WeatherBond PVC
Mechanically Attached and Fully Adhered Roofing Systems

TABLE OF CONTENTS

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

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January 2024

This section is to serve as a guide regarding the design and installation of WeatherBond's Fully Adhered and Mechanically Attached PVC 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.

Various Tables have been included in Paragraph 1.05 citing various recommendations. Appropriate Table should be referenced to ensure proper coverage.

PART I – GENERAL

1.01 Description

A. Mechanically Attached Systems (WeatherBond PVC)

1. **The WeatherBond PVC Mechanically Attached Roofing System** incorporates 50, 60 or 80-mil Polyester Reinforced WeatherBond Polyvinyl Chloride (PVC) membrane or Polyester Reinforced WeatherBond Polyvinyl Chloride (PVC) Membrane with Elvaloy (KEE). Either membrane is available in 10' wide (white membrane only) 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. WeatherBond PVC sheets are available in rolls in 65', 80' or 100' rolls. All sheets are mechanically attached over an approved insulation/underlayment to an acceptable roof deck with the appropriate WeatherBond Fasteners and Fastening Plates. Adjoining sheets of WeatherBond PVC membrane are overlapped and joined together with a minimum 1-1/2" wide heat weld. Membrane fastening requirements are outlined in Tables in Paragraph 1.05 of this Specification.

B. Fully Adhered Roofing Systems (WeatherBond PVC)

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

   A KEE enhanced (white only) WeatherBond PVC membrane with Polyester Reinforcement is available in 10' width.

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

1.02 General Design Considerations

A. The maximum recommended 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 HPWX 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 this roofing system. Contact WeatherBond for verification of compatibility and recommendations concerning an acceptable roofing assembly.

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 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.

G. For information regarding CRRC (Cool Roof Rating Council) and LEED™, refer to the applicable Technical Data Bulletins and Design Reference DR 07-22 “CRRC/LEED Information”.

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.

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. **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.

   WeatherBond 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 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 maximum deflection is anticipated. Slopes greater than 1/8” per foot should be considered due to possible roof deflection.

J. **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**, WeatherBond 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 respective **owner** or **specifier** should consult 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 WeatherBond Roofing System.

NOTE: For code approvals information please contact WeatherBond.

A. WeatherBond recommends the use of WeatherBond supplied products for use with WeatherBond PVC Roofing Systems. The performance or integrity of products by others, **when selected by the specifier and accepted as compatible by WeatherBond**, is not the responsibility of WeatherBond.

B. 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.

C. Refer to the Design Reference DR-07-22 “CRRC/LEED Information” for information. (i.e. solar emittance, solar reflectance and recycled content).

1.04 System Recommendations

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

1. **TABLE II - Mechanically Attached Roofing Systems – PVC Membrane Fastening Criteria - Steel/Concrete Decks** Identifies fastening density, field membrane width and number perimeter sheets required for various wind zones.

2. **TABLE IV - Mechanically Attached Roofing Systems – 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 coverage.

3. **TABLE VI - Mechanically Attached Roofing Systems – PVC Membrane Fastening Criteria – 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.

4. **TABLE IX –Fully Adhered Roofing Systems - Underlayment and Fastening Density for PVC Assemblies** Identifies required underlayments for fully adhered roofing systems. The Table also identifies fastening density or adhesive bead spacing and required edge terminations.

Table I

PVC Membrane Fastening Criteria
for Mechanically Attached Roofing Systems
22 GA. Steel Deck or Structural Concrete Only

Peak Gust Wind Speed	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.

*Using HPWX 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 HPWX Fasteners. Steel Decks use 12” O.C. spacing utilizing HPW-XL Fasteners.

Table II

PVC Membrane Fastening Criteria
for Mechanically Attached Roofing Systems
Wood Decks

Peak Gust Wind Speed	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	Less than or equal to 7 miles			
55 MPH	7/16" OSB	210 lbs	2	3	10'	5'	9" O.C.
			2	3	81"	40.5"	12" O.C.
	15/32" 3-Ply Plywood	240 lbs	2	3	81"	40.5"	12" O.C.
	15/32" 5-Ply Plywood	530 lbs	1	1	10'	5'	12" O.C.
	5/8" OSB *	310 lbs	2	3	10'	5'	12" O.C.
			2	3	81"	40.5"	12" O.C.

Table III

PVC Membrane Fastening Criteria for Mechanically Attached Roofing Systems Lightweight Insulating Concrete over Steel/Gypsum/Cementitious Wood Fiber

Peak Gust Wind Speed	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, Up to 110 MPH.
(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 HPWX 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-06-22 "Withdrawal Resistance Criteria" for more information.

Table IV

Underlayment/Insulation & Required Attachment Assemblies for PVC Fully Adhered Roofing

Other Requirements are Listed in Additional Design Considerations following this Table

Peak Gust Wind Speed	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 MPH	1" (20 psi) Polyisocyanurate	16(5)	12" (2)(3)	6"(2)	PVC Drip Edge
	1-1/2" (20 psi) Polyisocyanurate	10			
	2" (20 psi) Polyisocyanurate	8			
	1/2" XFP HD	12			
	1/4" DensDeck or 1/4" Securock (4)	12			

***For Direct Application over Wood Decks and Lightweight Cellular Concrete, Refer to Roof Deck & Substrate Criteria Table.**
(1) For Building heights between 51'-100', enhance 12'-wide perimeter with 50% more fasteners and plates.
(2) Gravel Surface BUR - Field @ 6" O.C. / Perimeter @ 4" O.C.
(3) Steel Decks - Field & Perimeter @ 6" O.C.
(4) Cover boards must be installed over a min. 1" thick approved WeatherBond Insulation.
(5) Reduced fastening (11 fasteners per 4 x 8 board) is acceptable on Reroof/No Tear off projects with a maximum roof height of 40'.

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 3/4" plywood.

B. 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 WeatherBond and WeatherBond 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 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 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).

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

F. Store WeatherBond 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 insulation on a skid and completely cover with a breathable material such as tarp or canvas. If the insulation is lightweight, it should be weighted to prevent possible wind damage.

Part II – PRODUCTS

2.01 Membranes

A. **WeatherBond PVC Membranes**

1. General

a) The WeatherBond 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 WeatherBond 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. WeatherBond 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 WeatherBond 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 60” 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. WeatherBond PVC membrane is available in white, gray, light gray, slate gray and tan. WeatherBond PVC KEE HP Membrane is available in white, gray, light gray, and tan.

OPTION: 60-mil WeatherBond PVC or 60-mil WeatherBond 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.

WeatherBond 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. WeatherBond 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.

   c) 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 WeatherBond FRS PVC membranes with enhanced dimensional stability for fully adhered roof systems using liquid applied bonding adhesives.

   d) Membrane sheets are packaged in rolls 81" and 120" 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. WeatherBond Reinforced FRS PVC membrane is available in white, gray, light gray, and tan.

WeatherBond 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			

3. WeatherBond 50-mil, 60-mil or 80-mil thick **PVC** (Polyvinyl Chloride) Polyester Reinforced **KEE** 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 PVC based top and bottom plies. The combination of the fabric and PVC plies provide WeatherBond PVC Polyester Reinforced KEE membranes with high breaking strength, tearing strength, and puncture resistance.

   b) Field membrane sheets are packaged in rolls of 120” wide. Perimeter membrane sheets are available in a width of 60” 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. WeatherBond PVC KEE Membrane is available in white only.

WeatherBond PVC Polyester Reinforced KEE Membrane				
PHYSICAL PROPERTY	**ASTM Test Method**	**KEE Membrane**		
		50-mil	**60-mil**	**80-mil**
Thickness (in.)	D751	0.050”	0.060”	0.080”
Minimum Thickness above scrim (in.)	D751	0.024”	0.029”	0.036”
Weight/Density (oz/yd2)	D751	47.0	55.0	73.0
Breaking Strength (grab method, lbs.)	D751	235 min. 275 typ.	250 min. 280 typ.	275 min. 300 typ.
Elongation break of reinforcement, %	D751	31 min. 32 typ.	29 min. 30 typ.	28 min. 31 typ.
Heat Aging % Retention	D3045	>90%	>90%	>90%
Tongue Tear Strength, lbs	D751	50 min. 95 typ.	50 min. 105 typ.	50 min. 100 typ.
Low Temperature Bending, °F	D2136	PASS -40 max.	PASS -40 max.	PASS -40 max.
Linear dimensional change, %, 6 hours at 176 °F	D1204	± 0.7 max. -0.36 typ.	± 0.6 max. -0.27 typ.	± 0.5 max. -0.21 typ.
Water Immersion (%)	D570	1.25	0.87	0.89
Ozone resistance, no cracks, 100 pphm, 168 hrs	D1149	PASS	PASS	PASS
Interply Adhesion (lb/in)	D75	20	22	24

4. WeatherBond 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 WeatherBond 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. WeatherBond KEE HP Membrane is available in white, gray, light gray, slate gray and tan.

WeatherBond 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				

2.02 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 WeatherBond Applicable Details and Design Reference DR-05-22 “Insulation Fastening Patterns”.

4. When new insulation or cover boards are specified, the use of WeatherBond Insulation and WeatherBond marketed cover board is required. Any of the WeatherBond Insulation/Underlayment may be specified subject to design restrictions included with each of the following tables.

B. WeatherBond Polyisocyanurate

Table B1 Polyisocyanurate (See below for product descriptions)

Insulations / Underlayment	Minimum Thickness	ASTM	Roofing System Acceptability	
			Fully Adhered	Mechanically Fastened
WeatherBond XP Polyiso	*1.5"	C1289, Type II, Class 1, Grade 2 or 3	√	√
WeatherBond XFP Polyisocyanurate	*1.5"	C1289, Type II Class 2, Grade 2 or 3	√	√
WeatherBond XFP HD Polyiso Composite (XFP HD)	2"	C1289, Type IV, Class 2, Grade 2 or 3	√	√
WeatherBond XP-NB Polyiso Composite (OSB)	1.5"	C1289, Type V, Class 1, Grade 2 or 3	√	N/A

Design Restrictions

-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, refer to Tables 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: XFP HD Cover Board is listed in Paragraph C4 below.

2. **WeatherBond XP Polyiso** – A foam core insulation board covered on both sides with a medium weight fiber-reinforced felt facer meeting ASTM C 1289-06, 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.

3. **WeatherBond XFP Polyisocyanurate–** A foam core insulation board covered on both sides with a coasted glass fiber mat facer meeting ASTM C 1289-06, 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.

4. **WeatherBond XFP HD Cover Board** – Composite insulation panel comprised of ½-inch high-density Polyiso cover board laminated during the manufacturing process to XFP rigid Polyiso roof insulation meeting ASTM C1289 Type IV, Class 2, 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.

5. **WeatherBond XP-NB Polyiso** – XP 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, Class1 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 (XFP 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	(2)	√

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” XFP HD, Recovery Board or Polyiso Insulation shall be used.
(1) WeatherBond PVC Membrane is not acceptable for this application.
(2) May be used as a substrate for WeatherBond PAS TPO membrane Only.
(3) Minimum 1.25 lbs/cubic ft (pcf) density required for WB TPO Membrane (White Membrane Only)

Notes: N/A = Not Acceptable √ = Acceptable

NOTE: R-Tech Fanfold Recover Board is listed in Paragraph E7 below.
NOTE: Insulation boards listed in ‘a’ through ‘d’ may be specified beneath SecurShield HD, WB Recovery Board, Dens-Deck Prime or Securock

2. **InsulFoam I (EPS: Expanded Polystyrene) –** 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.

3. **InsulFoam VIII (EPS: Expanded Polystyrene) –** 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.

4. **InsulFoam II (EPS: Expanded Polystyrene) –** 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.

5. **InsulFoam IX (EPS: Expanded Polystyrene) –** 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.

6. **InsulFoam HD Composite –** InsulFoam expanded polystyrene (EPS) insulation laminated with a top surface of 1/2” thick XFP 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 Oriented Strand Board (OSB),1/2” DensDeck Prime, 1/2” Securock, or 1/2" Recovery Board. 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 membranes.

D. **XPS: Extruded Polystyrene –** 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 Product Data Sheet	N/A	√ (1)
Thermapink 25	1"	Refer to Product Data Sheet	N/A	√ (1)
Foamular 400	1"	Refer to Product Data Sheet	N/A	√ (1)
Dow Styrofoam Deckmate Plus	1"	Refer to Product Data Sheet	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" XFP HD, Recovery Board or Polyiso Insulation shall be used.
-Refer to related products listed in Spec Supplement P-01-22 "Related Products" for other products which may be suitable for use. WeatherBond must be contacted for specific requirements.

(1) WeatherBond PVC 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

C. **Cover Boards / Slip Sheets**

Table E1 Cover Boards / Slip Sheets (see below for product descriptions)

Insulations / Underlayment	Minimum Thickness	ASTM	Roofing System Acceptability	
			Fully Adhered	Mechanically Attached
XFP HD	.5"	C1289, Type II, Class 4 (109 psi)	√	√
XFP HD Plus	.5"	C1289, Type II, Class 4 (109 psi)	√	√
XP HD		C1289, Type II, Class 1, Grade 3	N/A	√
Securock Cover 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	√

Design Restrictions

-R-Tech Fanfold not recommended for direct use over Type B and F steel decks.
-XFP HD not recommended for direct use over steel decks in lieu of thermal barrier. Fire testing standards yet to be established.
-Securock Cover Board, Recovery Board, DensDeck StormX Prime, DensDeck Prime or DensDeck may not be used directly over New or Existing Lightweight Insulating Concrete Decks existing or Structural Concrete.
- DensDeck, DensDeck Prime and DensDeck StormX Prime not recommended for use directly over existing roofing membrane
-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 WeatherBond.
(2) Install Polymeric Side Up when installing WeatherBond PVC membrane.

