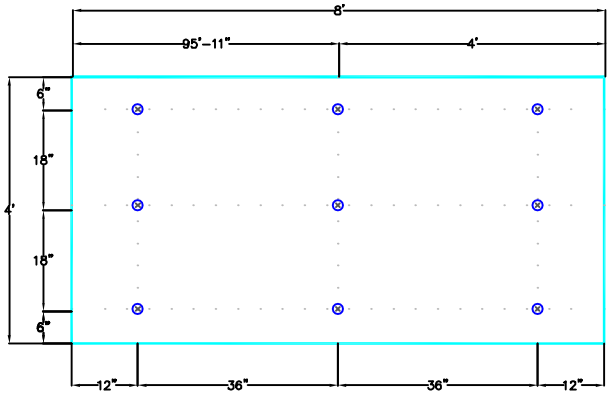
ISOWELD – WALL ATTACHMENT



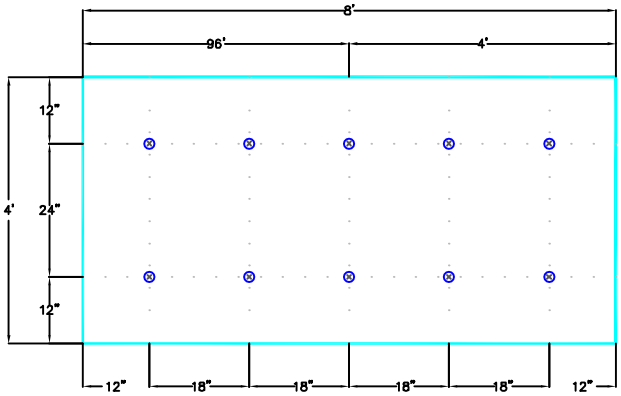
6 FASTENERS PER 4'X8' BOARD



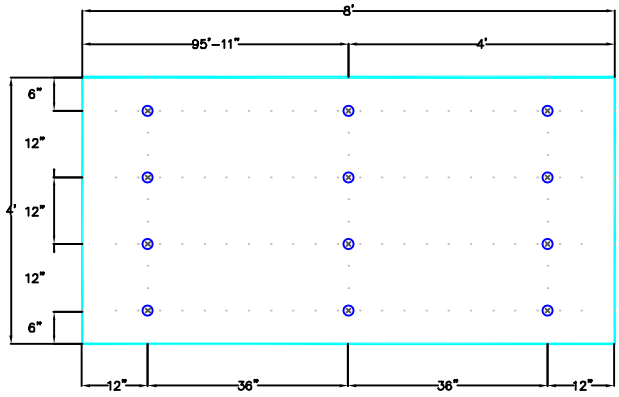
8 FASTENERS PER 4'X8' BOARD



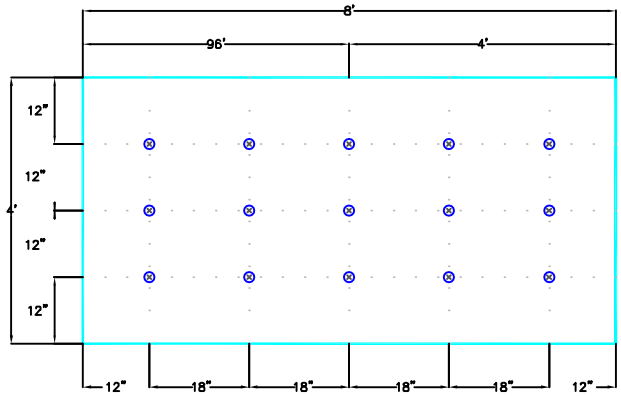
9 FASTENERS PER 4'X8' BOARD



10 FASTENERS PER 4'X8' BOARD



12 FASTENERS PER 4'X8' BOARD



15 FASTENERS PER 4'X8' BOARD

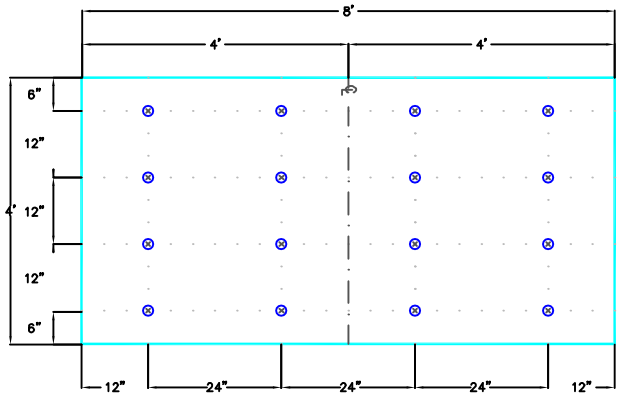
NOTE: FOR FM INSURED PROJECTS, CONSULT FM GLOBAL PRIOR TO INSTALLATION.

VERSICO ROOFING SYSTEMS

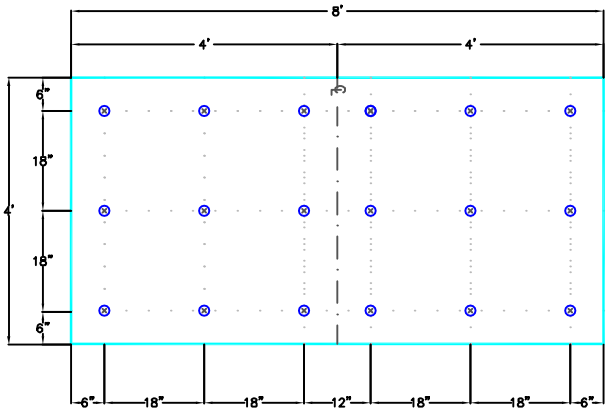
INDUCTION WELDING ATTACHMENT METHOD – FASTENING PATTERNS/ENHANCEMENTS

Induction Welding

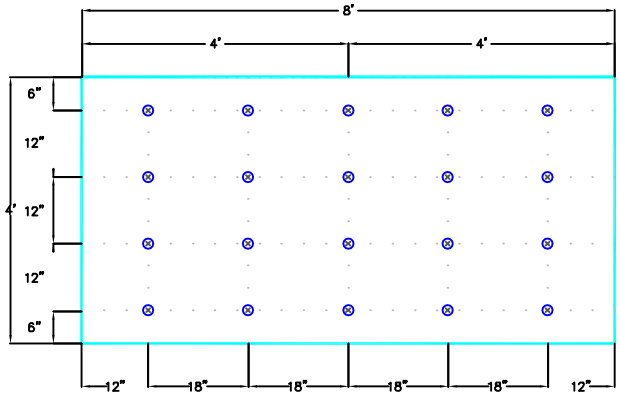
FP – 1



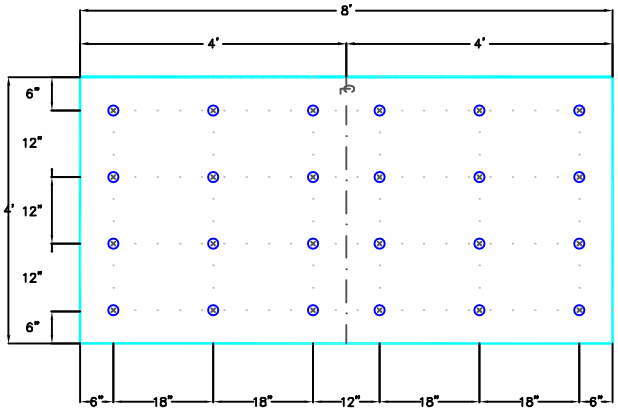
16 FASTENERS PER 4'X8' BOARD



18 FASTENERS PER 4'X8' BOARD



20 FASTENERS PER 4'X8' BOARD



24 FASTENERS PER 4'X8' BOARD

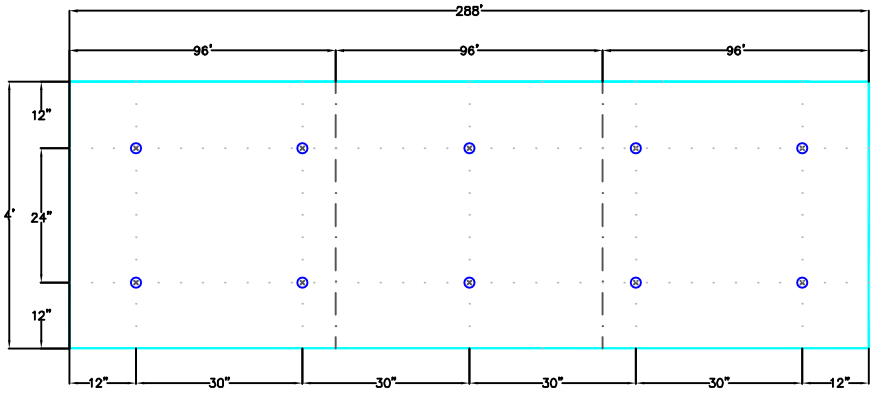
NOTE: FOR FM INSURED PROJECTS, CONSULT FM GLOBAL PRIOR TO INSTALLATION.

VERSICO ROOFING SYSTEMS

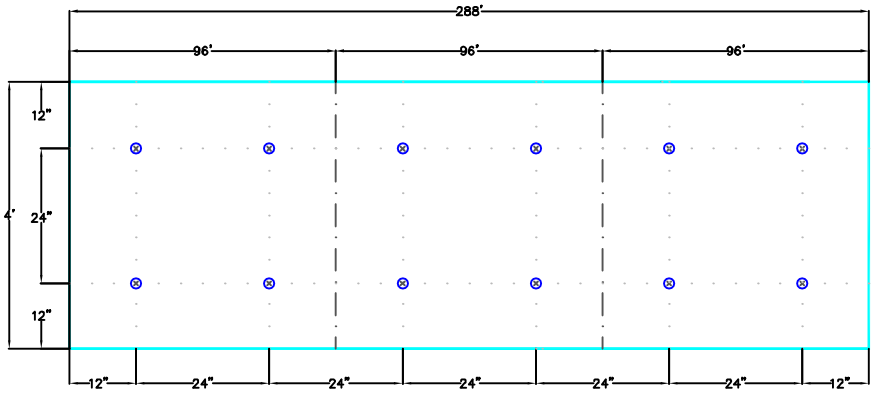
INDUCTION WELDING ATTACHMENT METHOD – FASTENING PATTERNS/ENHANCEMENTS

Induction Welding

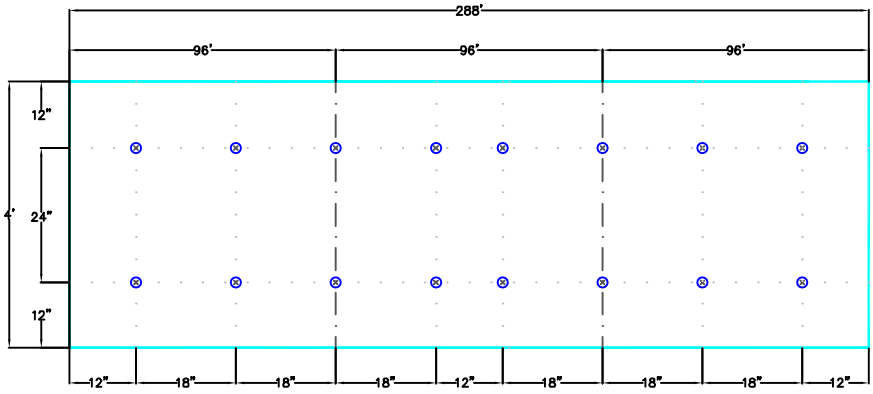
FP – 2



10 Fasteners per 4' x 12'



12 Fasteners per 4' x 12'



16 Fasteners per 4' x 12'

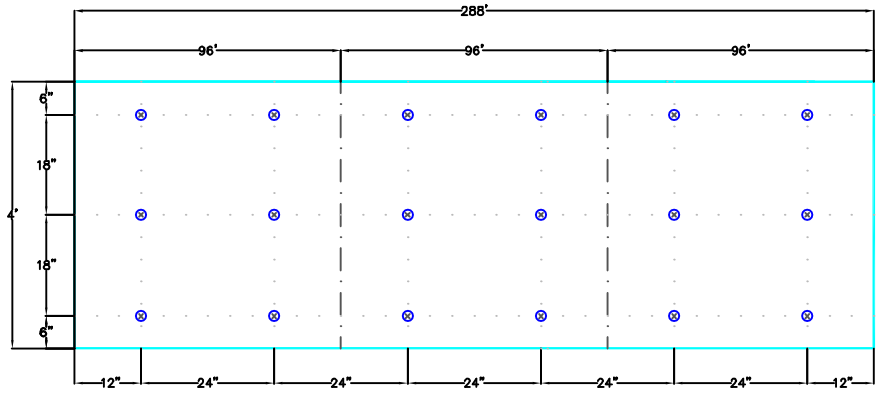
NOTE: FOR FM INSURED PROJECTS, CONSULT FM GLOBAL PRIOR TO INSTALLATION.

VERSICO ROOFING SYSTEMS

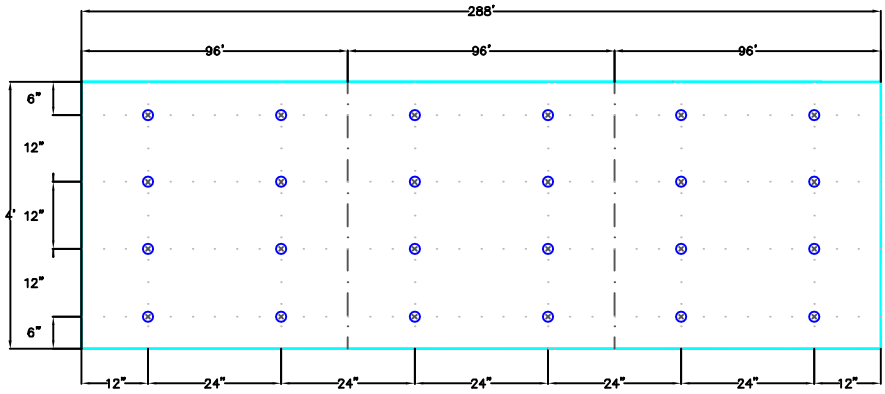
INDUCTION WELDING ATTACHMENT METHOD – FASTENING PATTERNS/ENHANCEMENTS

Induction Welding

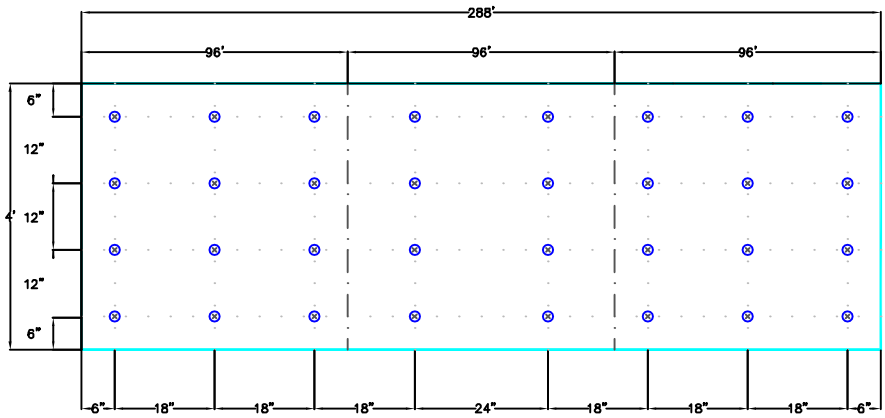
FP – 3



18 Fasteners per 4' x 12'



24 Fasteners per 4' x 12'



32 Fasteners per 4' x 12'

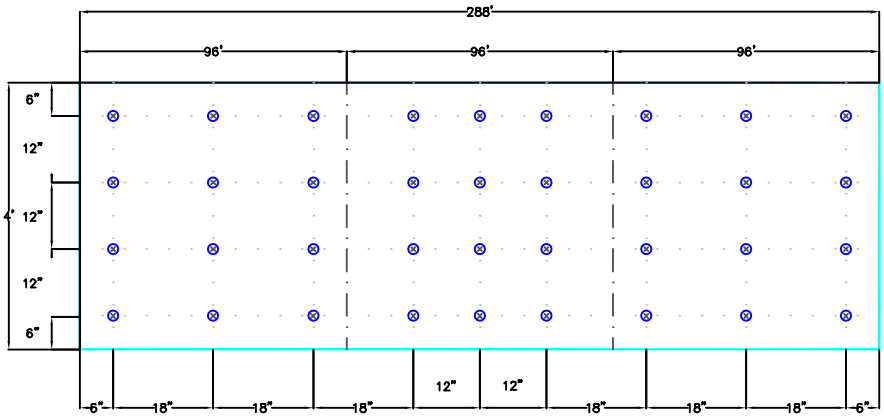
NOTE: FOR FM INSURED PROJECTS, CONSULT FM GLOBAL PRIOR TO INSTALLATION.

VERSICO ROOFING SYSTEMS

INDUCTION WELDING ATTACHMENT METHOD – FASTENING PATTERNS/ENHANCEMENTS

Induction Welding

FP – 4



36 Fasteners per 4' x 12'

NOTE: FOR FM INSURED PROJECTS, CONSULT FM GLOBAL PRIOR TO INSTALLATION.

INDUCTION WELDING ATTACHMENT METHOD – FASTENING PATTERNS/ENHANCEMENTS

Induction Welding

FP – 5

VERSIFLEX PVC

VersiFlex™ PVC
Mechanically Attached and Fully Adhered Roofing Systems

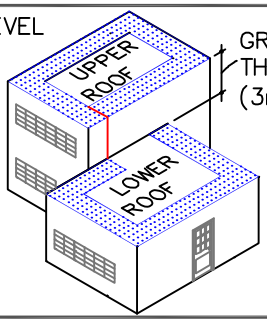
Installation Details Table of Contents

July 2025

GUIDELINES FOR ROOF PERIMETER ZONES FOR MECHANICALLY ATTACHED ROOF SYSTEM

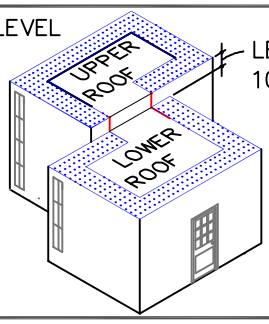
PERIMETER ZONES

SAME LEVEL ROOF



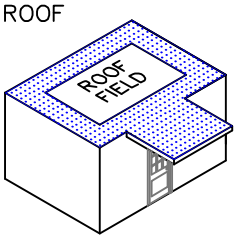
GREATER THAN 10 FT (3m)

SPLIT LEVEL ROOFS



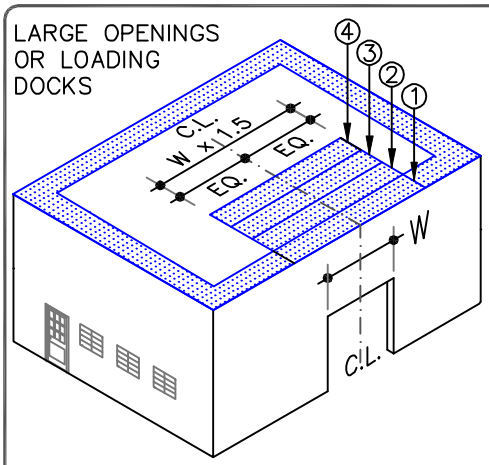
LESS THAN 10 FT (3m)

CANOPY ROOF

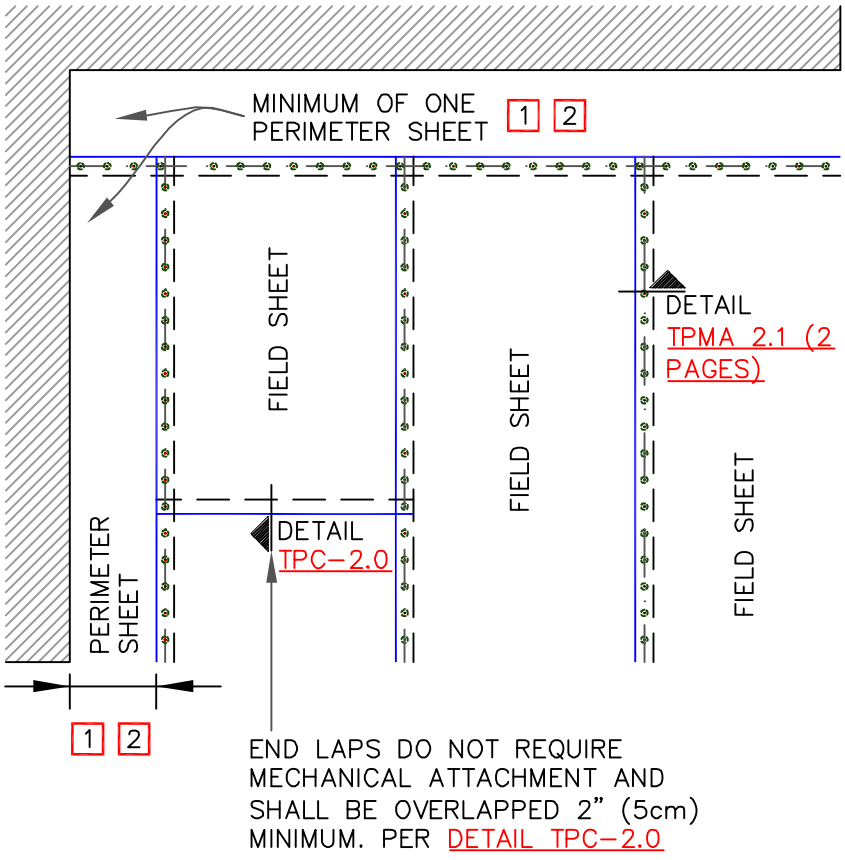


INSTALL PERIMETER SHEETS OVER THE ENTIRE OVERHANG (PROJECTION ROOF) AREA, EXTENDING ONTO THE MAIN ROOF DECK WHEN AT THE SAME LEVEL AS SHOWN.

LARGE OPENINGS OR LOADING DOCKS



4 PERIMETER SHEETS CENTERED OVER LARGE OPENINGS



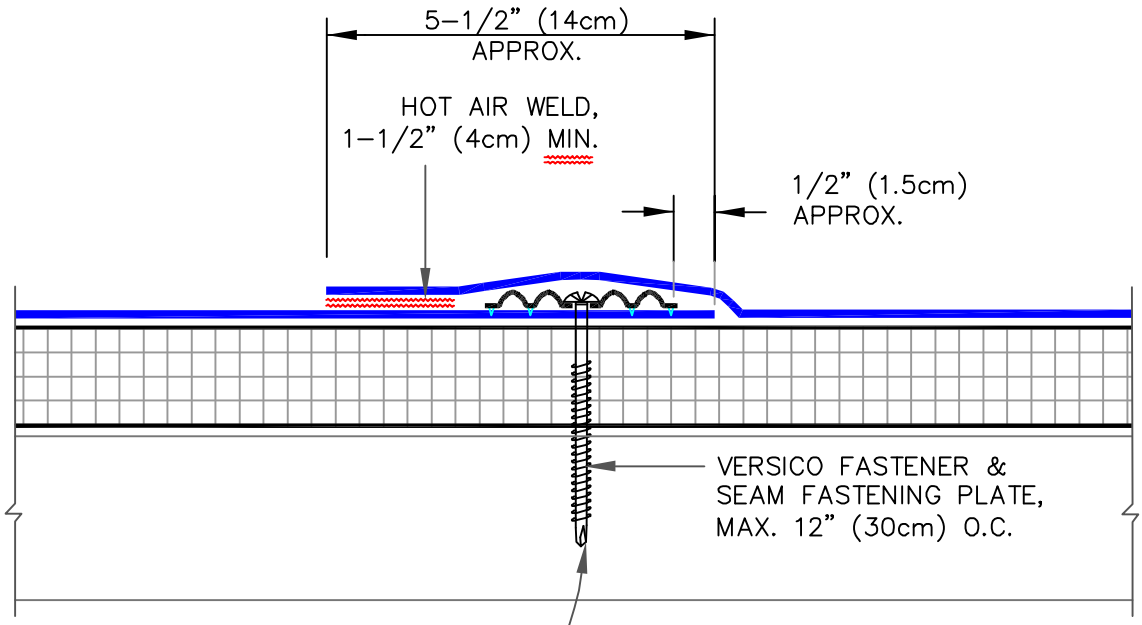
NOTES:

1. PERIMETER SHEETS:

   1.1. WHEN USING 10' (3m) WIDE FIELD SHEETS, 5' (1.5m) WIDE PERIMETER SHEETS ARE UTILIZED.

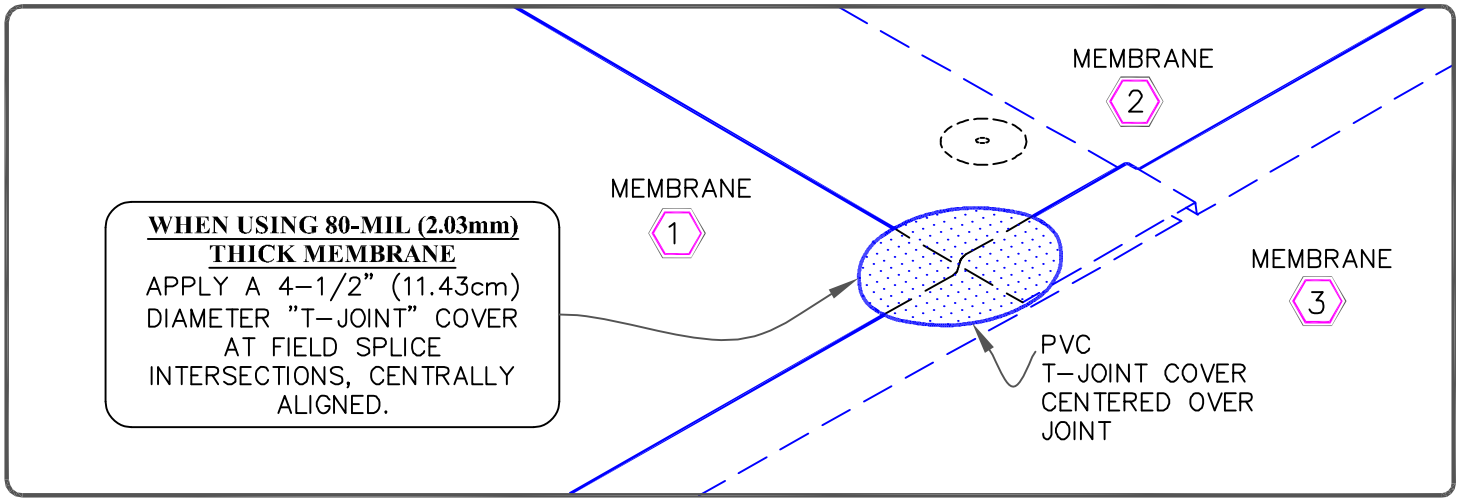
   1.2. WHEN USING 81" (2.1m) WIDE FIELD SHEETS, 40.5" (1m) WIDE PERIMETER SHEETS ARE UTILIZED.

2. REFER TO VERSICO SPECIFICATIONS FOR REQUIRED NUMBER OF PERIMETER SHEETS, SHEET WIDTH AND MEMBRANE FASTENING SPACING.



FASTENER TYPES ON MECHANICALLY ATTACHED ROOF ASSEMBLY

DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPVX	HPVX
	B	HPV–XL	HPV–XL
STRUCTURAL CONCRETE	A	CD–10	HPVX
	B	MP 14–10	HPVX



VERSICO ROOFING SYSTEMS

MECHANICALLY ATTACHED SEAM, PAGE 1 OF 2

MAXIMUM WARRANTY: 30 YEARS

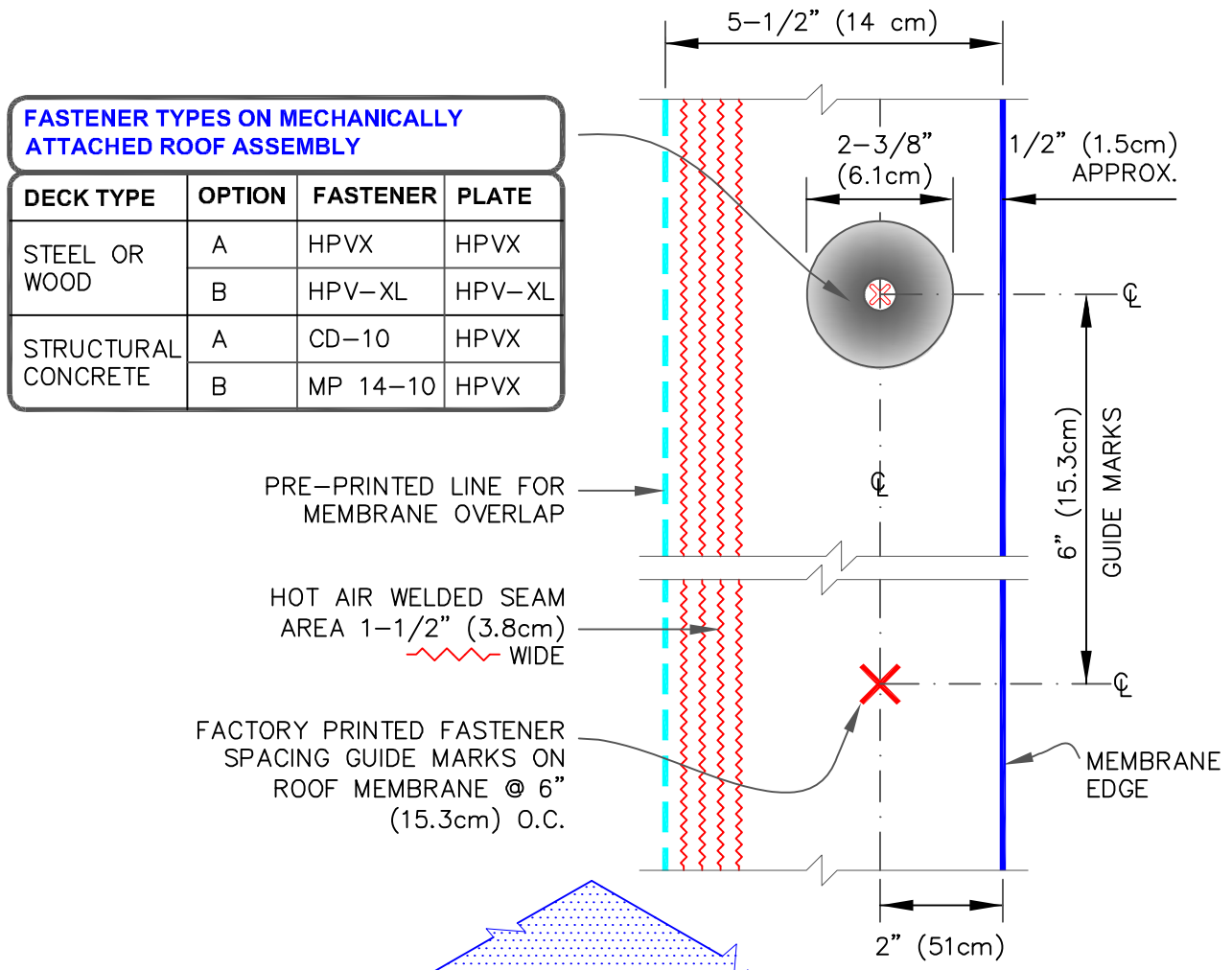
PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 → SEE NOTE
PS (PRESSURE SENSITIVE)

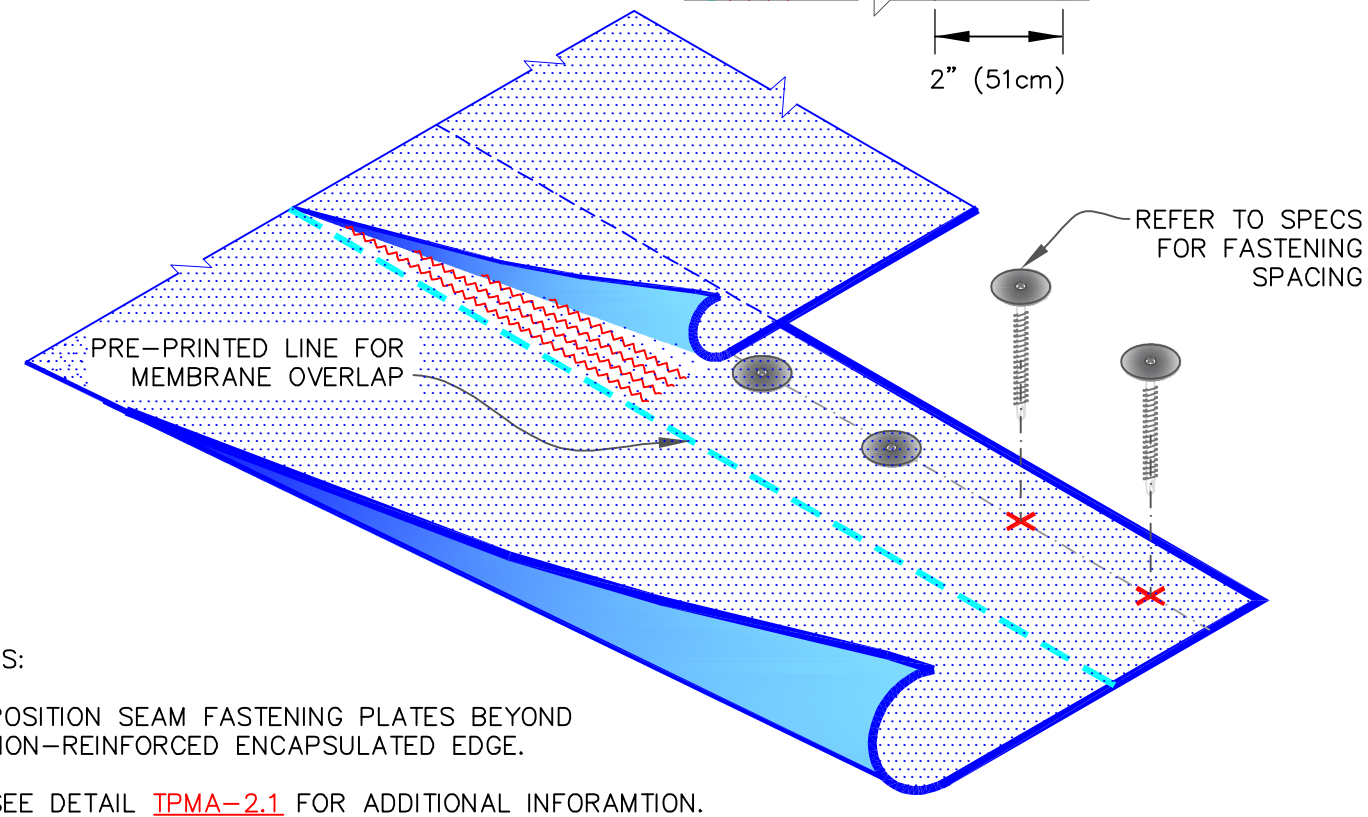
TPMA (Thermoplastic Mechanically Attached Membrane)

TPMA–2.1

FASTENER TYPES ON MECHANICALLY ATTACHED ROOF ASSEMBLY

DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPVX	HPVX
	B	HPV-XL	HPV-XL
STRUCTURAL CONCRETE	A	CD-10	HPVX
	B	MP 14-10	HPVX





NOTES:

1. POSITION SEAM FASTENING PLATES BEYOND NON-REINFORCED ENCAPSULATED EDGE.
2. SEE DETAIL TPMA-2.1 FOR ADDITIONAL INFORAMTION.

VERSICO ROOFING SYSTEMS

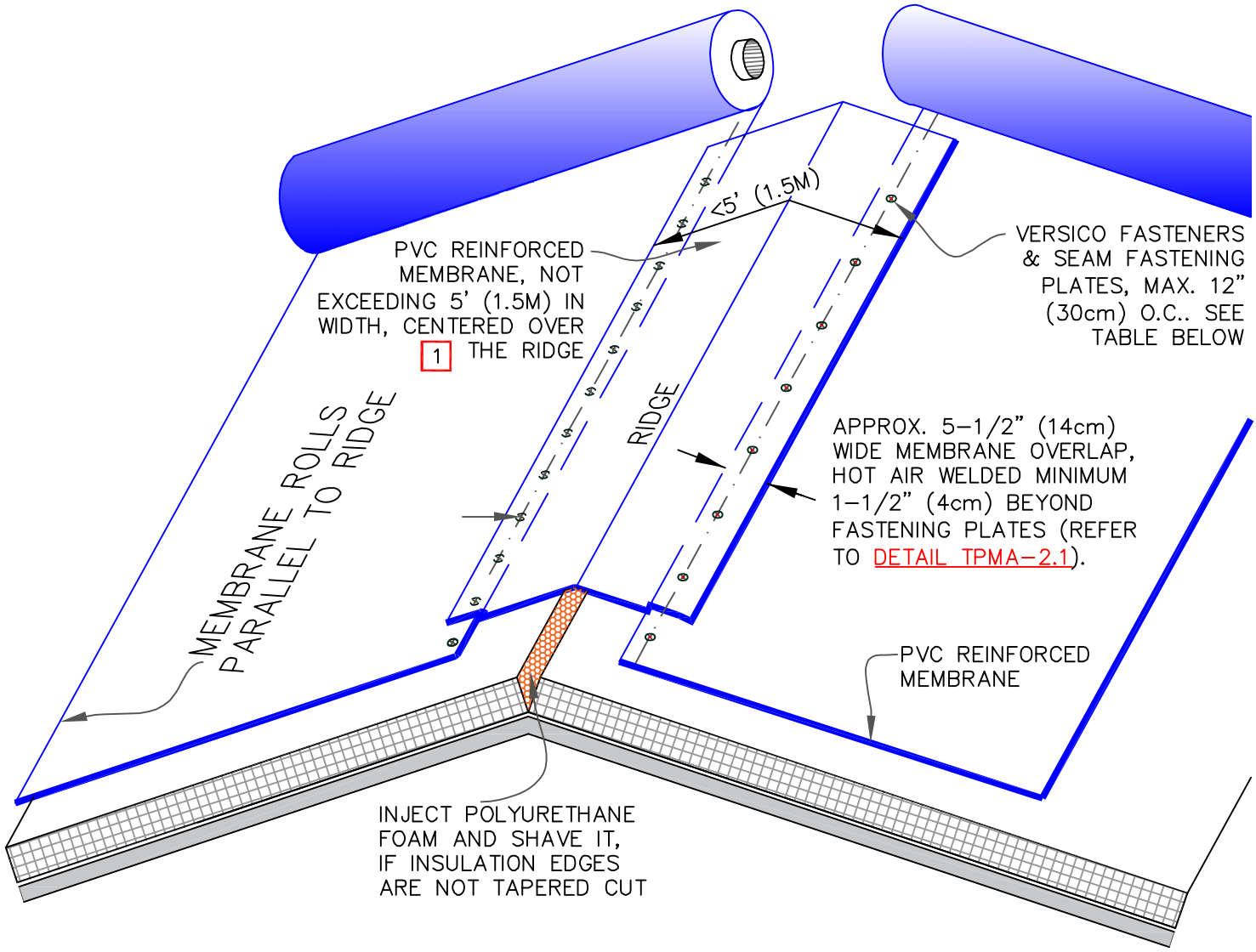
MECHANICALLY ATTACHED SEAM, PAGE 2 OF 2

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

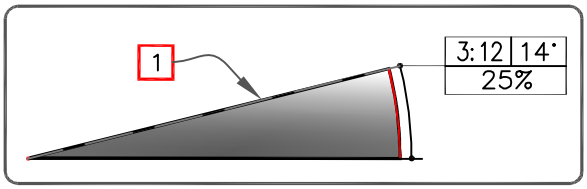
TPMA (Thermoplastic Mechanically Attached Membrane)

TPMA-2.1



NOTES

1. RIDGE MEMBRANE ATTACHMENT IS ONLY REQUIRED WHEN ROOF SLOPE EXCEEDS 3" (7.5cm) TO 12" (30.5cm) HORIZONTAL.
2. POSITION FASTENING PLATES 1/2" (1.5cm) MINIMUM TO 1" (2.5cm) MAXIMUM FROM THE EDGE OF THE DECK MEMBRANE.
3. REFER TO VERSICO SPECIFICATIONS FOR REQUIRED NUMBER OF PERIMETER SHEETS, SHEET WIDTH AND MEMBRANE FASTENING SPACING.