Notes: N/A = Not Acceptable √ = Acceptable

2. **XFP HD –** a rigid insulation panel composed of a high-density (100 psi), closed-cell polyisocyanurate foam core laminated to coated-glass fiber-mat facer 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.

3. **XFP 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 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. **XP 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. **Securock Cover Board –** A uniform composition of fiber-reinforced with no 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.

6. **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.

7. **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.

8. **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.

9. **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 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.

10. **HP Protection Mat –** A nominal 6-oz per square yard UV resistant polypropylene needle punched fabric used as an underlayment to the membrane. Available 15’ x 30’ roll (450 square foot) weighing 0.06 lbs per square foot.

2.03 Related Materials

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

1. **WeatherBond PVC non-reinforced Flashing** is 80-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. **WeatherBond PVC Reinforced Cover Strip:** A 8” wide, nominal 80-mil thick, polyester reinforced PVC membrane. Used for stripping in rows of fasteners and plates and covering the butt joints of WeatherBond PVC membranes. Available in rolls 8" wide by 75' long in colors of white, gray or tan.

3. **WeatherBond KEE HP Reinforced Cover Strip:** A 8” wide, nominal 80-mil thick, polyester reinforced KEE HP PVC membrane. Used for stripping in rows of fasteners and plates and covering the butt joints of WeatherBond 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. **WeatherBond 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 WeatherBond 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. **WeatherBond PVC Overlayment Strip:** An 80-mil non-reinforced thermoplastic polyvinyl chloride-based membrane used for stripping in PVC Coated Metal roof edging. WeatherBond 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 WeatherBond PVC membranes.

6. **WeatherBond 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 WeatherBond PVC or WeatherBond 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 WeatherBond 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. **WeatherBond 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 WeatherBond PVC or KEE HP systems to provide a visual warning of an impending hazard (e.g., roof edge, deep drain sump, skylight, etc.).

9. **WeatherBond PVC Rib Profile:** Used to obtain the appearance of standing seam metal roofing with the performance of a PVC single-ply membrane. PVC 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. PVC 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) **WeatherBond PVC Inside Corners:** A pre-molded flashing for inside corners. Reversible for use as white or gray; 80-mil thick.

    b) **WeatherBond PVC Outside Corners:** A pre-molded flashing for outside corners. Available in white only; 60-mil thick.

    c) **WeatherBond PVC Curb Wrap Corners:** Fabricated flashings are made of 60-mil thick reinforced WeatherBond 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) **WeatherBond PVC Universal Corners:** a pre-molded flashing for use in a variety of corner details, including inside and outside corners. Available in white and are 60-mil thick.

    e) **WeatherBond PVC Pipe Flashings:** A pre-molded white pipe flashing used for pipe penetrations. Available for 3/4" – 8" diameter pipes with clamping rings included.

    f) **WeatherBond PVC Split Pipe Seals:** A prefabricated flashing consisting of 60-mil thick reinforced WeatherBond PVC 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 as a standard. Gray or tan can be special ordered and will require a lead time.

    g) **WeatherBond PVC Square Tubing Wraps:** Fabricated flashings made of 60-mil thick reinforced WeatherBond PVC 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. Pockets can be adjusted from 7.5” to 11.5” in length by 6” in width by following the cutting lines molded in the pocket. Available in white as a standard.

    h) **WeatherBond 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. Pockets can be adjusted from 11.5” to 7.5” in length by 6” in width by following the cutting lines molded into the pocket. Used in conjunction with White One-Part Pourable Sealer for waterproofing pipe clusters or other odd shaped penetrations. Available in white and gray.

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. **WeatherBond PVC Products**

   a) **Low VOC PVC Bonding Adhesive:** A high-strength solvent based adhesive that allows bonding of 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 PVC smooth-backed and Fleece 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 Fleece 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) **WeatherBond PVC Cut-Edge Sealant:** A clear-colored sealant used to seal cut edges of reinforced WeatherBond PVC 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 Membranes is not required, however it is recommended.

   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 membrane that has 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) **WeatherBond PVC Low-VOC PVC Step 1 Activator:** A high-strength, solvent-based activator that allows PVC Pressure-Sensitive (PS) Cover Strip to be bonded to WeatherBond 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) **WeatherBond PVC 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) **WeatherBond 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.

2.04 Fastening Components

A. **Fasteners**

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

Insulation Fastening Criteria

Deck Type	WeatherBond Fasteners (1)	Min. Penetration	Pilot Hole Depth	Pilot Hole Diameter
Steel or Lightweight Insulating Concrete over Steel	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	HPW, ASAP or InsulTite	Min. 1" (3)	N/A	N/A
Cementitious Wood Fiber	Polymer Gyptec or Lite-Deck Fasteners	1-1/2"	Note (4)	N/A
Gypsum	Polymer Gyptec or Lite-Deck Fasteners	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 cementious wood fiber decks do not require pre-drilling; however, WeatherBond 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 WeatherBond PVC Roofing Systems. Refer to the applicable specification for specific requirements.

1. **HPWX Fastener:** A heavy duty #15 threaded fastener with a #3 Phillips drive used with WeatherBond's HPWX 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. **HPW-XL Fastener:** An oversized diameter #22(.315") steel, threaded fastener used in conjunction with HPW-XL Plates for membrane securement into minimum 22 gauge steel or wood decks on Mechanically Attached Roofing Systems.

3. **HPW 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**: WeatherBond'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 WeatherBond 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.

9. **Lite-Deck Fastener: A deep, coarse threaded fastener used to secure insulation to gypsum and cementitious wood fiber decks in conjunction with Lite-Deck Plates.**

B. **Fastening Plates**

1. **HPWX Plate**: A 2-3/8" diameter metal barbed fastening plate used with WeatherBond HPWX 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. **HPW-XL Plate**: A 2-3/8" diameter metal barbed fastening plate with an oversized hole for use with WeatherBond HPW-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 WeatherBond Fastener.

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

5. **Oval Plate:** A 2-3/4" x 1-1/2" oval metal barbed fastening plate for use with WeatherBond HPWX fasteners for securement of 10' wide PVC membrane on Mechanically Attached Roofing Systems.

2.05 Insulation Securement Adhesive

1. **Flexible DASH Adhesive:** A two-component (Part A and B), low-rise polyurethane adhesive designed for bonding Fleece membrane and/or insulation to various substrates. 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 BA** – A two-component, polyurethane, low-rise expanding adhesive used to bond insulation to various substrates. Packaged in 5-gallon pails 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 Technical Data Bulletin.

5. **OlyBond 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 Technical Data Bulletin for bead spacing with reference to building height.

2.06 Vapor / Air Barrier

1. **General**

   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 WeatherBond supplied "peel and stick" rubberized asphalt membrane with compatible film coating (725 Air and Vapor Barrier), and spray or roller applied butyl coatings. Installation requirements for 725 Air and Vapor Barrier are identified in Spec Supplement G-07-22 "Application Procedures for 725 TR Air and Vapor Barrier".

2. **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. **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. **CCW-702 Primer and 702LV Primer (Low-VOC)** - A single component, solvent based, high-tack primer used to provide maximum adhesion between 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.

5. **CAV-GRIP III 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 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.

2.07 Metal Accessories, Edgings, Coping and Terminations

A. **General**

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

B. **Products**

1. **WeatherBond PVC Coated Metal:** A 24 gauge, galvanized steel sheet coated with a layer of 40-mil non-reinforced WeatherBond PVC Flashing. The sheet is cut to the appropriate width and used to fabricate metal drip edges or other roof perimeter edging profiles. WeatherBond PVC Membrane may be heat welded directly to the coated metal. Coated metal is available in sheets 4' x 10' and comes packaged 10 sheets per pallet. Available in white, gray, light gray, slate gray and tan.

4. **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.

5. **Term Bar Fascia:** A 1.75” wide formed aluminum termination bar with pre-slotted fastening holes for ease of locating and installing. The decorative cover is available in 0.040” aluminum or 24-gauge galvanized steel. Term Bar Fascia is manufactured in 12’ lengths for fewer joints/seams, fewer sections to handle and faster installation.

6. Refer to Spec Supplement P-01-22 “Related Products” for other edgings and coping materials.

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

c) **PVC Crossgrip Walkway Rolls:** Manufactured from PVC and may be used in lieu of standard 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) **Interlocking Rubber Pavers**, 24" X 24" X 2", weighing approximately 6 pounds per square foot, may be specified loose-laid directly over the membrane.

e) **Smooth Concrete Pavers**, when specified in conjunction with insulation that is mechanically attached, must be loose laid over a slip sheet of membrane or 2 layers of HP Protective Mat. When insulation is attached

with Flexible DASH Adhesive, concrete pavers may be placed over one layer of WeatherBond Protective Mat. Pavers cannot weigh more than 80 pounds per paper for ease of removal.

2.09 Other WeatherBond Accessories

Refer to Spec Supplement P-01-22 “Related Products” for additional accessories.

Part III – Execution

Prior to commencing with the installation of any of the Thermoplastic Membrane Systems refer to Paragraph 1.05 “Tables” for applicable components and proper securement method.

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-06-22 “Withdrawal Resistance Criteria” for 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 WeatherBond 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 WeatherBond 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:

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

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**, WeatherBond 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 WeatherBond to remove the loose gravel, which may trap moisture. Any uneven areas of the substrate must be leveled to prevent insulation from bridging.

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

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

J. **Vapor Retarder Installation**

Refer to Spec Supplement G-07-11 “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 WeatherBond 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 WeatherBond. Refer to Design Reference DR-08-11 “Wood Nailers and Securement Criteria” for Wood Nailer Criteria.

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) WeatherBond 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) The direct application of WeatherBond PVC 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 Tables, Paragraph 1.05, for attachment method and appropriate fastening density.

B. **Fully Adhered Roofing Systems**

1. **Mechanical Attachment**, insulation fastening density will vary based on insulation type and thickness. Tables in Paragraph 1.05 should be referenced for fastening density and the appropriate WeatherBond 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-05-22 “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-05-22 “Insulation Fastening Patterns” for various fastening patterns.

   c) On Reroof/No Tear off projects with a maximum roof height of 40', any WeatherBond Insulation (i.e., 1/2” XFP HD, Recovery Board, Polyisocyanurate less than 1-1/2" thick) may be secured at the minimum rate of 11 Fasteners per 4' x 8' board (5 Fasteners per 4' x 4' board).

   d) Oriented strand board (OSB) when specified as the membrane underlayment, must be mechanically attached to the deck at the rate 17 fasteners for 4 x 8 board in accordance with WeatherBond Details. If OSB is to be used in conjunction with WeatherBond urethane based adhesive, an OSB/Polyisocyanurate composite board is recommended. When positioning OSB it shall not be butted, allow 1/8” gaps between boards to prevent cupping.

2. **Adhesive attachment**, WeatherBond Urethane Adhesive (Flexible DASH or Olybond) may be used. When bead adhesive is specified bead spacing will vary, refer to Tables, Paragraph 1.05 and appropriate WeatherBond 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-02-22 "DASH Adhesive Application/Coverage Rates".

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, 100 – 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.

f) Refer to Spec Supplement G-02-22 "Adhesive Application/Coverage Rate" for application procedures and coverage rates.

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).

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 WeatherBond PVC 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 WeatherBond PVC membrane.

g) A grid shall be installed subdividing the roof in individual sections of 2400 square feet. Required for 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 WeatherBond HPW or HPWX Fasteners on 12” o.c. For wood nailer installation, refer to Design Reference DR-08-22 “Wood Nailers and Securement Criteria”.

C. **Mechanically Attached Roofing Systems**

1. **WeatherBond 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 HPWX/HPW-XL Plates OR 3" diameter Insulation Fastening plate.

2. **Any WeatherBond approved insulation or cover board** shall be mechanically attached to the roof deck at the minimum rate of **1 fastener and plate per every 8 square feet** (4 fasteners in a 4 x 8 board).

   CAUTION: WeatherBond 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.

3. Use of DensDeck, DensDeck Prime and DensDeck StormX Prime 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 WeatherBond details. Refer to Paragraph F for additional membrane securement.

B. **Membrane Placement**

Maximum 10’ wide WeatherBond PVC Membrane is fully adhered or mechanically attached to an approved insulation or substrate.

1. **Position** WeatherBond PVC 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 “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** WeatherBond PVC membrane to an acceptable substrate with WeatherBond Bonding Adhesive. CAV-GRIP PVC aerosol adhesive may be utilized with WeatherBond 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 **WeatherBond PVC 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-09-22 “Aqua Base 120 Bonding Adhesive” for application methods.

6. **Allow** adhesive to dry until tacky but will not string or stick 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 WeatherBond PVC membrane.