FASTENER TYPES ON MECHANICALLY ATTACHED ROOF ASSEMBLY

DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPVX	HPVX
	B	HPV-XL	HPV-XL
STRUCTURAL CONCRETE	A	CD-10	HPVX
	B	MP 14-10	HPVX

VERSICO ROOFING SYSTEMS

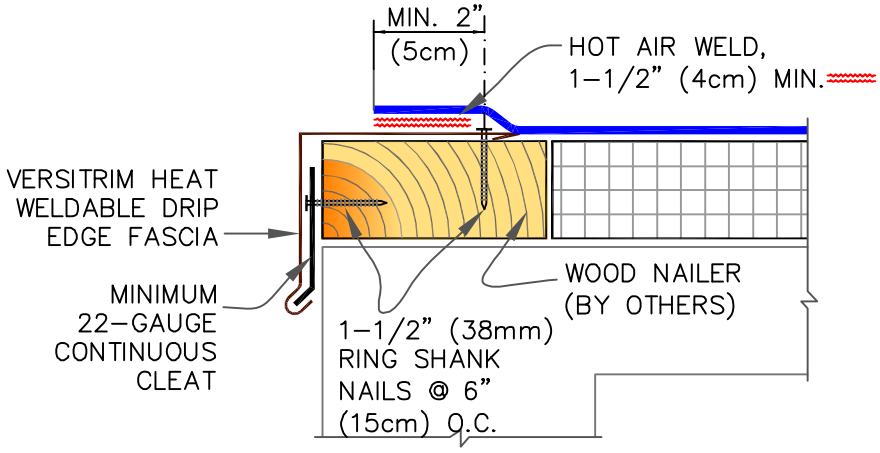
RIDGE MEMBRANE ATTACHMENT

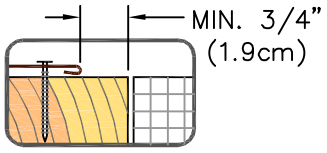
MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPMA (Thermoplastic Mechanically Attached Membrane)

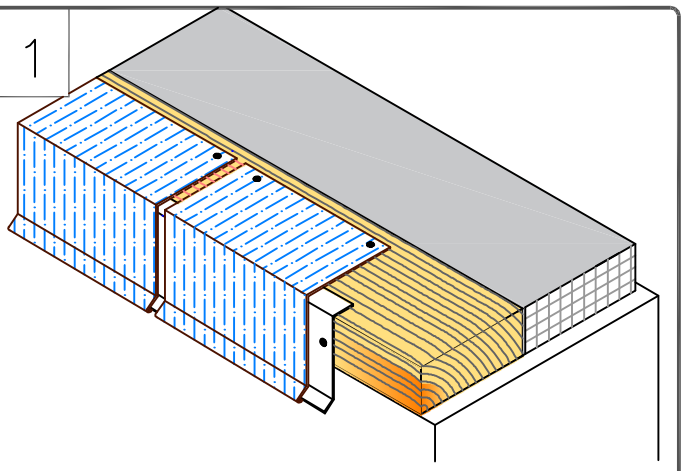
TPMA-22.0





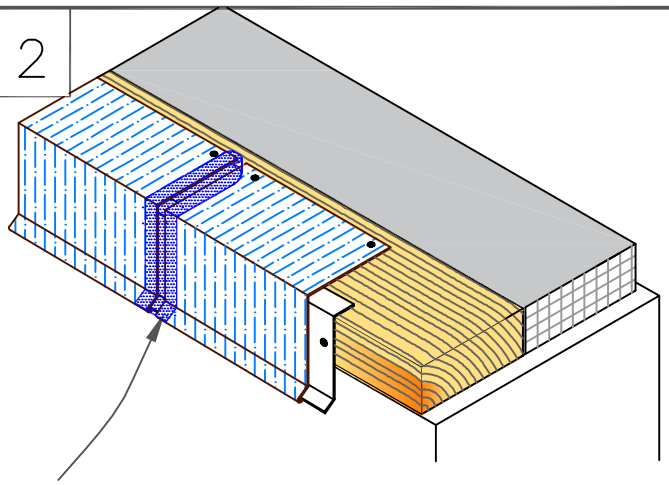
SEQUENCE:
1. 3" (7.6cm) REINFORCED MEMBRANE STRIPPING.
2. FIELD MEMBRANE.
3. TOP 6" (15.2cm) NON–REINFORCED MEMBRANE STRIPPING.

1



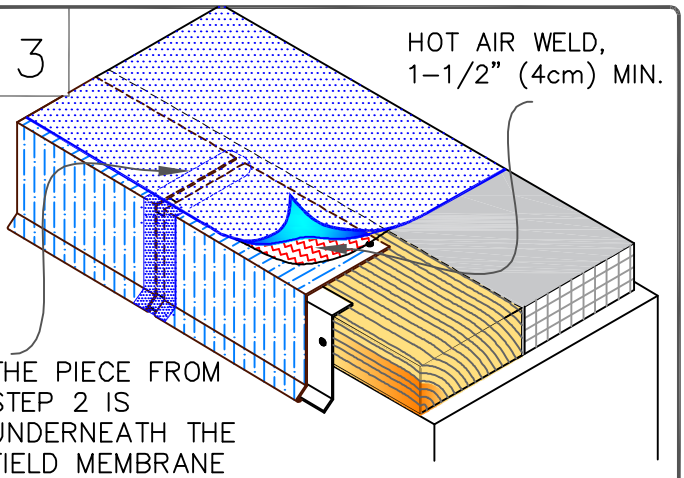
INSTALL CONTINUOUS CLEAT AND COATED METAL WITH 1/8"–1/4" (0.5–1cm) JOINTS BETWEEN ADJOINING SECTIONS.

2



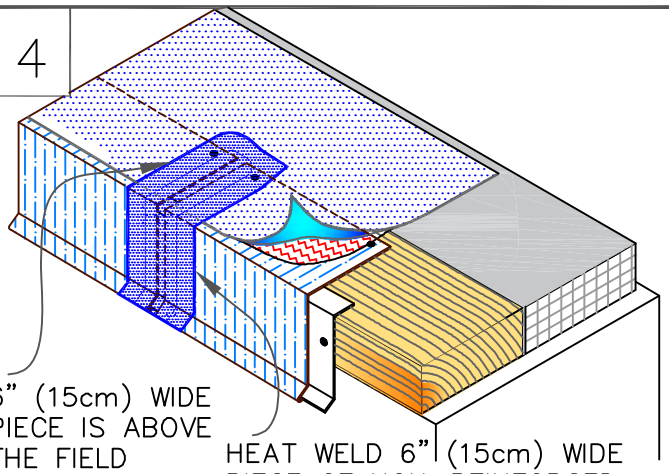
HEAT WELD 3" (7.5cm) WIDE PIECE OF REINFORCED PVC MEMBRANE OVER JOINT

3



POSITION FIELD MEMBRANE AND HEAT WELD COATED METAL A MINIMUM OF 1–1/2" (4cm) AS SHOWN.

4



VERSICO ROOFING SYSTEMS

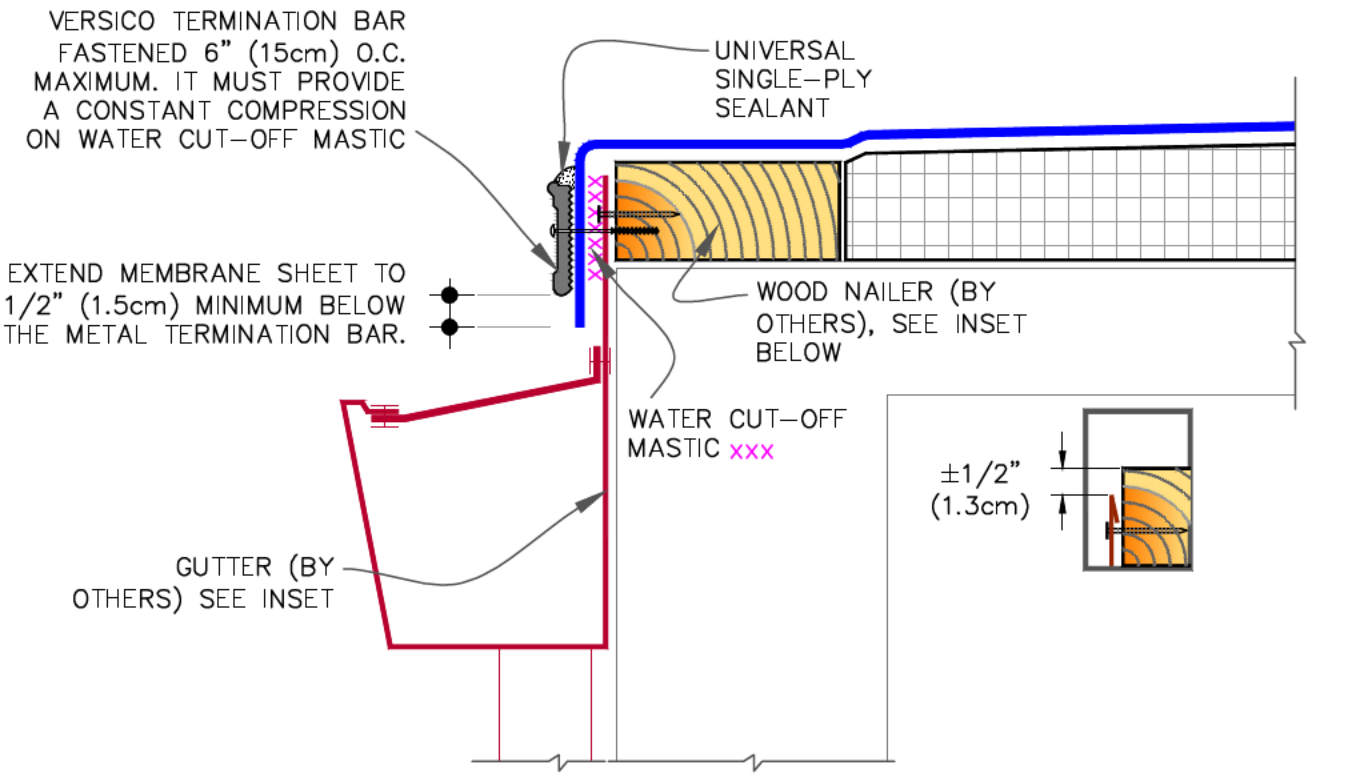
VERSITRIM HEAT WELDABLE DRIP EDGE FASCIA

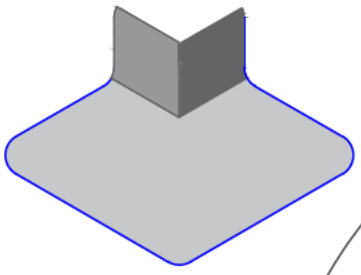
MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

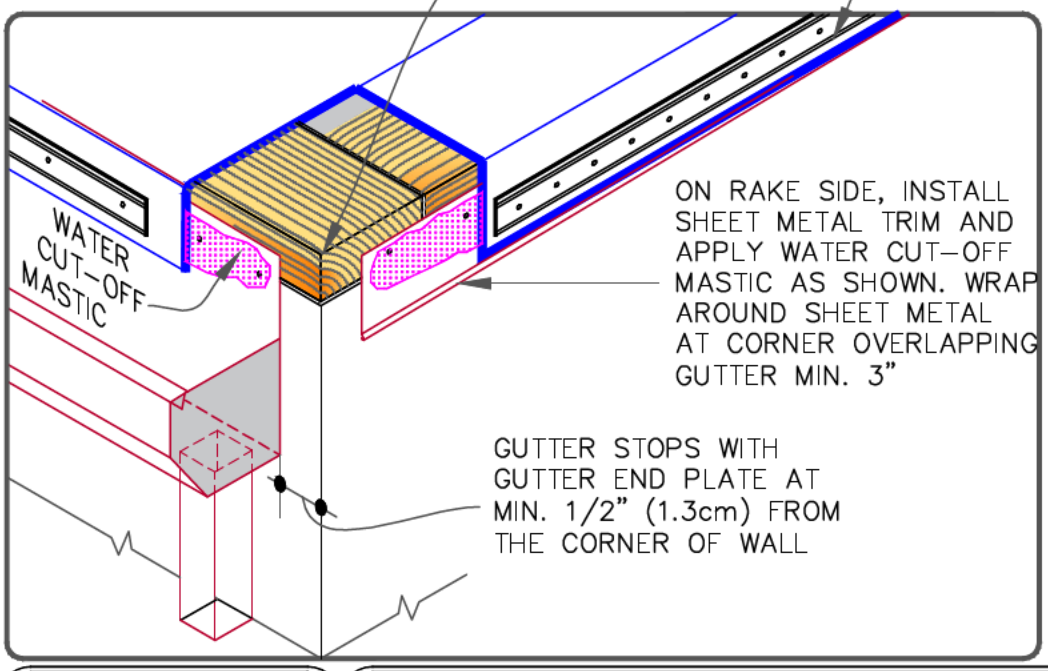
TPC (Thermoplastic Common Details)

TPC–1.2





60-MIL (1.52mm) THICK PVC, UNIVERSAL CORNER CAN BE USED FOR AT TOP CORNER. CUT AS SHOWN IN DETAIL TPC-15.7



DESIGNER MAY USE VERSICO VERSITRIM TERMINATION BAR WITH FASCIA COVER ALSO

COLORED COVER

VERSICO ROOFING SYSTEMS

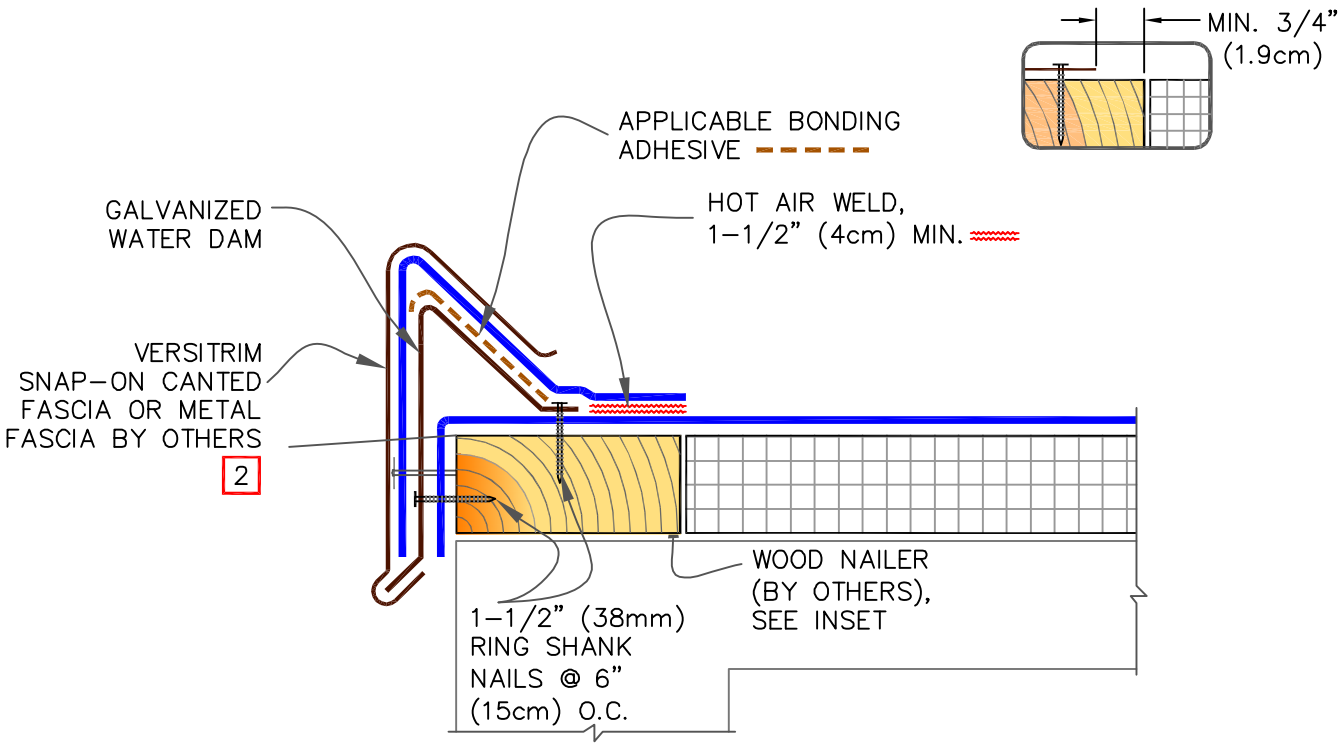
METAL BAR EDGE TERMINATION

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 → SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

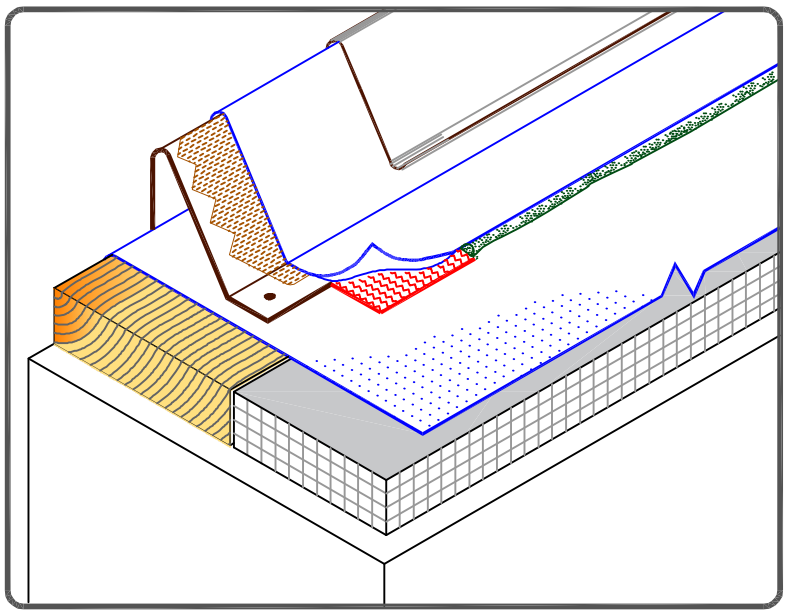
TPC-1.3



NOTES:

1. REFER TO VERSITRIM SNAP–ON CANTED FASCIA INSTRUCTION MANUAL FOR STEP–BY–STEP INSTALLATION PROCEDURES.

2. WHEN METAL FASCIA BY OTHERS IS USED, FASTENER TYPE AND FASTENING FREQUENCY SHALL BE RECOMMENDED BY METAL EDGE MANUFACTURER.



VERSICO ROOFING SYSTEMS

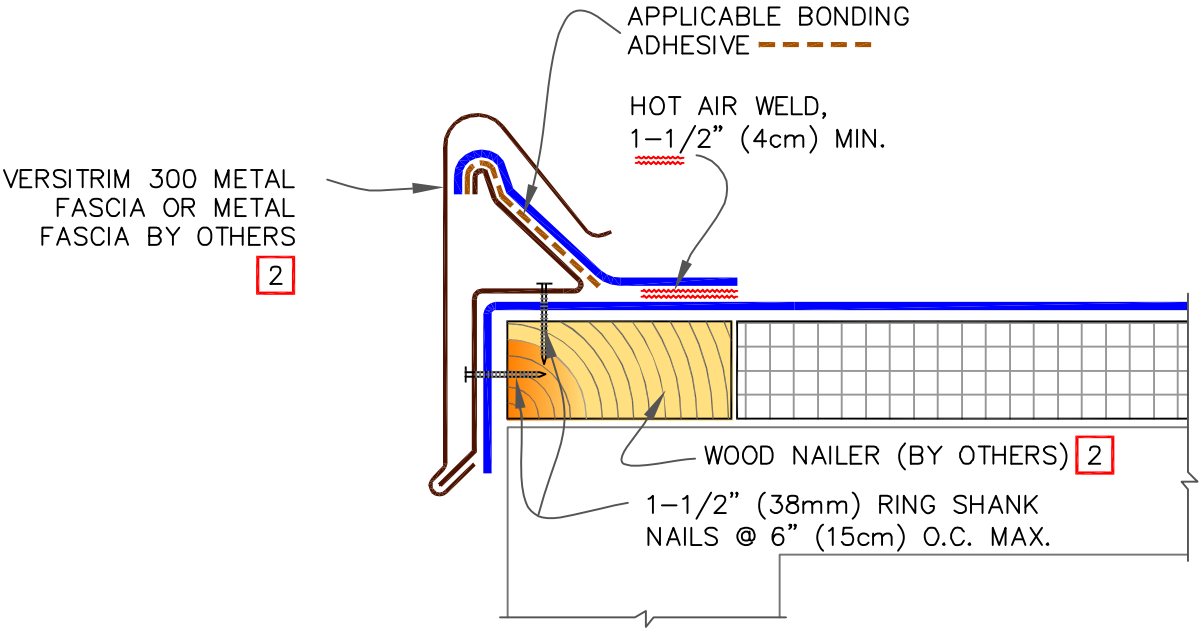
VERSITRIM SNAP–ON CANTED FASCIA

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

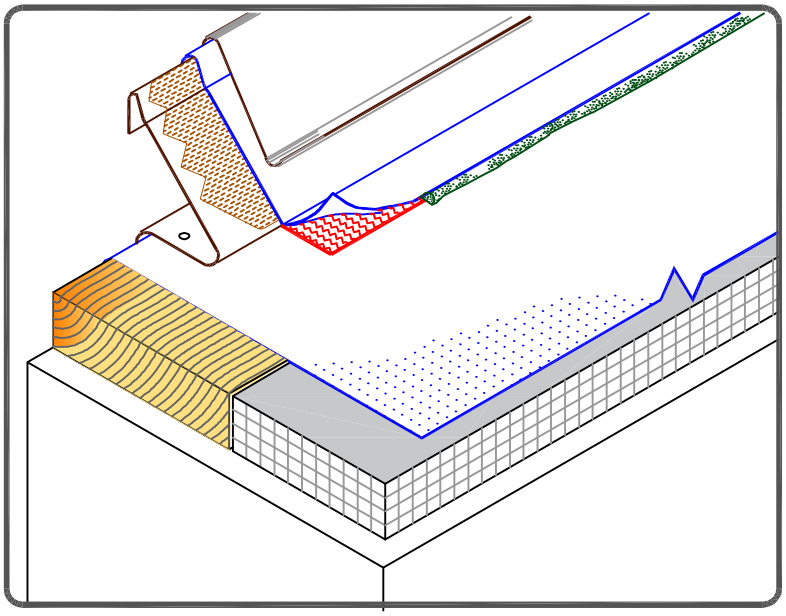
TPC (Thermoplastic Common Details)

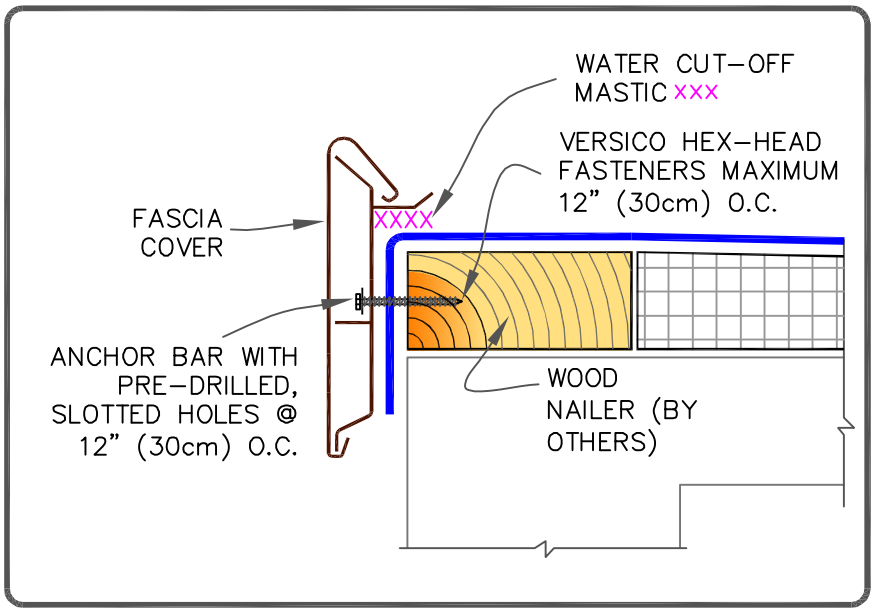
TPC–1.4



NOTES:

1. REFER TO VERSITRIM 300 INSTRUCTION MANUAL FOR STEP–BY–STEP INSTALLATION PROCEDURES.
2. WOOD NAILER MUST EXTEND PAST TOTAL WIDTH OF VERSITRIM DECK FLANGE.
3. WHEN METAL FASCIA BY OTHERS IS USED, FASTENER TYPE AND FASTENING FREQUENCY SHALL BE RECOMMENDED BY METAL EDGE MANUFACTURER.

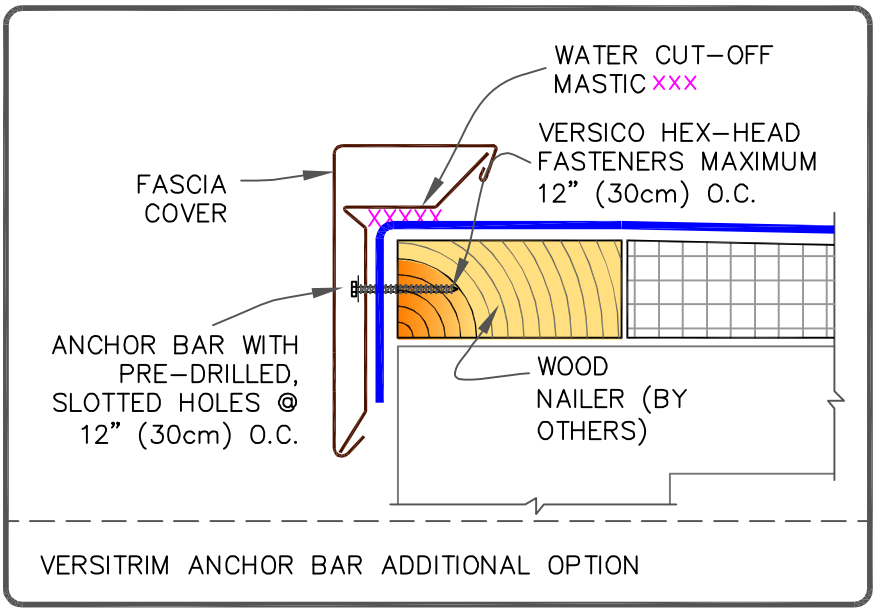




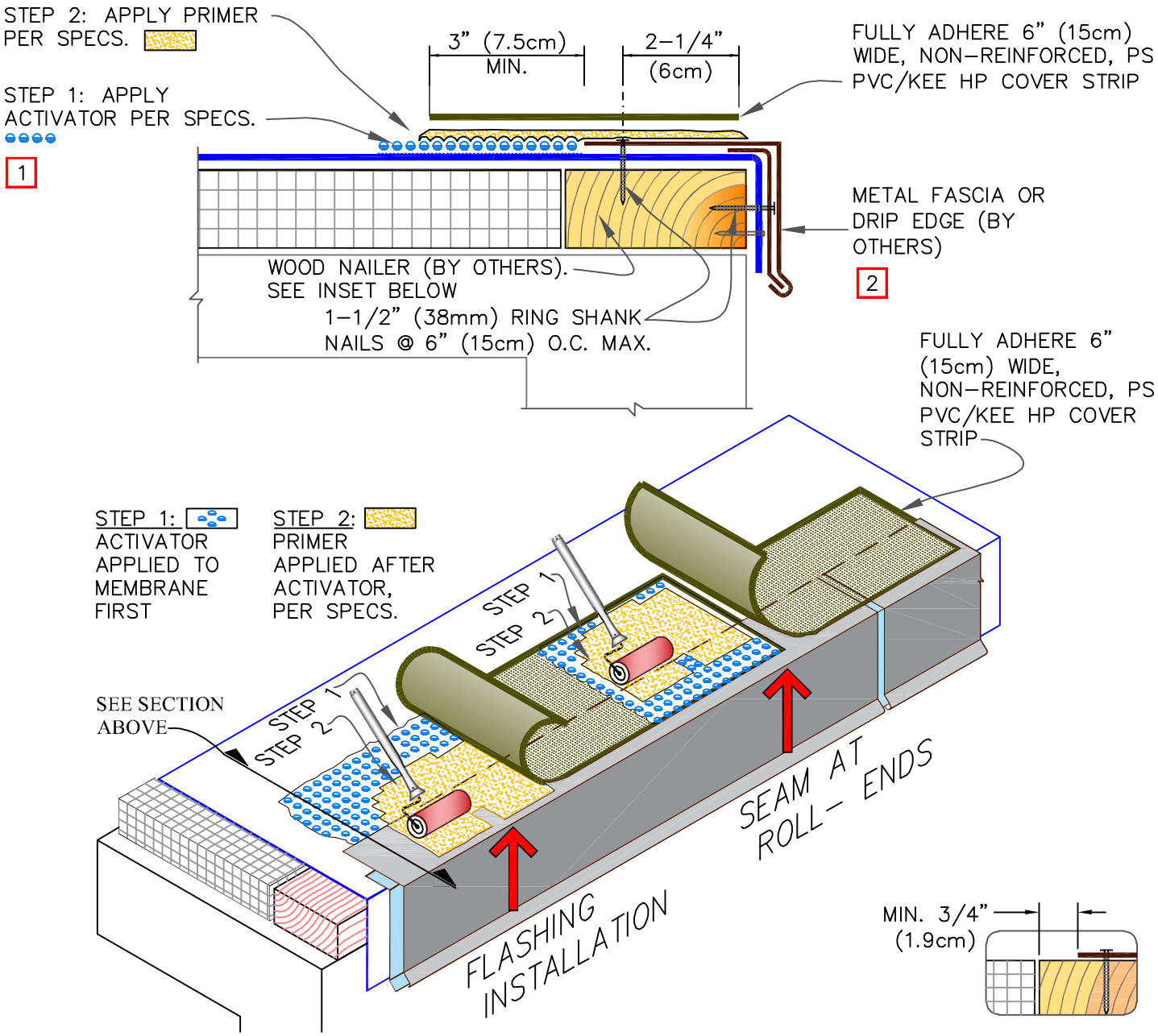
VERSITRIM EX SNAP–ON FASCIA

NOTES:

1. REFER TO VERSITRIM INSTALLATION INSTRUCTION MANUAL FOR THE STEP BY STEP INSTALLATION PROCEDURES AND FOR THE VARIOUS PRODUCT FEATURES AVAILABLE.
2. IF INCIDENTAL/TEMPORARY PONDED WATER IS EXPECTED, THE VERSITRIM MUST BE ELEVATED AND SCUPPERS PROVIDED FOR DRAINAGE.
3. ENSURE ROOF SLOPES AWAY FROM VERSITRIM .



VERSITRIM SNAP–ON FASCIA



NOTES:

1. TO REMOVE FINISHING OILS, SCRUB METAL FLANGE WITH PVC & KEE HP MEMBRANE CLEANER; ALLOW TO DRY PRIOR TO APPLYING PRIMER.
2. WHEN METAL FASCIA BY OTHERS IS USED, FASTENER TYPE AND FASTENING FREQUENCY SHALL BE RECOMMENDED BY METAL EDGE MANUFACTURER.
3. TO ENSURE PVC PRESSURE-SENSITIVE COVER STRIP CONFORMS TO STEPS-OFF, HEAT COVER STRIP AT SPLICE INTERSECTIONS PRIOR TO ROLLING.
4. THIS DETAIL IS NOT RECOMMENDED FOR ROOFS THAT ARE LIKELY TO EXPERIENCE SIGNIFICANT SNOW AND ICE. REFER TO COATED EDGE METAL DETAILS.

VERSICO ROOFING SYSTEMS

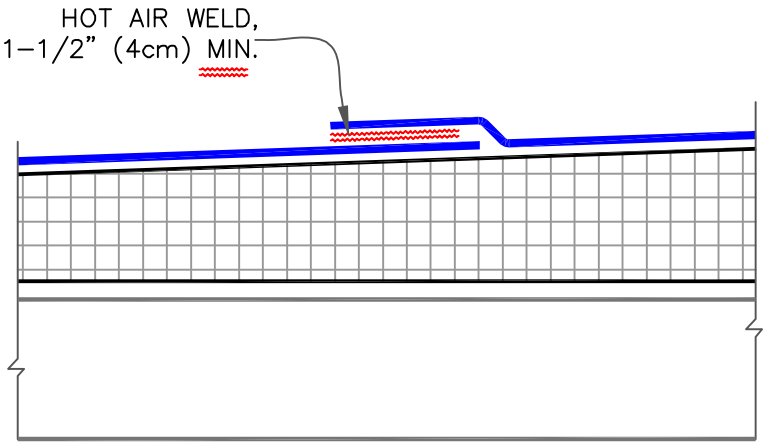
PRESSURE-SENSITIVE PVC/KEE HP COVER STRIP

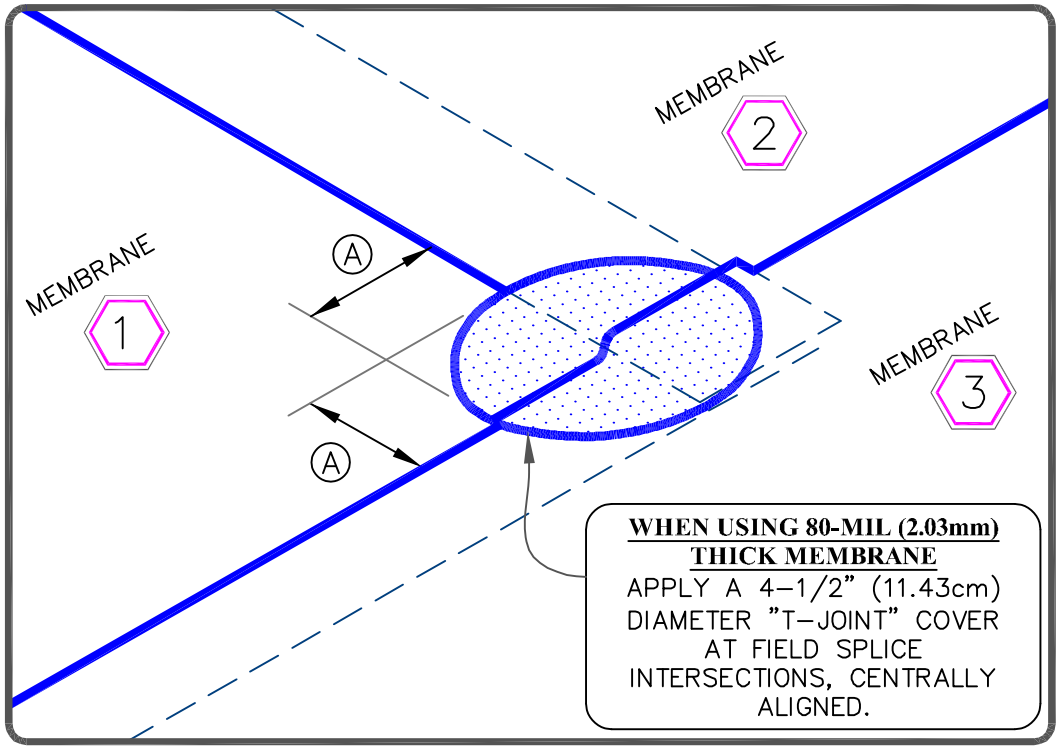
MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC-1.7





DIMENSIONS	cm	
Ⓐ 2–1/4"	6	MIN.

NOTE:

1. WHEN USING 60–MIL (1.52mm) MEMBRANE, MAXIMUM WARRANTY IS 20 YEARS.

VERSICO ROOFING SYSTEMS

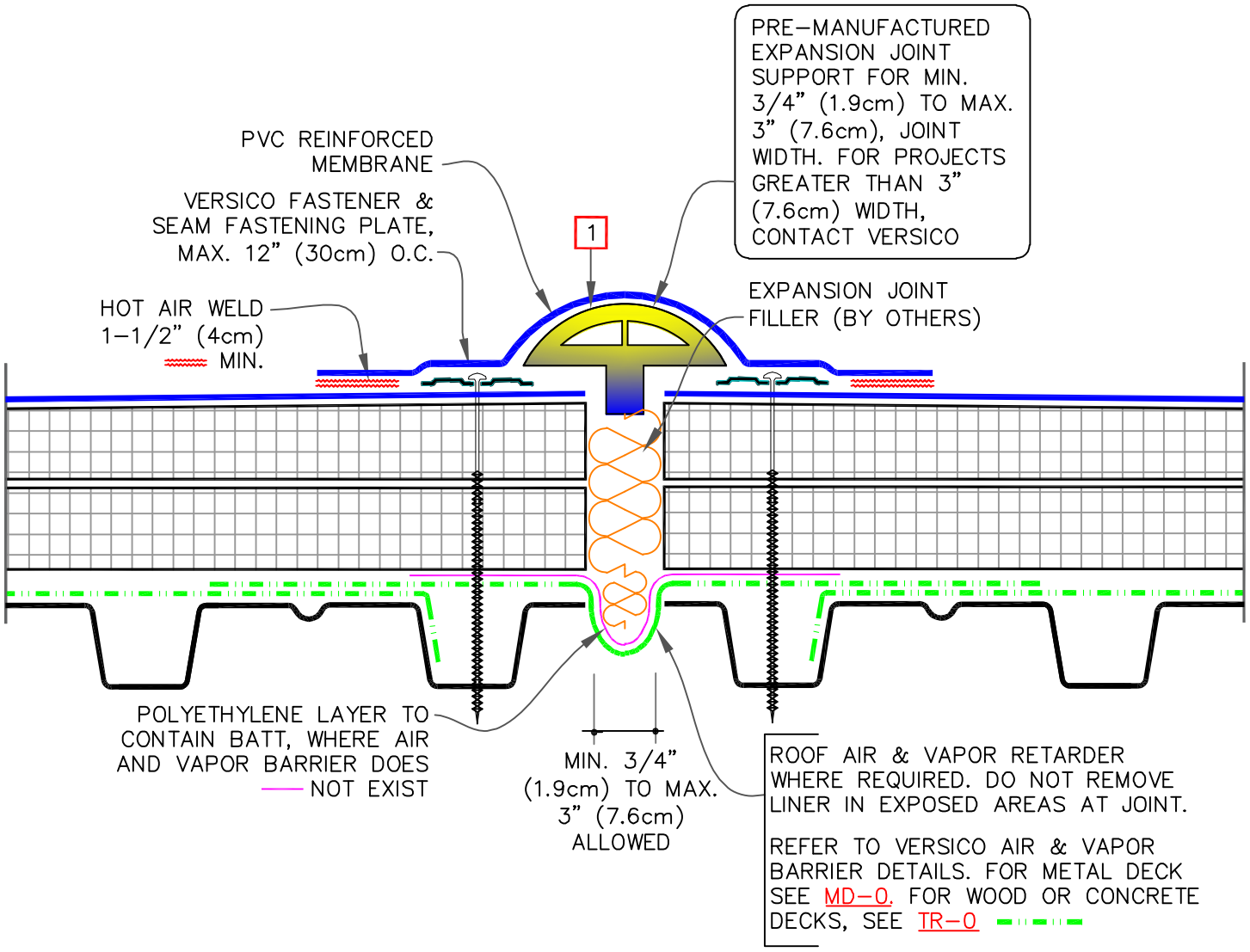
PVC/KEE HP MEMBRANE SPLICE

MAXIMUM WARRANTY: 30 YEARS. SEE NOTE # 1.

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC–2.0



NOTES:

1. MEMBRANE FLASHING SHALL NOT BE ADHERED OVER THE EXPANSION JOINT SUPPORT.
2. WHEN THE EXPANSION JOINT INTERSECTS WITH A COATED METAL DRIP EDGE, THEN COATED METAL SHOULD BE GAPPED AND THE TPC-1.2 DETAIL BE FOLLOWED. DRIP EDGE BY OTHERS SHOULD ALSO BE GAPPED.

FASTENER TYPES ON MECHANICALLY ATTACHED ROOF ASSEMBLY

DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPVX	HPVX
	B	HPV-XL	HPV-XL
STRUCTURAL CONCRETE	A	CD-10	HPVX
	B	MP 14-10	HPVX

VERSICO ROOFING SYSTEMS

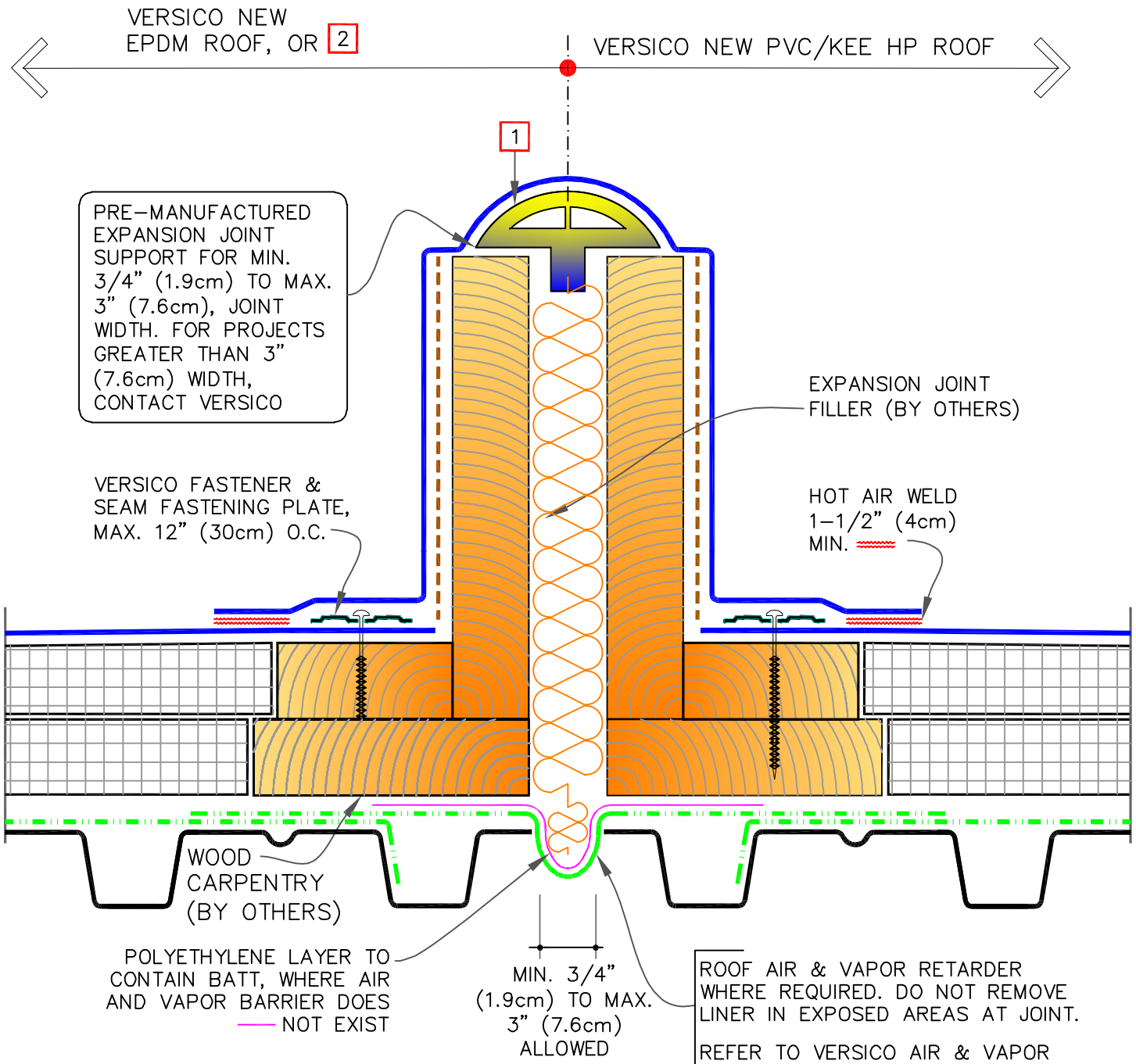
DECK-TO-DECK ROOF EXPANSION JOINT

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC-3.1



NOTES:

1. MEMBRANE FLASHING SHALL NOT BE ADHERED OVER THE EXPANSION JOINT SUPPORT.
2. IN CASE THE ROOF TYPE IS DIFFERENT, DESIGNER TO PROVIDE ROOF TYPE AND ITS CONDITION TO VERSICO TO DEVELOP TIE-IN DETAIL ON THIS SIDE ACCORDINGLY.

VERSICO ROOFING SYSTEMS

DECK-TO-DECK CURBED EXPANSION JOINT

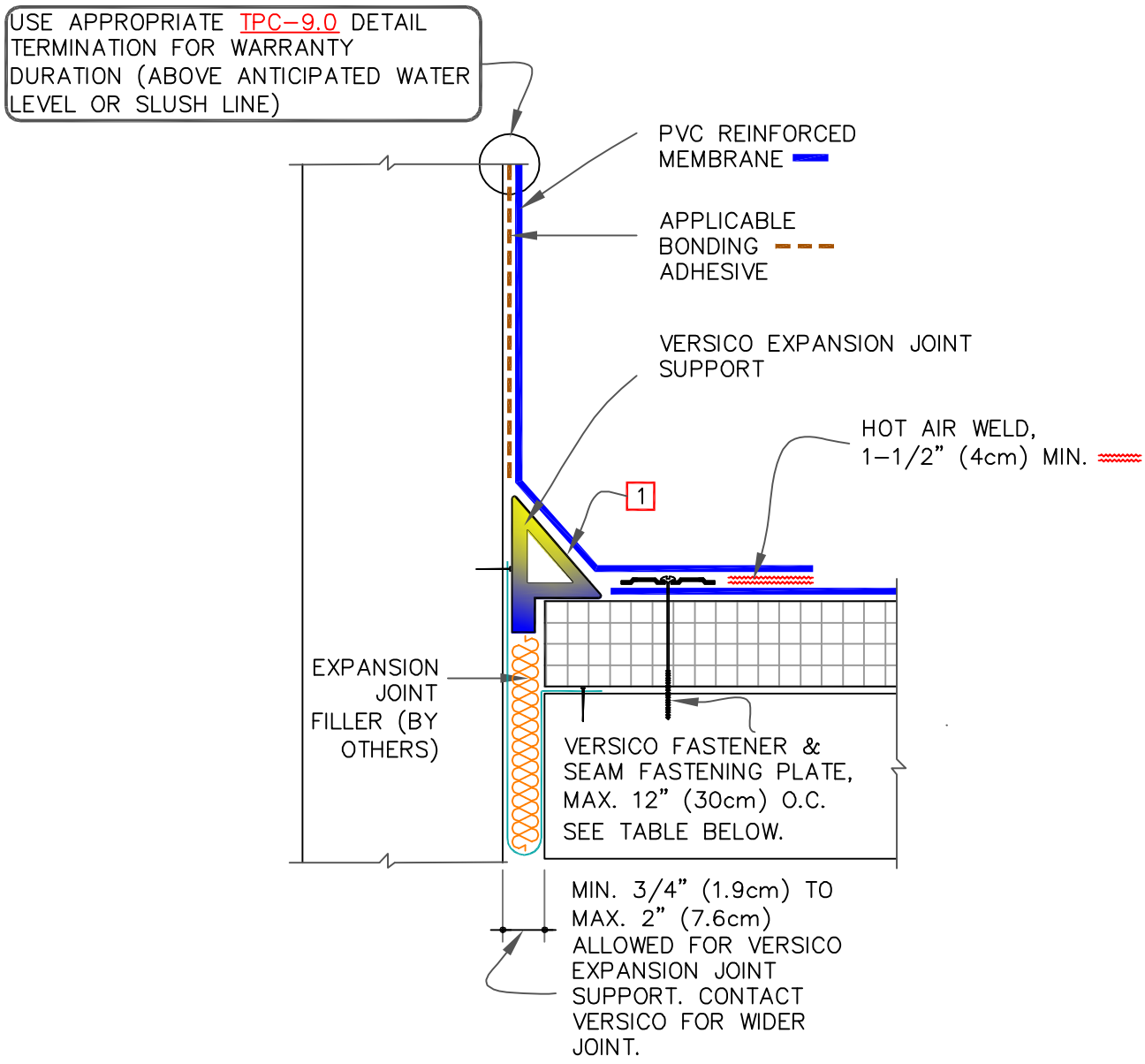
MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC-3.1A

CAUTION WHEN A WARRANTY WIND SPEED GREATER THAN 90MPH IS SPECIFIED, VERSICO FASTENERS AND SEAM FASTENING PLATES SHALL NOT EXCEED 6" (15cm) ON CENTER FOR ADHERED MEMBRANE ASSEMBLIES.



NOTE:

1. MEMBRANE FLASHING SHALL NOT BE ADHERED OVER THE EXPANSION JOINT SUPPORT.

FASTENER TYPES ON MECHANICALLY ATTACHED ROOF ASSEMBLY

DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPVX	HPVX
	B	HPV–XL	HPV–XL
STRUCTURAL CONCRETE	A	CD–10	HPVX
	B	MP 14–10	HPVX

VERSICO ROOFING SYSTEMS

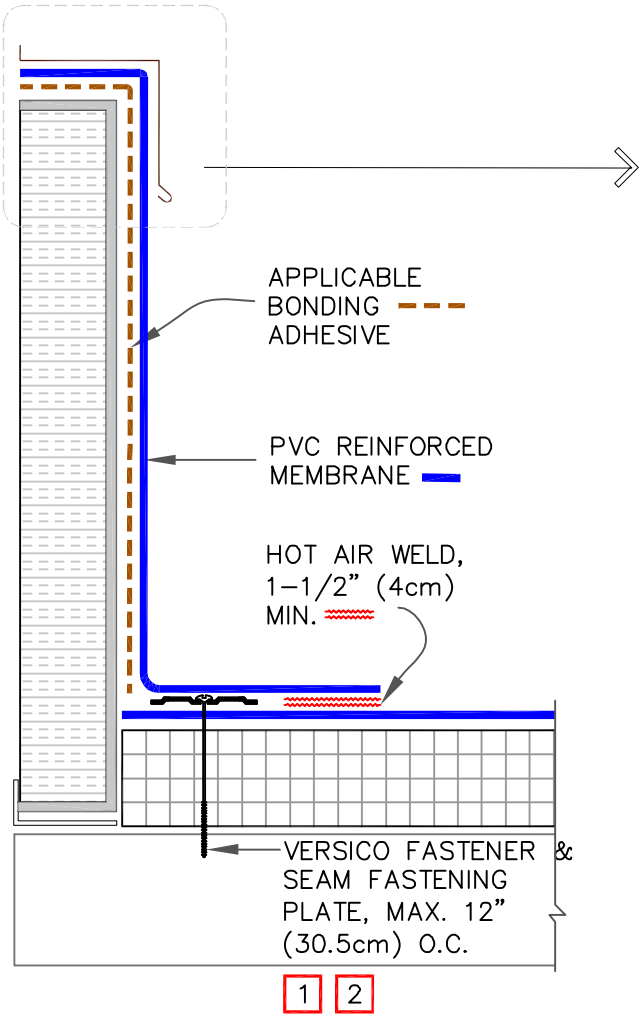
DECK–TO–WALL EXPANSION JOINT

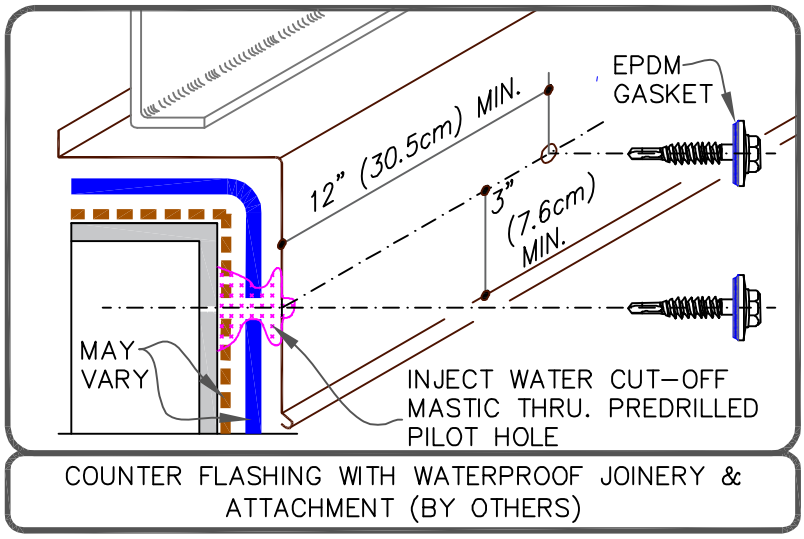
MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

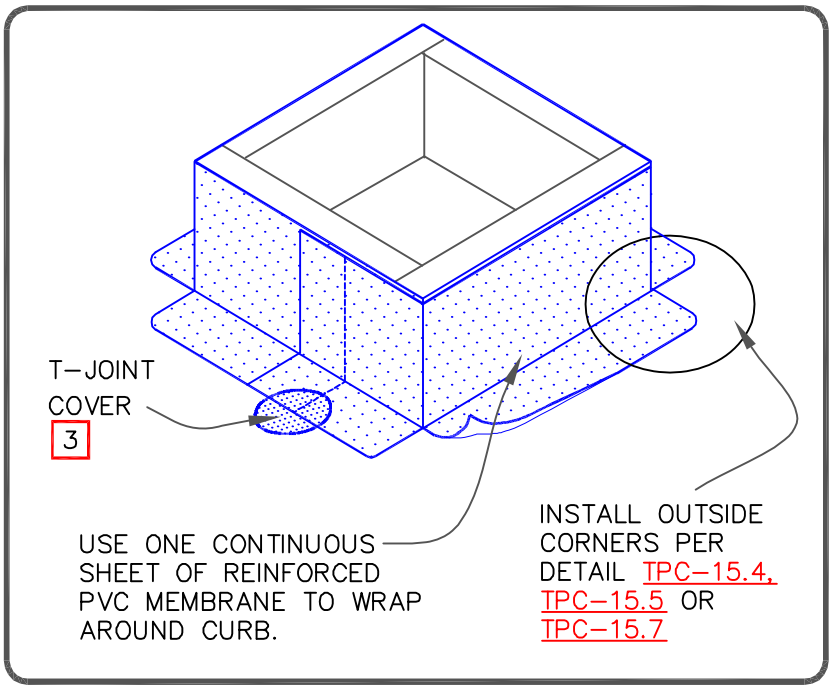
TPC–3.2





COUNTER FLASHING WITH WATERPROOF JOINERY & ATTACHMENT (BY OTHERS)

PVC ONLY (NOT KEE HP)
IN LIEU OF BONDING ADHESIVE, THE CURB FLASHING MAY BE INSTALLED IN CAV GRIP PVC.



NOTES:

1. REFER TO VERSICO SPECIFICATIONS FOR ACCEPTABLE VERSICO FASTENERS AND PLATES.
2. MECHANICAL SECUREMENT MAY BE INSTALLED INTO THE VERTICAL SUBSTRATE.
3. WHEN USING 80 MIL (2.03mm) THICK CURB FLASHING, THE INTERSECTIONS BETWEEN SPLICES MUST OVERLAID WITH A PVC "T-JOINT" COVER.

VERSICO ROOFING SYSTEMS

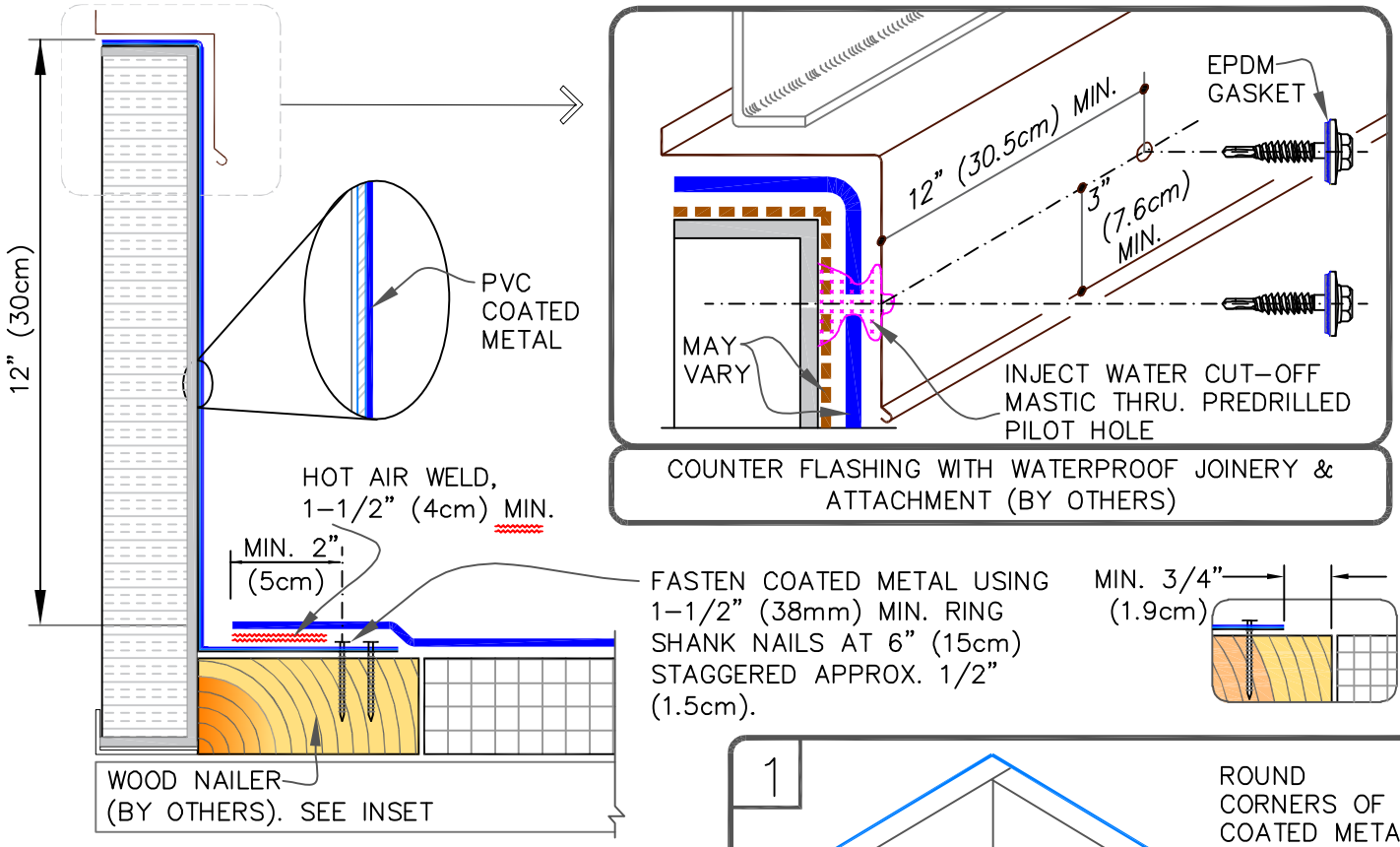
CURB FLASHING WITH PVC MEMBRANE

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

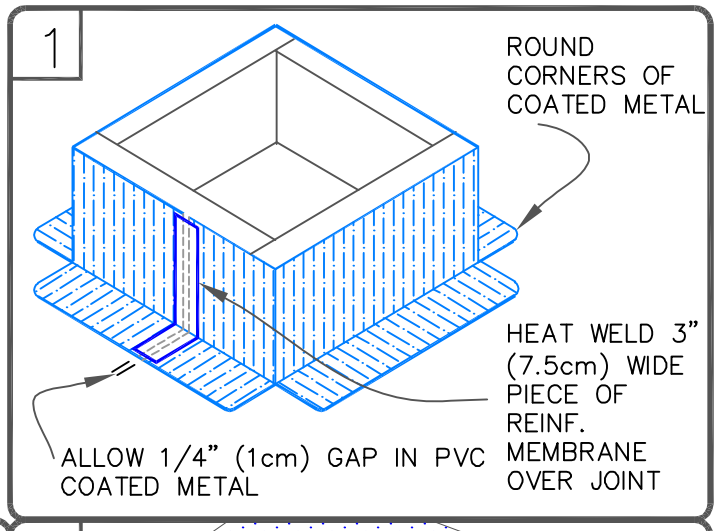
TPC-5.1

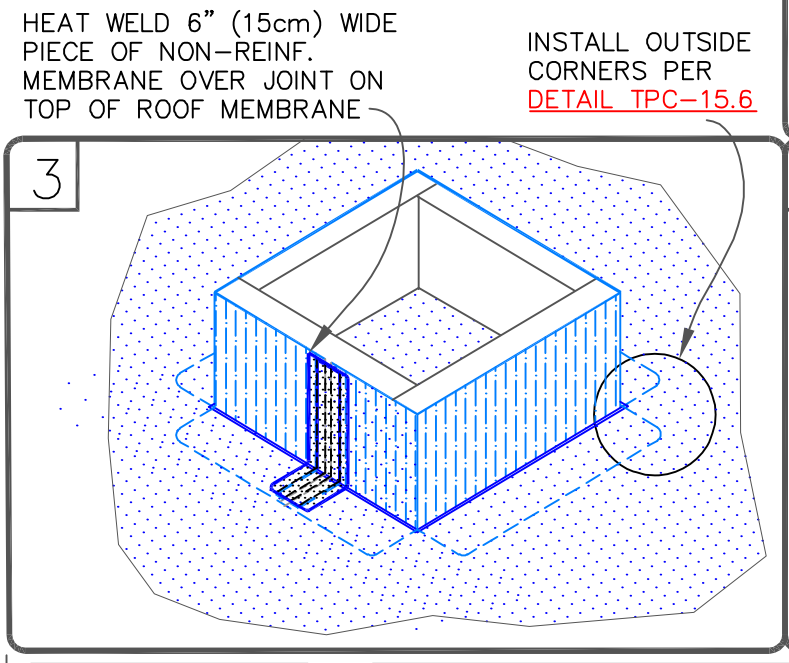


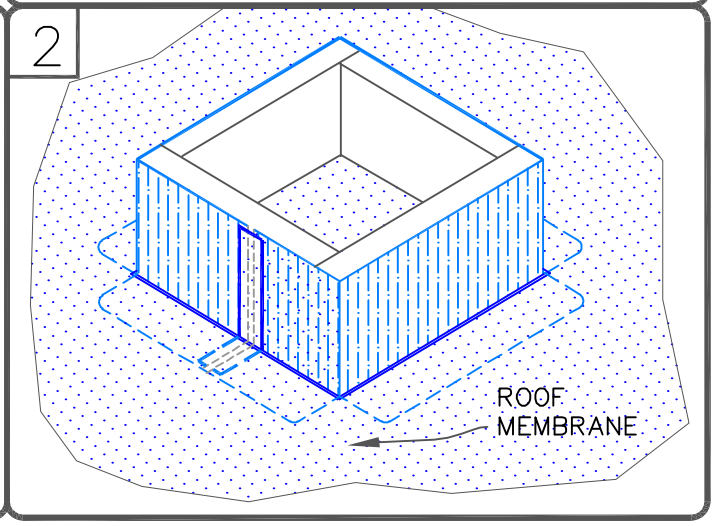
COUNTER FLASHING WITH WATERPROOF JOINERY & ATTACHMENT (BY OTHERS)

SEQUENCE:

1. 3" (7.6cm) REINFORCED MEMBRANE STRIPPING.
2. FIELD MEMBRANE.
3. TOP 6" (15.2cm) NON–REINFORCED MEMBRANE STRIPPING.







VERSICO ROOFING SYSTEMS

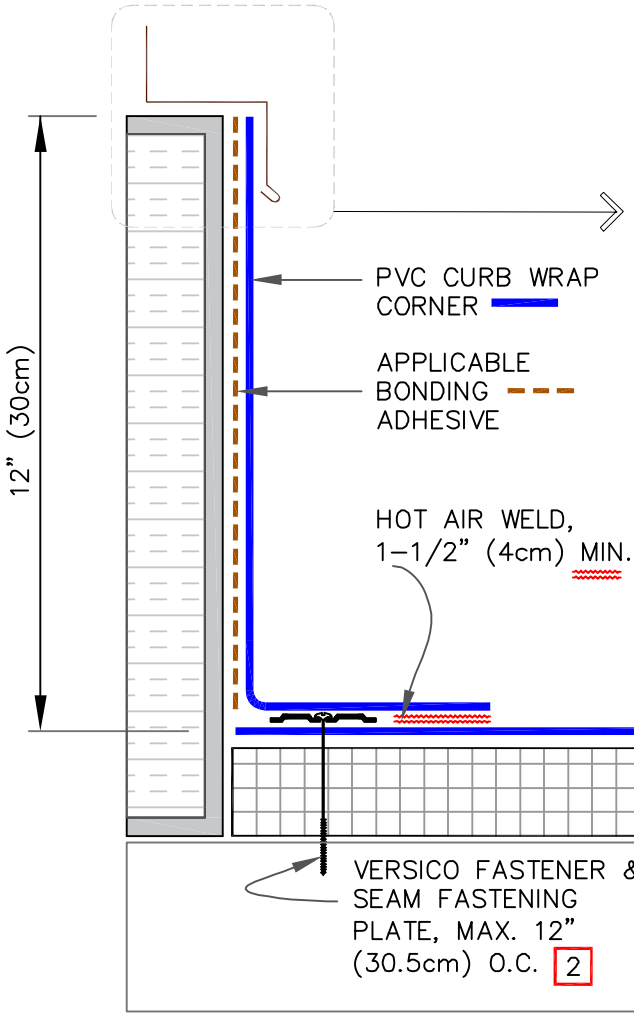
CURB FLASHING WITH PVC COATED METAL

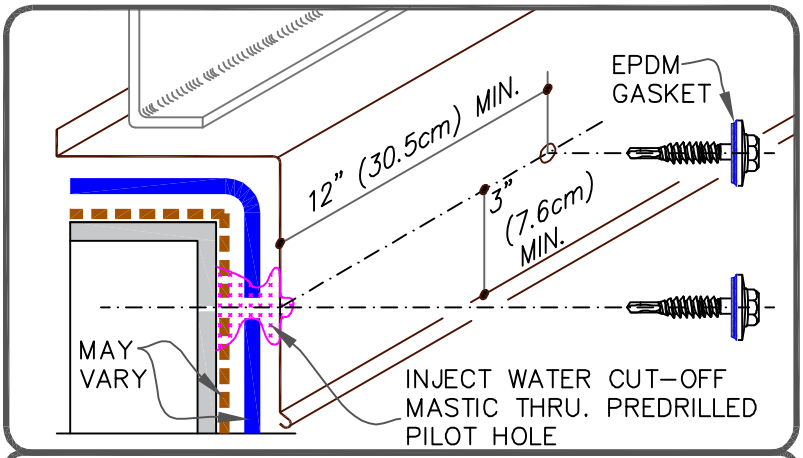
MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC–5.2



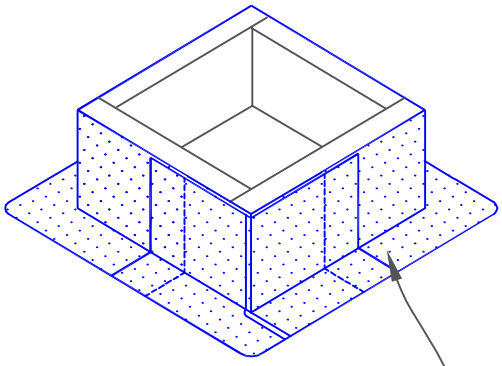


COUNTER FLASHING WITH WATERPROOF JOINERY & ATTACHMENT (BY OTHERS)

PVC ONLY (NOT KEE HP)
IN LIEU OF BONDING ADHESIVE, THE CURB FLASHING MAY BE INSTALLED IN CAV GRIP PVC.

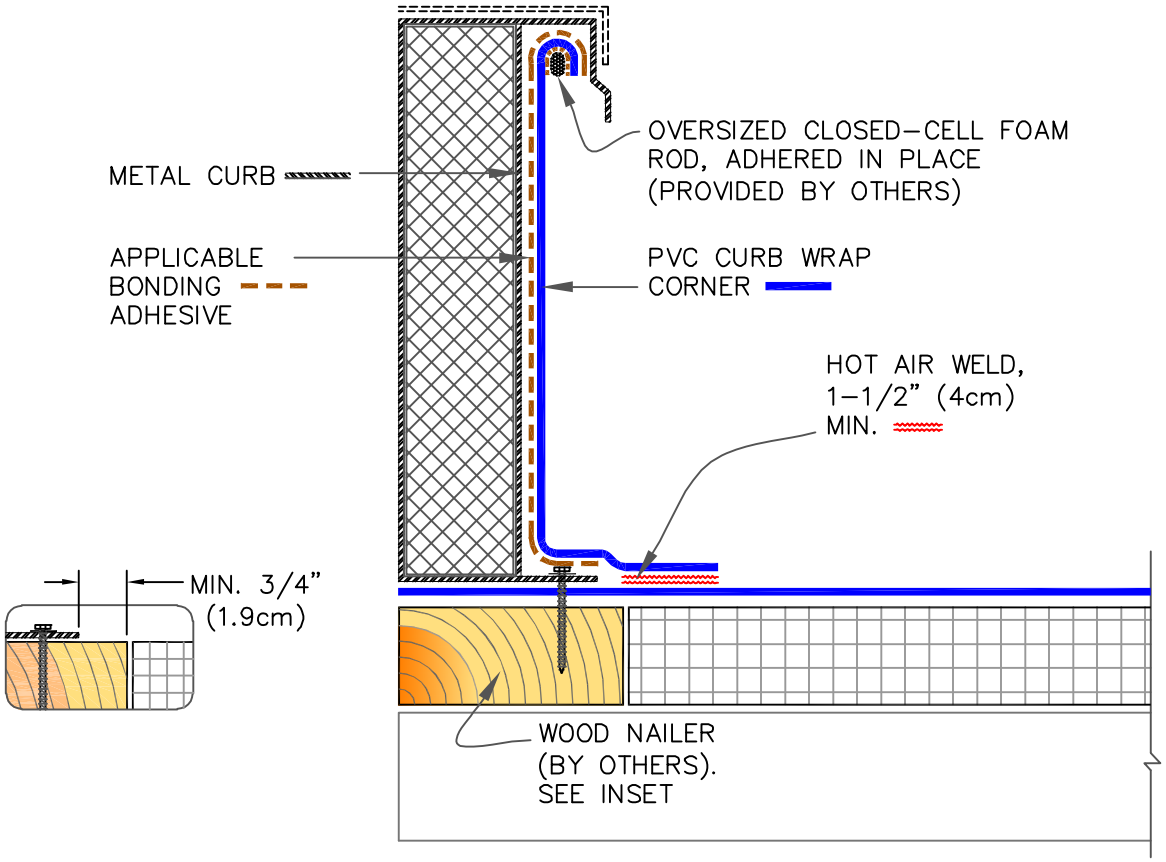
NOTES:

1. FOUR CURB WRAP CORNERS WILL COMPLETELY FLASH A MAXIMUM CURB SIZE OF 3'X3' (91cmX 91cm). FOR LARGER CURBS USE THE PVC CURB WRAP CORNERS IN CONJUNCTION WITH ADDITIONAL SECTIONS OF PVC MEMBRANE.
2. REFER TO VERSICO SPECIFICATIONS FOR ACCEPTABLE VERSICO FASTENERS AND PLATES.
3. CUSTOM SIZES ARE AVAILABLE FOR CURB FLASHING HEIGHTS GREATER THAN 12" (30cm).



USE ONE PVC CURB WRAP CORNER AT EACH CORNER OF THE CURB. HOT AIR WELD ALL SEAMS IN ACCORDANCE WITH STANDARD SPLICING METHODS. 1

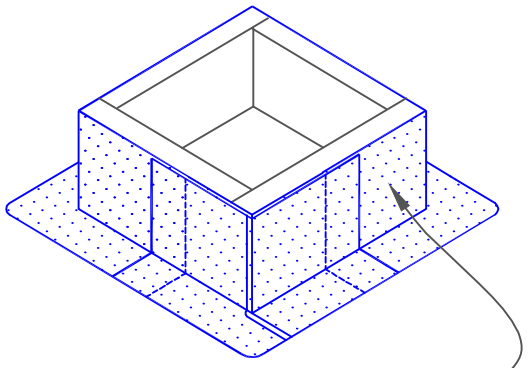
CFA (CERTIFIED FABRICATED ACCESSORIES)



PVC ONLY (NOT KEE HP)
IN LIEU OF BONDING ADHESIVE, THE CURB FLASHING MAY BE INSTALLED IN CAV GRIP PVC.

NOTES:

1. FOUR (4) CURB WRAP CORNERS WILL COMPLETELY FLASH A MAXIMUM CURB SIZE OF 3'X3' (90cmX 90cm). FOR LARGER CURBS USE THE PVC CURB WRAP CORNERS IN CONJUNCTION WITH ADDITIONAL SECTIONS OF VERSIFLEX PVC.
2. IF CURB WRAP CORNER IS NOT USED, THEN USE DETAIL TPC-15.7 FOR OUTSIDE CORNERS.
3. REFER TO VERSICO SPECIFICATIONS FOR ACCEPTABLE VERSICO FASTENERS AND PLATES.
4. CUSTOM SIZES ARE AVAILABLE FOR CURB FLASHING HEIGHTS GREATER THAN 12" (30cm).



USE ONE PVC CURB WRAP CORNER AT EACH CORNER OF THE CURB. HOT AIR WELD ALL SEAMS IN ACCORDANCE WITH STANDARD SPLICING METHODS. [1]

VERSICO ROOFING SYSTEMS

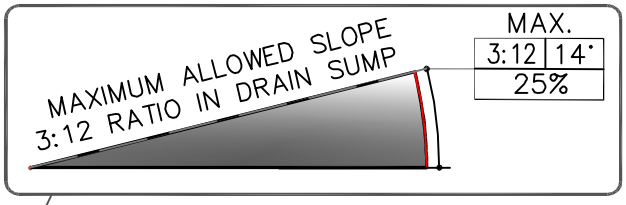
SELF-FLASHING CURB WITH CFA PVC CURB WRAP CORNERS

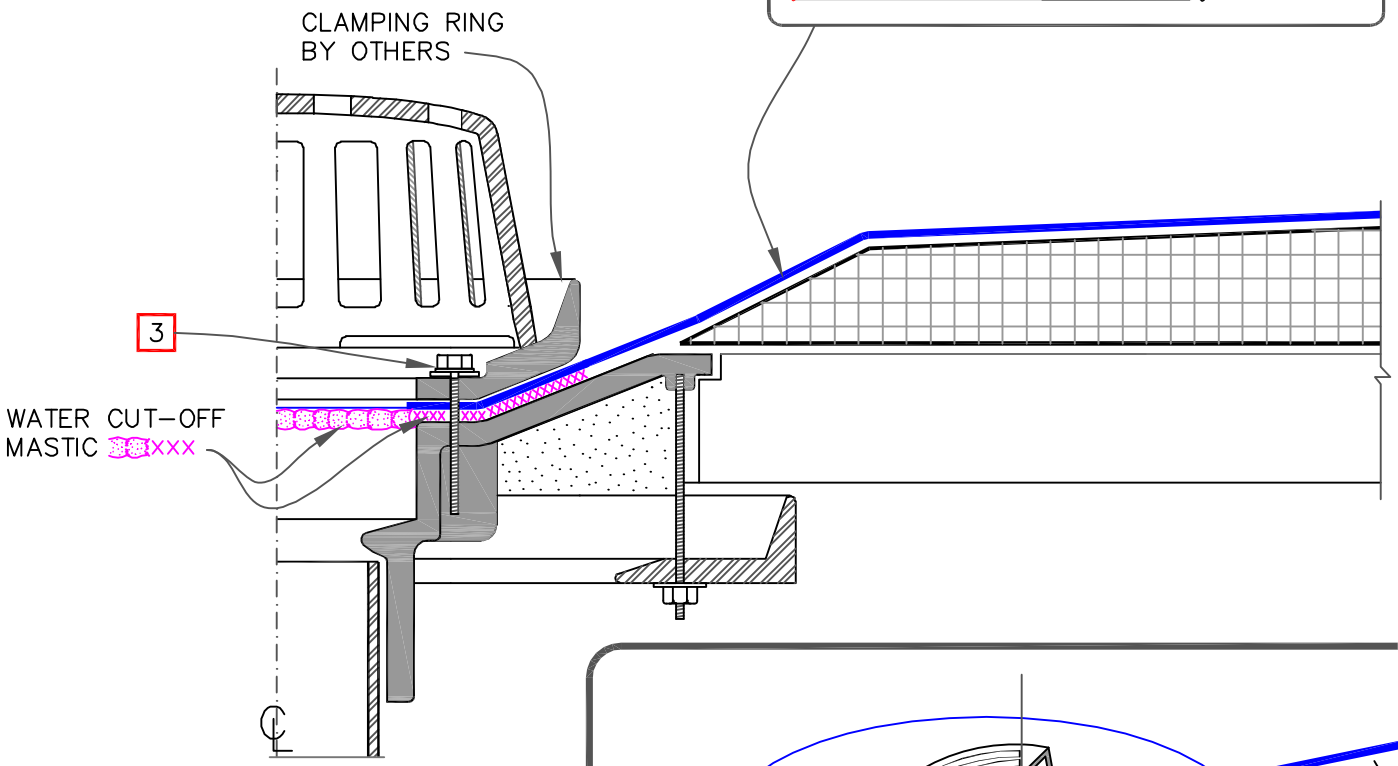
MAXIMUM WARRANTY: 30 YEARS

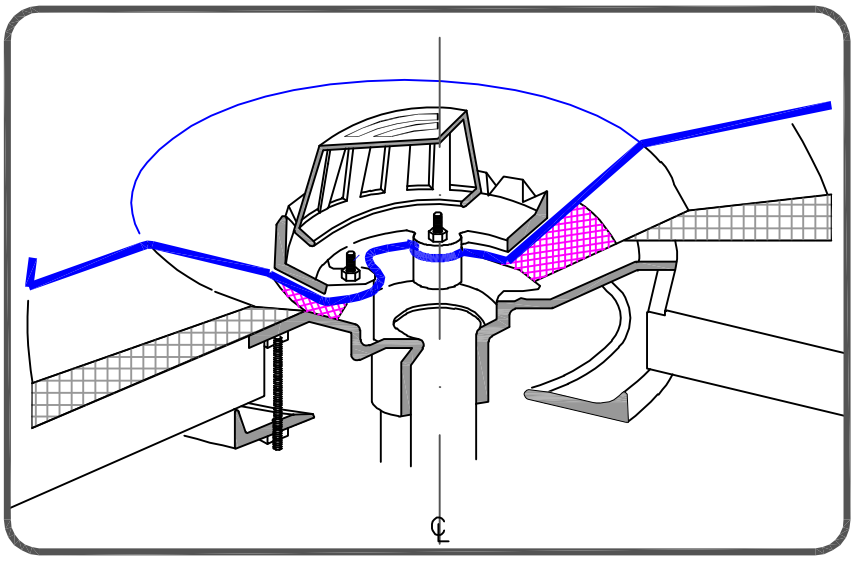
PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
[0] SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC-5.4

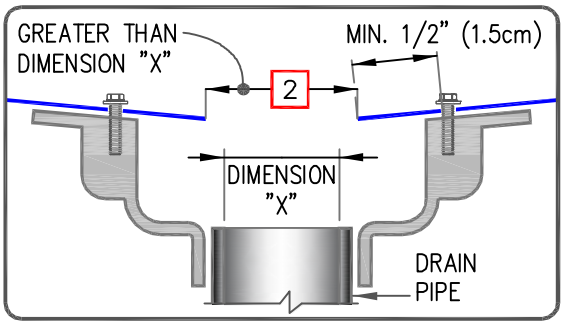






NOTES:

1. ROOF DRAIN SIZE AND NUMBER OF DRAINS SHALL BE IN ACCORDANCE WITH THE LOCAL CODES.
2. THE HOLE IN THE MEMBRANE SHALL EXCEED THE DIAMETER OF THE DRAIN PIPE, BUT SHALL BE NO LESS THAN 1/2" (1.5cm) FROM THE ATTACHMENT POINTS OF THE DRAIN CLAMPING RING.
3. ALL BOLTS OR CLAMPS MUST BE IN PLACE TO PROVIDE CONSTANT COMPRESSION ON WATER CUT-OFF MASTIC.
4. REMOVE EXISTING LEAD, FLASHING MATERIAL & ENSURE THE DRAIN RING IS COMPLETELY CLEAN DOWN TO BARE METAL.



VERSICO ROOFING SYSTEMS

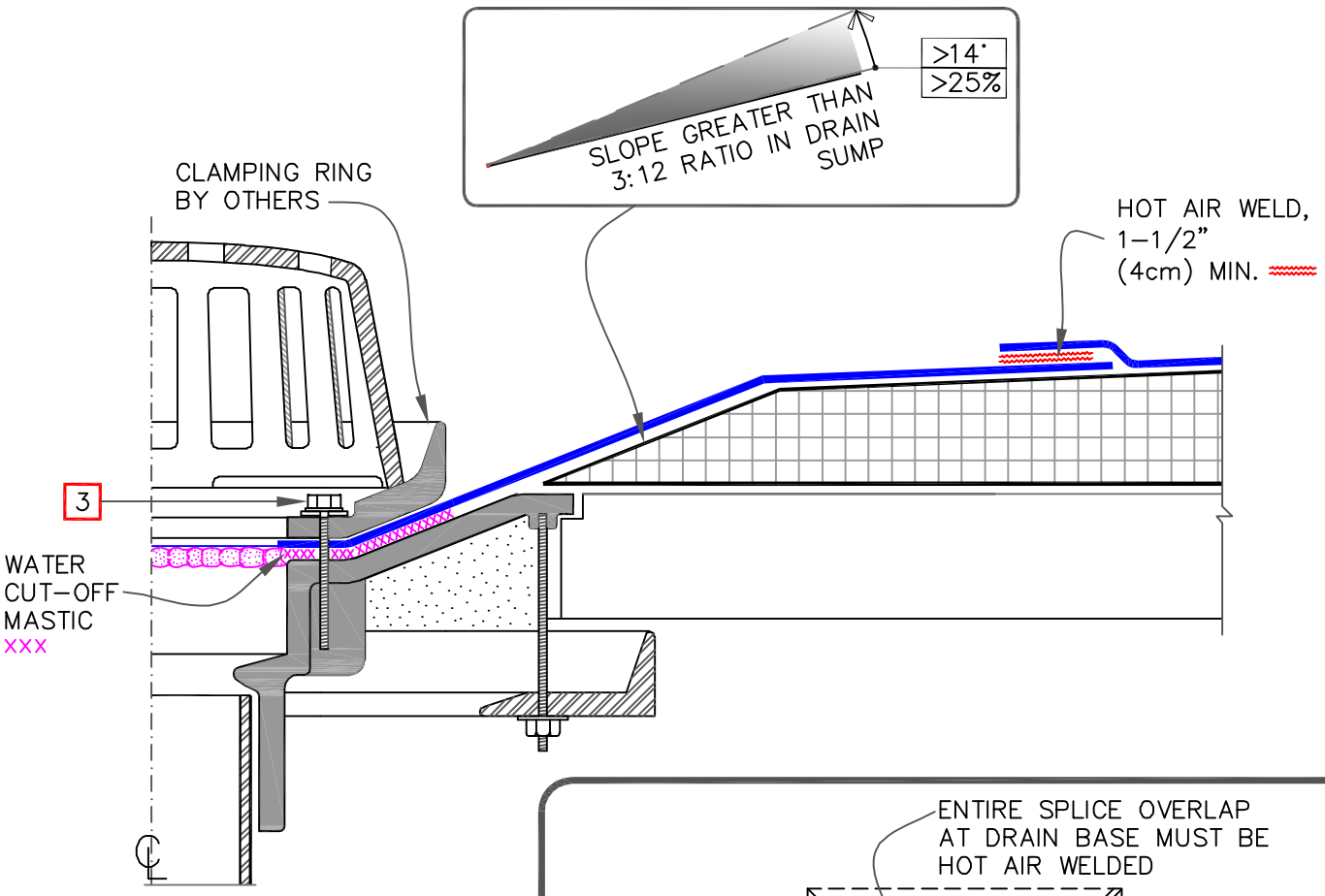
ROOF DRAIN: SUMP SLOPE LESS THAN 3" TO ONE HORIZONTAL FOOT

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

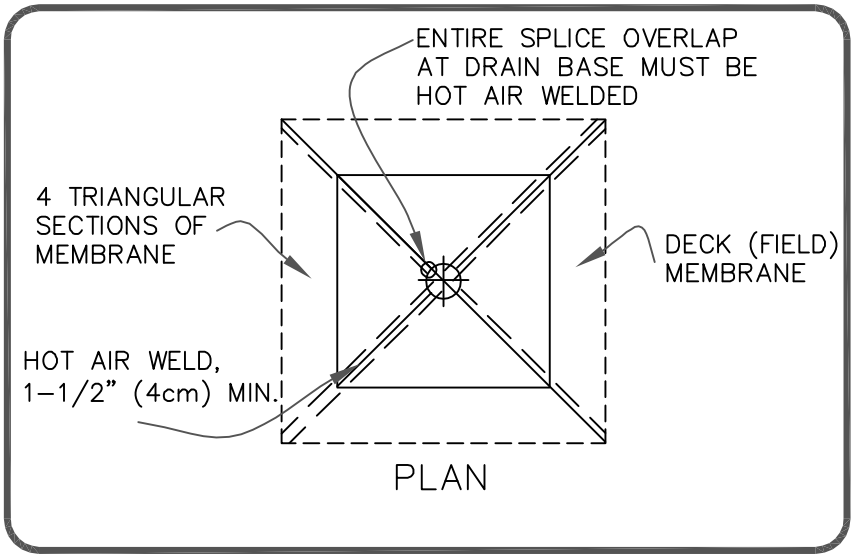
TPC (Thermoplastic Common Details)

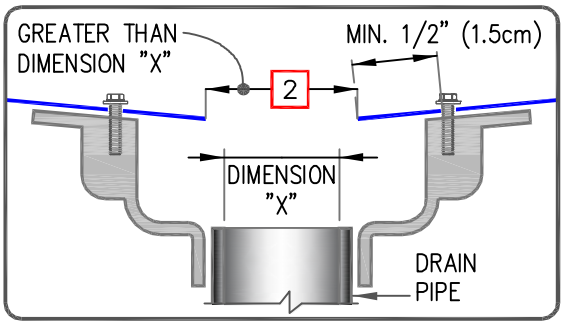
TPC–6.1



NOTES:

1. ROOF DRAIN SIZE AND NUMBER OF DRAINS SHALL BE IN ACCORDANCE WITH THE LOCAL CODES.
2. THE HOLE IN THE MEMBRANE SHALL EXCEED THE DIAMETER OF THE DRAIN PIPE, BUT SHALL BE NO LESS THAN 1/2" (1.5cm) FROM THE ATTACHMENT POINTS OF THE DRAIN CLAMPING RING.
3. ALL BOLTS OR CLAMPS MUST BE IN PLACE TO PROVIDE CONSTANT COMPRESSION ON WATER CUT–OFF MASTIC.
4. REMOVE EXISTING LEAD, FLASHING MATERIAL & ENSURE THE DRAIN RING IS COMPLETELY CLEAN DOWN TO BARE METAL.