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

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

2. Membrane Fastening Selection Table:

Membrane Fastener Selection

Deck Type	WeatherBond Fasteners*	WeatherBond Plate	Min. Penetration
Steel or Lightweight Insulating Concrete over Steel**	HPWX	HPWX Plates	3/4"
	HPW-XL	HPW-XL Plates	
Structural Concrete, rated 3,000 psi or greater	CD-10	HPWX Plates	1"
	MP 14-10	HPWX Plates	
Wood Plank, min. 15/32" thick Plywood or min. 7/16" OSB**	HPWX	HPWX Plates	Min. 1"
	HPW-XL	HPW-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 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 assemblies, 2-3/4" x 1-1/2" oval metal barbed fastening plates can used in conjunction with HPWX 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-06-22 "Withdrawal Resistance Criteria".

4. Perimeter Sheets

   The number of perimeter sheets and fastener spacing is dependent on the building height and wind zone location as outlined in 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 3'. 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 WeatherBond PVC 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**

1) WeatherBond PVC projects- center 6" wide section of membrane (equal thickness to the deck membrane) over the plates and heat weld the field sheets. It is recommended that cut edge sealant should be used for PVC overlay but it is not required.

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.

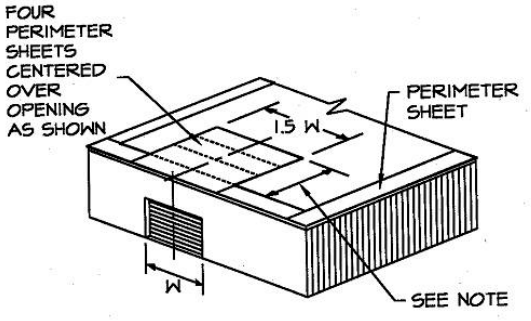
c) **Building with Special Conditions:**

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 WeatherBond Specification for the WeatherBond PVC Fully Adhered Roofing System.

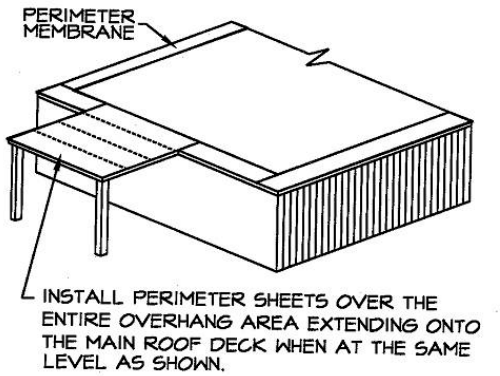


NOTE: Depth of perimeter area, noted above, shall not be less than 2.5 times the width of the opening.

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 WeatherBond Specification for the WeatherBond PVC 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 WeatherBond 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 WeatherBond details.

2. Securement may be achieved as follows:

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

Refer to **Spec Supplement T-01-22 "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 WeatherBond PVC membrane sheets.

   When using **80-mil** WeatherBond PVC 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 Hand Held 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-01-11** "**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-01-22** "**Heat Welding Equipment**" for additional information.

F. **Seam Probing**

1. A cotter pin puller (blunt or dull for PVC Membranes) or Seam Probe is recommended to probe all heat-welded seams. Probing seams must be done once heat welds have thoroughly cooled. Refer to **Spec Supplement T-01-22** "**Heat Welding Equipment**" for additional information.

G. **Cut-Edge Sealant**

1. Cut-Edge Sealant is not required on cut edges of WeatherBond PVC membrane (Horizontal or Vertical) however, it is recommended.

3.07 Welding Problems / Repairs

A. A Handheld Hot Air Welder and a 2" wide silicone roller must be used when repairing the WeatherBond PVC 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 or PVC Membrane Cleaner (Weathered Membrane Cleaner should not be used to clean WeatherBond PVC 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 PVC 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 Hand-held Hot Air Welder and a silicone roller. Depending on conditions, a splice overlay may be required.

D. Position the hand-held 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 WeatherBond PRO PVC 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 WeatherBond PVC Membranes, however, it is recommended.

Note: The same overlay repair procedures may be used for puncture in the WeatherBond PVC 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. WeatherBond's Termination Bar, in conjunction with Water Cut-Off Mastic, is recommended under all metal counterflashings and surface mounted reglets.

3. To comply with various options, flashing material must equal the required minimum membrane thickness but shall not be less than 60 mils thick.

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

5. **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 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. WeatherBond 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) 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).

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

a) The new WeatherBond PVC 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.

7. 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 WeatherBond PVC Bonding Adhesive. CAV-GRIP

PVC aerosol adhesive may be utilized with WeatherBond 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 WeatherBond's applicable details.

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

The flashing height must be calculated so that the WeatherBond PVC membrane flashing includes a minimum 1-1/2 inch heat weld beyond the Fastening Plates.

1. Fasten at angle change as identified in **Paragraph 3.08**, Additional Membrane Securement, with the required WeatherBond Fastener and plate.

2. Flash the fasteners/plates with a separate piece of WeatherBond PVC 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 WeatherBond Detail using PVC Coated Metal in order to achieve ES-1 Compliance. Refer to the appropriate Common Details for other flashing options and requirements.

E. **Roof Drains**

1. WeatherBond PVC 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. **WeatherBond PVC Rib Profiles**

1. WeatherBond PVC Rib Profiles are recommended for use with PVC Fleece adhered roofing systems.

2. The WeatherBond PVC 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 WeatherBond PVC 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 WeatherBond PVC 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 WeatherBond 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 WeatherBond WeatherBond PVC 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), 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 membranes require total isolation between the two roofing systems.

6. **Flashing of Difficult Penetrations,** refer to Spec Supplement G-11-22 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-05-22 "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-06-22 "Daily Seal & Clean Up**".

WEATHERBOND
ROOFING SYSTEMS

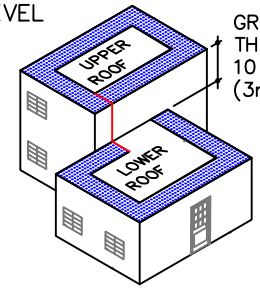
WeatherBond PVC
Mechanically Attached and Fully Adhered Roofing Systems

Installation Details Table of Contents

January 2024

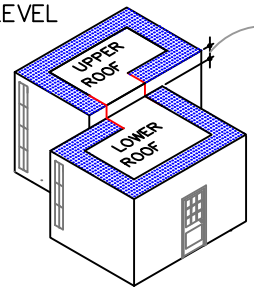
GUIDELINES FOR ROOF PERIMETER ZONES FOR MECHANICALLY ATTACHED ROOF SYSTEM

SPLIT LEVEL ROOFS



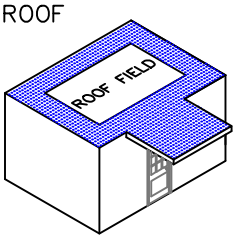
GREATER THAN 10 FT (3m)

SPLIT LEVEL ROOFS



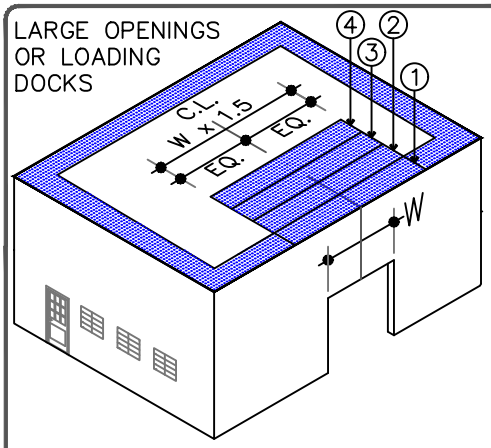
LESS THAN 10 FT (3m)

CANOPY ROOF



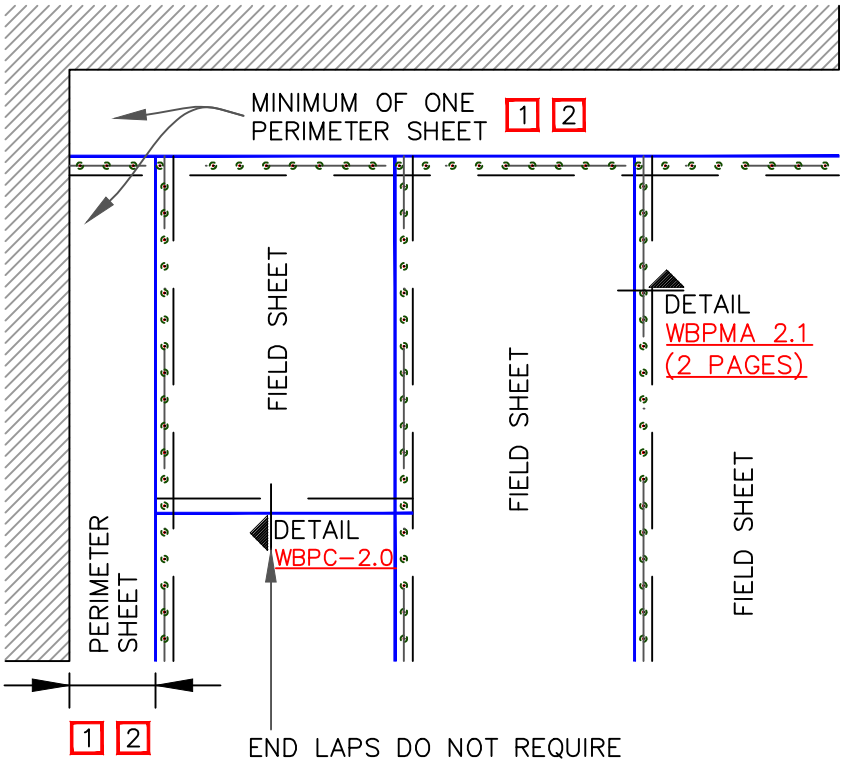
INSTALL PERIMETER SHEETS OVER THE ENTIRE OVERHANG (PROJECTION ROOF) AREA, EXTENDING ONTO THE MAIN ROOF DECK WHEN AT THE SAME LEVEL AS SHOWN.

LARGE OPENINGS OR LOADING DOCKS



FOUR PERIMETER SHEETS CENTERED OVER LARGE OPENINGS

PERIMETER ZONES



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.

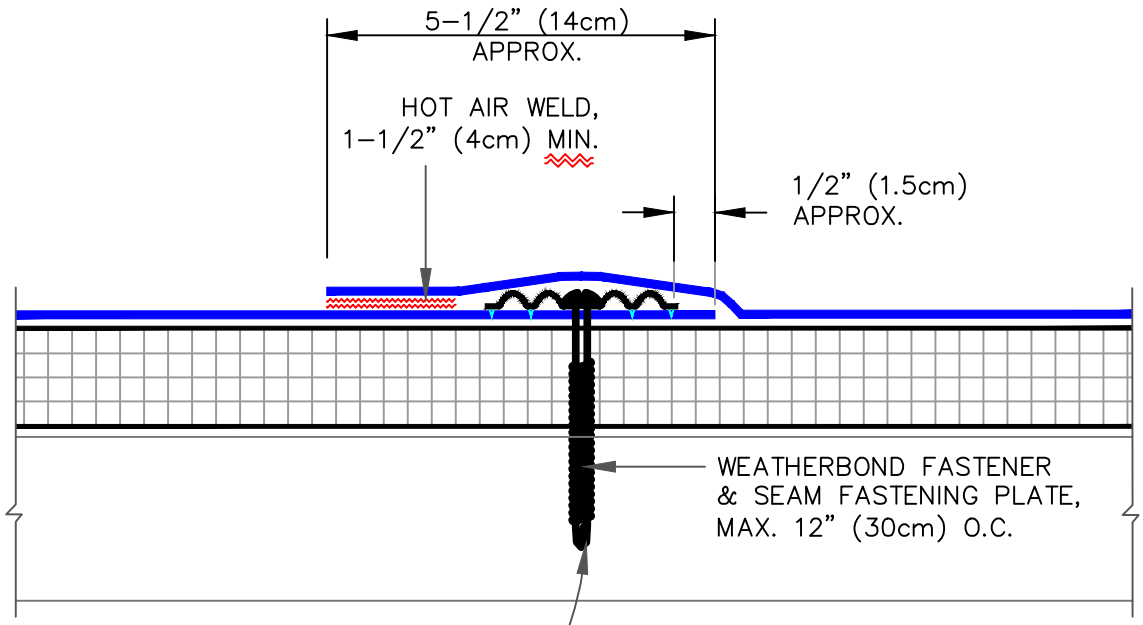
2. REFER TO WEATHERBOND SPECIFICATIONS FOR REQUIRED NUMBER OF PERIMETER SHEETS, SHEET WIDTH AND MEMBRANE FASTENING SPACING.

MEMBRANE SECUREMENT

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

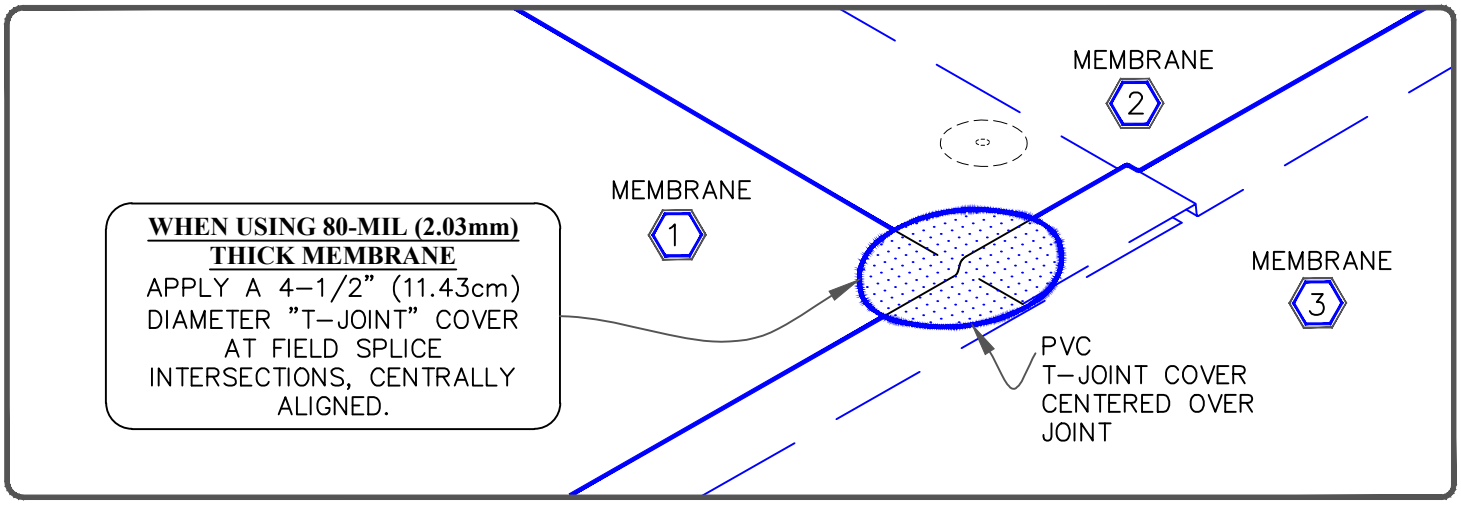
THERMOPLASTIC ROOFING SYSTEM

WBPMA-2.0A



FASTENER & PRESSURE PLATE TYPES FOR DIFFERENT ROOF DECKS

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



WEATHERBOND ROOFING SYSTEMS

MECHANICALLY ATTACHED SEAM, PAGE 1 OF 2

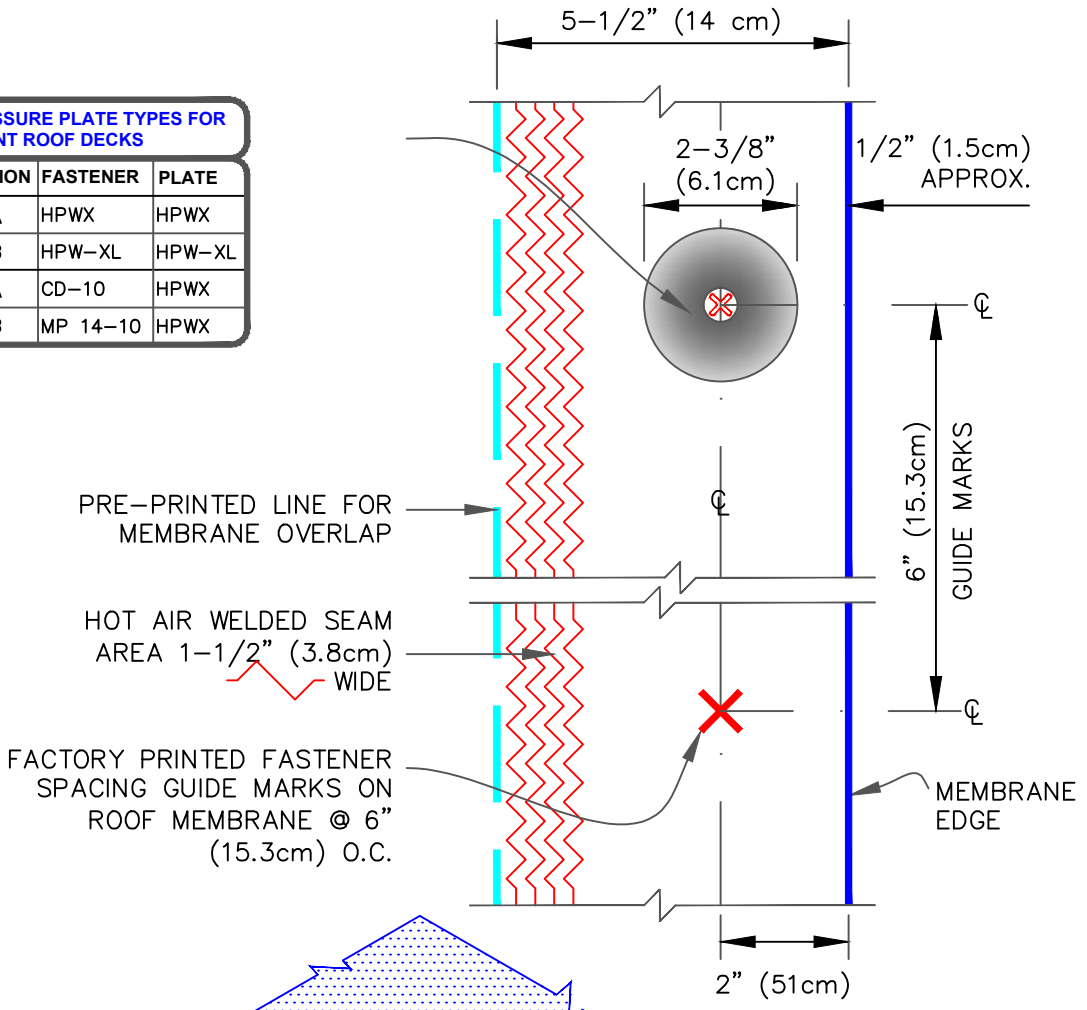
PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

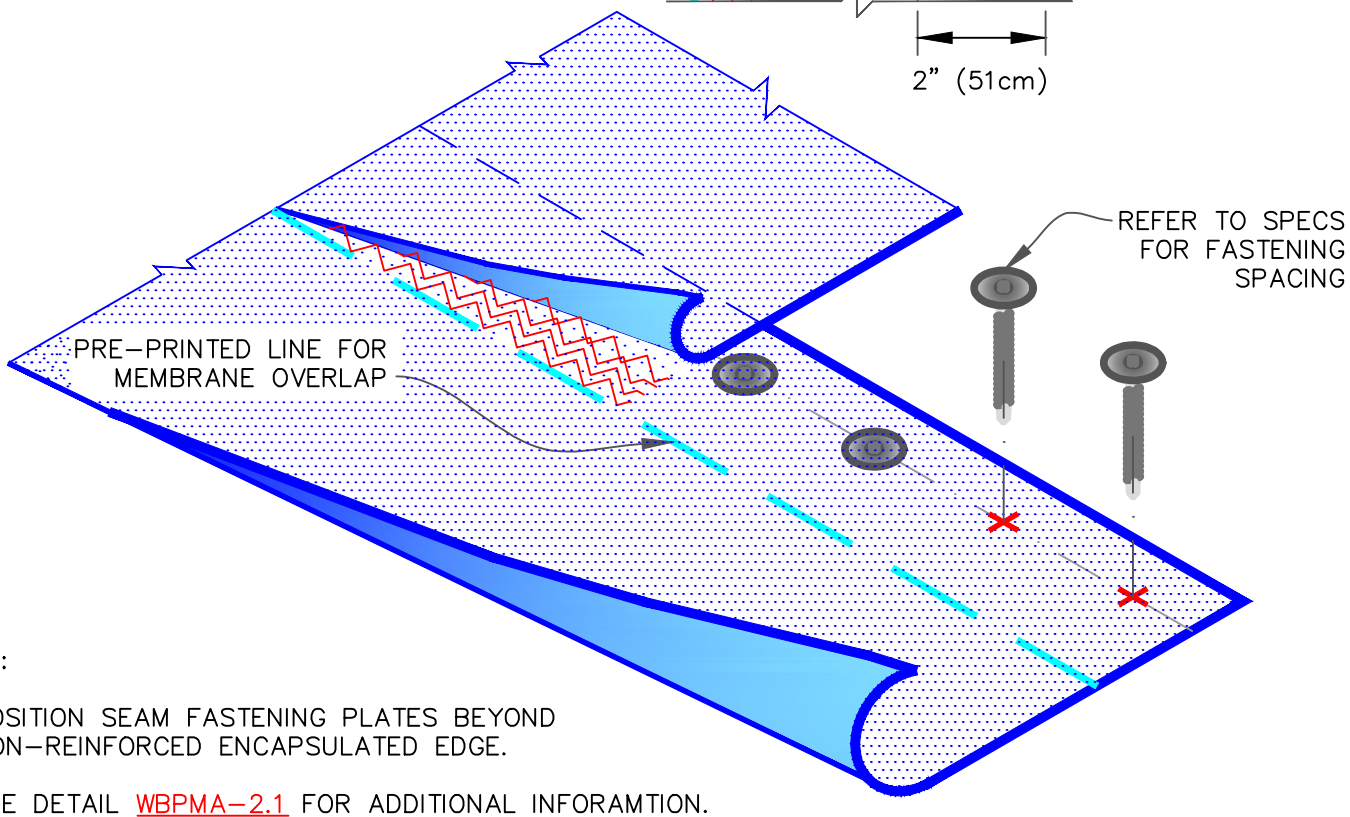
THERMOPLASTIC ROOFING SYSTEM

WBPMA–2.1

FASTENER & PRESSURE PLATE TYPES FOR DIFFERENT ROOF DECKS

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





NOTES:

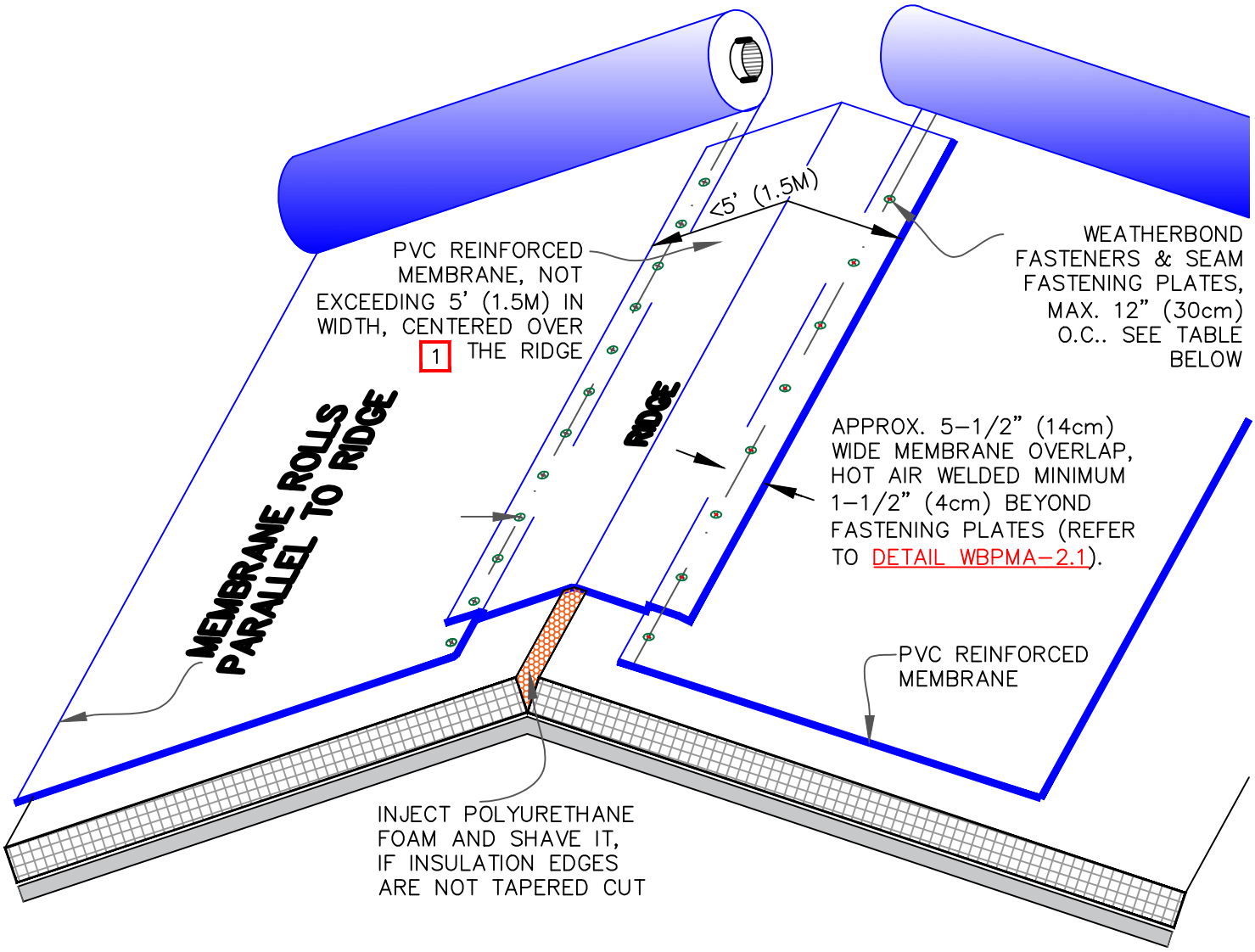
1. POSITION SEAM FASTENING PLATES BEYOND NON–REINFORCED ENCAPSULATED EDGE.
2. SEE DETAIL WBPMA–2.1 FOR ADDITIONAL INFORAMTION.