VERSICO ROOFING SYSTEMS

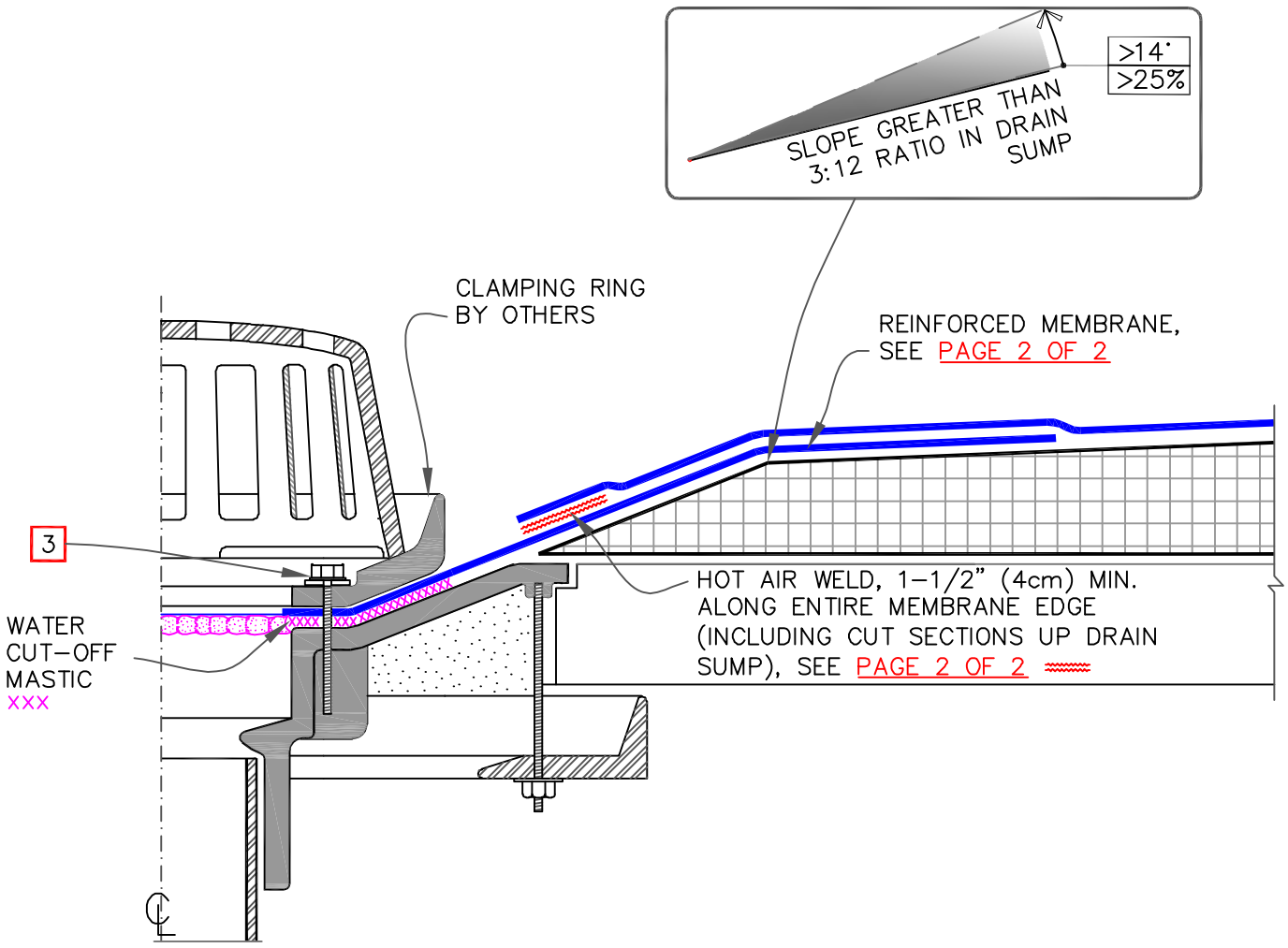
ROOF DRAIN: SUMP SLOPE GREATER THAN 3" TO ONE HORIZONTAL FOOT OPTION 1

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

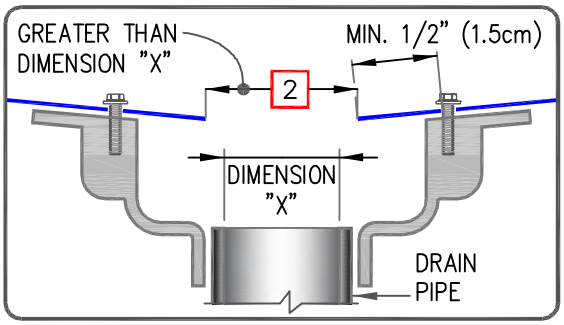
TPC (Thermoplastic Common Details)

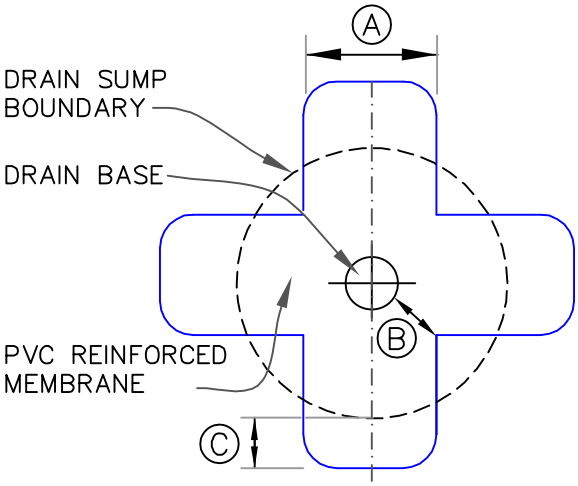
TPC–6.2



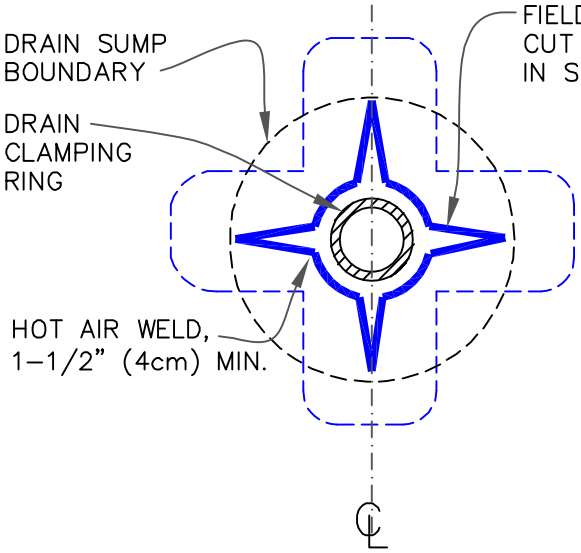
NOTES:

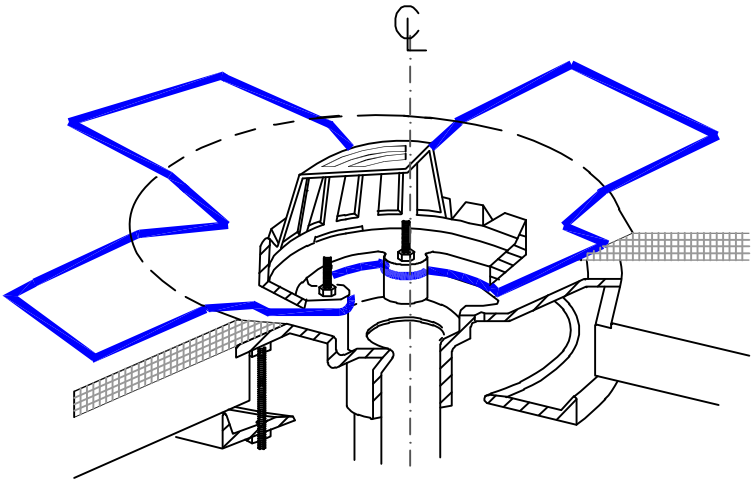
1. ROOF DRAIN SIZE AND NUMBER OF DRAINS SHALL BE IN ACCORDANCE WITH THE LOCAL CODES.
2. THE HOLE IN THE MEMBRANE SHALL EXCEED THE DIAMETER OF THE DRAIN PIPE, BUT SHALL BE NO LESS THAN 1/2" (1.5cm) FROM THE ATTACHMENT POINTS OF THE DRAIN CLAMPING RING.
3. ALL BOLTS OR CLAMPS MUST BE IN PLACE TO PROVIDE CONSTANT COMPRESSION ON WATER CUT-OFF MASTIC.
4. REMOVE EXISTING LEAD, FLASHING MATERIAL & ENSURE THE DRAIN RING IS COMPLETELY CLEAN DOWN TO BARE METAL.





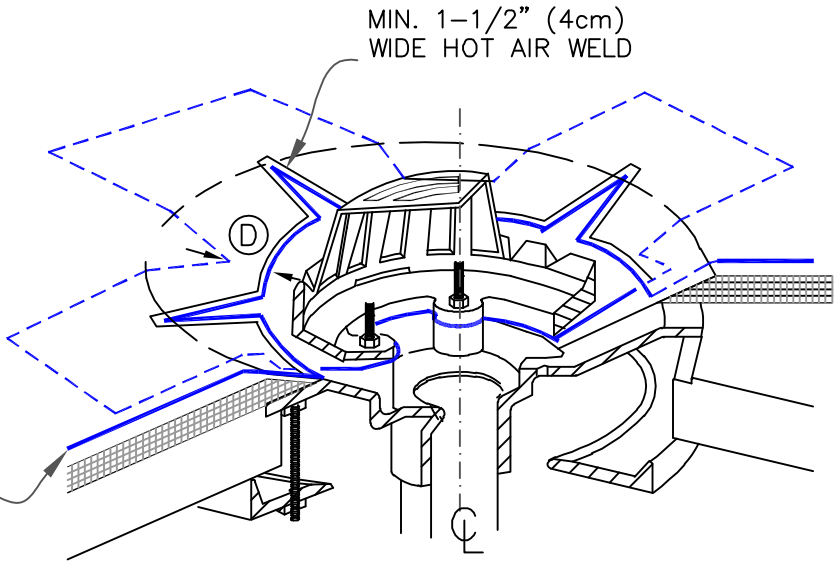
CUT SECTION OF PVC REINFORCED MEMBRANE AS SHOWN AND POSITION INTO DRAIN SUMP. EXTEND MEMBRANE OUT OF DRAIN SUMP APPROXIMATELY 6" (15cm) (ROUND CORNERS).

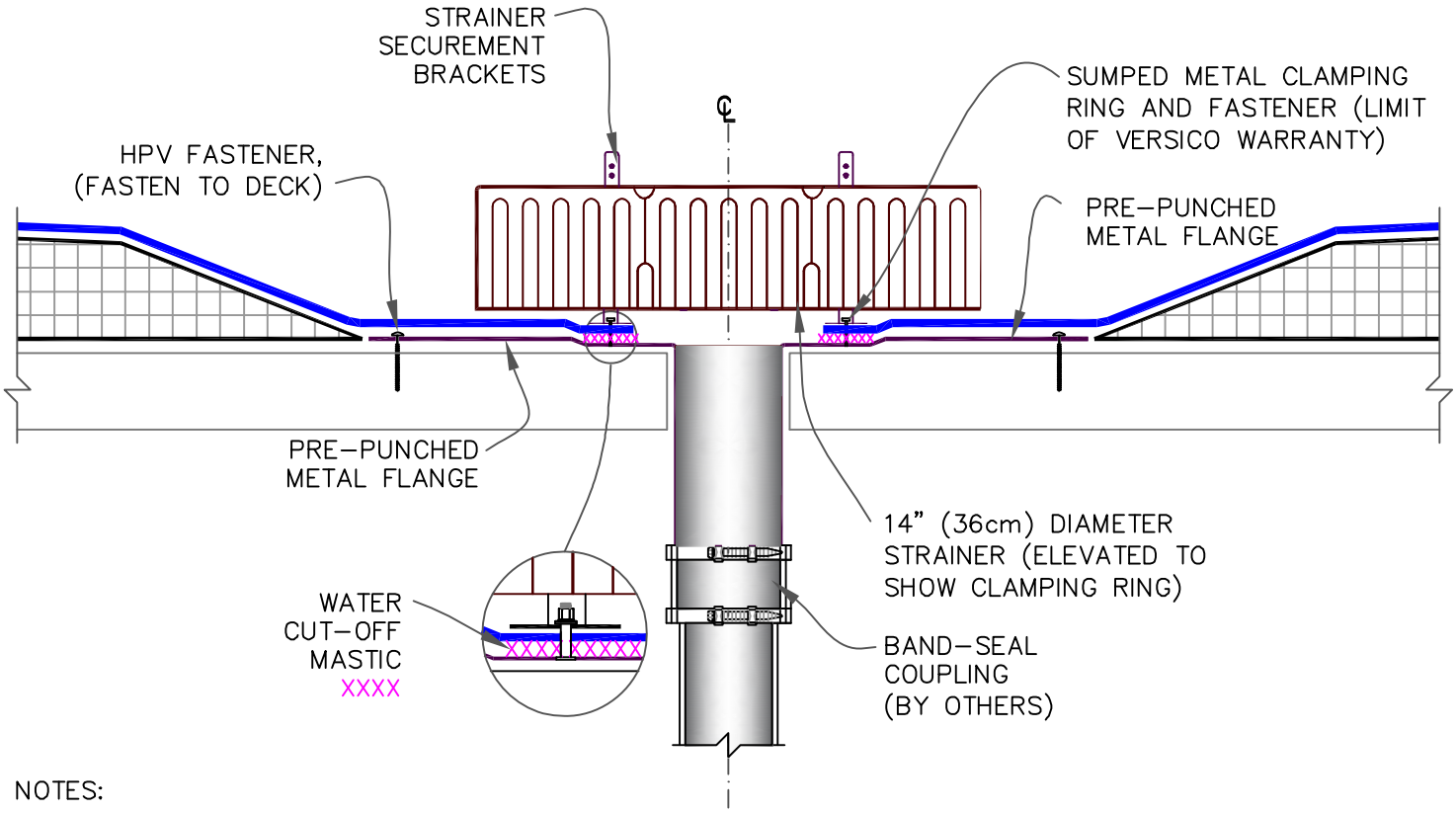




EXTEND PVC MEMBRANE ONTO MEMBRANE SECTION POSITIONED AT DRAIN SUMP AND CUT AS SHOWN TO LAY FLAT IN SUMP. HOT AIR WELD A MINIMUM OF 1–1/2" (4cm) COMPLETELY SURROUNDING AREA.

DIMENSIONS	cm	
A 12"	30	MIN.
B 6"	15	MIN.
C 6"	15	APPROX.
D 3"	7.5	MIN.





NOTES:

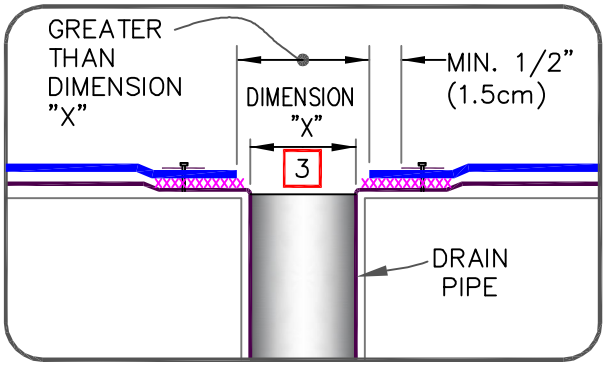
1. ROOF DRAIN SIZE AND NUMBER OF DRAINS SHALL BE IN ACCORDANCE WITH THE LOCAL CODES.

2. ALL BOLTS OR CLAMPS MUST BE IN PLACE TO PROVIDE CONSTANT COMPRESSION ON WATER CUT-OFF MASTIC.

3. THE HOLE IN THE MEMBRANE SHALL EXCEED THE DIAMETER OF THE DRAIN PIPE, BUT SHALL BE NO LESS THAN 1/2" (1.5cm) FROM THE ATTACHMENT POINTS OF THE DRAIN CLAMPING RING.

4. FIELD SPLICES MUST BE LOCATED AT LEAST 6" (15cm) OUTSIDE THE DRAIN SUMP.

5. INSULATION TAPER SHALL NOT BE GREATER THAN 6" (15cm) IN 12" (30cm) HORIZONTAL.



VERSICO ROOFING SYSTEMS

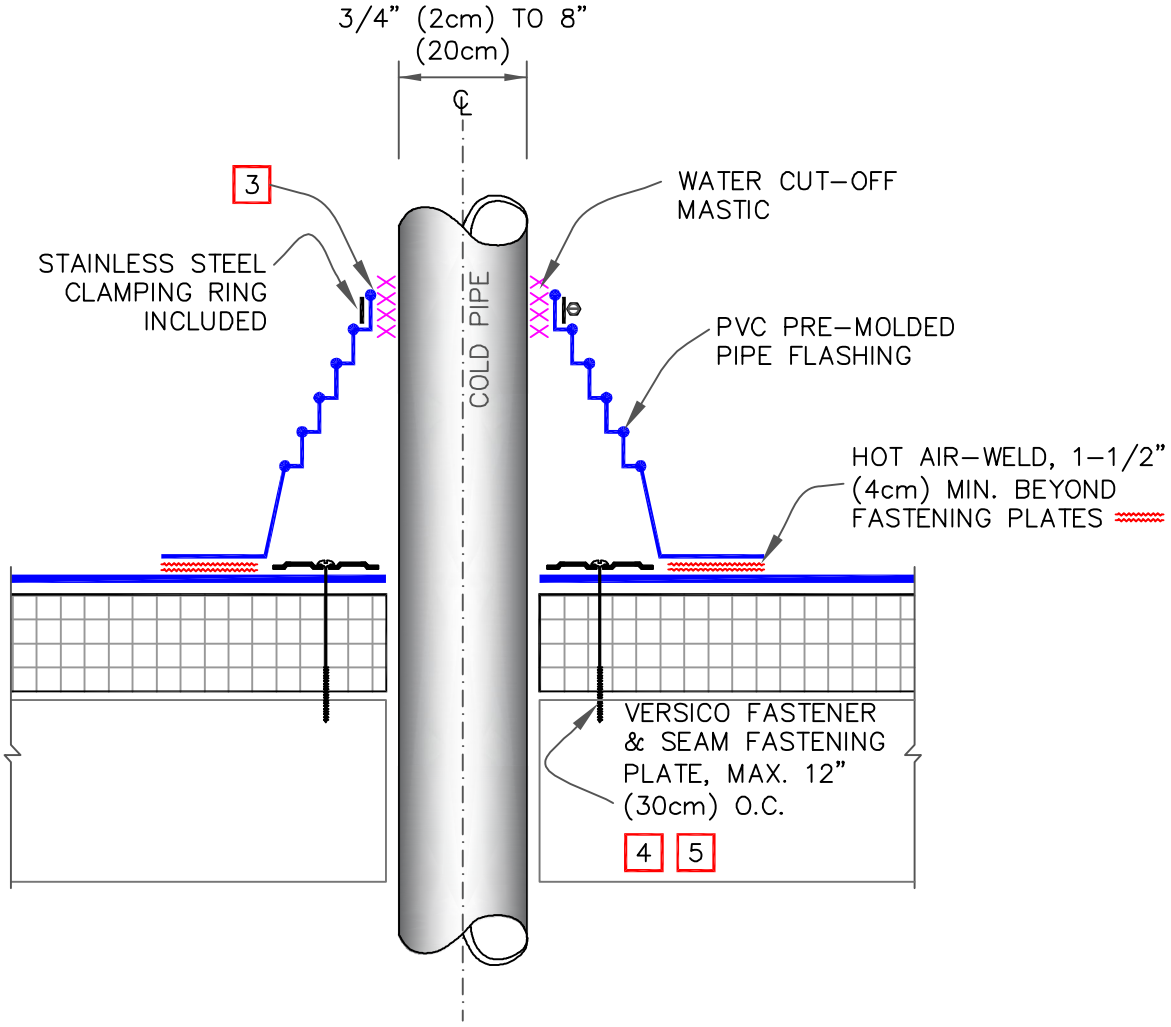
ADD-ON DRAIN

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC-6.4



NOTES:

1. REMOVE ALL EXISTING LEAD AND FLASHING MATERIAL BEFORE INSTALLING PRE–MOLDED PIPE FLASHING.

2. TEMPERATURE OF THE PIPE PENETRATION MUST NOT EXCEED 140˚F (60˚C).

3. PRE–MOLDED PIPE FLASHING MUST HAVE INTACT RIB AT THE TOP EDGE REGARDLESS OF PIPE DIAMETER.

4. INSTALL A MINIMUM OF 4 FASTENERS AND PLATES AROUND THE PIPE, EQUALLY SPACED. IF FASTENERS AND PLATES CANNOT BE INSTALLED AS SHOWN, THEY MAY ALSO BE POSITIONED OUTSIDE THE PIPE MAXIMUM 12" (30cm) O.C. AND FLASHED WITH PVC REINFORCED MEMBRANE / PVC CUT–EDGE SEALANT. REFER TO DETAIL TPC–8.2.

5. FASTENERS AND PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS PIPE DIAMETER EXCEEDS 18" (46cm).

FASTENER TYPES ON MECHANICALLY ATTACHED ROOF ASSEMBLY

DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPVX	HPVX
	B	HPV–XL	HPV–XL
STRUCTURAL CONCRETE	A	CD–10	HPVX
	B	MP 14–10	HPVX

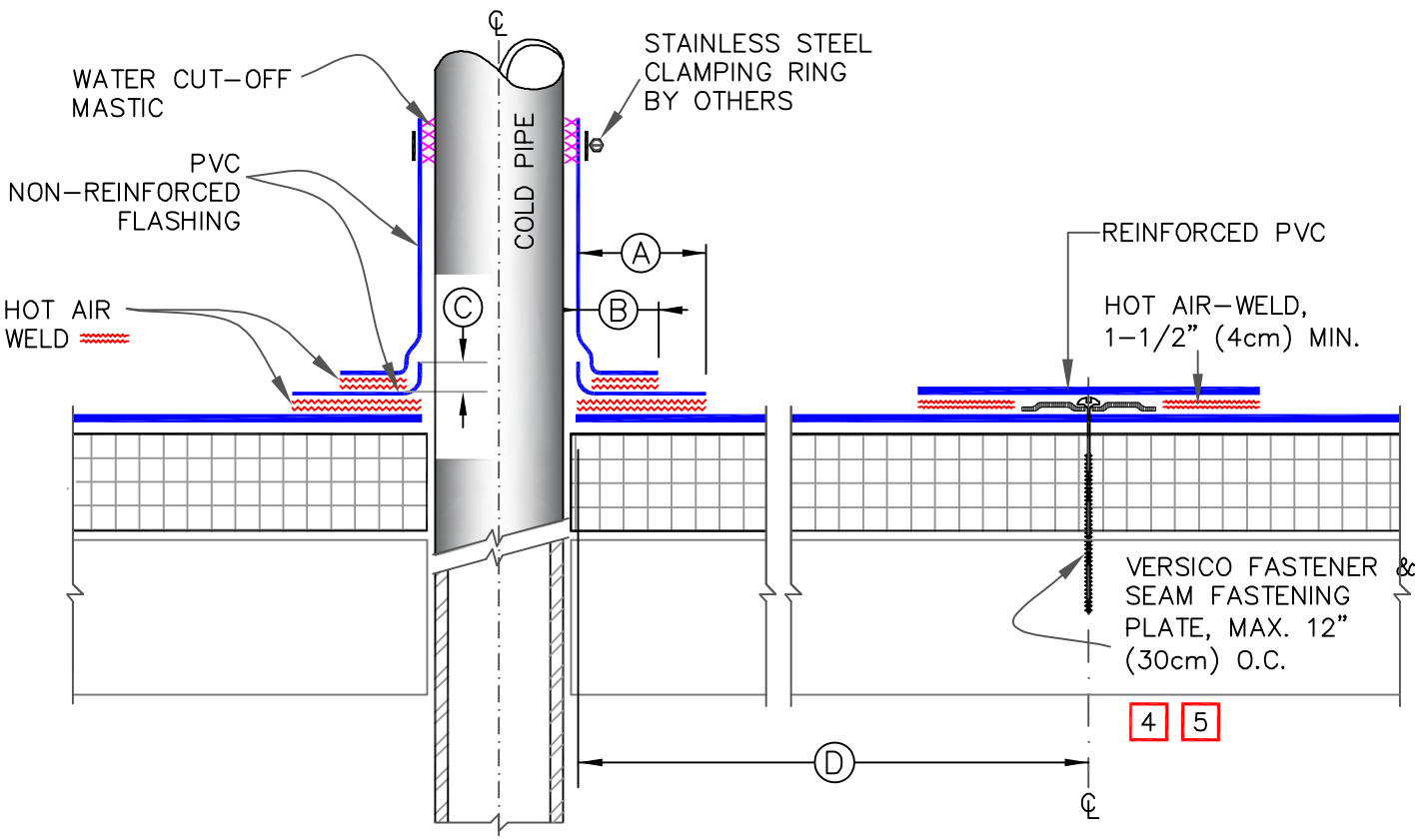
PRE–MOLDED FLASHING

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 → SEE NOTE
PS (PRESSURE SENSITIVE)

CAUTION

DETAIL NOT FOR USE ON 25 OR 30-YEAR WARRANTY PROJECTS, PRE-FABRICATED/PRE-MOLDED ACCESSORIES MUST BE UTILIZED. ACCEPTABLE PIPE FLASHINGS SHALL CONFORM WITH PVC UNIVERSAL DETAILS TPC-8.1, TPC-8.5



DIMENSIONS		cm	
A	1-1/2"	4	TO
	2"	5	
B	1"	2.5	MIN.
C	1/2"	1.5	MIN.
D	12"	30	APPROX.

NOTES:

1. REMOVE ALL EXISTING LEAD AND FLASHING MATERIAL BEFORE INSTALLING FIELD FABRICATED PIPE FLASHING.
2. TEMPERATURE OF THE PIPE PENETRATION MUST NOT EXCEED 140°F (60°C).
3. PVC NON-REINFORCED FLASHING WRAPPED AROUND PIPE SHALL HAVE MINIMUM 1-1/2" (4cm) VERTICAL HOT AIR WELD. INSTALL A MINIMUM OF 4 SEAM FASTENING PLATES FOR PIPES WITH A DIAMETER UP TO 6" (15cm). ADDITIONAL SEAM FASTENING PLATES WILL BE REQUIRED FOR PIPES GREATER THAN 6" (15cm) IN DIAMETER AND SHALL BE SPACED 12" (30cm) ON CENTER MAXIMUM.
4. FASTENERS/PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS PIPE DIAMETER EXCEEDS 18" (50cm).

FASTENER TYPES ON MECHANICALLY ATTACHED ROOF ASSEMBLY

DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPVX	HPVX
	B	HPV-XL	HPV-XL
STRUCTURAL CONCRETE	A	CD-10	HPVX
	B	MP 14-10	HPVX

VERSICO ROOFING SYSTEMS

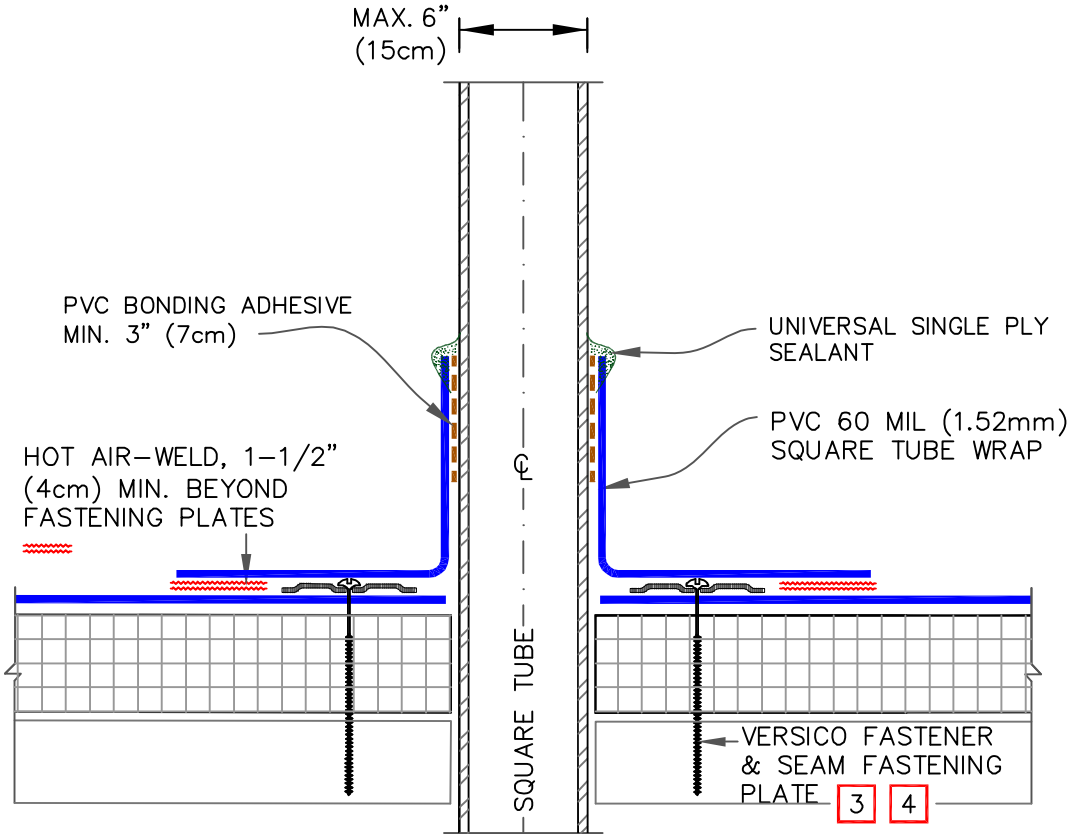
FIELD-FABRICATED PIPE FLASHING

MAXIMUM WARRANTY: SEE WARRANTY NOTE

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 → SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC-8.2

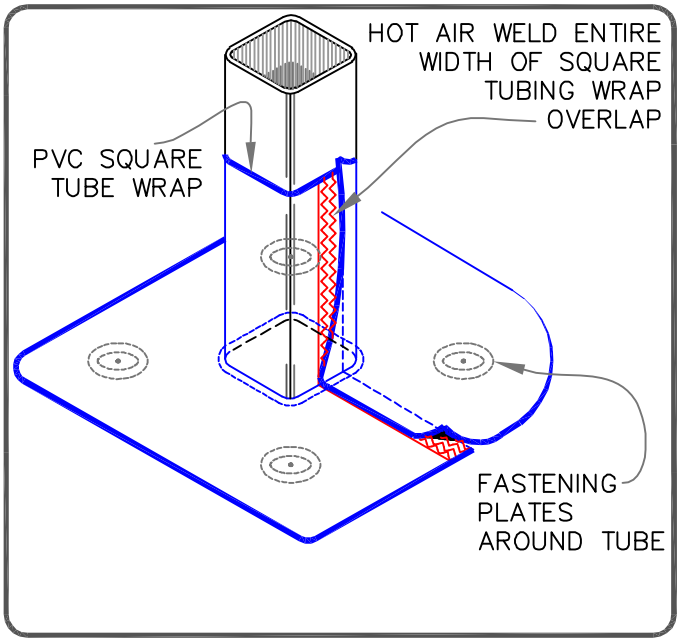


FASTENER TYPES ON MECHANICALLY ATTACHED ROOF ASSEMBLY

DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPVX	HPVX
	B	HPV-XL	HPV-XL
STRUCTURAL CONCRETE	A	CD-10	HPVX
	B	MP 14-10	HPVX

NOTES:

1. REMOVE ALL EXISTING LEAD AND FLASHING MATERIAL BEFORE INSTALLING PRE-FABRICATED SQUARE TUBE WRAP.
2. TEMPERATURE OF THE PIPE PENETRATION MUST NOT EXCEED 140°F (60°C).
3. INSTALL A MINIMUM OF 4 SEAM FASTENING PLATES FOR TUBE SIDE DIMENSIONS UP TO 6" (15cm).
4. FASTENERS AND PLATES ARE NOT REQUIRED ON ADHERED SYSTEM. SEE TABLE FOR MECHANICALLY FASTENED ROOF ASSEMBLY.



VERSICO ROOFING SYSTEMS

CFA CERTIFIED
PRE-FABRICATED SQUARE
TUBE WRAP

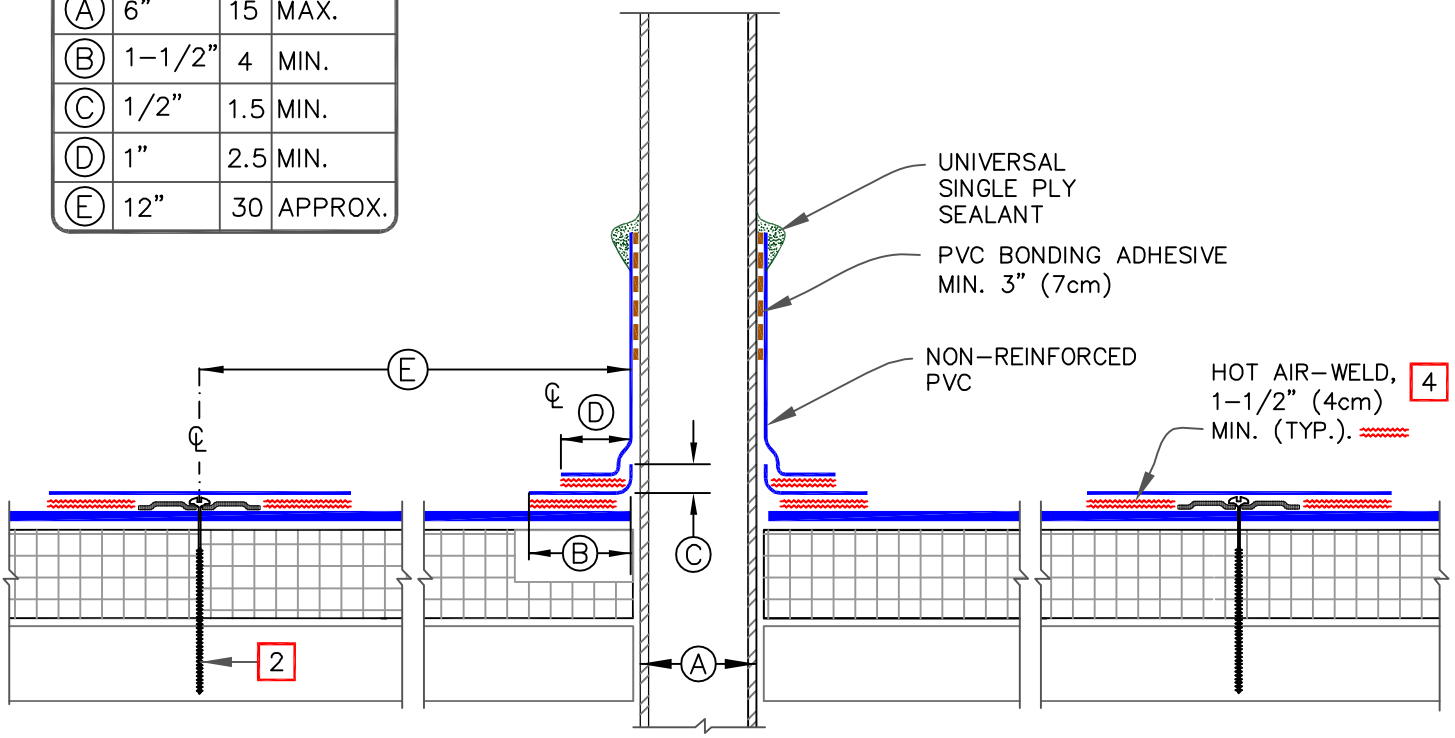
MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

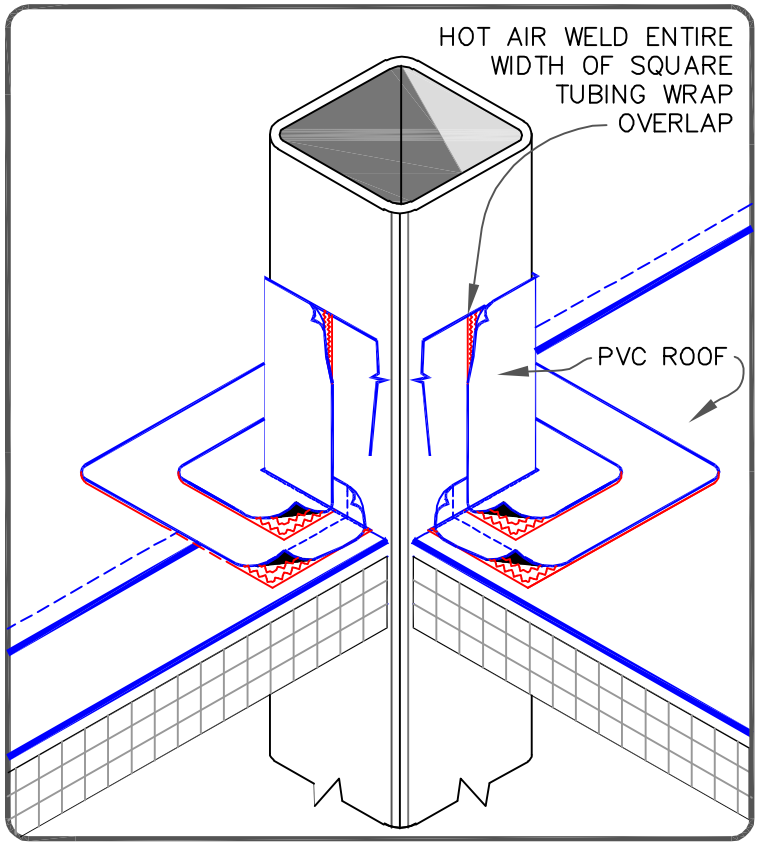
TPC-8.3

DIMENSIONS		cm	
Ⓐ	6"	15	MAX.
Ⓑ	1–1/2"	4	MIN.
Ⓒ	1/2"	1.5	MIN.
Ⓓ	1"	2.5	MIN.
Ⓔ	12"	30	APPROX.



FASTENER TYPES ON MECHANICALLY ATTACHED ROOF ASSEMBLY

DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPVX	HPVX
	B	HPV–XL	HPV–XL
STRUCTURAL CONCRETE	A	CD–10	HPVX
	B	MP 14–10	HPVX



NOTES:

1. REMOVE ALL EXISTING LEAD AND FLASHING MATERIAL BEFORE INSTALLING PRE–FABRICATED SQUARE TUBE WRAP.
2. VERSICO FASTENERS & SEAM FASTENING PLATES FOR MECHANICALLY FASTENED SYSTEM (NOT REQUIRED ON ADHERED SYSTEM). SEE TABLE ABOVE.