MECHANICALLY ATTACHED SEAM, PAGE 2 OF 2

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

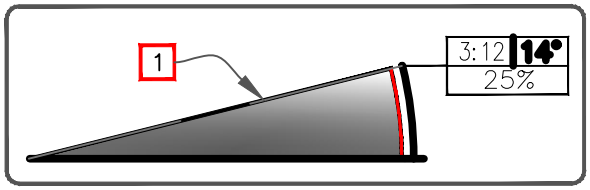
THERMOPLASTIC ROOFING SYSTEM

WBPMA–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 WEATHERBOND SPECIFICATIONS FOR REQUIRED NUMBER OF PERIMETER SHEETS, SHEET WIDTH AND MEMBRANE FASTENING SPACING.



FASTENER & PRESSURE PLATE TYPES FOR DIFFERENT ROOF DECKS

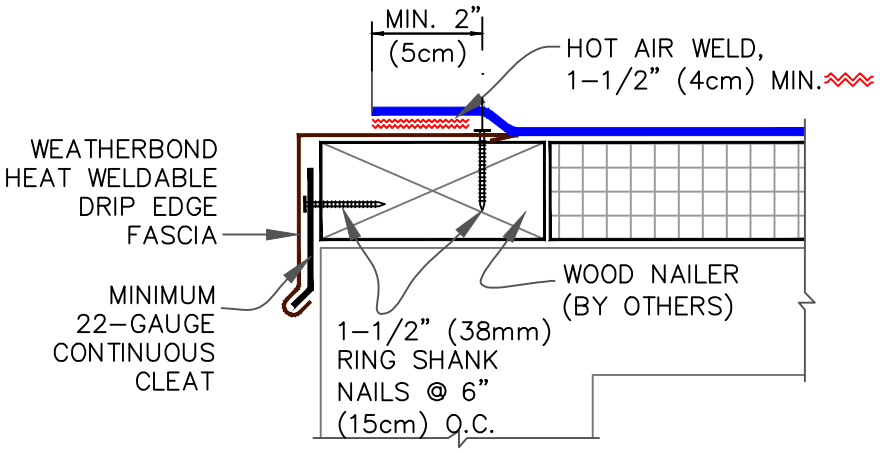
DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPWX	HPWX
	B	HPW-XL	HPW-XL
STRUCTURAL CONCRETE	A	CD-10	HPWX
	B	MP 14-10	HPWX

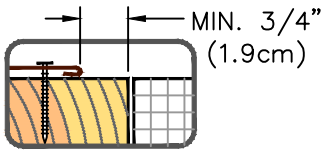
RIDGE MEMBRANE ATTACHMENT

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

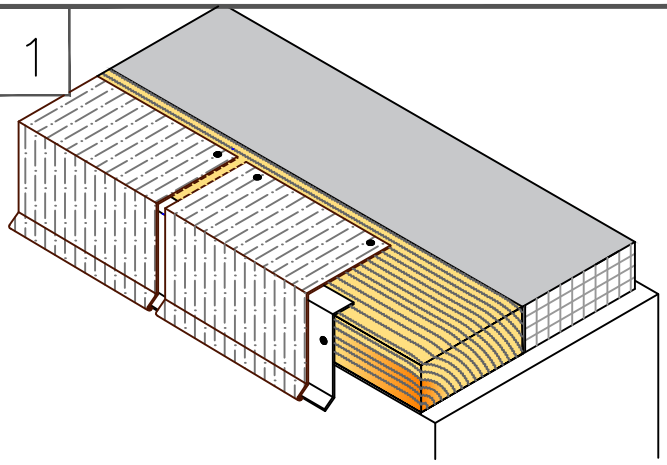
WBPMA-22.0





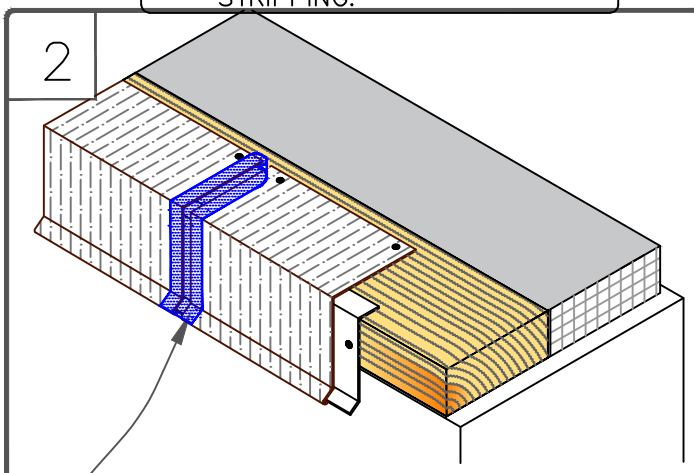
SEQUENCE:
1. 3" (7.6cm) REINFORCED MEMBRANE STRIPPING.
2. FIELD MEMBRANE.
3. TOP 6" (15.2cm) NON–REINFORCED MEMBRANE STRIPPING.

1



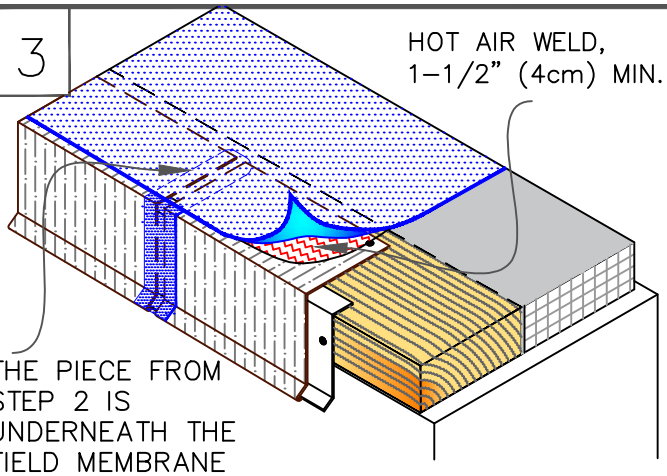
INSTALL CONTINUOUS CLEAT AND COATED METAL WITH 1/8"–1/4" (0.5–1cm) JOINTS BETWEEN ADJOINING SECTIONS.

2



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

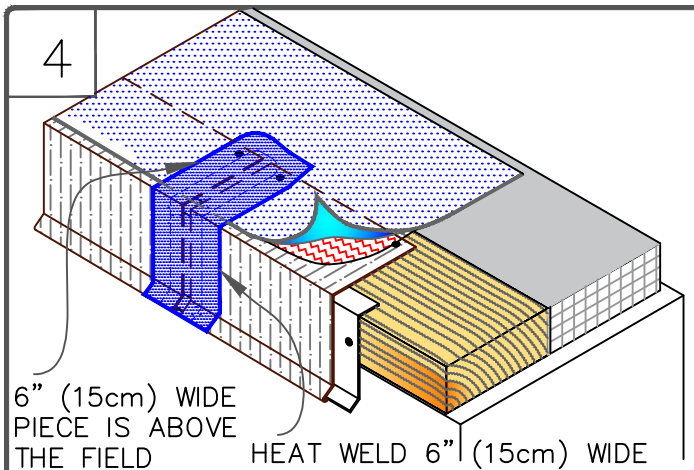
3



THE PIECE FROM STEP 2 IS UNDERNEATH THE FIELD MEMBRANE

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

4



6" (15cm) WIDE PIECE IS ABOVE THE FIELD MEMBRANE ON ROOF

HEAT WELD 6" (15cm) WIDE PIECE OF NON–REINFORCED MEMBRANE OVER JOINT, CENTERED ABOVE STEP 2 PIECE

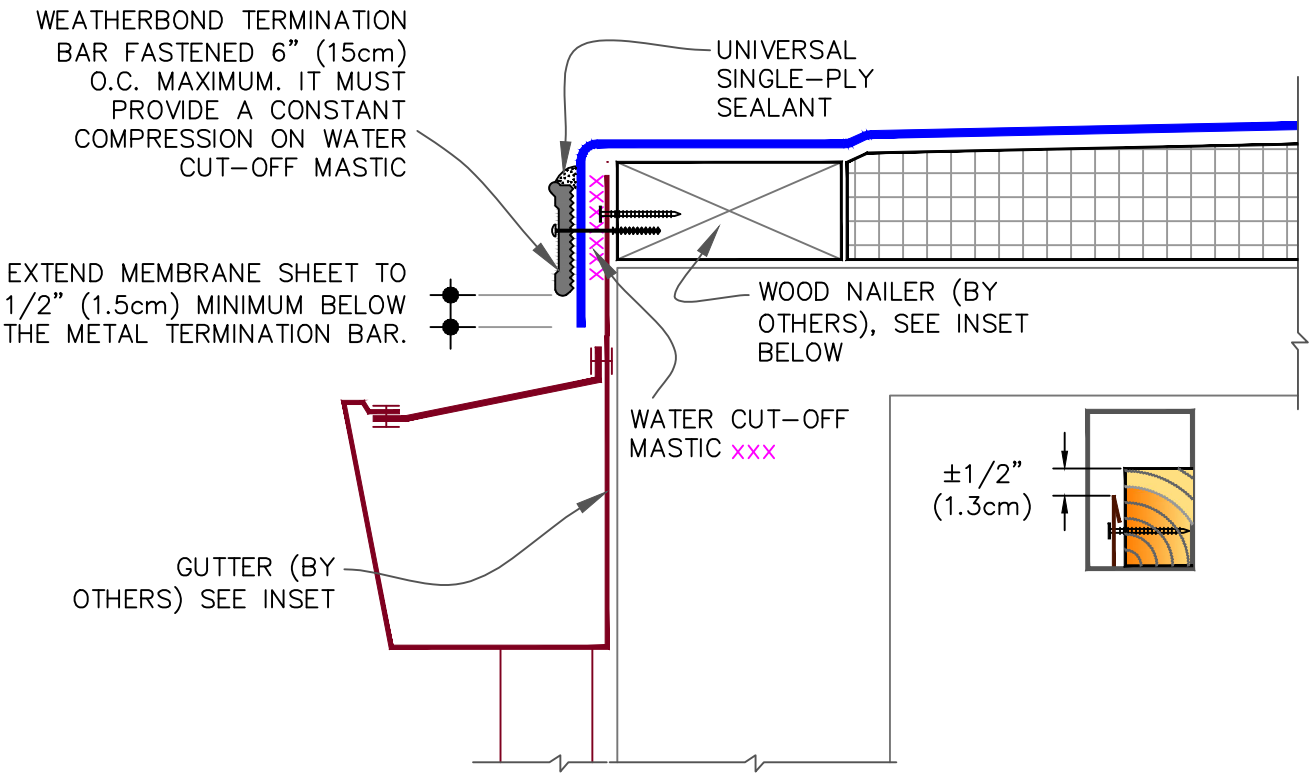
WEATHERBOND ROOFING SYSTEMS

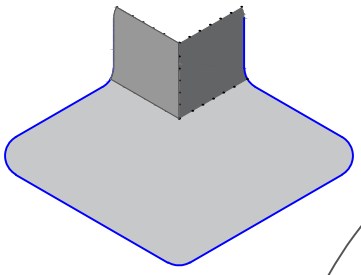
TPO WELDABLE DRIP EDGE FASCIA

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

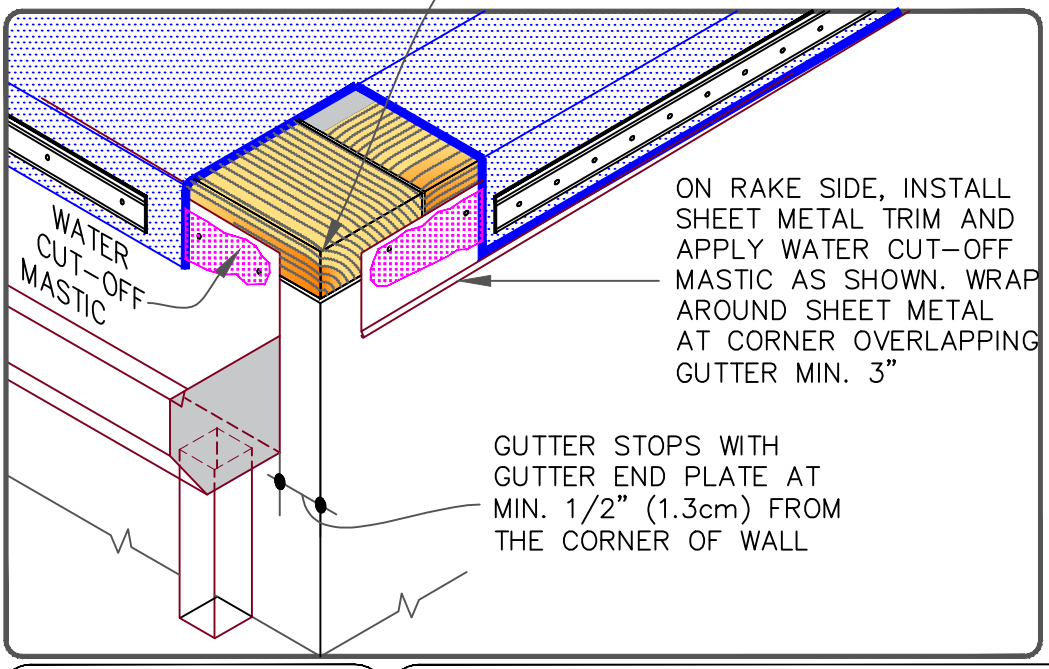
THERMOPLASTIC ROOFING SYSTEM

WBPC–1.2





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



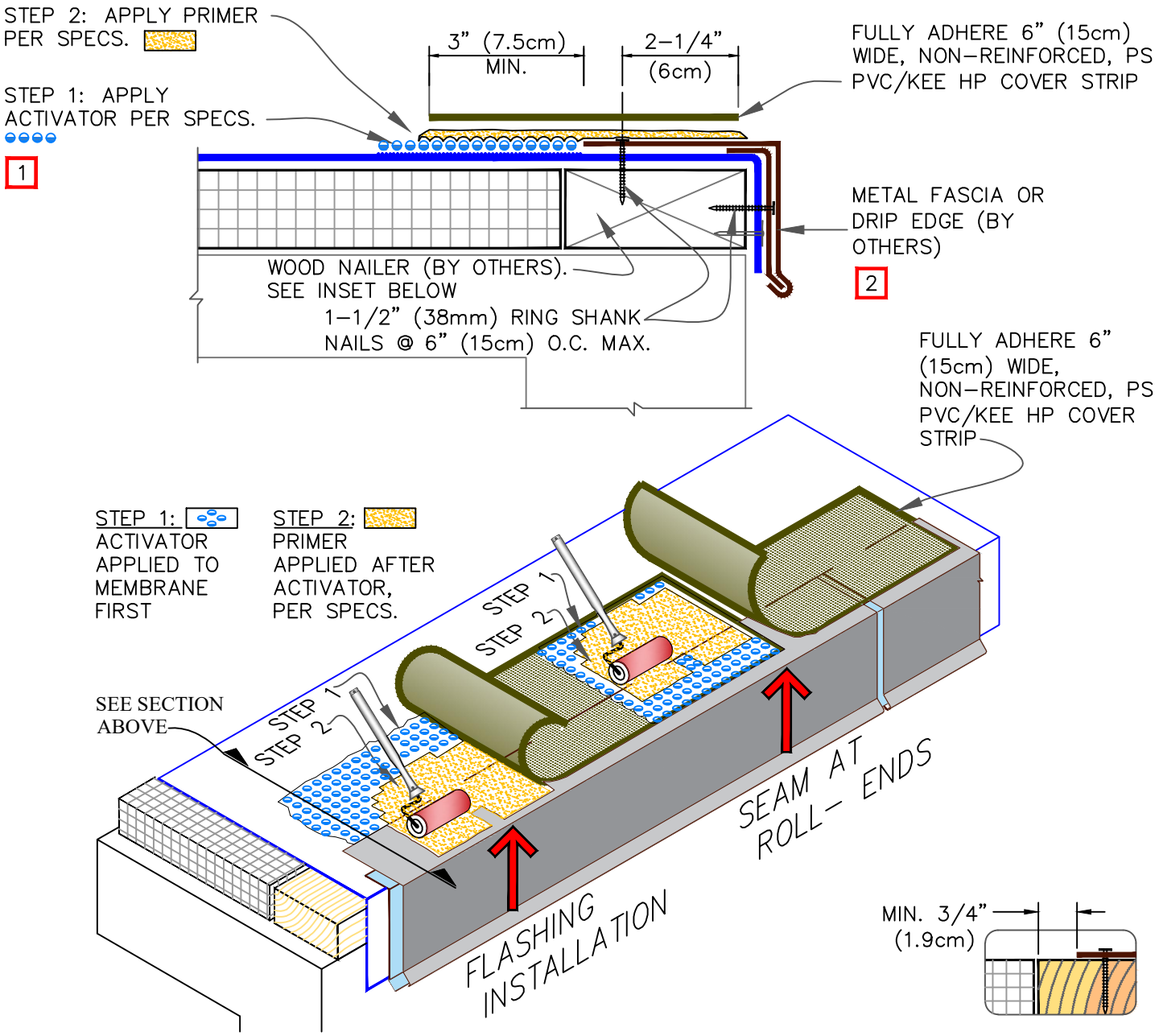
WEATHERBOND ROOFING SYSTEMS

METAL BAR EDGE TERMINATION

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC-1.3



NOTES:

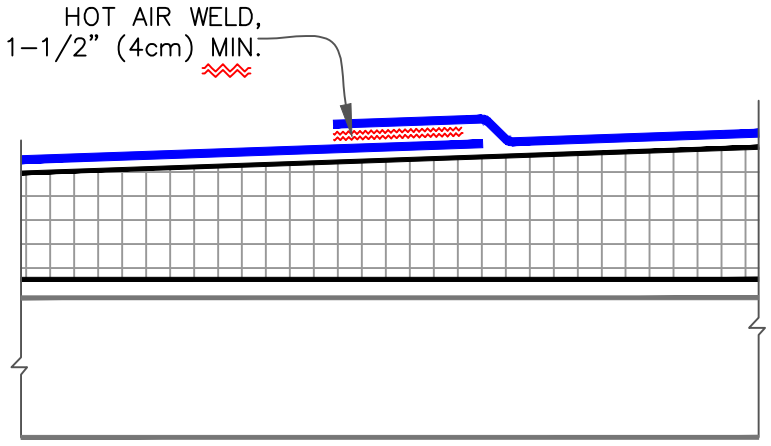
1. TO REMOVE FINISHING OILS, SCRUB METAL FLANGE WITH PVC & KEE HP MEMBRANE CLEANER; ALLOW TO DRY PRIOR TO APPLYING PRIMER.
2. WHEN METAL FASCIA BY OTHERS IS USED, FASTENER TYPE AND FASTENING FREQUENCY SHALL BE RECOMMENDED BY METAL EDGE MANUFACTURER.
3. TO ENSURE PVC PRESSURE-SENSITIVE COVER STRIP CONFORMS 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.

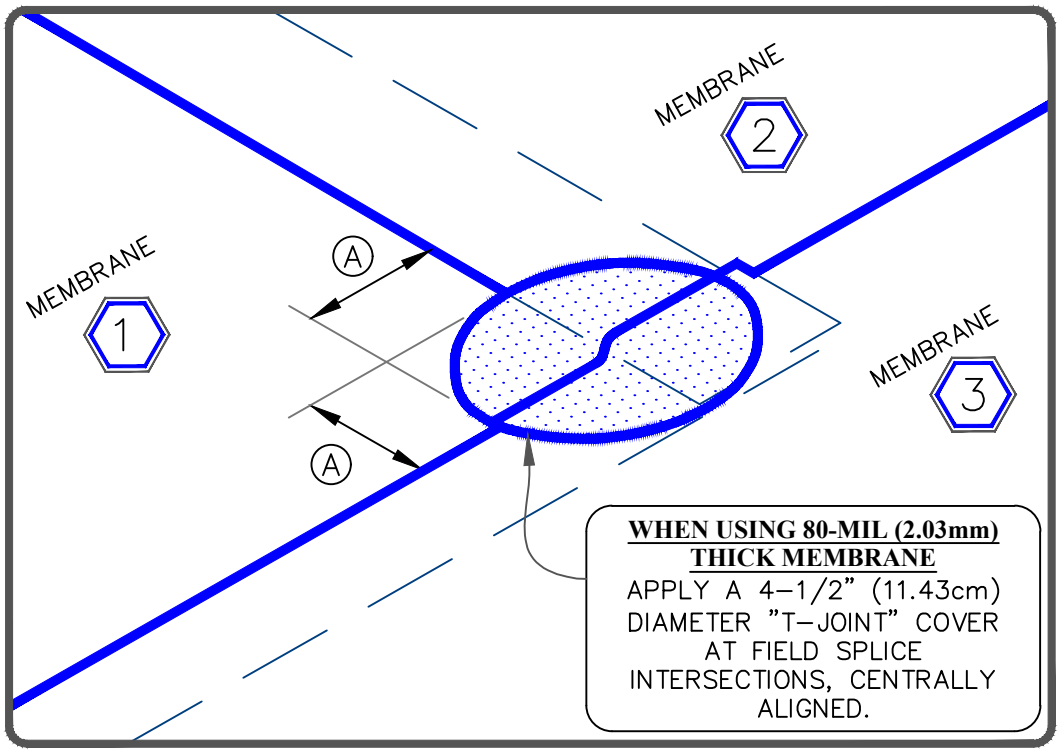
PRESSURE-SENSITIVE PVC/KEE HP COVER STRIP

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC-1.7





DIMENSIONS		cm	
A	2–1/4"	6	MIN.

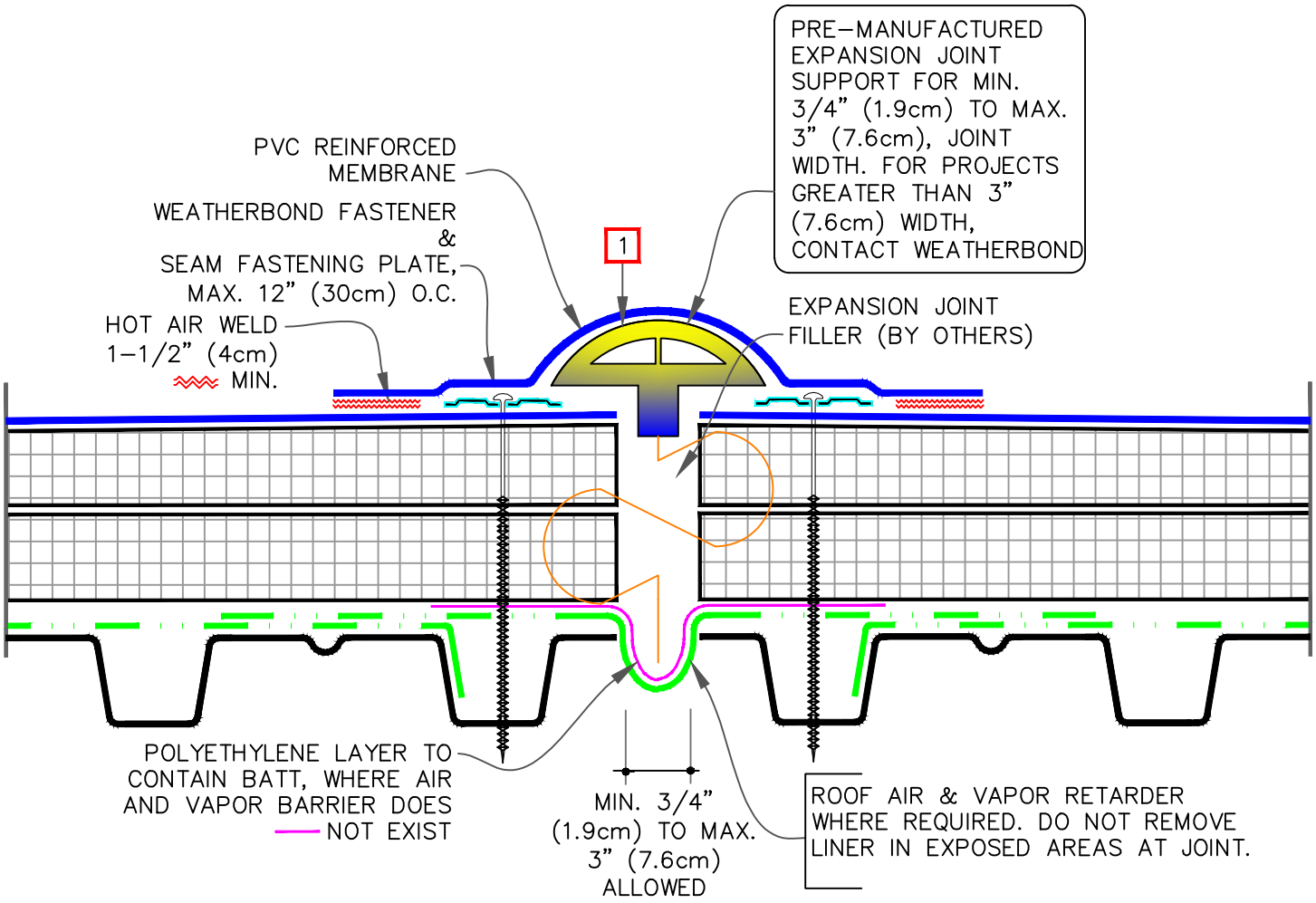
WEATHERBOND ROOFING SYSTEMS

MEMBRANE SPLICE

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC–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 WBPC-1.2 DETAIL BE FOLLOWED. DRIP EDGE BY OTHERS SHOULD ALSO BE GAPPED.