VERSICO ROOFING SYSTEMS

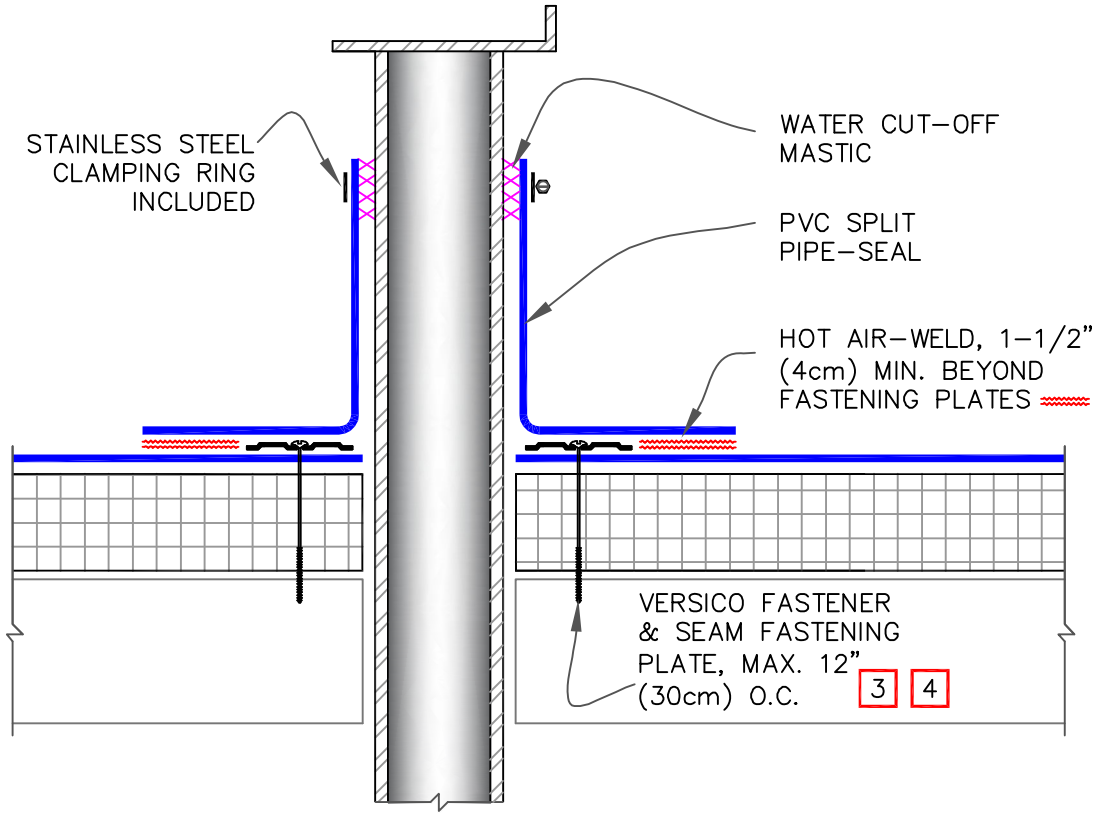
FIELD–FABRICATED SQUARE TUBE FLASHING

MAXIMUM WARRANTY: 20 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 → SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC–8.4

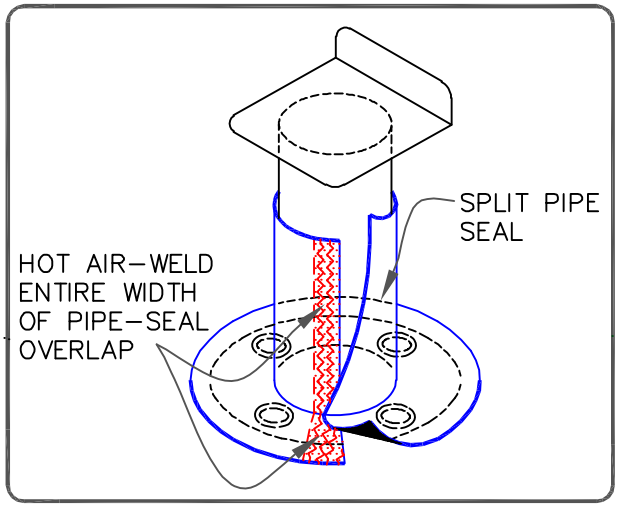


NOTES:

1. REMOVE ALL EXISTING LEAD AND FLASHING MATERIAL BEFORE INSTALLING SPLIT PIPE FLASHING.
2. TEMPERATURE OF THE PIPE PENETRATION MUST NOT EXCEED 140°F (60°C).
3. INSTALL A MINIMUM OF 4 FASTENERS AND PLATES AROUND THE PIPE, EQUALLY SPACED. IF FASTENERS AND PLATES CANNOT BE INSTALLED AS SHOWN, THEY MAY ALSO BE POSITIONED OUTSIDE THE PIPE MAXIMUM 12" (30cm) O.C. AND FLASHED WITH PVC REINFORCED MEMBRANE/CUT-EDGE SEALANT. REFER TO DETAIL TPC-8.2.
4. FASTENERS AND PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS PIPE DIAMETER EXCEEDS 18" (46cm).
5. T-JOINT COVERS ARE NOT REQUIRED ON WHITE, TAN OR GRAY PREFABRICATED ACCESSORIES. FOR ALL ADDITIONAL COLORS IT IS REQUIRED TO COVER T-JOINTS.

FASTENER TYPES ON MECHANICALLY ATTACHED ROOF ASSEMBLY

DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPVX	HPVX
	B	HPV-XL	HPV-XL
STRUCTURAL CONCRETE	A	CD-10	HPVX
	B	MP 14-10	HPVX



VERSICO ROOFING SYSTEMS

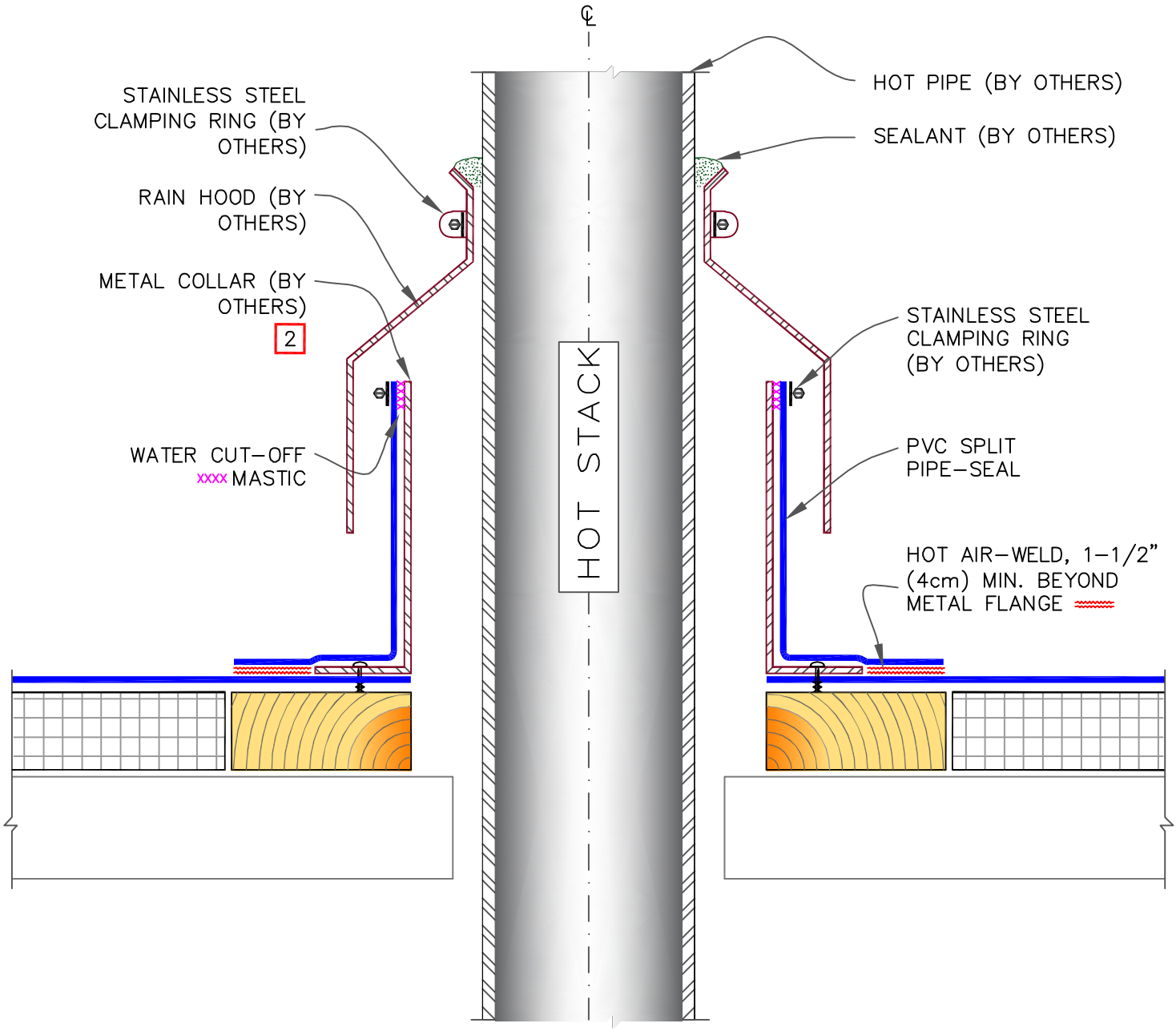
CFA CERTIFIED PRE-FABRICATED SPLIT PIPE SEAL

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 → SEE NOTE
PS (PRESSURE SENSITIVE)

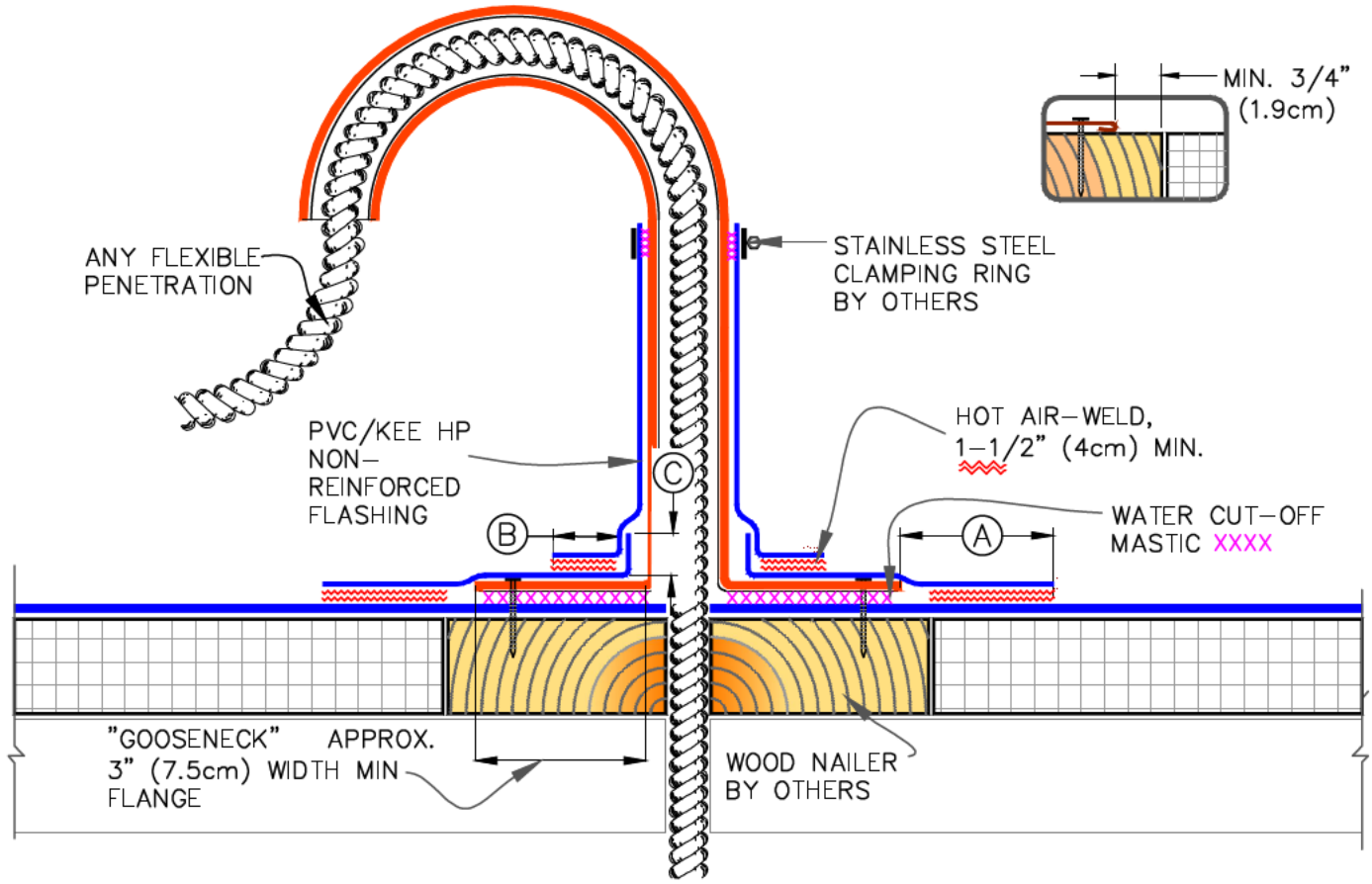
TPC (Thermoplastic Common Details)

TPC-8.5



NOTES:

1. REMOVE ALL EXISTING LEAD AND FLASHING MATERIAL BEFORE INSTALLING PIPE FLASHING.
2. TEMPERATURE OF THE METAL COLLAR MUST NOT EXCEED 140°F (60°C).
3. ENSURE, NO HOT GASES OR STEAM LEAK OR INFILTRATE INTO ROOF ASSEMBLY.



NOTES:

1. REMOVE ALL EXISTING LEAD AND FLASHING MATERIAL BEFORE INSTALLING FIELD FABRICATED PIPE FLASHING.
2. TEMPERATURE OF THE PIPE PENETRATION MUST NOT EXCEED 160°F (71°C).
3. TPO NON-REINFORCED FLASHING WRAPPED AROUND PIPE SHALL HAVE MINIMUM 1-1/2" (4cm) VERTICAL HOT AIR WELD. INSTALL A MINIMUM OF 4 SEAM FASTENING PLATES FOR PIPES WITH A DIAMETER UP TO 6" (15cm). ADDITIONAL SEAM FASTENING PLATES WILL BE REQUIRED FOR PIPES GREATER THAN 6" (15cm) IN DIAMETER AND SHALL BE SPACED 12" (30cm) ON CENTER MAXIMUM.
4. FASTENERS/PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS PIPE DIAMETER EXCEEDS 18" (50cm).

DIMENSIONS		cm	
(A)	1-1/2"	4	TO
	2"	5	
(B)	1"	2.5	MIN.
(C)	1/2"	1.5	MIN.

VERSICO ROOFING SYSTEMS

FLEXIBLE PENETRATION

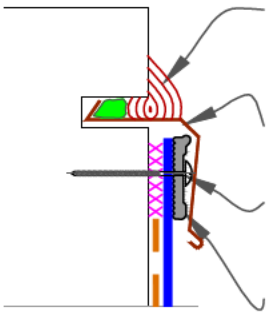
MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC-8.7

9.1 MECHANICAL TERMINATION WITH COUNTER FLASHING



VERSICO UNIVERSAL SINGLE-PLY SEALANT OR SEALANT (BY OTHERS)

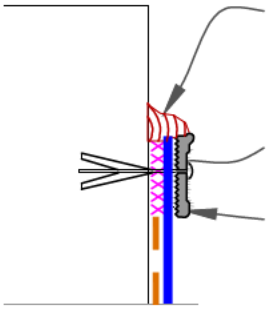
METAL COUNTER-FLASHING WITH LEAD WEDGES, AS REQUIRED (BY OTHERS).

THREADED FASTENERS OR VERSICO TERM BAR NAIL-IN. 6"(15cm) O.C. FASTENING RECOMMENDED.

VERSICO TERMINATION BAR

WARRANTY UP TO 30 YEARS | **SEE INSET A**

9.2 MECHANICAL TERMINATION



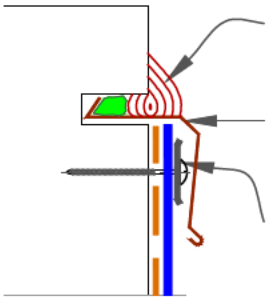
VERSICO UNIVERSAL SINGLE-PLY SEALANT OR SEALANT (BY OTHERS)

VERSICO HP TERM BAR NAIL-IN. 6"(15cm) O.C. FASTENING RECOMMENDED.

VERSICO TERMINATION BAR

WARRANTY UP TO 20 YEARS | **SEE INSET A**

9.3 COUNTER FLASHING TERMINATION



VERSICO UNIVERSAL SINGLE-PLY SEALANT OR SEALANT (BY OTHERS)

METAL COUNTER-FLASHING WITH LEAD WEDGES, AS REQUIRED (BY OTHERS).

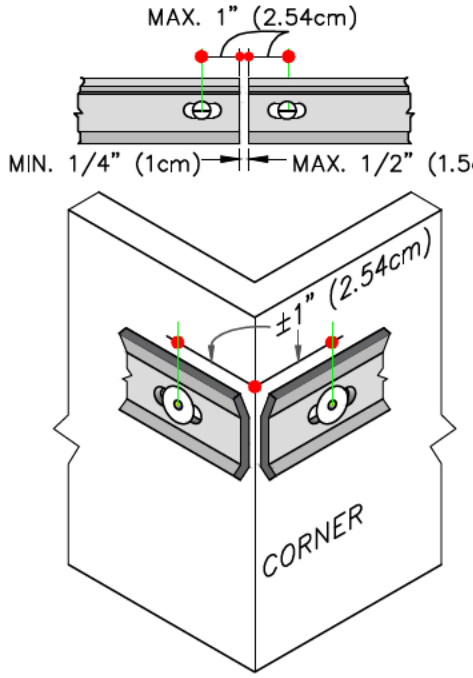
FASTEN MEMBRANE @ 12" (30cm) O.C. MAX. USE GALVANIZED WASHERS, MIN. 1", (2.54cm) DIAMETER

NOTE:

1. WHEN MECHANICAL FASTENERS ARE USED TO PENETRATE THE METAL COUNTER-FLASHING, USE EPDM WASHERS, APPLY WATER CUT-OFF MASTIC UNDER THE COUNTER-FLASHING OR CAULK THE FASTENER HEADS.

WARRANTY UP TO 10 YEARS

INSET A



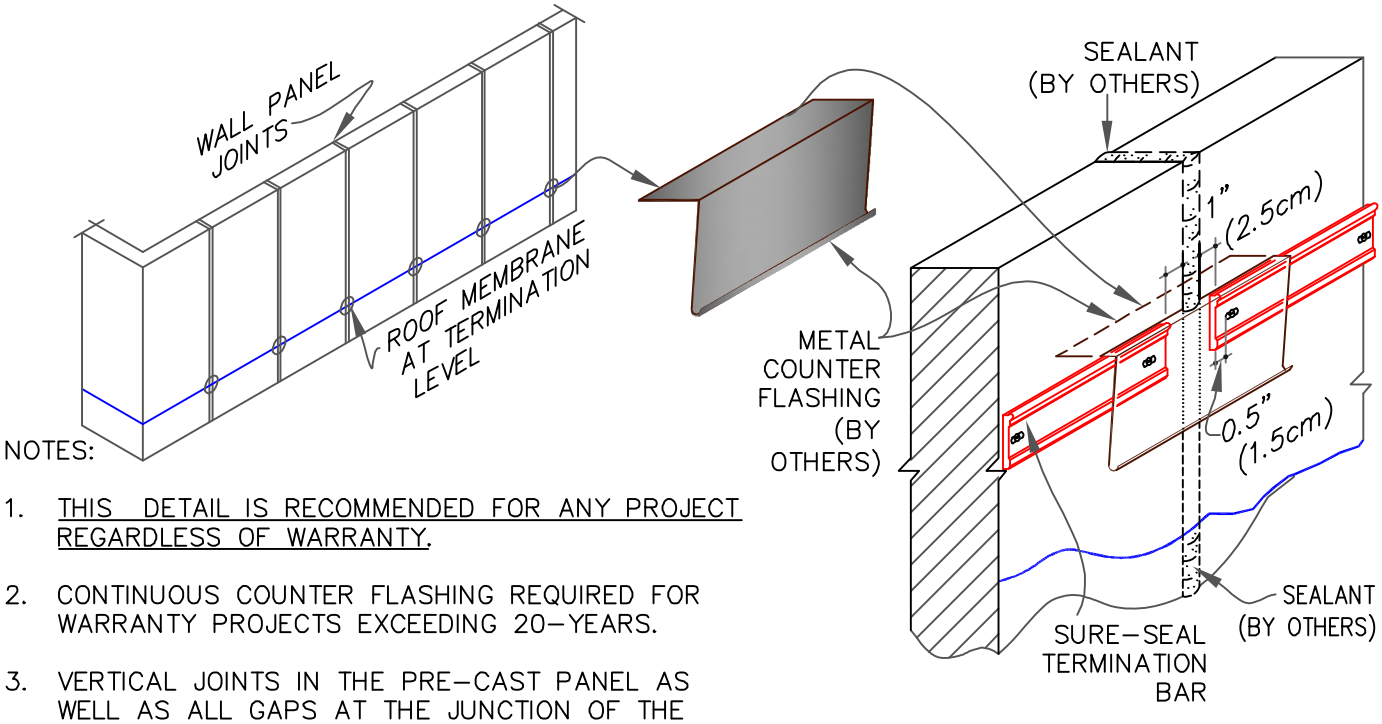
NOTES:

1. APPLY ON HARD SMOOTH SURFACE ONLY; NOT FOR USE ON EXPOSED WOOD.
2. DO NOT WRAP TERMINATION BAR AROUND CORNERS.
3. DETAIL 9.4 MUST BE USED AT VERTICAL JOINTS IN PANEL WALLS.

APPLICABLE BONDING ADHESIVE

xxx WATER CUT-OFF MASTIC- MUST BE HELD UNDER CONSTANT COMPRESSION.

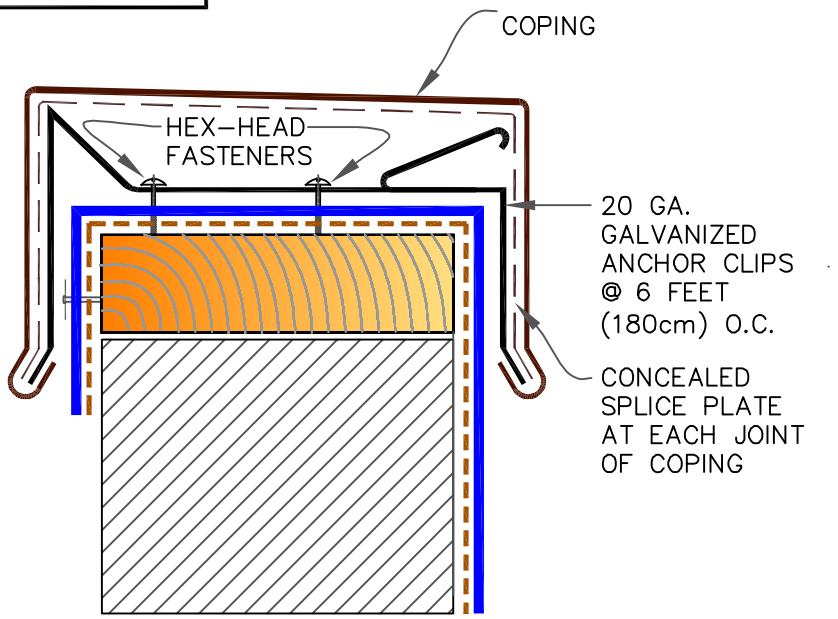
9.4 MECHANICAL TERMINATION AT VERTICAL JOINTS



NOTES:

1. THIS DETAIL IS RECOMMENDED FOR ANY PROJECT REGARDLESS OF WARRANTY.
2. CONTINUOUS COUNTER FLASHING REQUIRED FOR WARRANTY PROJECTS EXCEEDING 20-YEARS.
3. VERTICAL JOINTS IN THE PRE-CAST PANEL AS WELL AS ALL GAPS AT THE JUNCTION OF THE TILT-UP PANEL AND ROOF DECK MUST BE FULLY SEALED TO PREVENT AIR INFILTRATION.
4. APPLY ON HARD SMOOTH SURFACE ONLY.

9.5 VERSITRIM & VERSITRIM 300 COPINGS



NOTES:

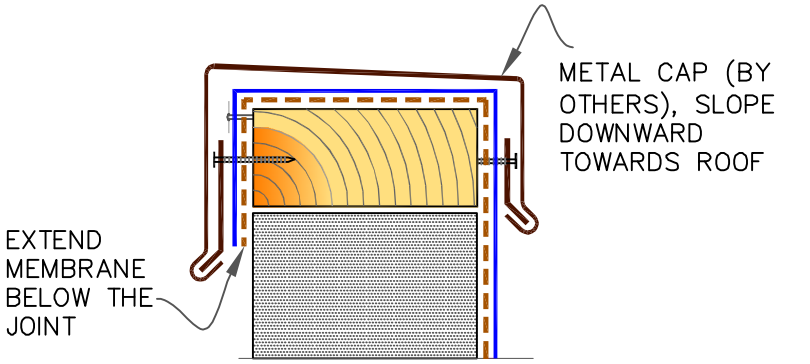
1. MEMBRANE MUST BE EXTENDED AT CORNERS TO PROVIDE COMPLETE COVERAGE OF THE TOP WALL SURFACE. REFER TO 3D DETAIL ON DETAIL U-9.6.
2. REFER TO VERSITRIM COPING INSTALLATION INSTRUCTION MANUAL FOR STEP-BY-STEP INSTRUCTION PROCEDURES.

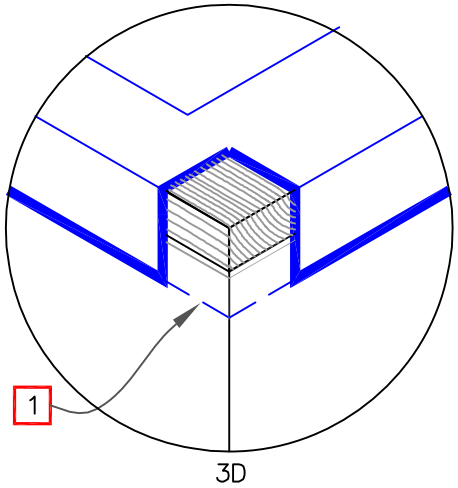
MAXIMUM WARRANTY: 30 YEARS

- - - - - - APPLICABLE BONDING ADHESIVE

xxx WATER CUT-OFF MASTIC- MUST BE HELD UNDER CONSTANT COMPRESSION.

9.6 SHEET METAL COPING (BY OTHERS)

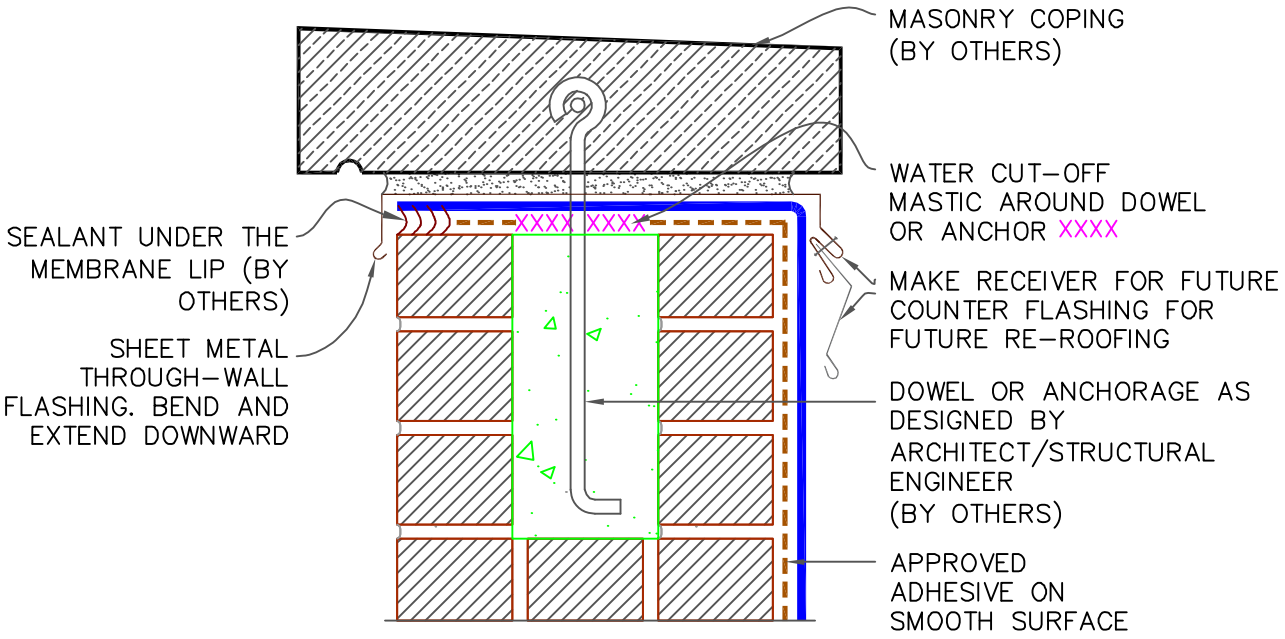




NOTES:

1. MEMBRANE MUST BE EXTENDED TO CORNERS TO PROVIDE COMPLETE COVERAGE OF THE TOP WALL SURFACE.
2. WARRANTY AS PROVIDED (BY OTHERS).

9.7 MASONRY COPINGS (BY OTHERS)



MAXIMUM WARRANTY: 30 YEARS

APPLICABLE BONDING ADHESIVE	XXX WATER CUT-OFF MASTIC- MUST BE HELD UNDER CONSTANT COMPRESSION.

MEMBRANE TERMINATIONS (PAGE 3 OF 3)

MAXIMUM WARRANTY: 30 YEARS

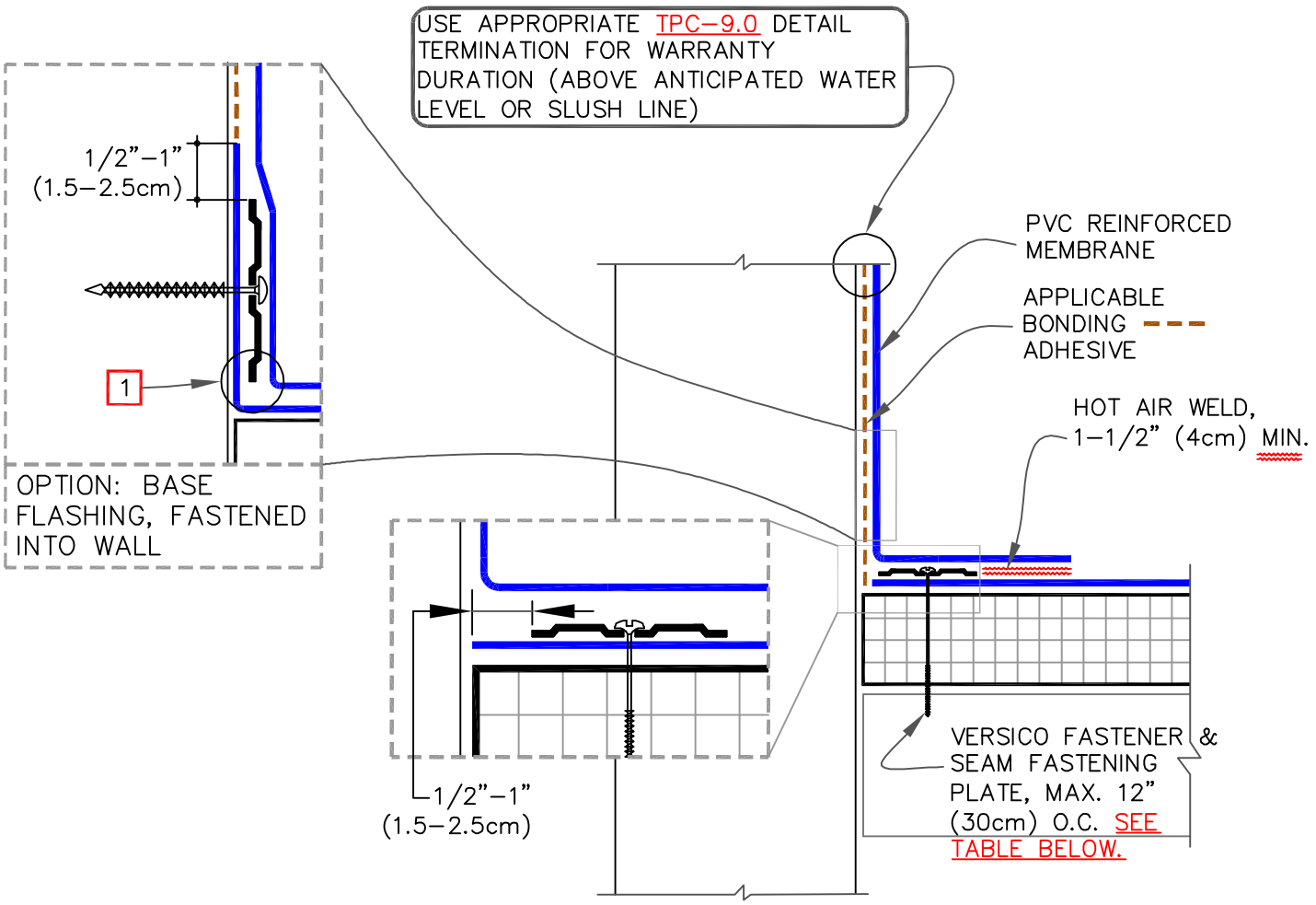
PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC-9

CAUTION

FASTENERS AND PLATES ARE REQUIRED AT 6" (15cm) O.C. FOR ALL SYSTEMS WITH WARRANTY WIND SPEED COVERAGE GREATER THAN 90 MPH AND FOR ALL PROJECTS WITH WARRANTIES GREATER THAN 20 YEARS.



NOTE:

1. CARE MUST BE TAKEN TO PRESS THE MEMBRANE TIGHTLY INTO THE ANGLE CHANGE. PLACING THE PLATES TIGHT INTO THE ANGLE CHANGE WILL HELP HOLD THE MEMBRANE IN THE PROPER POSITION.

FASTENER TYPES ON MECHANICALLY ATTACHED ROOF ASSEMBLY

DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPVX	HPVX
	B	HPV–XL	HPV–XL
STRUCTURAL CONCRETE	A	CD–10	HPVX
	B	MP 14–10	HPVX

VERSICO ROOFING SYSTEMS

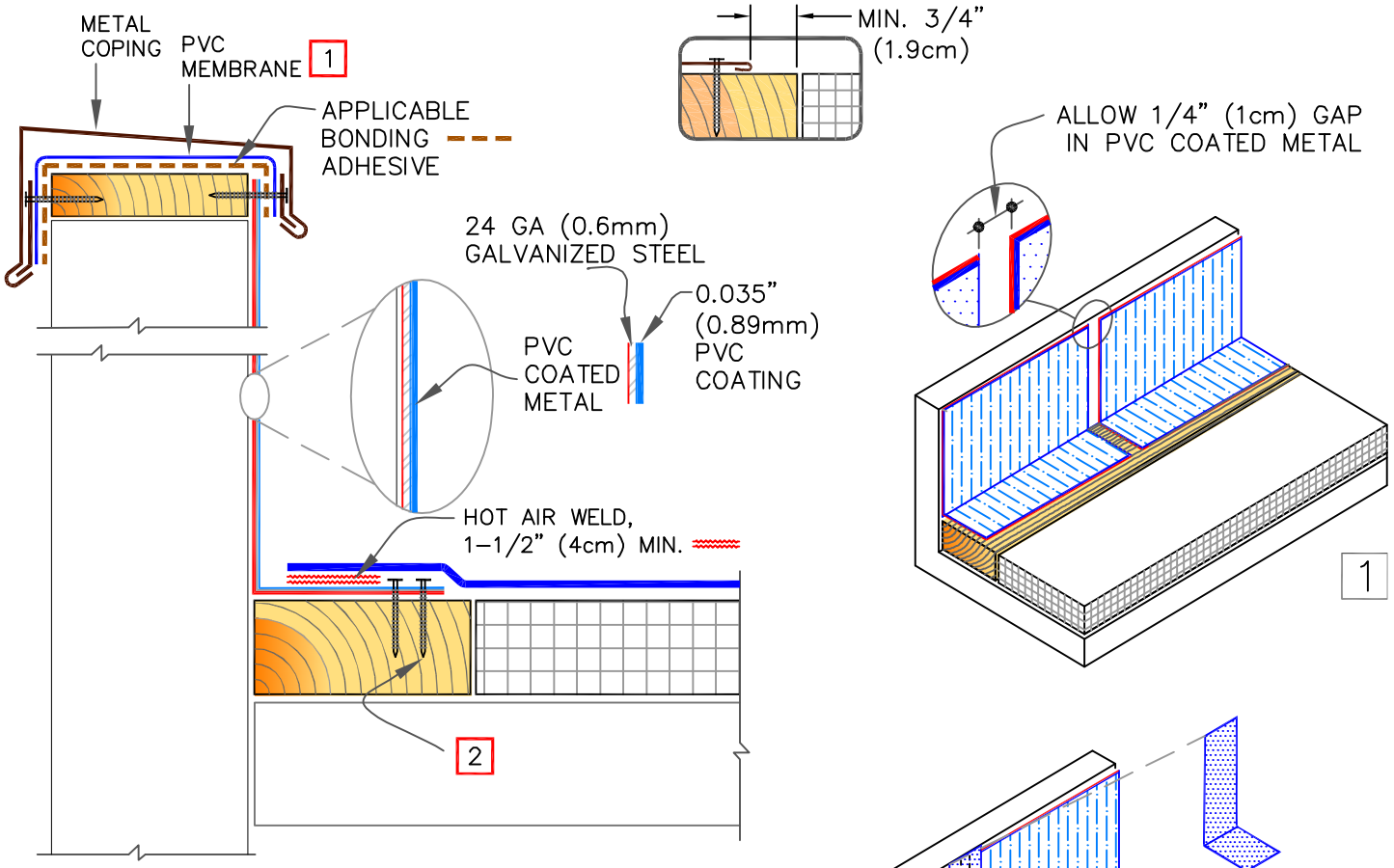
PARAPET BASE WALL FLASHING – FASTENED INTO DECK OR WALL

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 → SEE NOTE
PS (PRESSURE SENSITIVE)

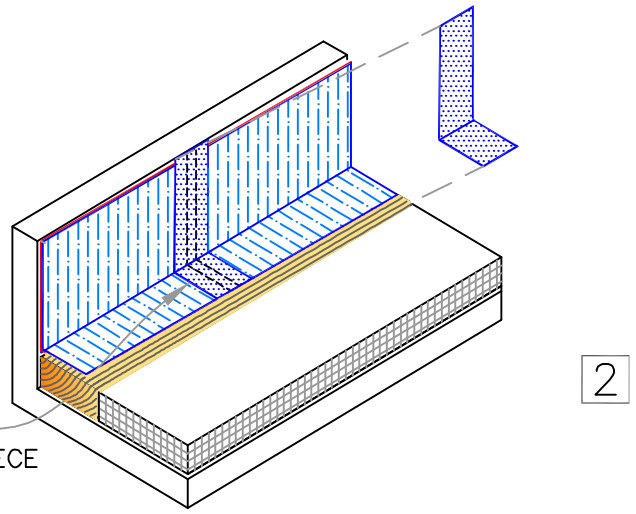
TPC (Thermoplastic Common Details)

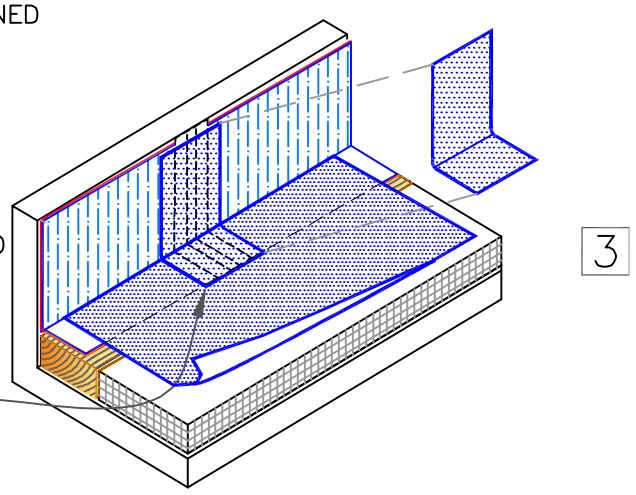
TPC–12.1



SEQUENCE:

1. 3" (7.6cm) REINFORCED MEMBRANE STRIPPING.
2. FIELD MEMBRANE.
3. TOP 6" (15.2cm) NON–REINFORCED MEMBRANE STRIPPING.





NOTES:

1. PLACE A LAYER OF PVC MEMBRANE UNDER THE METAL CAP TO PROTECT AGAINST MOISTURE INFILTRATION AT JOINTS.
2. FASTEN COATED METAL FLASHING TO WOOD NAILERS USING 1–1/2" (4cm) MIN. RING SHANK NAILS SPACED 6" (15cm) ON CENTER AND STAGGERED APPROX. 1/2" (1.5cm).
3. SEE TPC–15.3 FOR ADDITIONAL INFORMATION.