FASTENER & PRESSURE PLATE TYPES FOR DIFFERENT ROOF DECKS

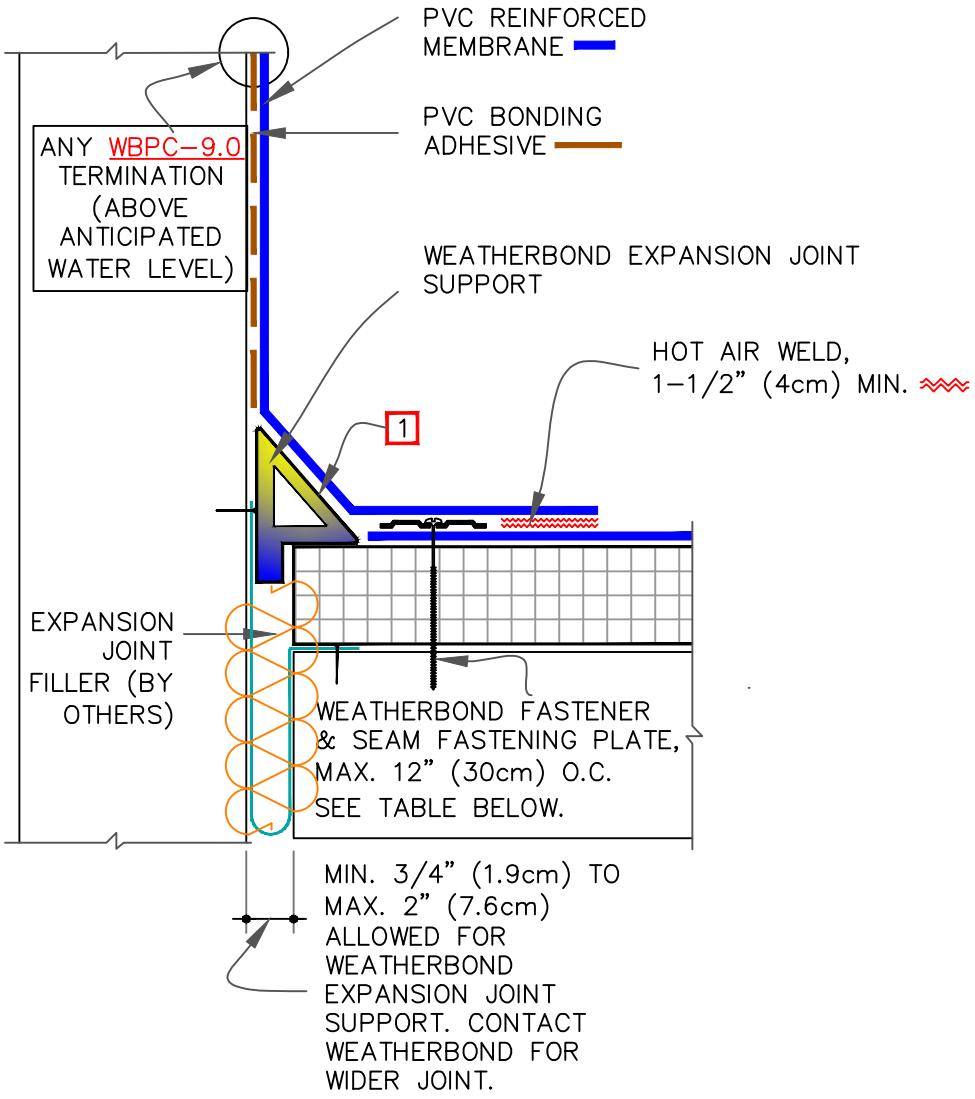
DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPWX	HPWX
	B	HPW-XL	HPW-XL
STRUCTURAL CONCRETE	A	CD-10	HPWX
	B	MP 14-10	HPWX

DECK-TO-DECK EXPANSION DETAIL

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC-3.1



NOTE:

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

FASTENER & PRESSURE PLATE TYPES FOR DIFFERENT ROOF DECKS

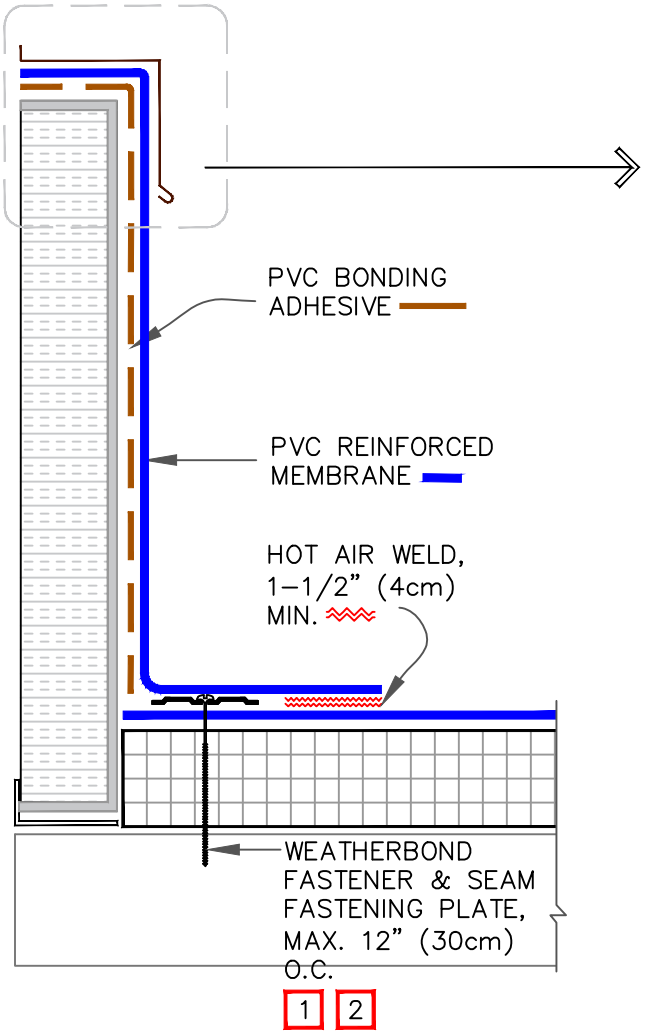
DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPWX	HPWX
	B	HPW-XL	HPW-XL
STRUCTURAL CONCRETE	A	CD-10	HPWX
	B	MP 14-10	HPWX

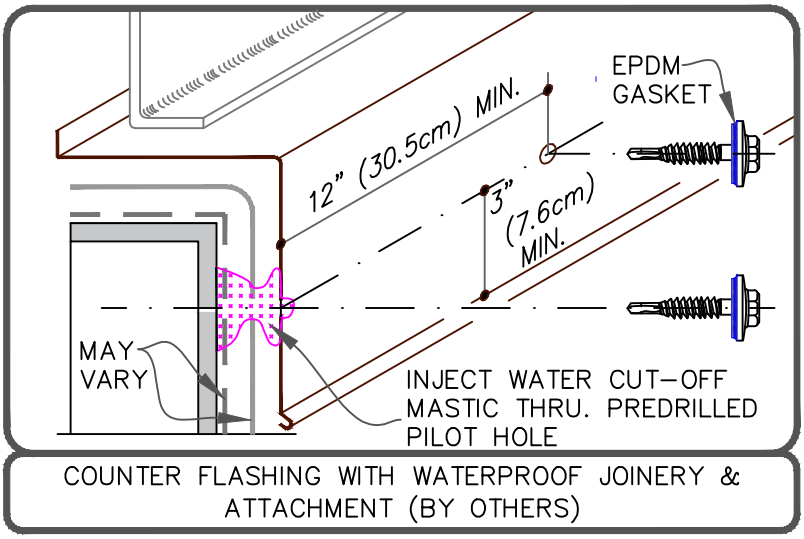
DECK-TO-WALL EXPANSION DETAIL

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

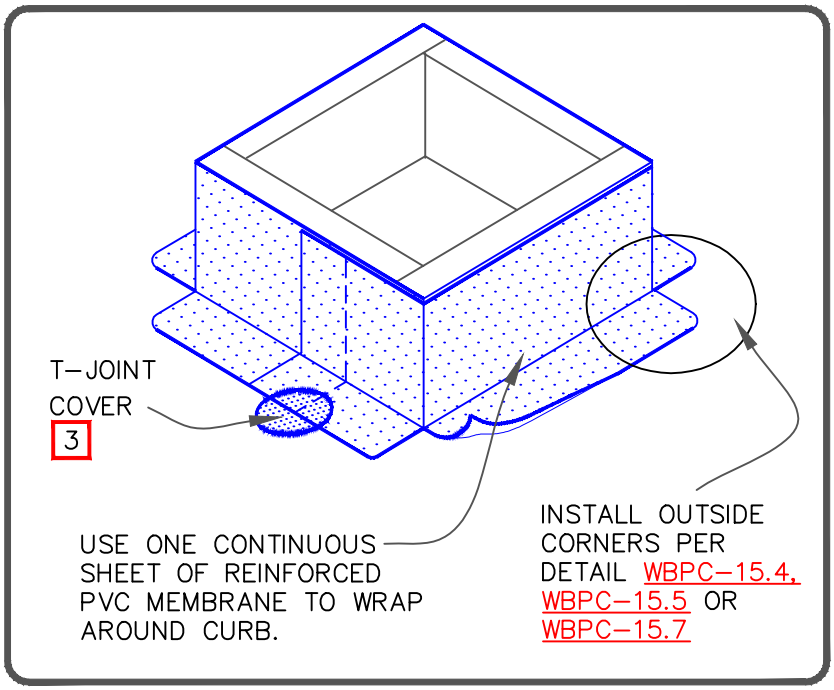
WBPC-3.2





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 WEATHERBOND SPECIFICATIONS FOR ACCEPTABLE WEATHERBOND 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.