VERSICO ROOFING SYSTEMS

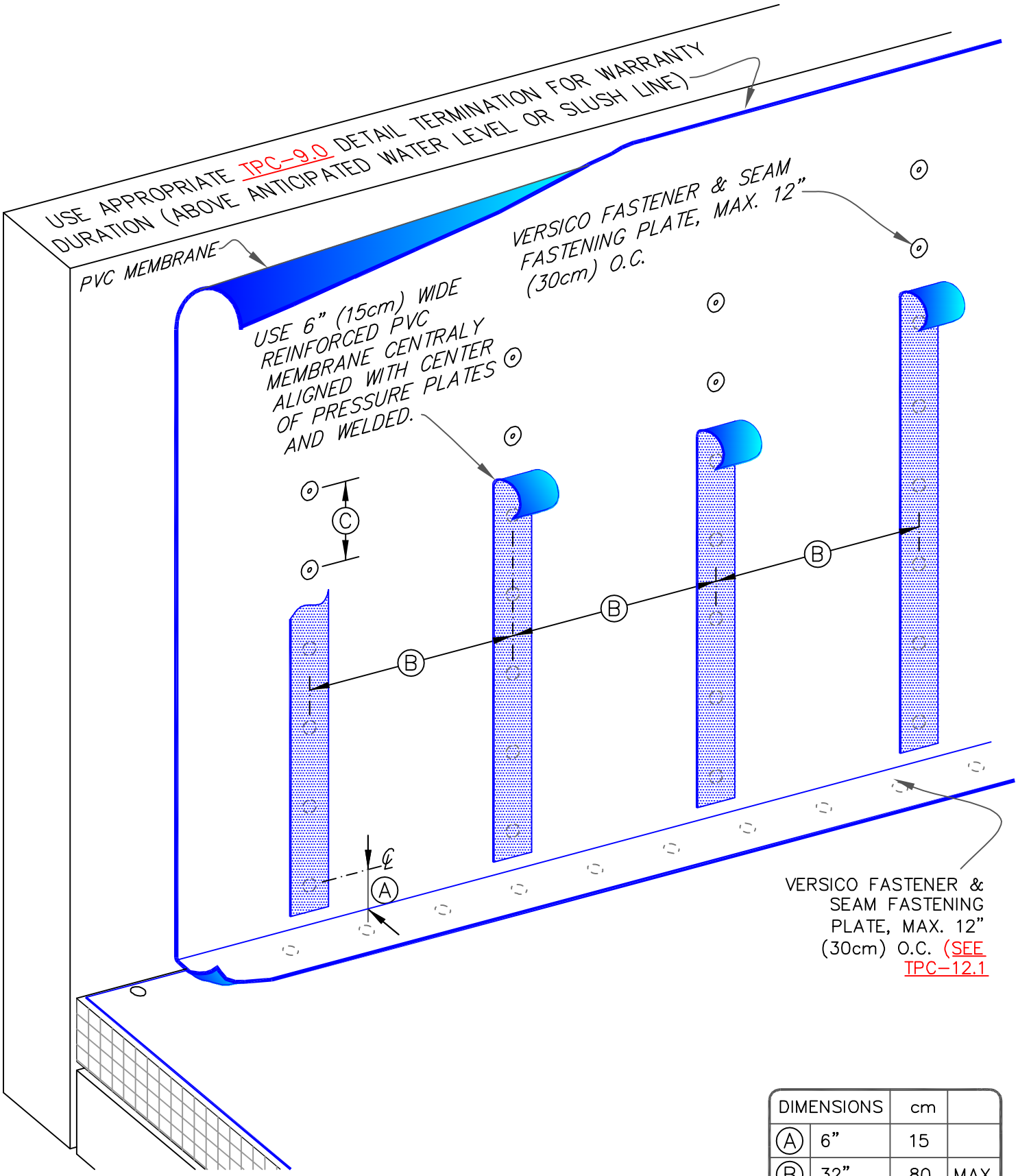
PVC COATED METAL WALL FLASHING

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC–12.3



DIMENSIONS		cm	
A	6"	15	
B	32"	80	MAX.
C	12"	30	MAX.

VERSICO ROOFING SYSTEMS

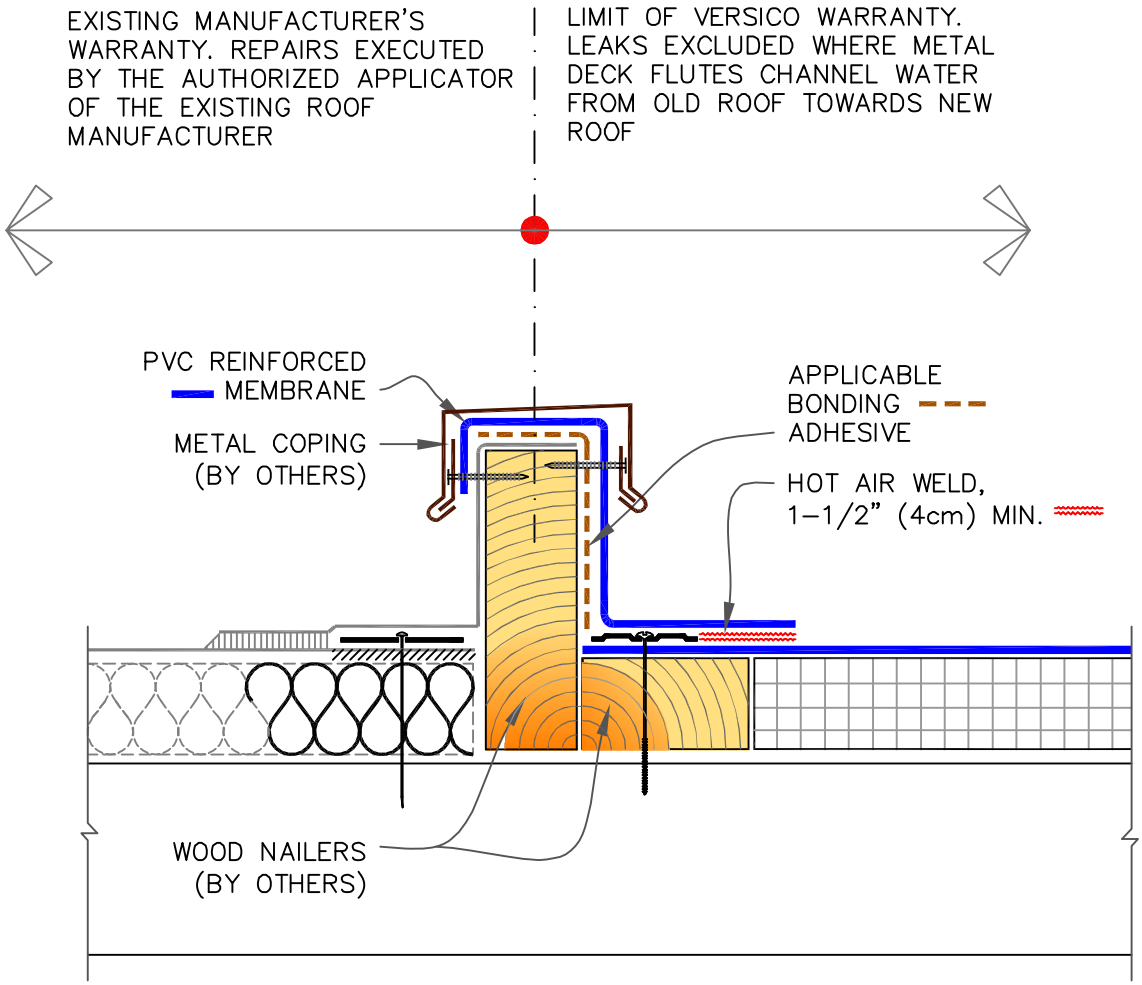
PARAPET FLASHING / NO ADHESION – ANY HEIGHT OPTION

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 → SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC-12.6



NOTES:

1. POSITION MEMBRANE FASTENING PLATES 1/2" (1.5cm) TO 1" (2.5cm) FROM EDGE OF DECK MEMBRANE.
2. ENSURE THE LOCATION OF CURB WILL NOT IMPEDE THE FLOW OF WATER AT EXISTING ADJACENT ROOF.

PVC ONLY (NOT KEE HP)
IN LIEU OF BONDING ADHESIVE, THE CURB FLASHING MAY BE INSTALLED IN CAV GRIP PVC.

VERSICO ROOFING SYSTEMS

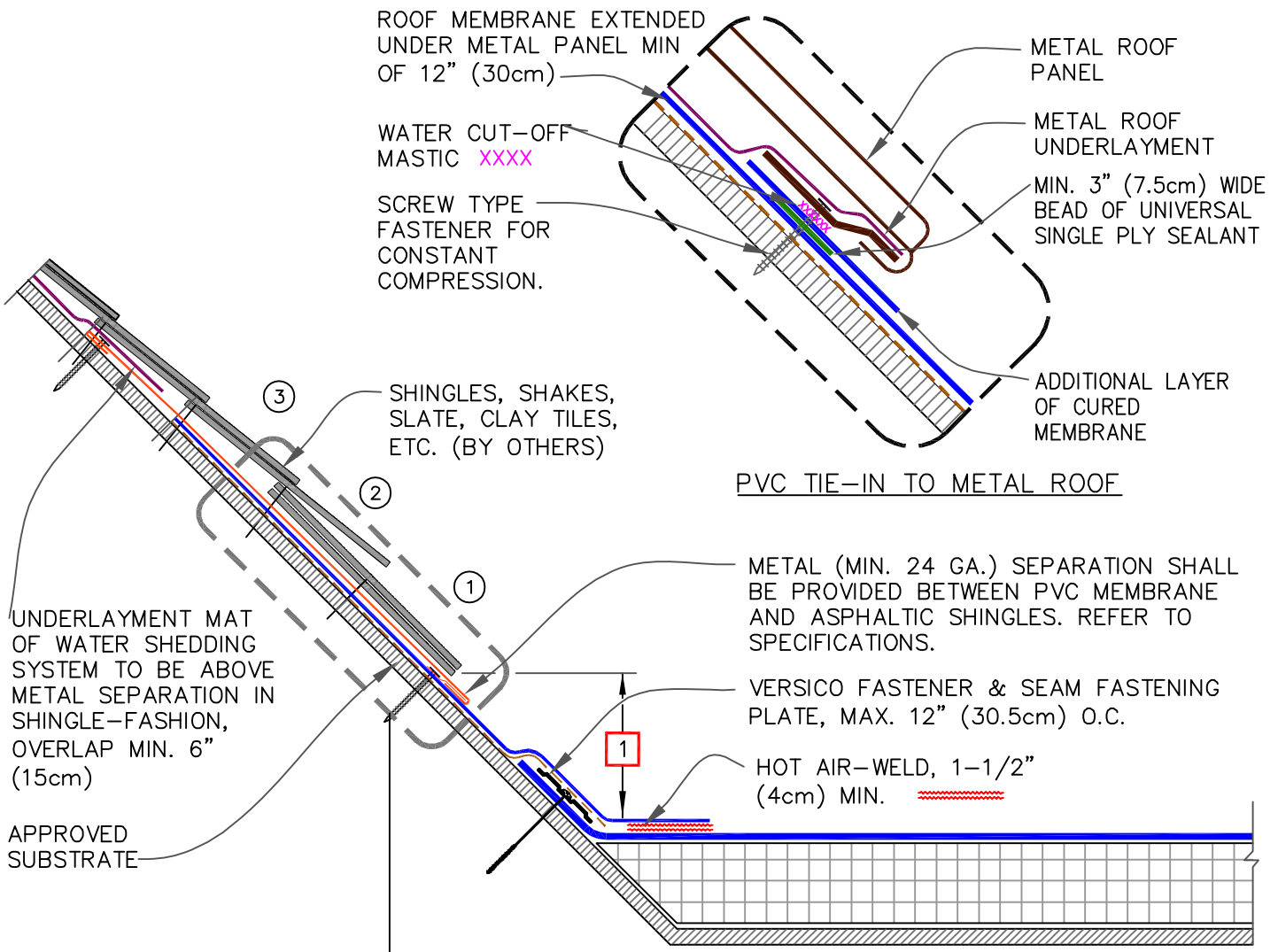
PVC TIE–IN TO EXISTING SINGLE PLY ROOF WITH CURB

MAXIMUM WARRANTY: 30 YEARS

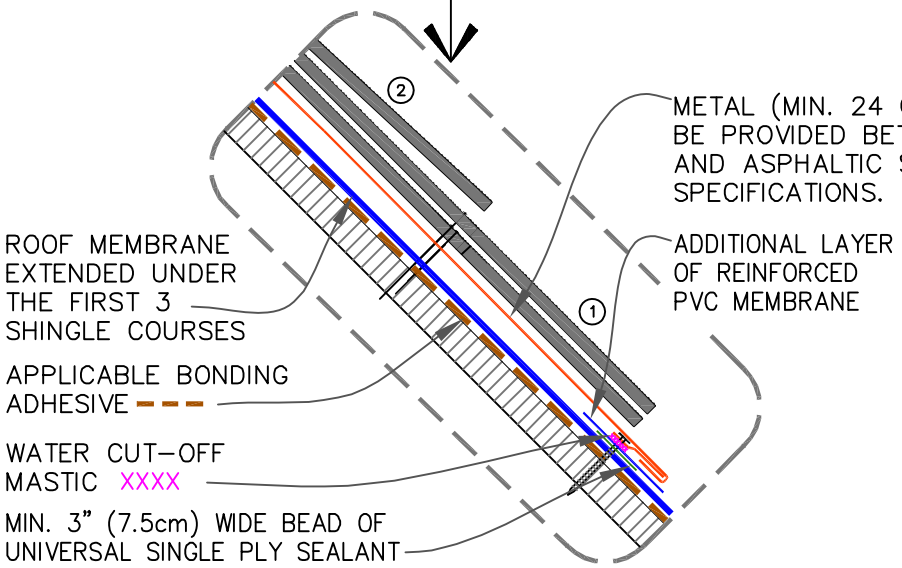
PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC–13.3



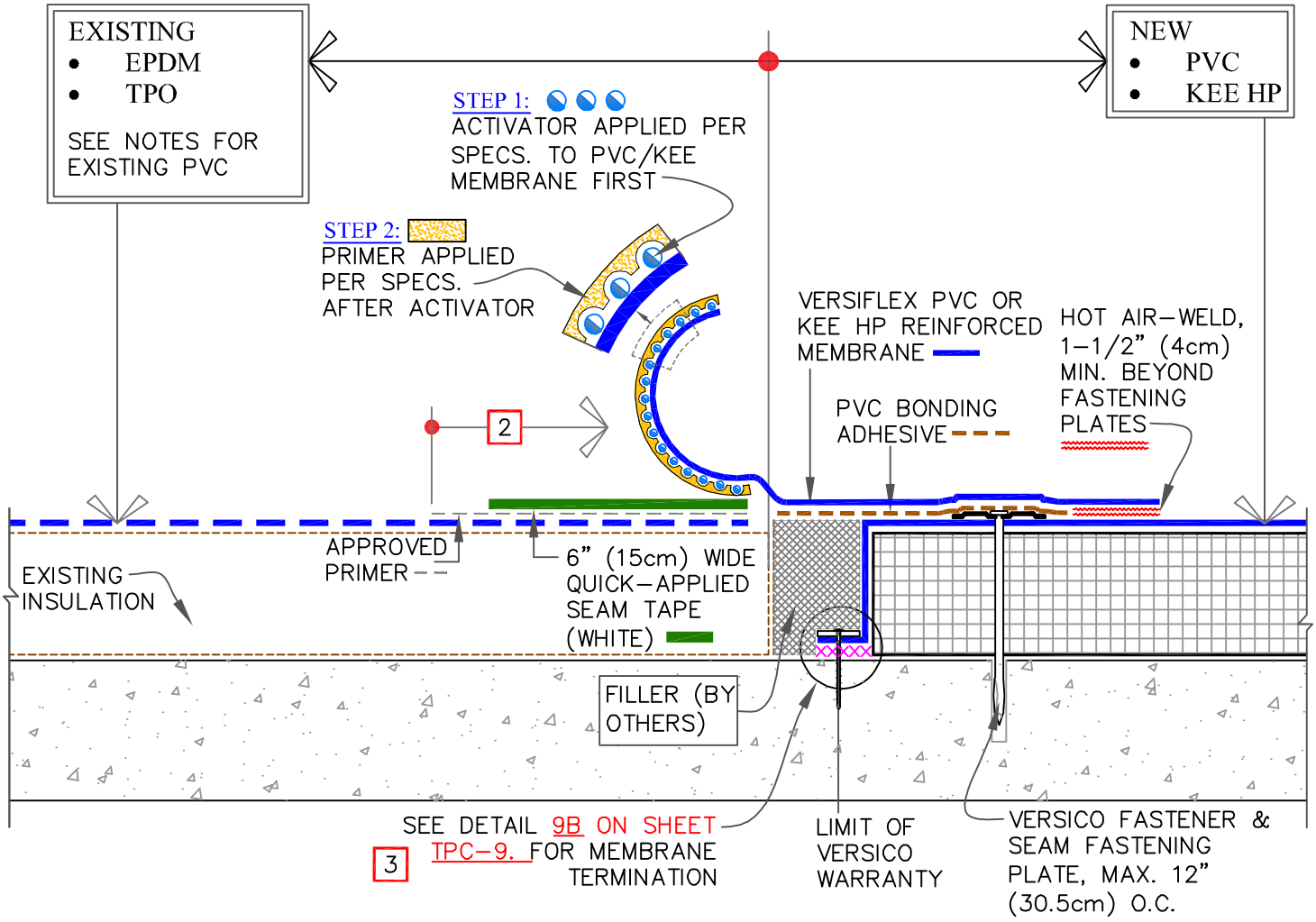
PVC TIE-IN TO METAL ROOF



PVC TIE-IN TO SHINGLED ROOF

NOTE:

1. VERSICO'S WARRANTY IS LIMITED TO EXPOSED PORTION OF ROOF MEMBRANE.



NOTES:

1. ON EXISTING WARRANTED ROOFS, SEEK WRITTEN APPROVAL OF ITS MANUFACTURER FOR ACCEPTANCE OF THIS DETAIL. FOR EXISTING BALLASTED SYSTEMS BY OTHERS, CONSULT RESPECTIVE MANUFACTURER FOR ACCEPTABLE GRAVEL CONTAINMENT TO PREVENT GRAVEL MIGRATION.

2. EXISTING EPDM/TPO MEMBRANES: CLEAN THE SEAMING AREA WITH WEATHERED MEMBRANE CLEANER AND ALLOW TO DRY. APPLY APPROVED PRIMER.

   EXISTING PVC OR KEE MEMBRANES: IF EXISTING MEMBRANE IS NOT ACCEPTABLE FOR WELDING, UTILIZE STEP 1 ACTIVATOR AND STEP 2 PRIMER PROCESS.

3. WATER CUT-OFF MASTIC MUST BE HELD UNDER CONSTANT COMPRESSION. WHEN RE-ROOFING OVER PRECAST CONCRETE, APPLY LIBERAL BEAD OF WATER CUT-OFF MASTIC IN JOINTS TO PREVENT MOISTURE MIGRATION.

WHEN USING 80-MIL (2.03mm) THICK MEMBRANE
APPLY A 4-1/2" (11.43cm) DIAMETER "T-JOINT" COVER AT FIELD SPLICE INTERSECTIONS, CENTRALLY ALIGNED.

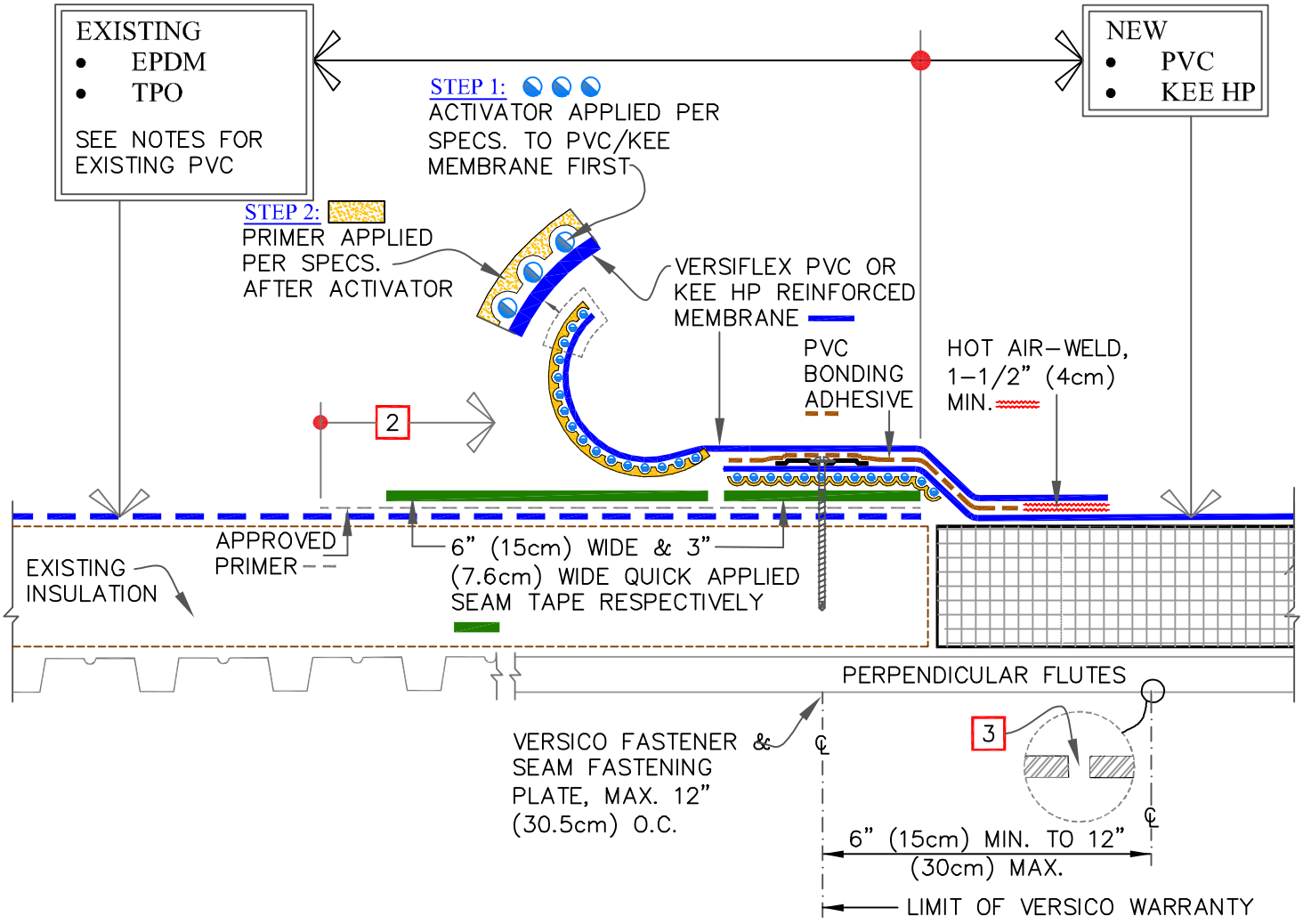
VERSICO ROOFING SYSTEMS

PVC/KEE HP TIE-IN TO SINGLE-PLY ROOF MEMBRANE ON CONCRETE DECK

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC-13.7



NOTES:

1. ON EXISTING WARRANTED ROOFS, SEEK WRITTEN APPROVAL OF ITS MANUFACTURER FOR ACCEPTANCE OF THIS DETAIL. FOR EXISTING BALLASTED SYSTEMS BY OTHERS, CONSULT RESPECTIVE MANUFACTURER FOR ACCEPTABLE GRAVEL CONTAINMENT TO PREVENT GRAVEL MIGRATION.

2. EXISTING EPDM/TPO MEMBRANES: CLEAN THE SEAMING AREA WITH WEATHERED MEMBRANE CLEANER AND ALLOW TO DRY. APPLY APPROVED PRIMER.

   EXISTING PVC OR KEE MEMBRANES: IF EXISTING MEMBRANE IS NOT ACCEPTABLE FOR WELDING, UTILIZE STEP 1 ACTIVATOR AND STEP 2 PRIMER PROCESS.

3. IF FLUTES ARE PERPENDICULAR, DRILL 3/8" (1cm) DIAMETER WEEP HOLES INTO THE BOTTOM FLUTES OF THE STEEL DECK ALONG THE TIE-IN.

WHEN USING 80-MIL (2.03mm) THICK MEMBRANE
APPLY A 4-1/2" (11.43cm) DIAMETER "T-JOINT" COVER AT FIELD SPLICE INTERSECTIONS, CENTRALLY ALIGNED.

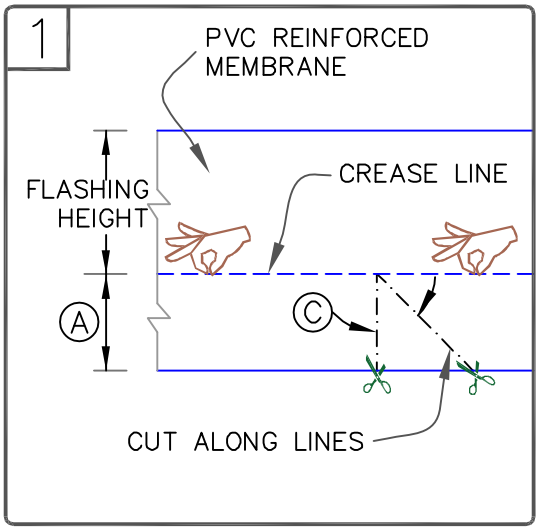
VERSICO ROOFING SYSTEMS

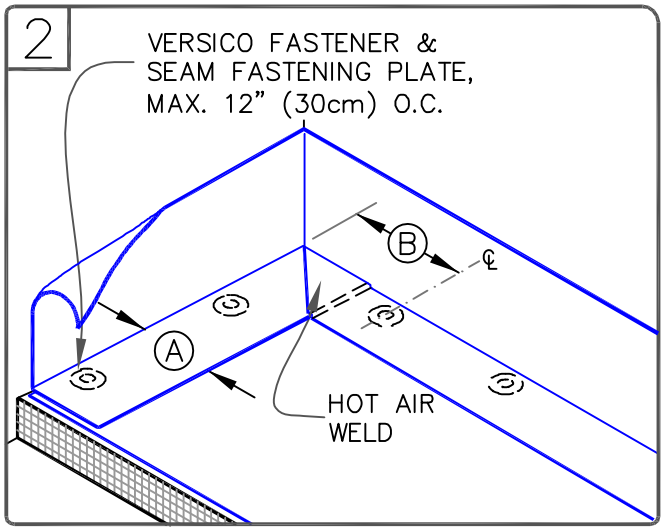
PVC/KEE HP TIE-IN TO EXISTING SINGLE-PLY ROOF MEMBRANES ON METAL DECK

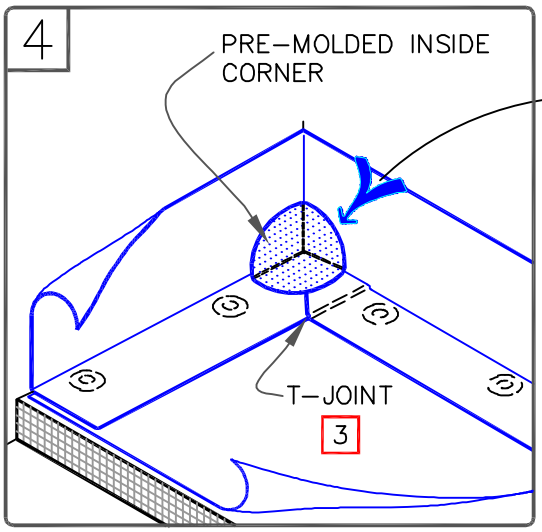
PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

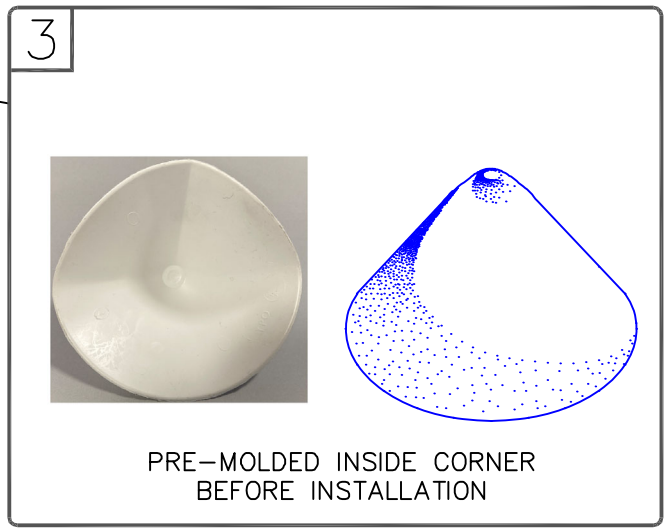
TPC (Thermoplastic Common Details)

TPC-13.8









WHEN USING 80-MIL (2.03mm) THICK MEMBRANE

APPLY A 4-1/2" (11.43cm) DIAMETER "T-JOINT" COVER AT FIELD SPLICE INTERSECTIONS, CENTRALLY ALIGNED.

NOTES:

1. POSITION FASTENING PLATES 6" TO 9" (15 TO 23cm) FROM THE CORNER AND 1/2" TO 1" (1.5 TO 2.5cm) FROM EDGE OF MEMBRANE.

2. REFER TO VERSICO SPECIFICATIONS FOR ACCEPTABLE VERSICO FASTENERS AND PLATES.

DIMENSIONS		cm	
A	6"	15	APPROX.
B	6"-9"	15-23	
C	45-DEGREES APPROX.		

VERSICO ROOFING SYSTEMS

PRE-MOLDED INSIDE CORNER FLASHING

MAXIMUM WARRANTY: 30 YEARS

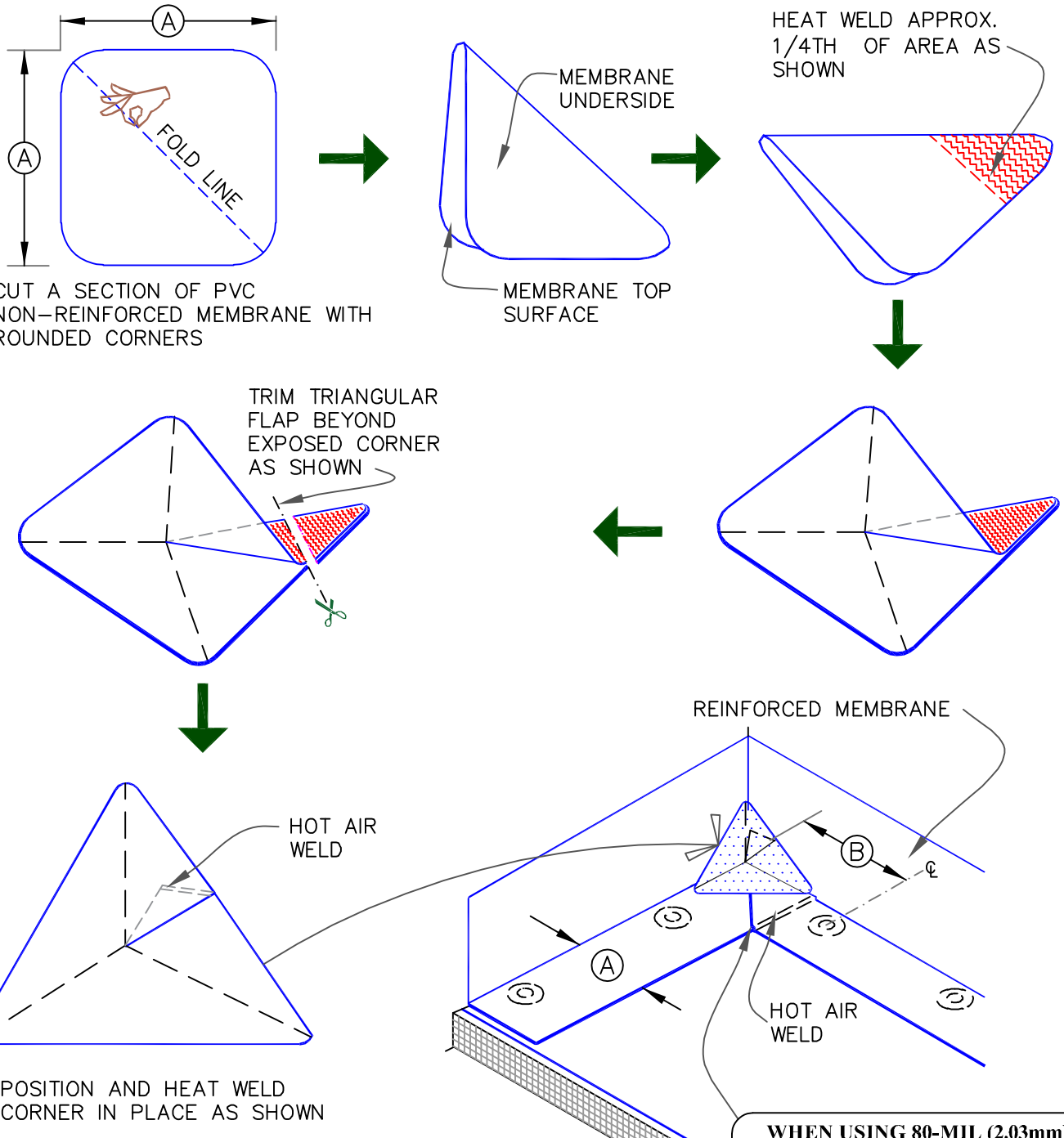
PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC-15.1

CAUTION

DETAIL NOT FOR USE ON 25 OR 30-YEAR WARRANTY PROJECTS, PRE-FABRICATED/PRE-MOLDED ACCESSORIES MUST BE UTILIZED. ACCEPTABLE FLASHING SHALL CONFORM WITH PVC UNIVERSAL DETAIL TPC-15.1 OR TPC-15.7.



DIMENSIONS		cm	
A	6"	15	APPROX.
B	6"-9"	15-23	

WHEN USING 80-MIL (2.03mm) THICK MEMBRANE

APPLY A 4-1/2" (11.43cm) DIAMETER "T-JOINT" COVER AT FIELD SPLICE INTERSECTIONS, CENTRALLY ALIGNED.

VERSICO ROOFING SYSTEMS

FIELD FABRICATED INSIDE CORNER FLASHING

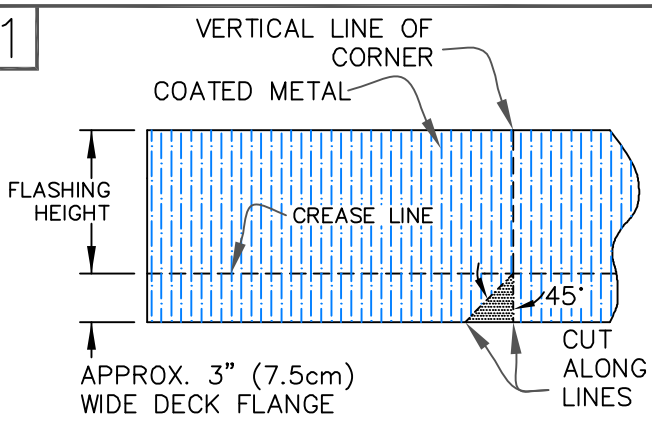
MAXIMUM WARRANTY: 20 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

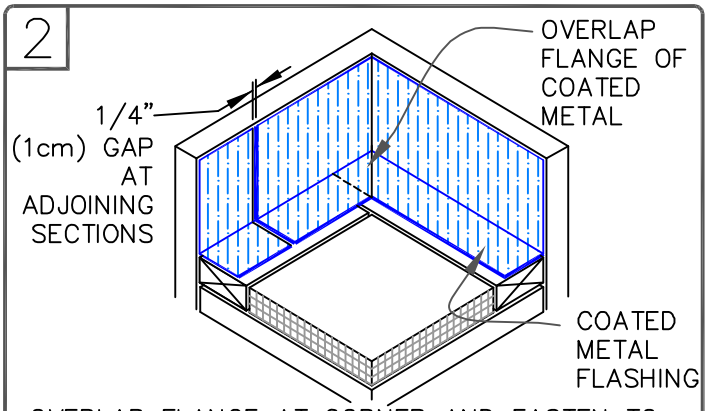
TPC-15.2

1



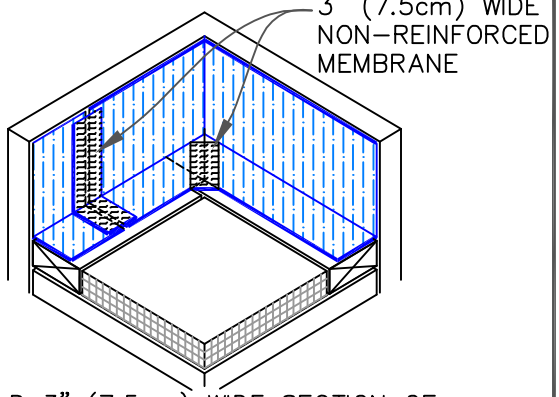
CREASE COATED METAL FLASHING ALONG DASHED LINES AFTER CUTTING AND REMOVING SHADED TRIANGLE.

2



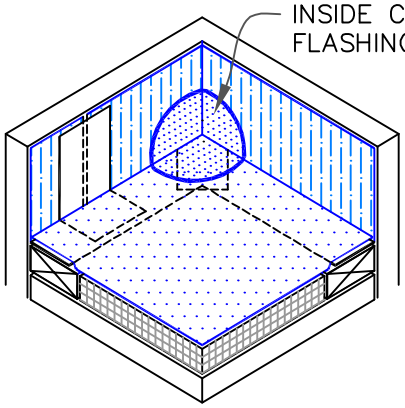
OVERLAP FLANGE AT CORNER AND FASTEN TO WOOD NAILERS USING 1–1/2" (4cm) RING SHANK NAILS SPACED 6" (15cm) O.C., STAGGERED 1/2" (1.5cm).

3



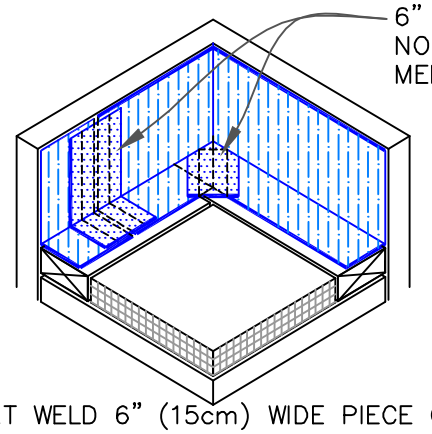
HEAT WELD 3" (7.5cm) WIDE SECTION OF NON–REINFORCED MEMBRANE OVER VERTICAL JOINT IN COATED METAL AND OVER CUT EDGE AT CORNER AS SHOWN.

4



INSTALL FIELD MEMBRANE AND HEAT WELD TO FLANGE OF COATED METAL. ALSO INSTALL INSIDE CORNER FLASHING PER DETAILS: U–15A OR U–15B OR U–15G

5



HEAT WELD 6" (15cm) WIDE PIECE OF NON–REINFORCED MEMBRANE OVER 3" WIDE REINFORCED MEMBRANE, AFTER ROOF MEMBRANE INSTALLATION

NOTES:

1. FASTEN COATED METAL FLASHING TO WOOD NAILERS USING 1–1/2" (4cm) MIN. RING SHANK NAILS SPACED 6" (15cm) ON CENTER AND STAGGERED APPROX. 1/2" (1.5cm).
2. COORDINATE THIS DETAIL WITH TPC–12.3 FOR ADDITIONAL INFORMATION.

SEQUENCE:
1. 3" (7.6cm) REINFORCED MEMBRANE STRIPPING.
2. FIELD MEMBRANE.
3. TOP 6" (15.2cm) NON–REINFORCED MEMBRANE STRIPPING.

VERSICO ROOFING SYSTEMS

INSIDE CORNER WITH VERSIFLEX PVC COATED METAL WALL FLASHING

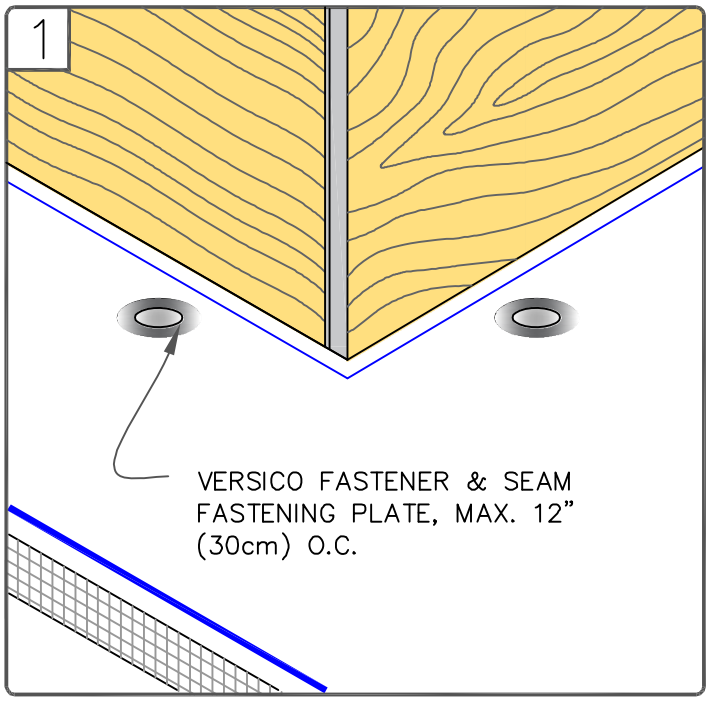
MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

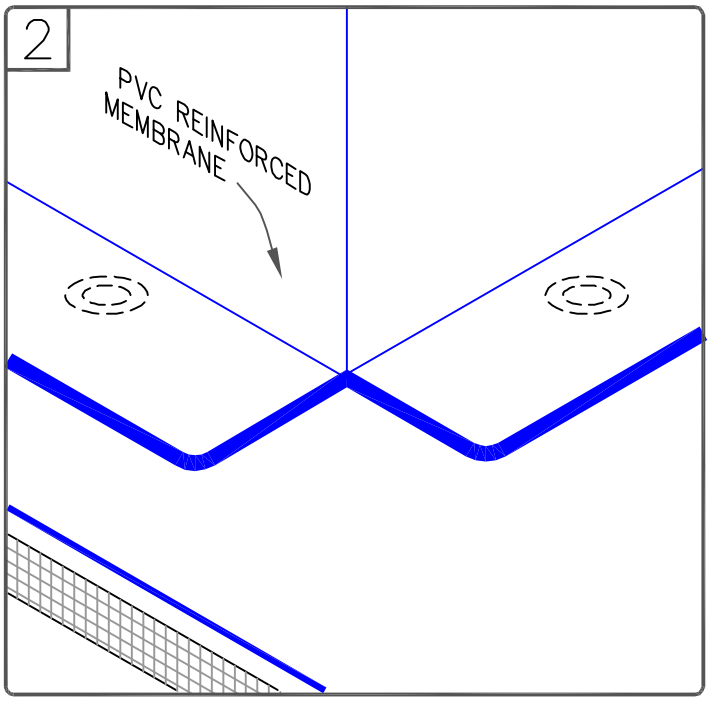
TPC (Thermoplastic Common Details)

TPC–15.3

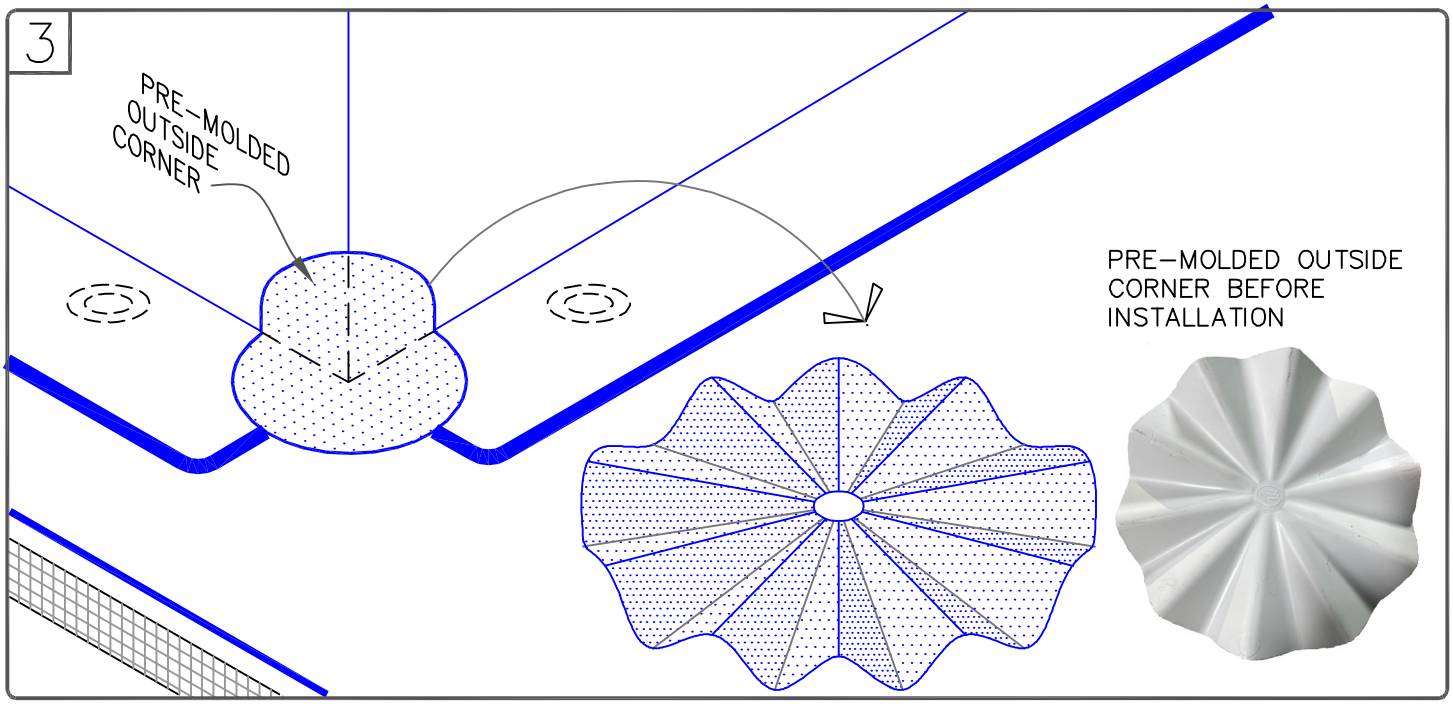
1



2



3



NOTES:

1. POSITION FASTENING PLATES 6"(15cm) FROM THE CORNER AND 1/2" TO 1" (1.5 TO 2.5cm) FROM EDGE OF MEMBRANE.

2. REFER TO VERSICO SPECIFICATIONS FOR ACCEPTABLE VERSICO FASTENERS AND PLATES.

VERSICO ROOFING SYSTEMS

PRE-MOLDED OUTSIDE CORNER FLASHING

MAXIMUM WARRANTY: 30 YEARS

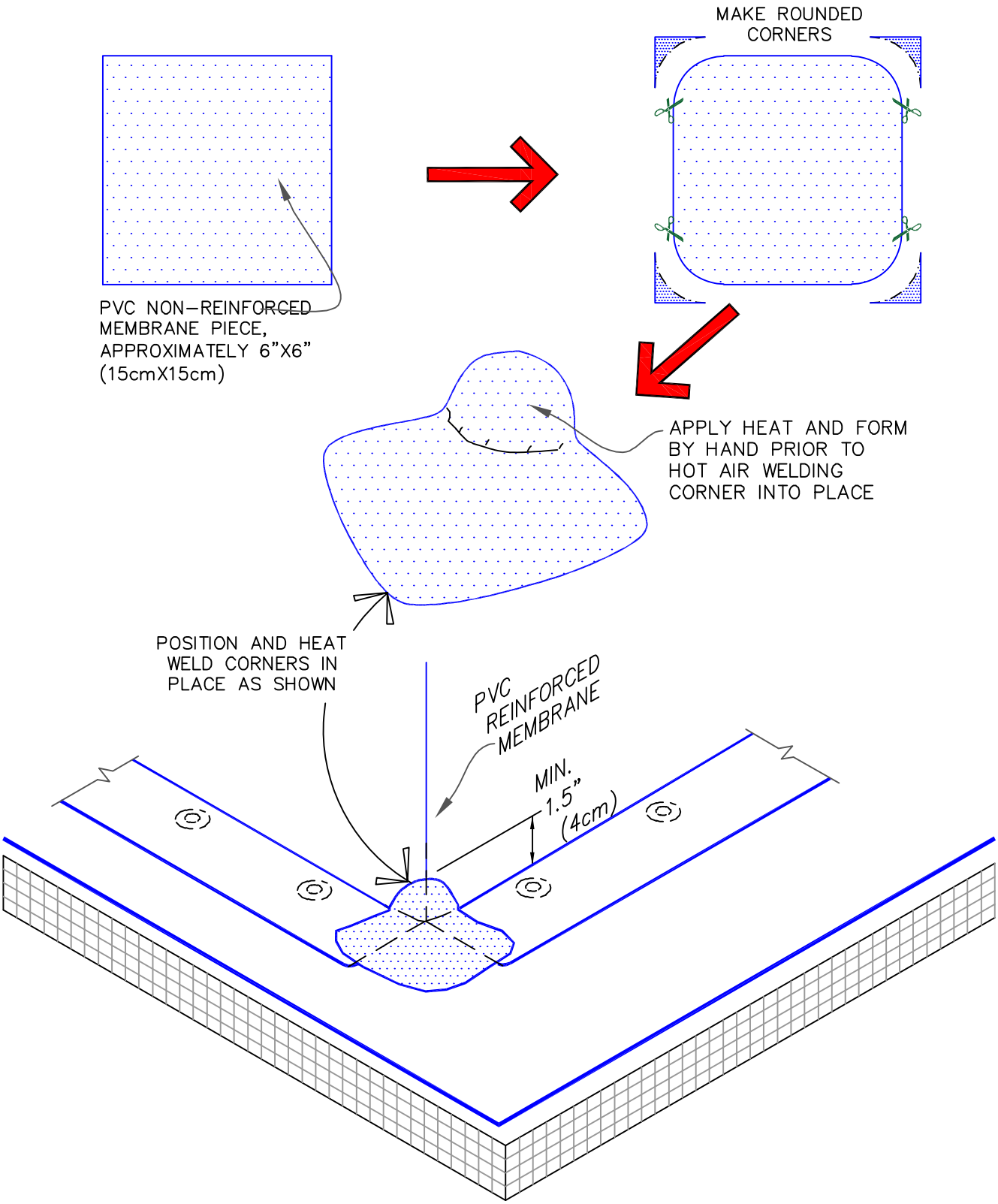
PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC-15.4

CAUTION

DETAIL NOT FOR USE ON 25 OR 30–YEAR WARRANTY PROJECTS, PRE–FABRICATED/PRE–MOLDED ACCESSORIES MUST BE UTILIZED. ACCEPTABLE FLASHING SHALL CONFORM WITH PVC UNIVERSAL DETAIL TPC–15.4 OR TPC–15.7.



VERSICO ROOFING SYSTEMS

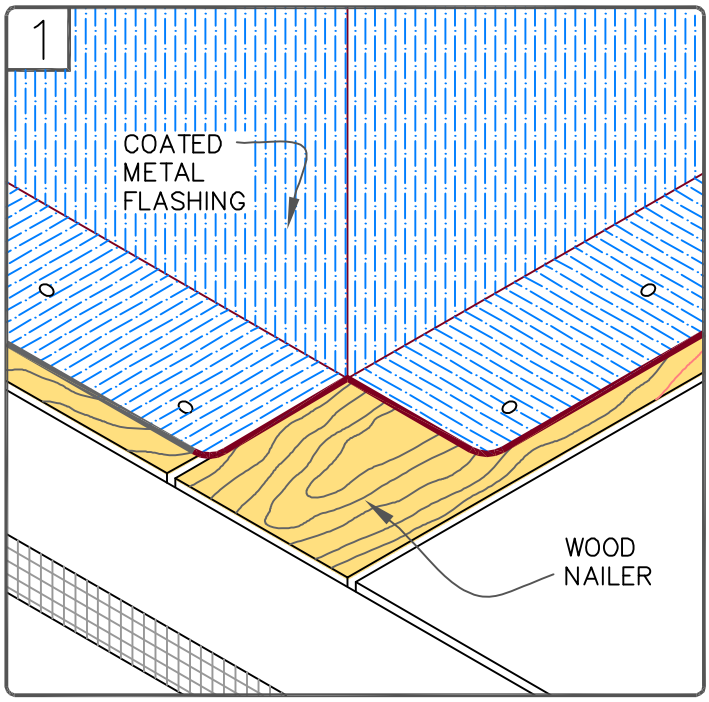
FIELD FABRICATED OUTSIDE CORNER FLASHING

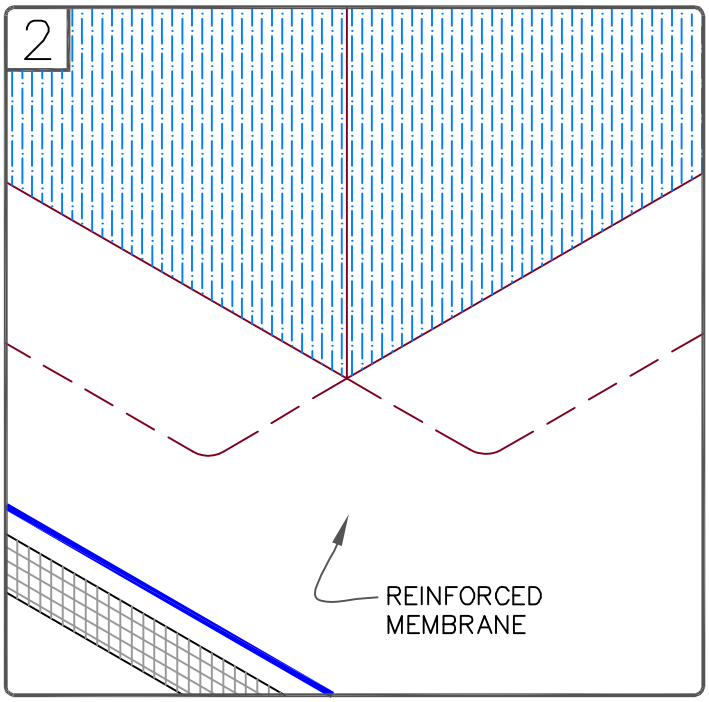
MAXIMUM WARRANTY: 20 YEARS

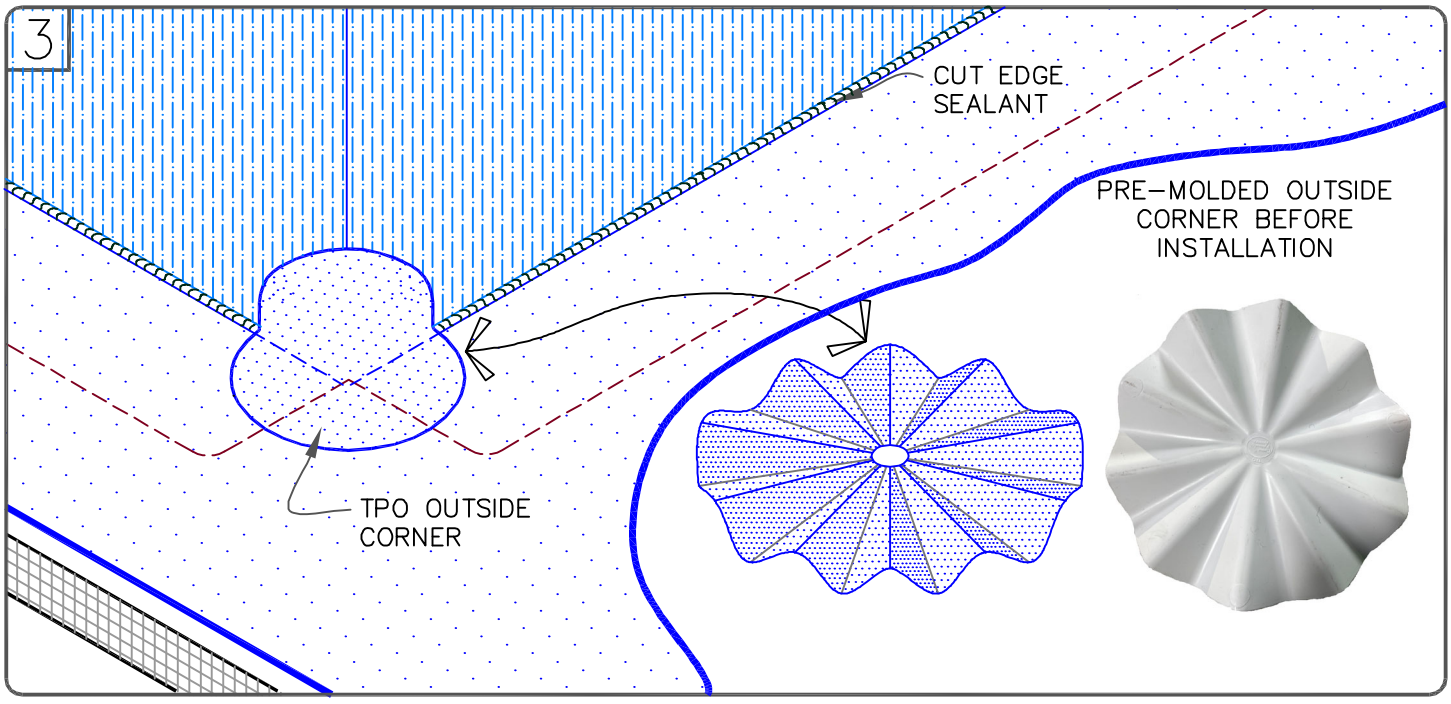
PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC–15.5



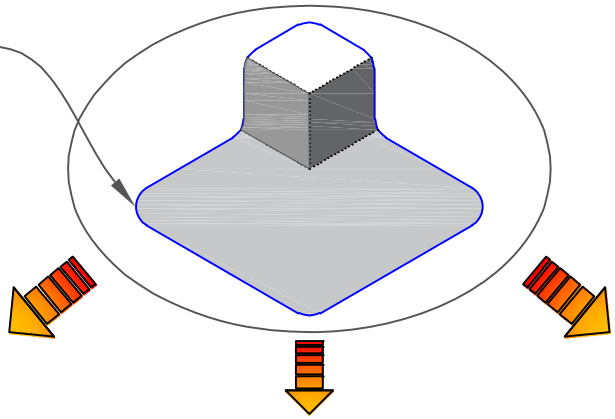




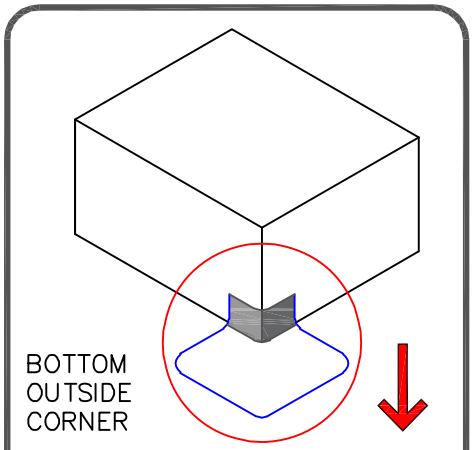
NOTES:

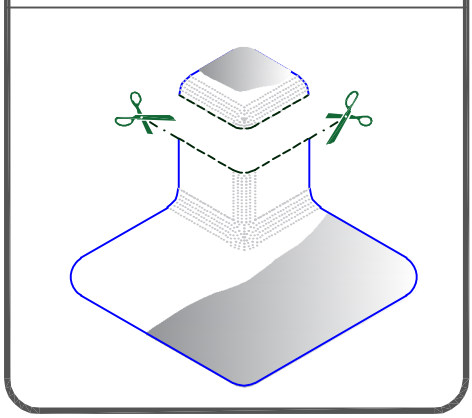
1. FASTEN COATED METAL FLASHING TO WOOD NAILERS USING 1-1/2" (4cm) MIN. RING SHANK NAILS SPACED 6" (15cm) ON CENTER AND STAGGERED APPROX. 1/2" (1.5cm).
2. REFER TO PVC DETAIL TPC-5.2 FOR FLASHING VERTICAL JOINTS IN COATED METAL.

60–MIL THICK PVC, UNIVERSAL CORNERS CAN BE USED FOR 3 DIFFERENT CORNER CONDITIONS AS SHOWN BELOW

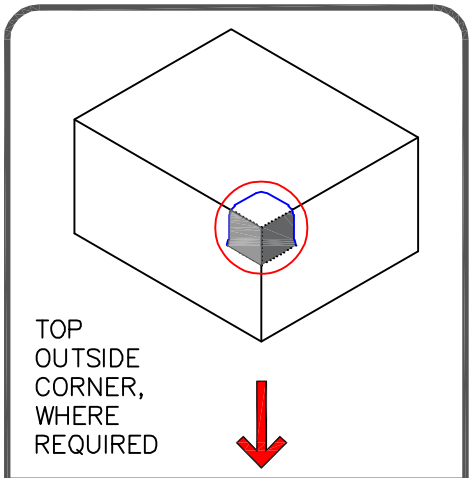


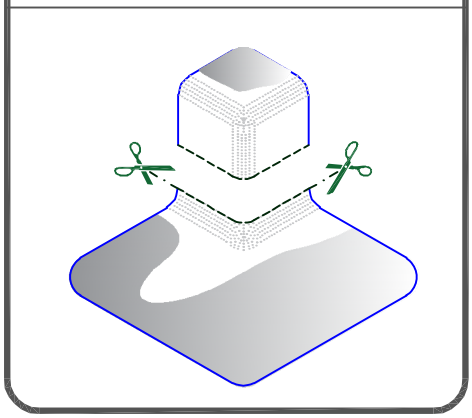
OPTION A



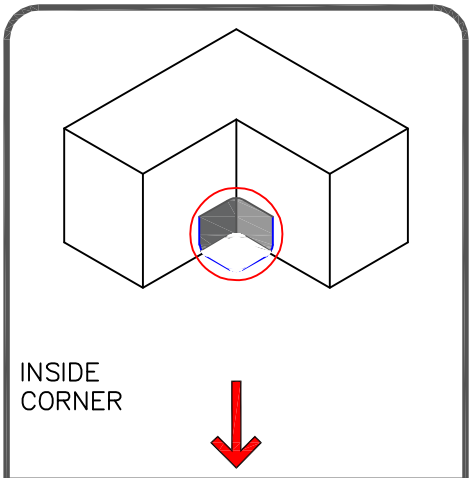


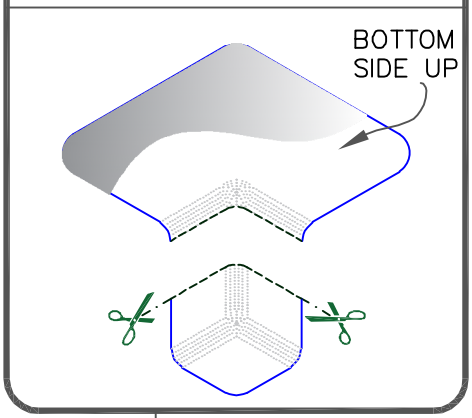
OPTION B





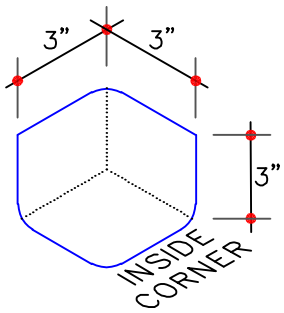
OPTION C

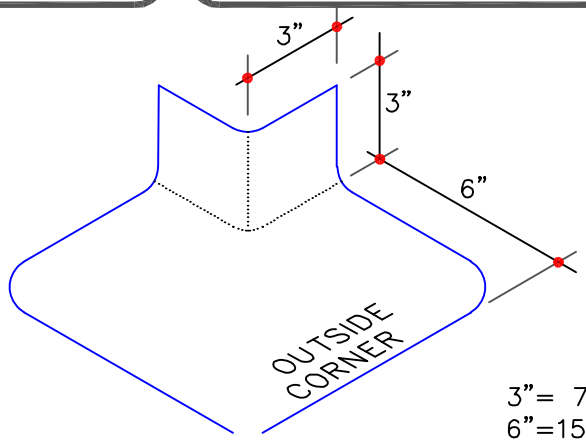




NOTES:

1. ROOF SYSTEMS MUST NOT HAVE FIELD FABRICATED OR BUILT–IN CANT STRIP.
2. REFER TO TECHNICAL DATA BULLETINS FOR COLOR AVAILABILITY.





TYPICAL DIMENSIONS

3"= 7.5cm
6"=15cm

VERSICO ROOFING SYSTEMS

PVC UNIVERSAL CORNERS–COMBINATION INSIDE & OUTSIDE CORNERS

MAXIMUM WARRANTY: 30 YEARS

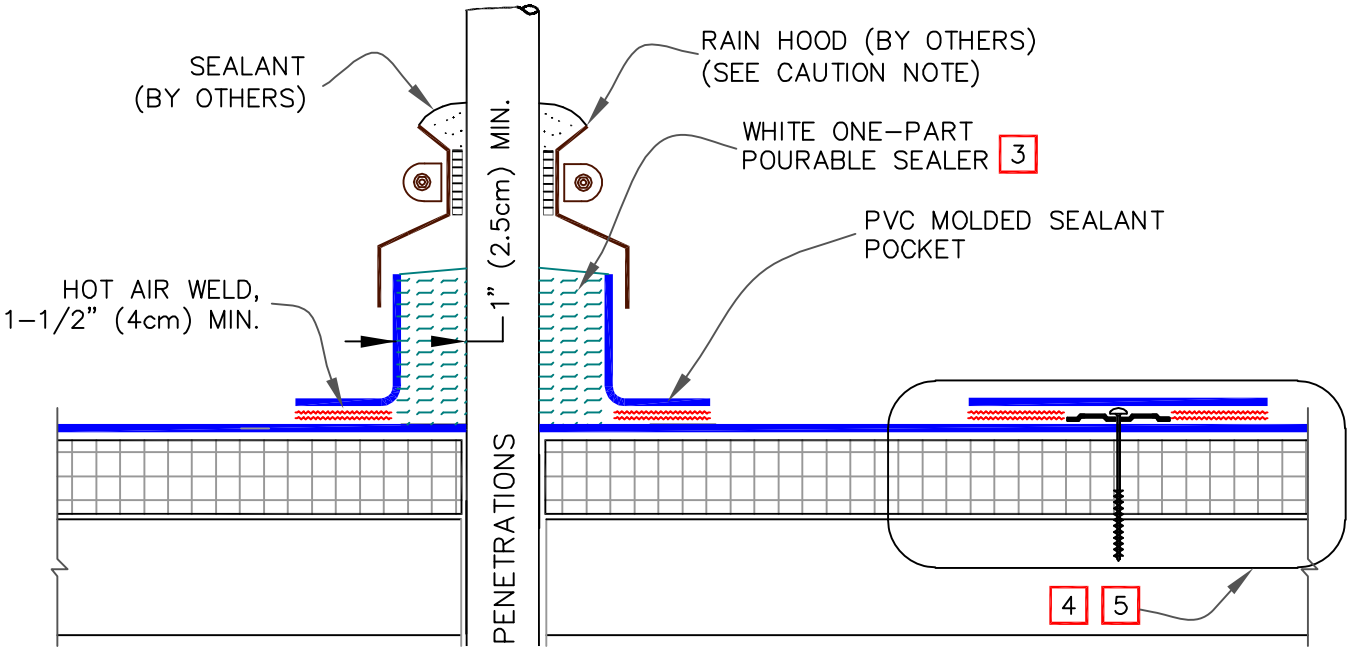
PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC–15.7

CAUTION

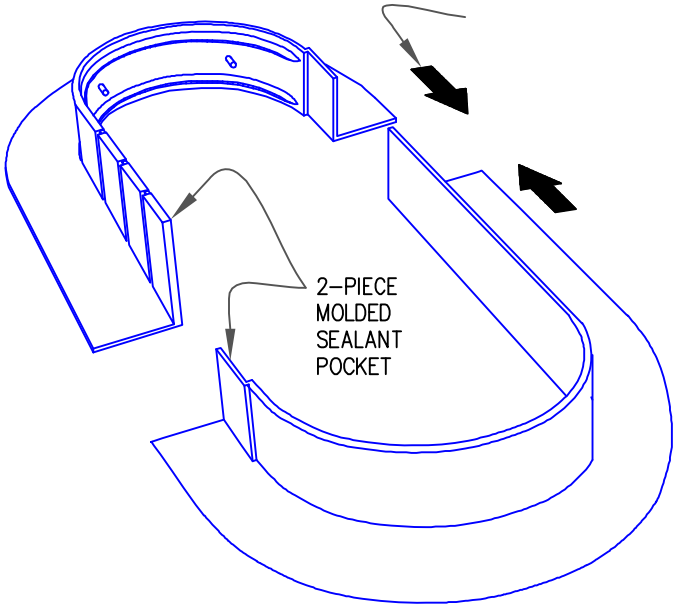
MOLDED SEALANT POCKETS MUST BE USED IN CONJUNCTION WITH RAIN HOODS FOR PROJECTS WITH 25 AND 30–YEAR WARRANTIES.



NOTES:

1. TEMPERATURE OF PIPE MUST NOT EXCEED 140˚ F (60˚ C).
2. PRIMER MUST BE APPLIED ON PENETRATION SURFACES ONLY, WHERE SEALANT WILL BE IN CONTACT.
3. FILL POCKET COMPLETELY WITH WHITE ONE–PART POURABLE SEALER UNTIL RIM IS COVERED WITH SEALANT; ENSURE ALL VOIDS ARE FILLED.
4. ON MECHANICALLY–ATTACHED SYSTEMS, INSTALL A MINIMUM OF 4 FASTENING PLATES AROUND SEALANT POCKETS WITH A DIAMETER UP TO 6" (15cm). ADDITIONAL FASTENING PLATES WILL BE REQUIRED FOR SEALANT POCKETS GREATER THAN 6" IN DIAMETER AND SHALL BE SPACED 12" (30cm) ON CENTER MAXIMUM.
5. REFER TO VERSICO SPECIFICATIONS FOR PROPER FASTENERS AND PLATES.

PLACE MOLDED PVC SEALANT POCKET AROUND PENETRATION AND OVERLAP THE TWO SECTIONS



REFER TO PRODUCT DATA SHEET FOR STEP–BY–STEP INSTALLATION PROCEDURES

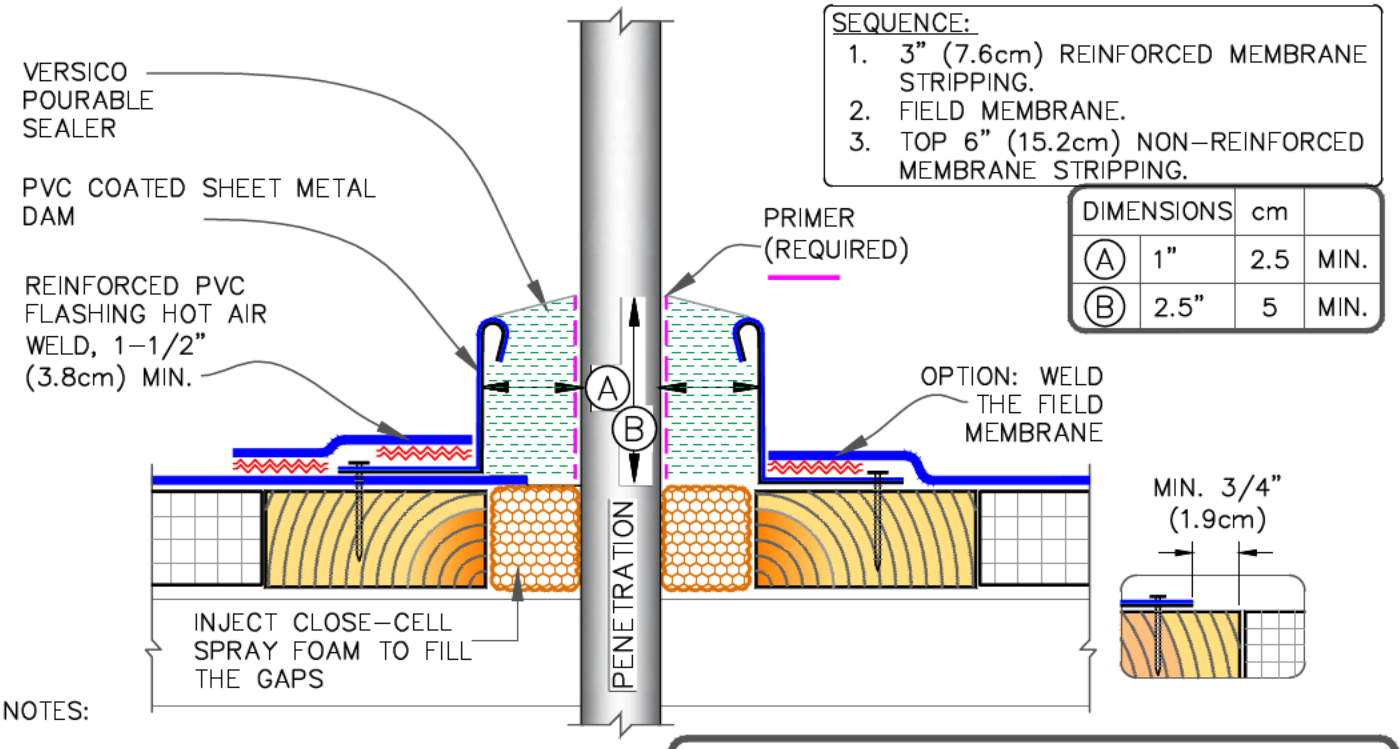
MOLDED SEALANT POCKET

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC–16.1

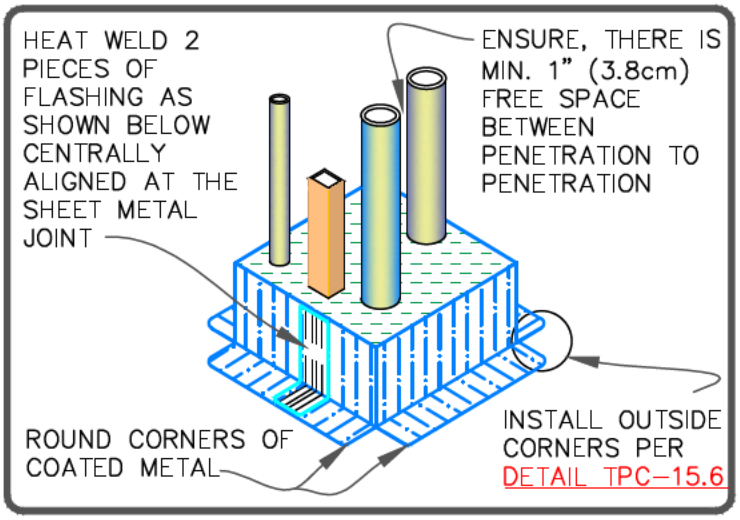


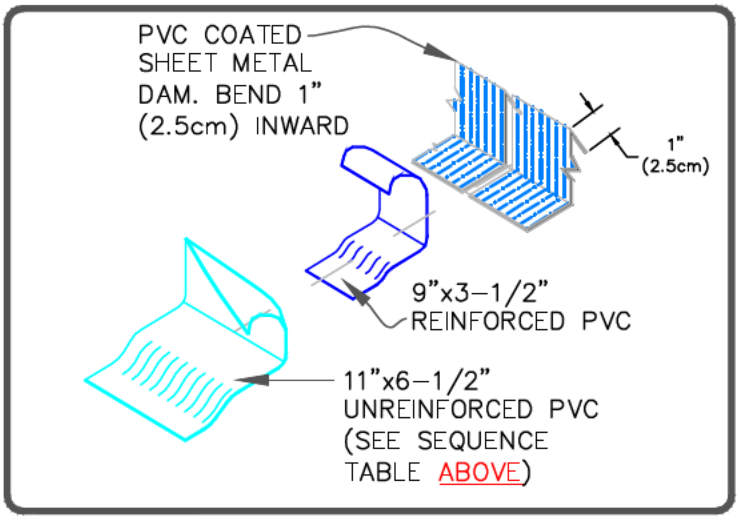
SEQUENCE:
1. 3" (7.6cm) REINFORCED MEMBRANE STRIPPING.
2. FIELD MEMBRANE.
3. TOP 6" (15.2cm) NON–REINFORCED MEMBRANE STRIPPING.

DIMENSIONS	cm	
(A) 1"	2.5	MIN.
(B) 2.5"	5	MIN.

NOTES:

1. TEMPERATURE OF PENETRATIONS MUST NOT EXCEED 140° F (60° C).
2. PVC PRIMER MUST BE APPLIED TO ALL INSIDE SURFACES AND PENETRATIONS PRIOR TO FILLING WITH SEALANT..
3. FILL POCKET COMPLETELY WITH WHITE ONE–PART POURABLE SEALER UNTIL RIM IS COVERED WITH SEALANT; ENSURE ALL VOIDS ARE FILLED.
4. ON MECHANICALLY–ATTACHED SYSTEMS, INSTALL A MINIMUM OF 4 FASTENING PLATES AROUND SEALANT POCKETS WITH A DIAMETER UP TO 6" (152mm). ADDITIONAL FASTENING PLATES WILL BE REQUIRED FOR SEALANT POCKETS GREATER THAN 6" IN DIAMETER AND SHALL BE SPACED 12" (305mm) ON CENTER MAXIMUM. FASTENERS/PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS SEALANT POCKET DIAMETER EXCEEDS 18" (305mm).
5. REFER TO VERSICO SPECIFICATIONS FOR PROPER TYPES OF FASTENERS AND PLATES.
6. SECUREMENT IS REQUIRED FOR POURABLE SEALER POCKETS WHICH ARE GREATER THAN 18" (46 CM) IN DIAMETER. REFER TO SPECIFICATIONS.
7. WHEN ANY ONE SIDE OF THE FIELD FABRICATED POURABLE SEALER POCKET EXCEEDS 12" (30 CM) USE WOOD BLOCKING TO ANCHOR SHEET METAL.





VERSICO ROOFING SYSTEMS

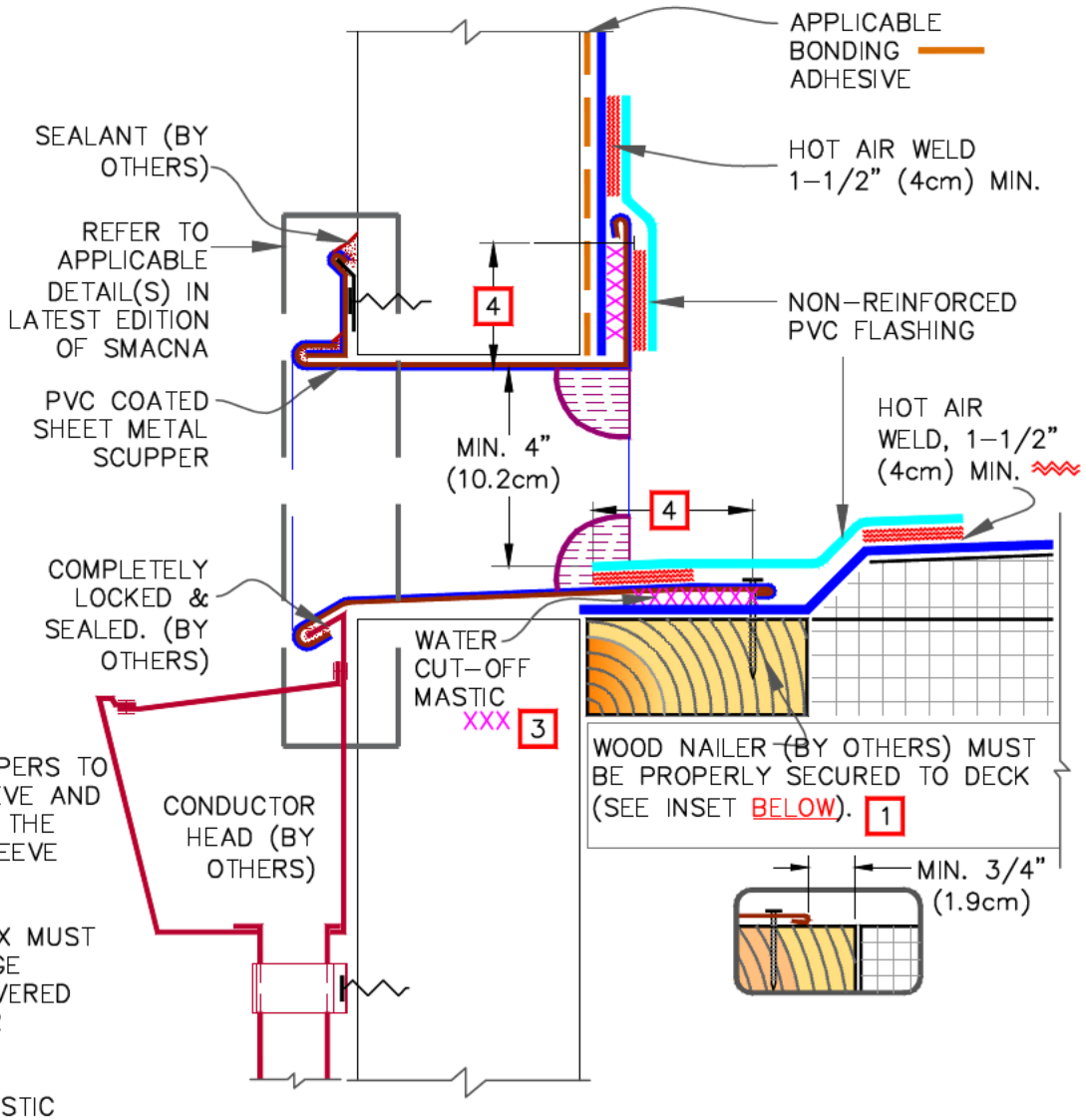
FIELD FABRICATED PVC COATED METAL POCKET

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 → SEE NOTE
PS (PRESSURE SENSITIVE)

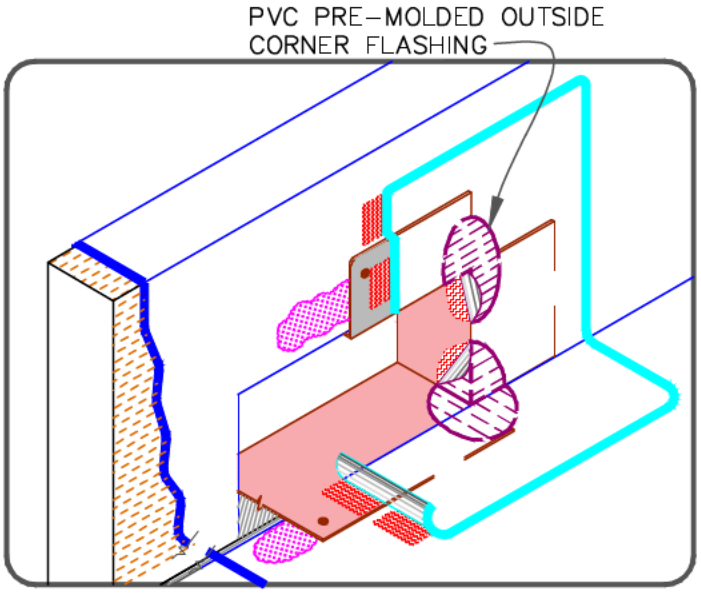
TPC (Thermoplastic Common Details)

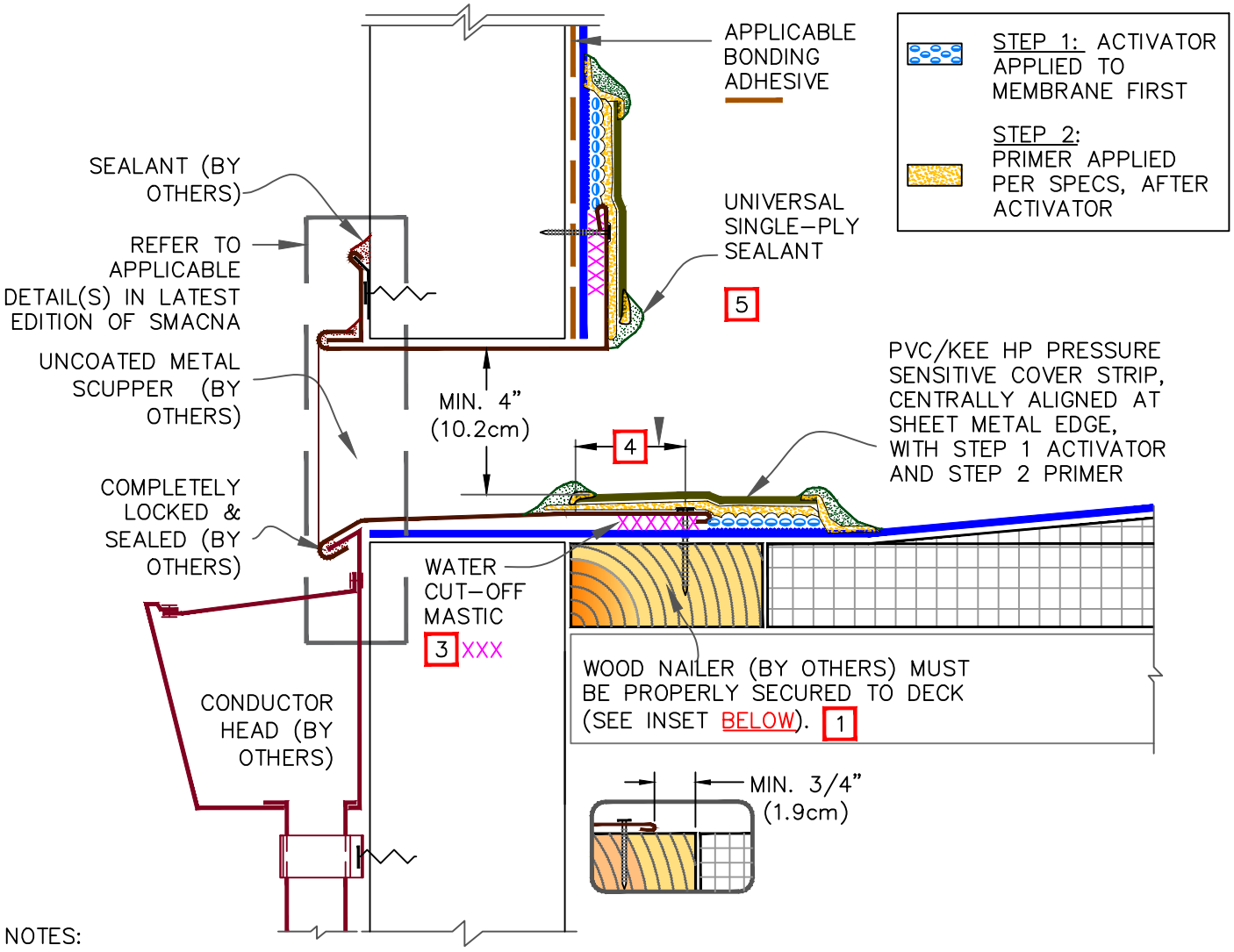
TPC–16.2



NOTES:

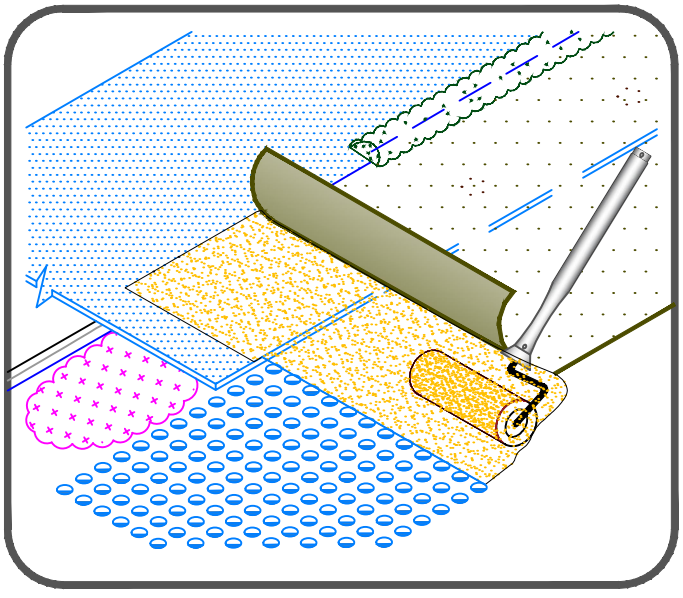
1. WOOD NAILERS ARE INSTALLED AT SCUPPERS TO SECURE METAL SLEEVE AND MUST EXTEND PAST THE WIDTH OF METAL SLEEVE FLANGE.
2. METAL SCUPPER BOX MUST HAVE FOLDED FLANGE CORNERS FULLY COVERED BY OUTSIDE CORNER FLASHING.
3. WATER CUT–OFF MASTIC UNDER SCUPPER FLANGES MUST BE UNDER CONSTANT COMPRESSION.
4. SCUPPER FLANGES MUST BE TOTALLY COVERED BY NON–REINFORCED FLASHING WITH MINIMUM 2" (5cm) COVERAGE PAST NAIL HEAD.





NOTES:

1. WOOD NAILERS ARE INSTALLED ONLY AT SCUPPERS TO SECURE METAL SLEEVE AND MUST EXTEND PAST THE WIDTH OF METAL SLEEVE FLANGE.
2. METAL SCUPPER BOX MUST HAVE CONTINUOUS FLANGES WITH ROUNDED CORNERS, SOLDER ALL SCUPPER SEAMS WATER-TIGHT.
3. WATER CUT-OFF MASTIC UNDER SCUPPER FLANGE MUST BE UNDER CONSTANT COMPRESSION.
4. PRESSURE SENSITIVE COVER STRIP MUST EXTEND A MINIMUM 2" (5cm) COVERAGE PAST NAIL HEAD.
5. UNIVERSAL SINGLE-PLY SEALANT IS REQUIRED AT FLASHING EDGES ON SCUPPER EDGE. PVC STEP 2 PRIMER MUST BE USED TO PREPARE SURFACES PRIOR TO THE APPLICATION OF SEALANT.



VERSICO ROOFING SYSTEMS

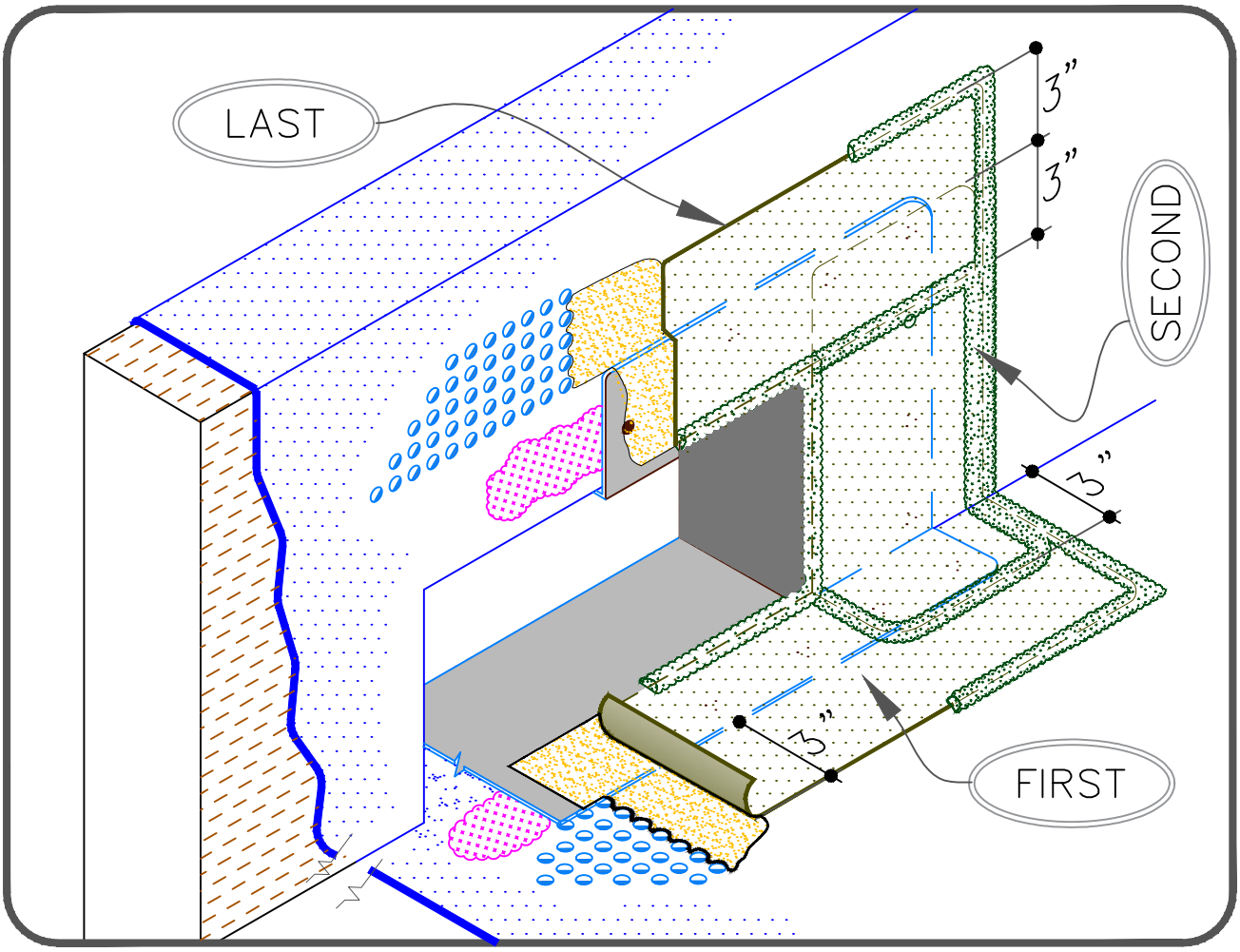
SCUPPER WITH UNCOATED METAL, PAGE 1 OF 2

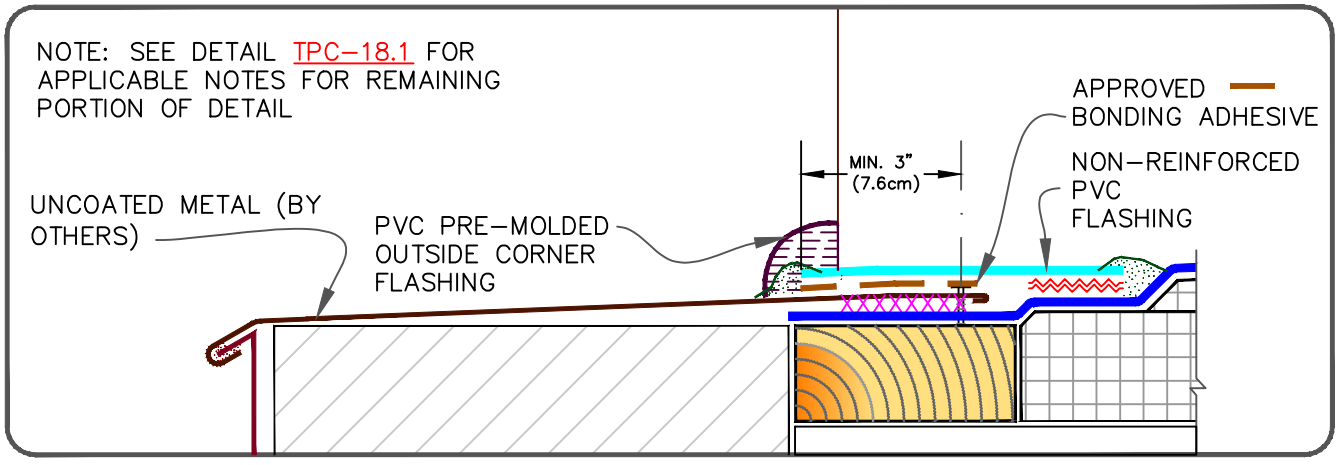
MAXIMUM WARRANTY: 20 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 → SEE NOTE
PS (PRESSURE SENSITIVE)

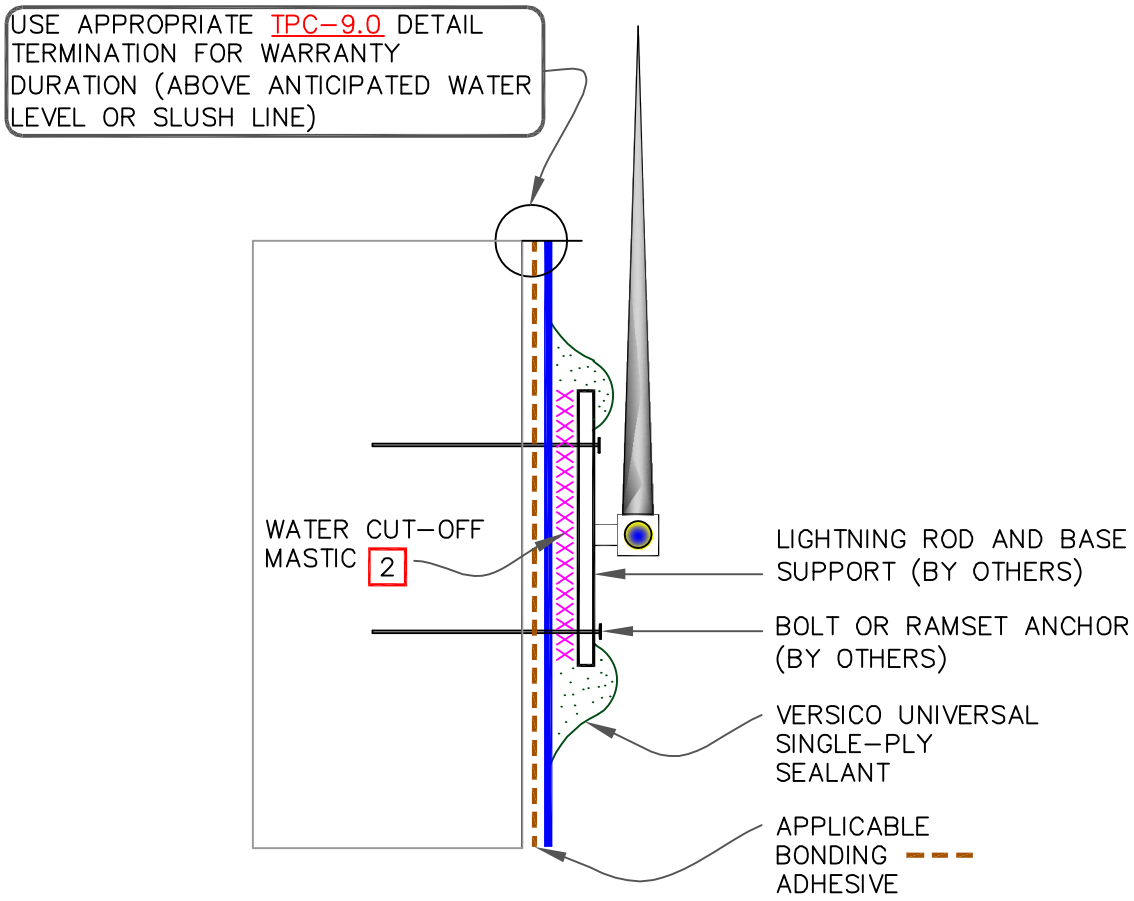
TPC (Thermoplastic Common Details)

TPC-18.2



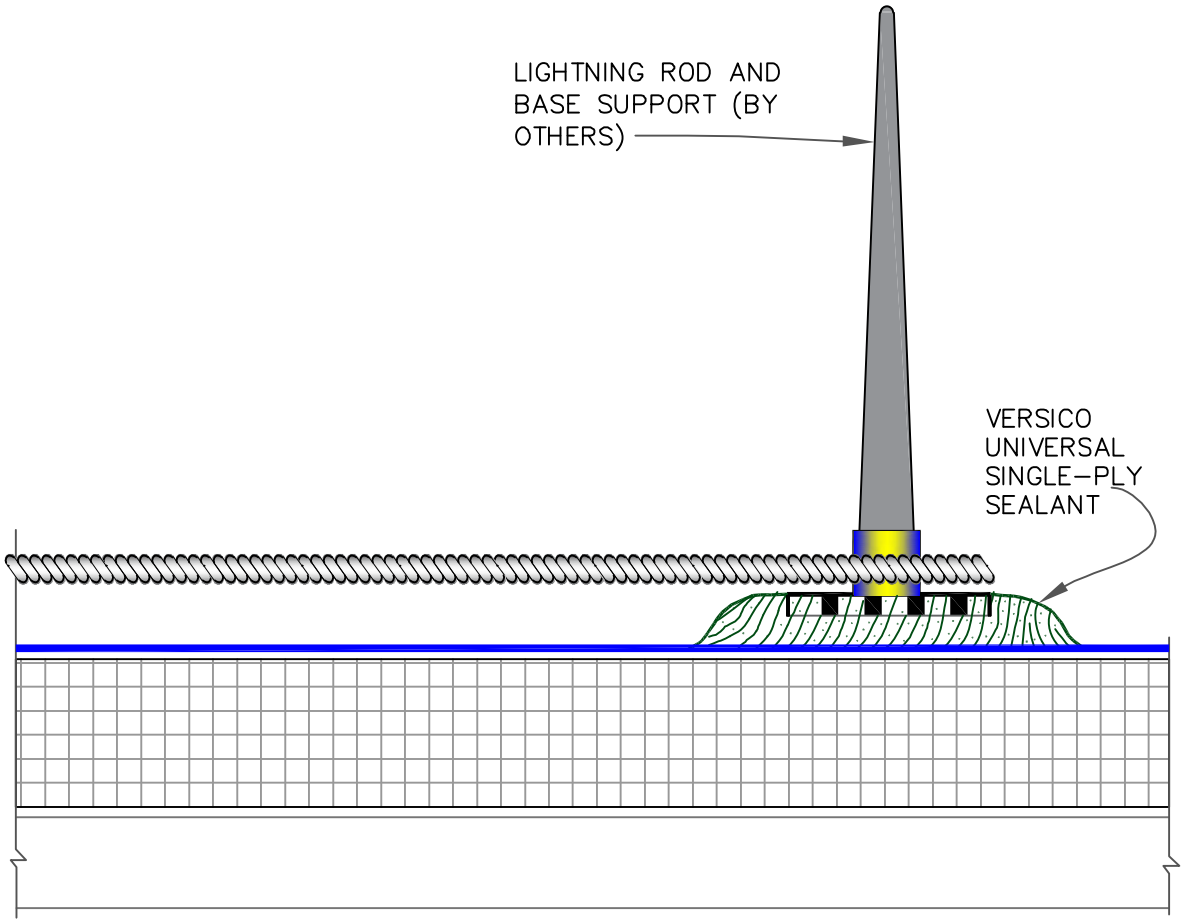


OPTION WITH NON-REINFORCED FLASHING



NOTES:

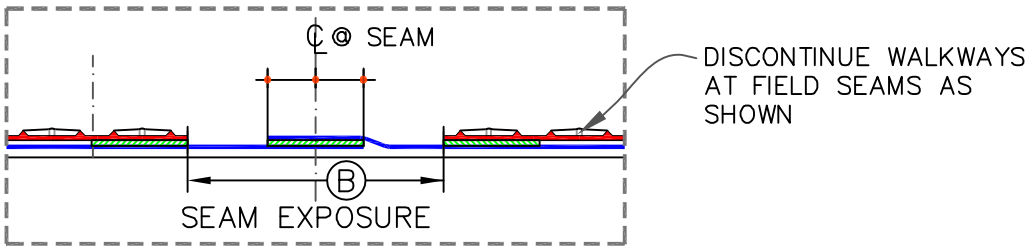
1. DETAIL MAY BE USED FOR ANY FASTENER PENETRATION (E.G., ACCESS LADDER, ANCHOR SUPPORT TO PARAPET).
2. WATER CUT–OFF MASTIC MUST BE UNDER CONSTANT COMPRESSION.
3. DETAIL UNACCEPTABLE FOR HORIZONTAL APPLICATION ON ROOF DECK.
4. COMPLY WITH ZONING ORDNANCE AND LOCAL CODES FOR MOUNTING A LIGHTNING SYSTEM.

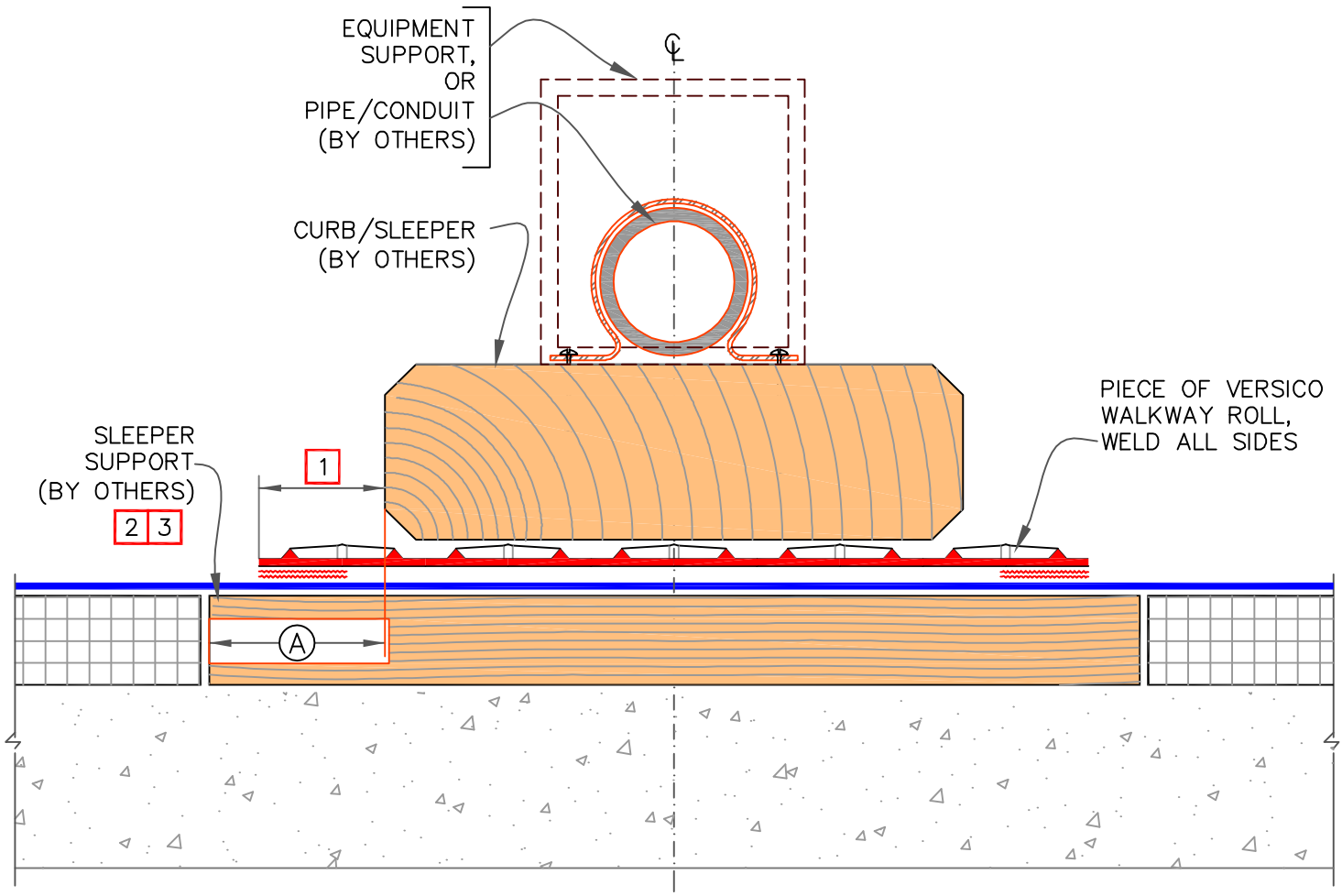


NOTES:

1. CLEAN EXPOSED MEMBRANE SURFACE WITH WEATHERED MEMBRANE CLEANER AND ALLOW TO DRY.

2. COMPLY WITH ZONING ORDNANCE AND LOCAL CODES FOR MOUNTING A LIGHTNING SYSTEM.





NOTES:

1. SLEEPER MUST BE LARGE ENOUGH TO SUPPORT WEIGHT OF EQUIPMENT WITHOUT INDENTING INSULATION. EXTEND SLEEPER OUT AS REQUIRED BY STRUCTURAL ENGINEER TO DISTRIBUTE SUBJECT LOAD OR AT LEAST EXTEND OUT MIN. 3" (7.5cm).
2. ENSURE SCREW/ANCHOR HEADS IN TOP SURFACE OF WOOD BLOCKING ARE RECESSED TO PROTECT MEMBRANE.
3. SLEEPER SUPPORT NOT REQUIRED UNDER CONDUIT OR PIPE SUPPORTS.
4. CONSULT STRUCTURAL ENGINEER AND/OR SPECIFIER TO AVOID WATER PONDING DUE TO DECK DEFLECTION.
5. RAISE CONDUITS AND PIPES ABOVE THE REGIONAL SNOW LINE WHEN SLOPE OF THE ROOF CAN LEAD TO SLIDING SNOW.

DIMENSIONS		cm	
A	3"	7.5	MIN. ALL SIDES
B	8"	20	

WELD

VERSICO ROOFING SYSTEMS

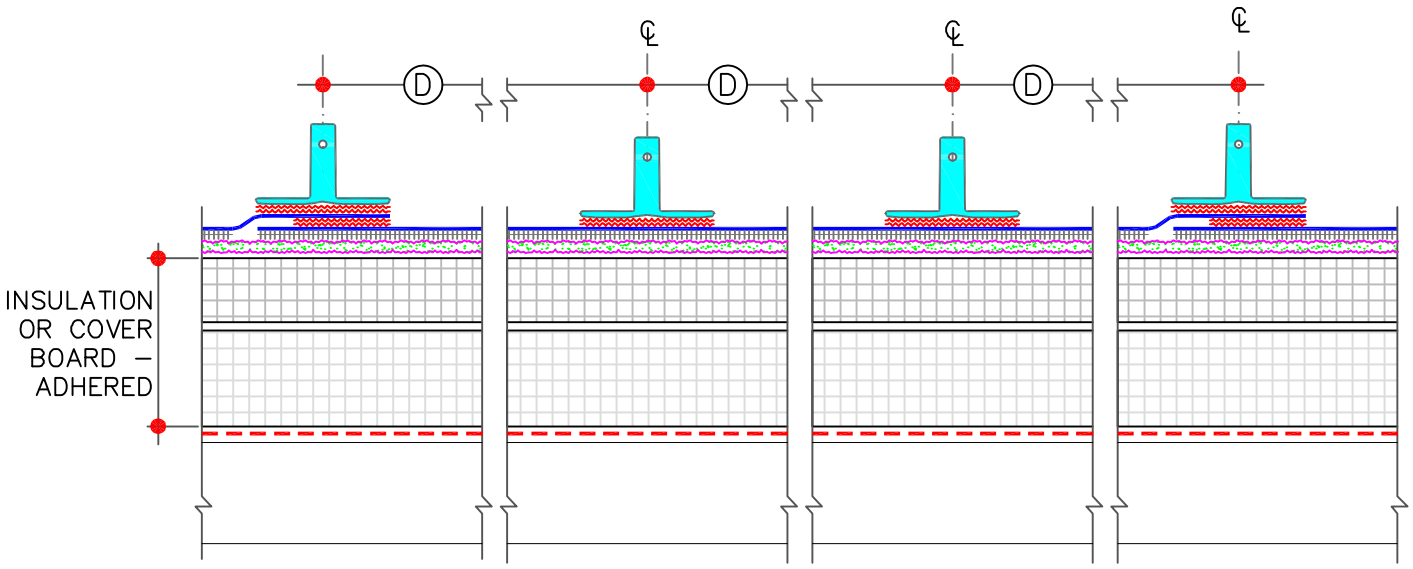
SLEEPER

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

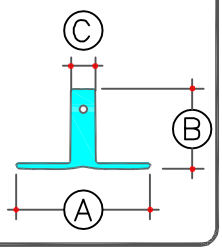
TPC (Thermoplastic Common Details)

TPC–24



SECTION AA: CONTOUR RIB PROFILE

CONTOUR RIB		
DIMENSIONS		cm
Ⓐ	1–3/4"	4.5
Ⓑ	1–1/4"	3
Ⓒ	1/2"	1
Ⓓ	VARIES	



PVC REINFORCED MEMBRANE

APPROVED ADHESIVE

HOT AIR WELD (REFER TO SPECS)

AIR/VAPOR BARRIER (WHERE REQUIRED)

VERSICO ROOFING SYSTEMS

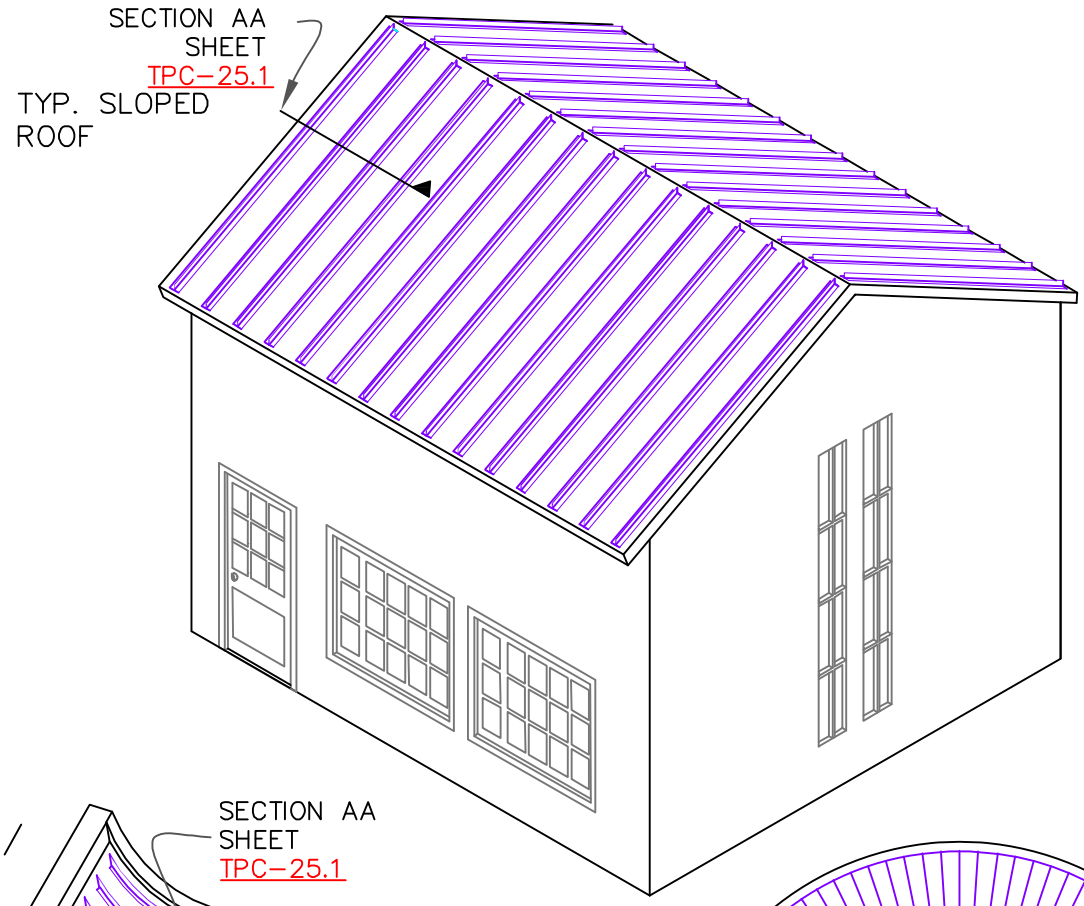
VERSIFLEX PVC RIB: TYPICAL PROFILE

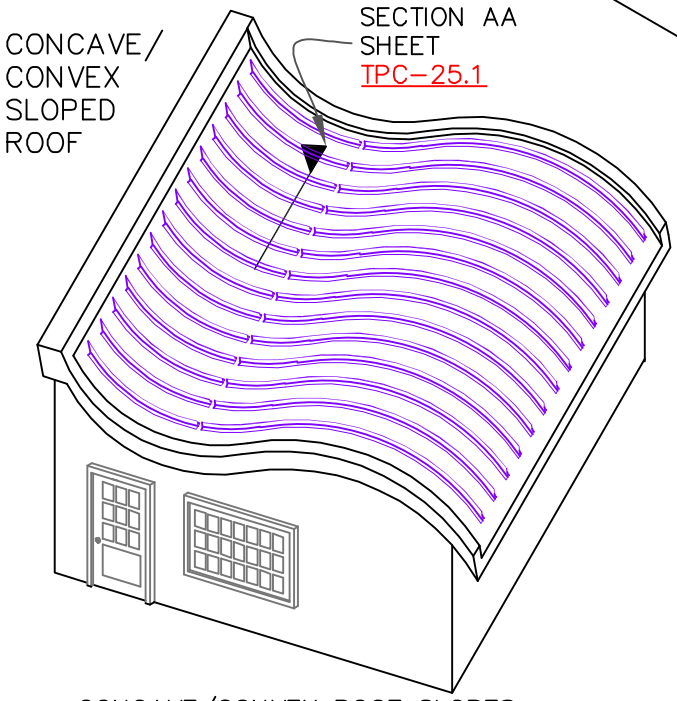
MAXIMUM WARRANTY: 30 YEARS

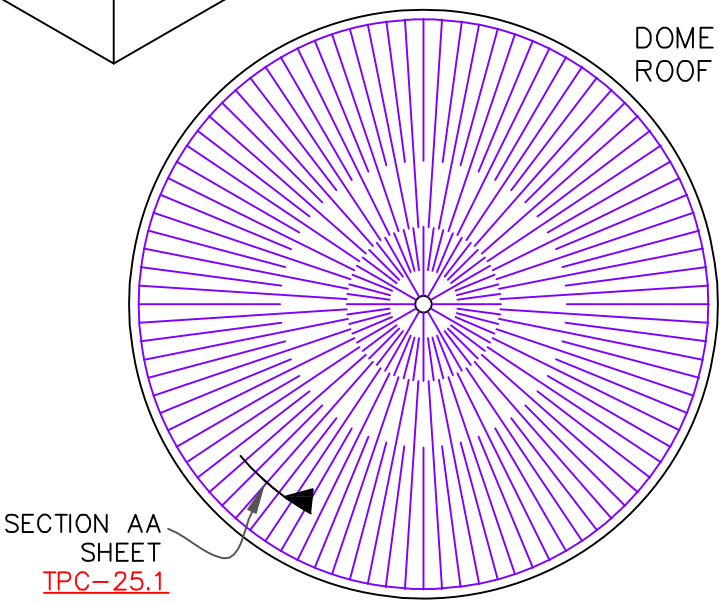
PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC–25.1







CONCAVE/CONVEX ROOF SLOPES

AT COMPLEX GEOMETRIC SHAPES, WITH MULTI–DIRECTIONAL SLOPES, THE SHEET METAL ROOF IS NOT ONLY DIFFICULT TO INSTALL, BUT THE WATER–SHEDDING ABILITY OF METAL ROOF IS SERIOUSLY HAMPERED WITHIN THE CONCAVE (NEGATIVE) SLOPES. THE WATERPROOFED ROOF MEMBRANE WITH THE CONTOUR RIB IS A PRACTICAL SOLUTION.

TYPICAL PLAN OF DOME ROOF

WHERE CONCENTRATION OF STANDING SEAMS NEAR CENTER IN METAL SYSTEM IS EXTREMELY HARD TO FABRICATE & INSTALL, THE CONTOUR RIB INSTALLATION IS EXTREMELY SIMPLE & EASY TO INSTALL.

VERSICO ROOFING SYSTEMS

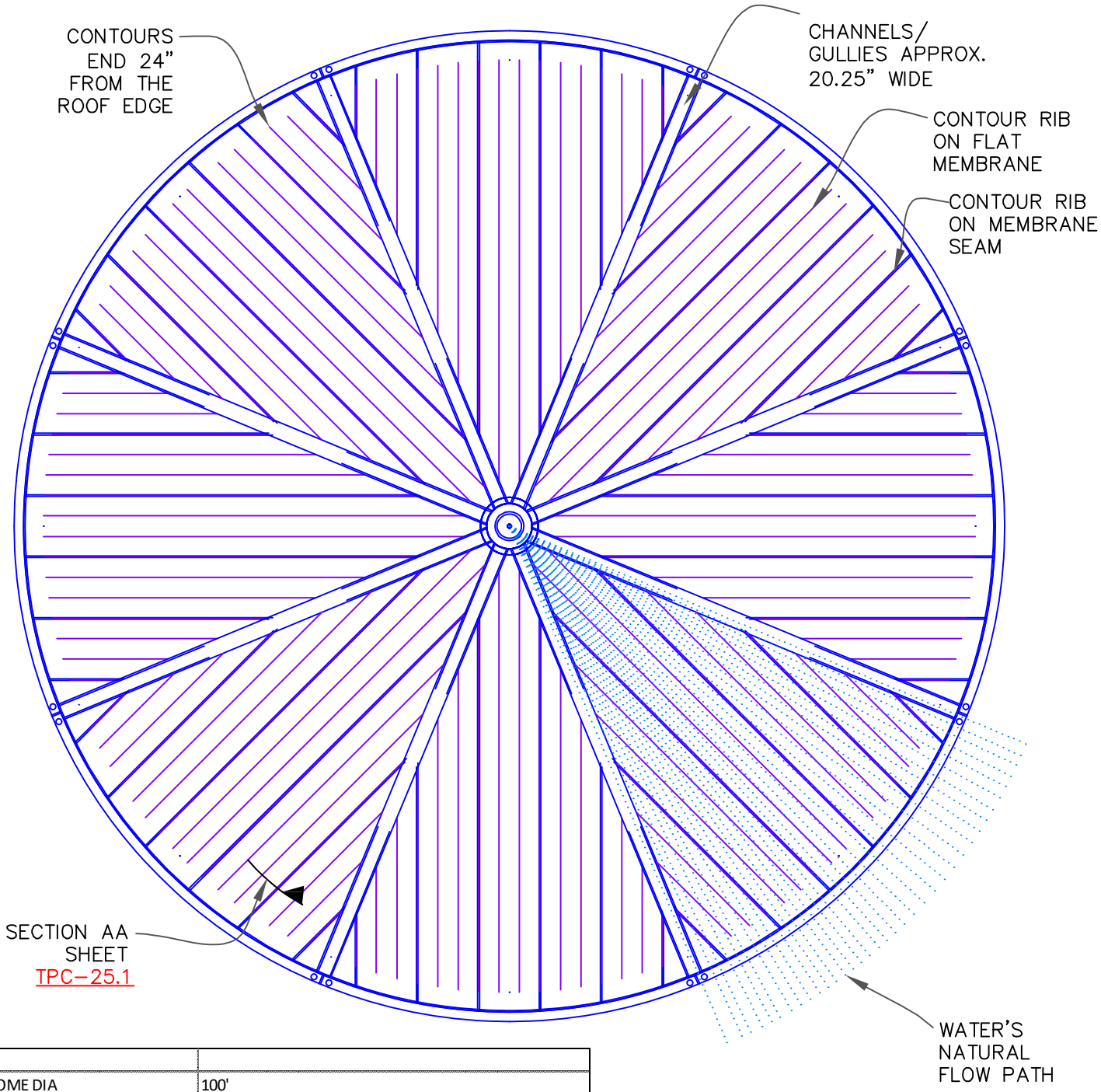
VERSIFLEX PVC RIB: VARIOUS APPLICATIONS

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC–25.2



DOME	
TYP. DOME DIA	100'
DOME AREA	8,550 S.F.
MEMBRANE	
ROLL WIDTH	81"
MEMBRANE SEAM WIDTH	2"
WELDED PORTION	1.5"
CHANNELS/GULLIES	PERFECTLY CUT 1/4TH WIDTH OF 81" ROLL (20.25")
APEX POINT	PERFECTLY CUT CIRCULAR SHAPE AS DESIGNED, APPRX. 37" DIA SHOWN
CONTOUR RIBS	
CONTOUR RIBS O.C.	26.333"
TOTAL LENGTH OF CONTOUR RIBS ON ENTIRE 100 DIA DOME	3256 LINEAR FEET (ADD % FOR DOME CURVE)

TYPICAL EXAMPLE OF 100' DIAMETER DOME ROOF PLAN SHOWS 81" WIDE ROLLS SHOWING CONTOUR RIBS @ 26" O.C.

NOTE: APEX MAY BE DESIGNED WITH SELF–CLEANSING ZINC STRIPS TO CUT DOWN STAINING AROUND LIGHTNING ROD ARRESTOR

VERSICO ROOFING SYSTEMS

VERSIFLEX PVC RIB: EXAMPLE OF DOME WITH RIBS ALIGNED OVER MEMBRANE SEAMS

MAXIMUM WARRANTY: 30 YEARS

PVC/PVC KEE MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE
PS (PRESSURE SENSITIVE)

TPC (Thermoplastic Common Details)

TPC–25.3