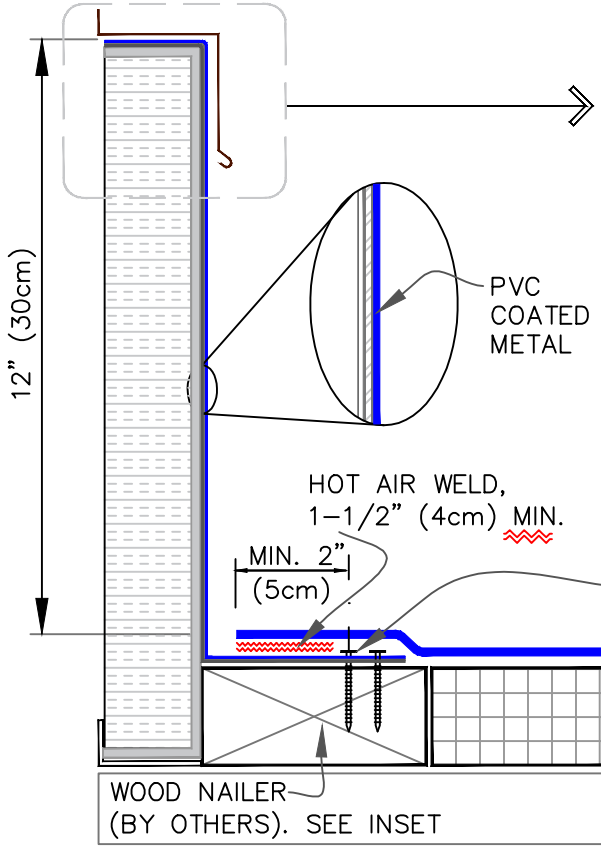
WEATHERBOND ROOFING SYSTEMS

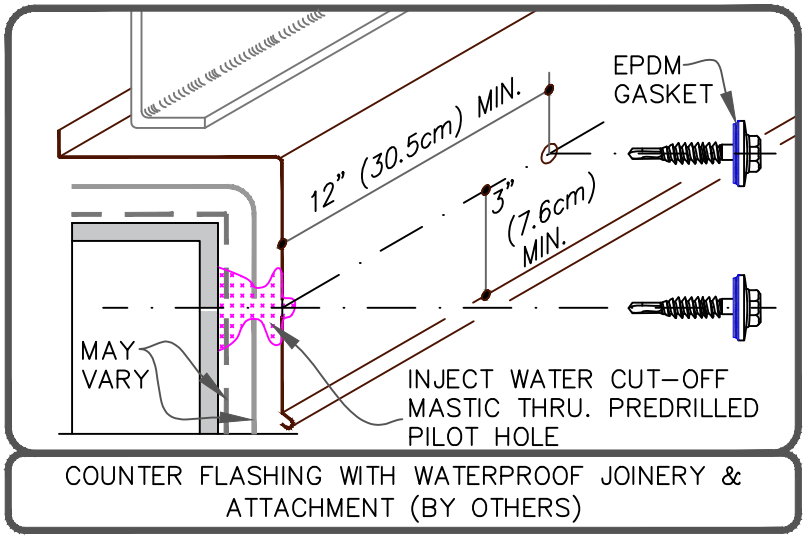
CURB FLASHING

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

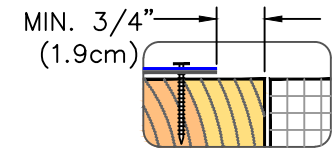
THERMOPLASTIC ROOFING SYSTEM

WBPC-5.1

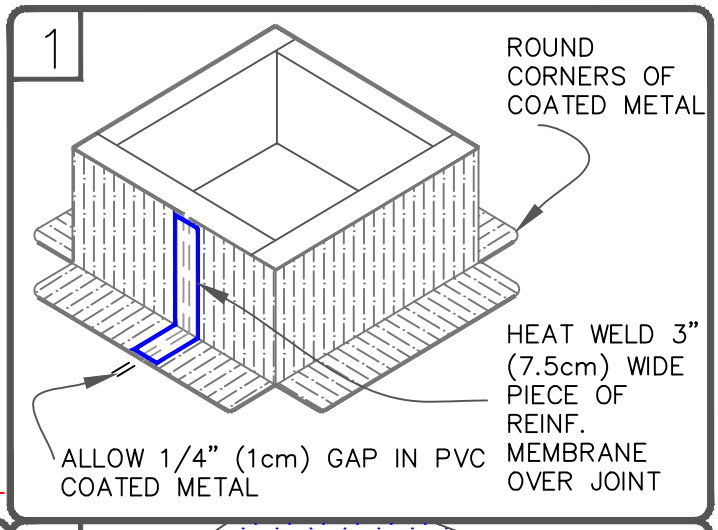


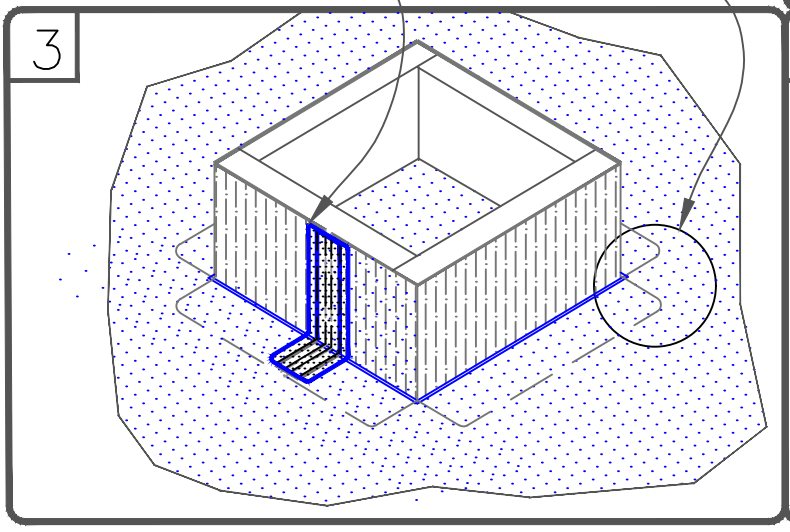


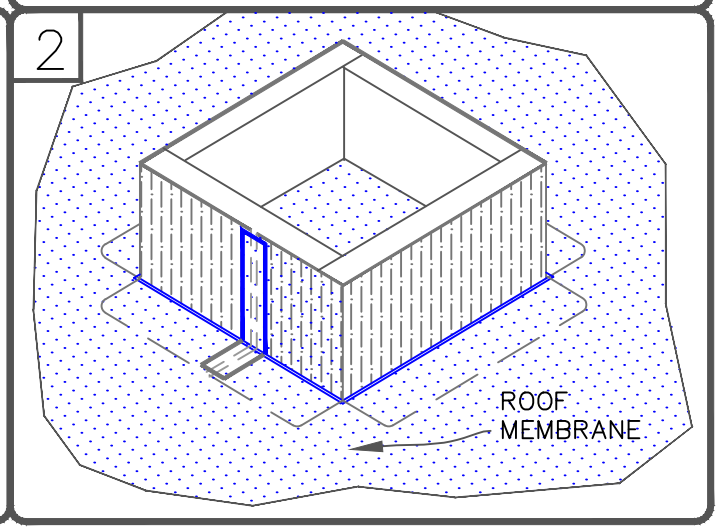
COUNTER FLASHING WITH WATERPROOF JOINERY & ATTACHMENT (BY OTHERS)



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







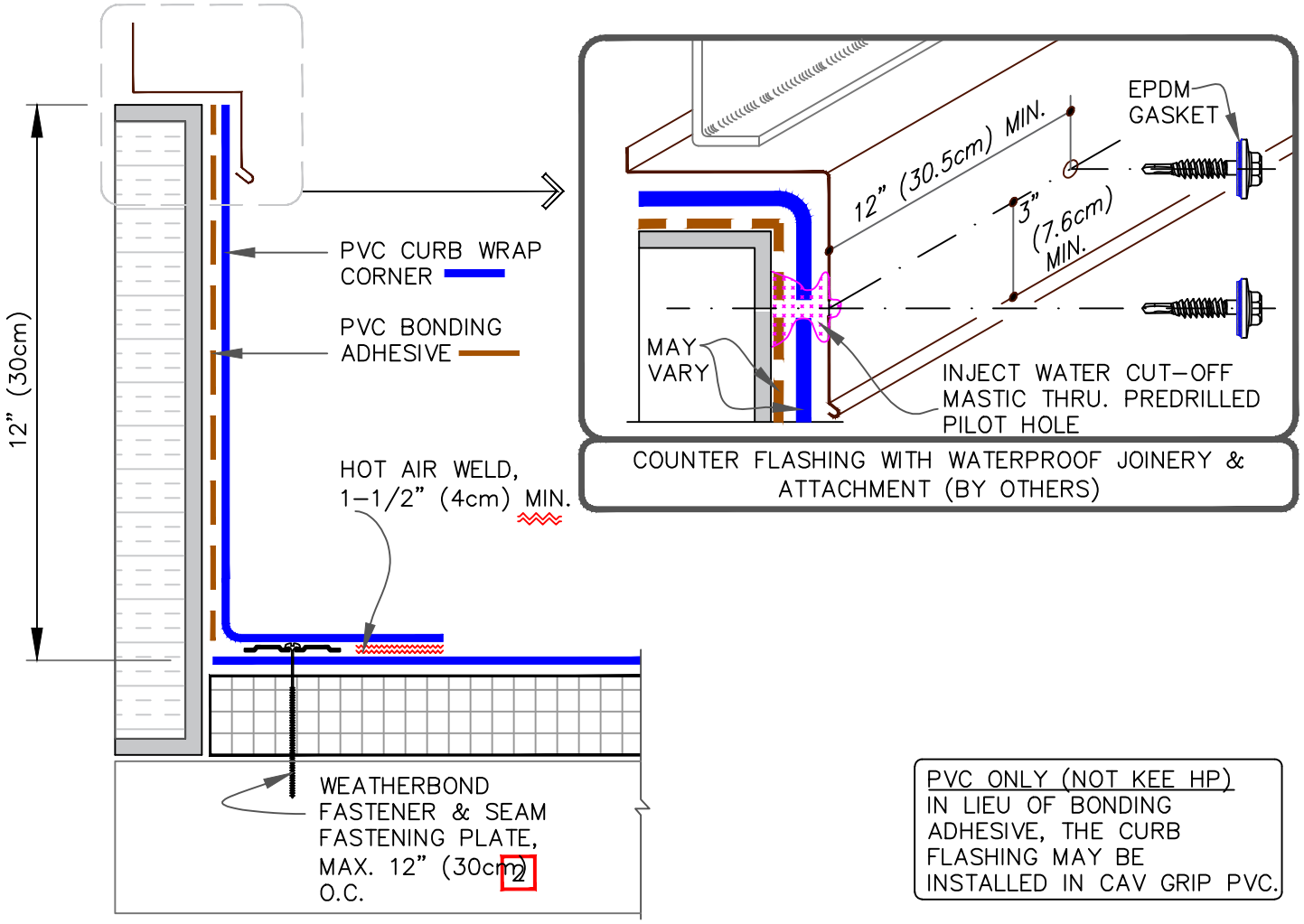
WEATHERBOND ROOFING SYSTEMS

CURB FLASHING WITH TPO COATED METAL

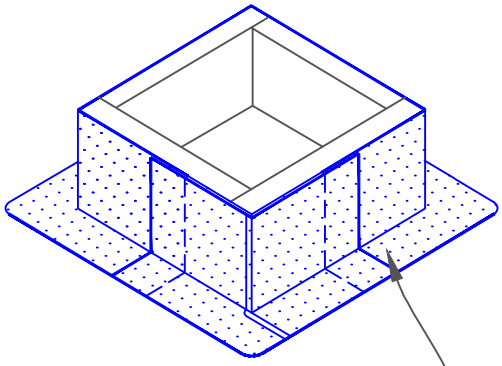
PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC–5.2



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



NOTES:

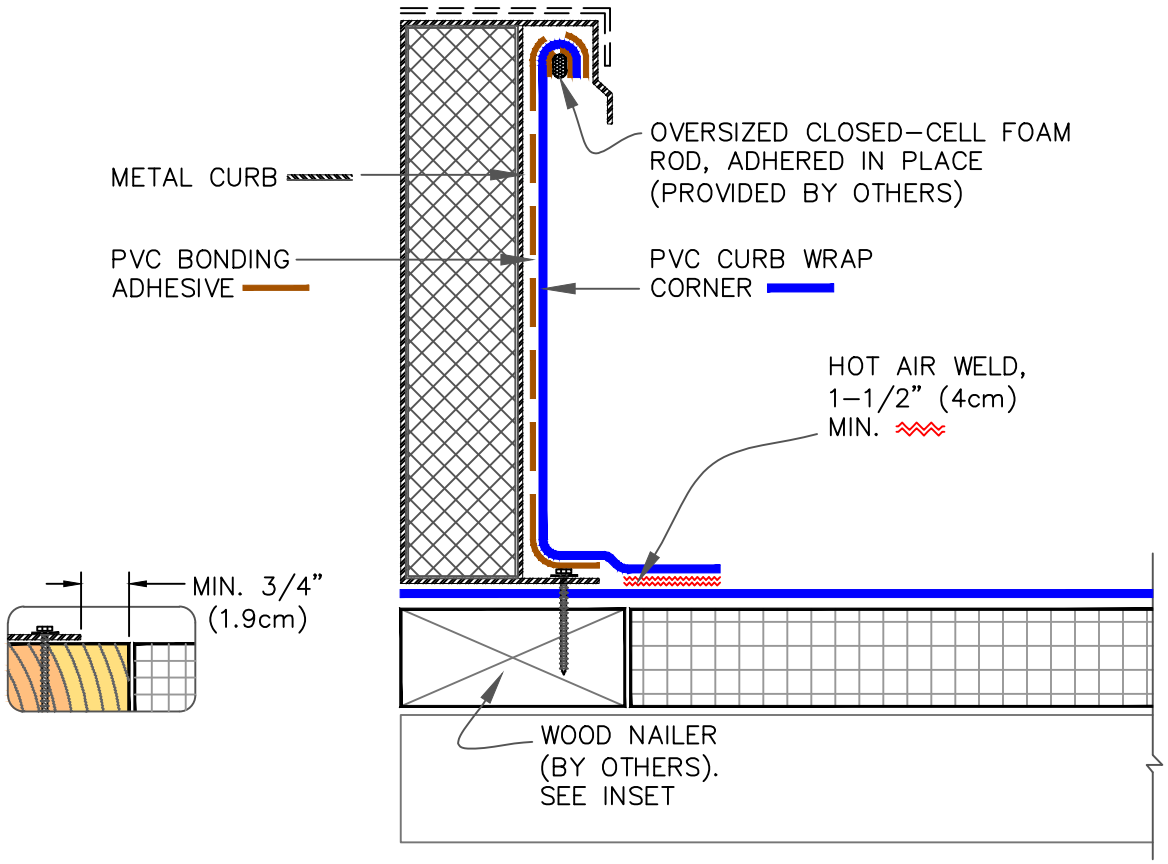
1. FOUR CURB WRAP CORNERS WILL COMPLETELY FLASH A MAXIMUM CURB SIZE OF 3'X3' (91cmX 91cm). FOR LARGER CURBS USE THE PVC CURB WRAP CORNERS IN CONJUNCTION WITH ADDITIONAL SECTIONS OF PVC MEMBRANE.
2. REFER TO WEATHERBOND SPECIFICATIONS FOR ACCEPTABLE WEATHERBOND FASTENERS AND PLATES.
3. CUSTOM SIZES ARE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

CURB FLASHING WITH UNIVERSAL TPO CURB WRAP CORNERS

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

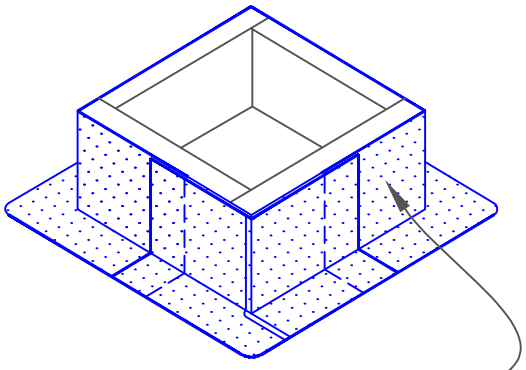
WBPC–5.3



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 WBPC-15.7 FOR OUTSIDE CORNERS.
3. REFER TO WEATHERBOND SPECIFICATIONS FOR ACCEPTABLE WEATHERBOND 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]

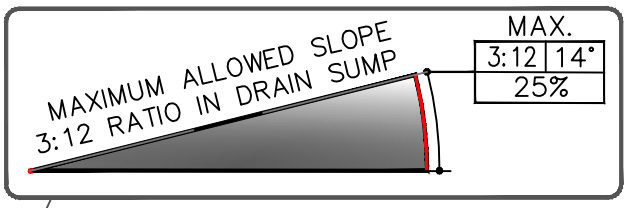
WEATHERBOND ROOFING SYSTEMS

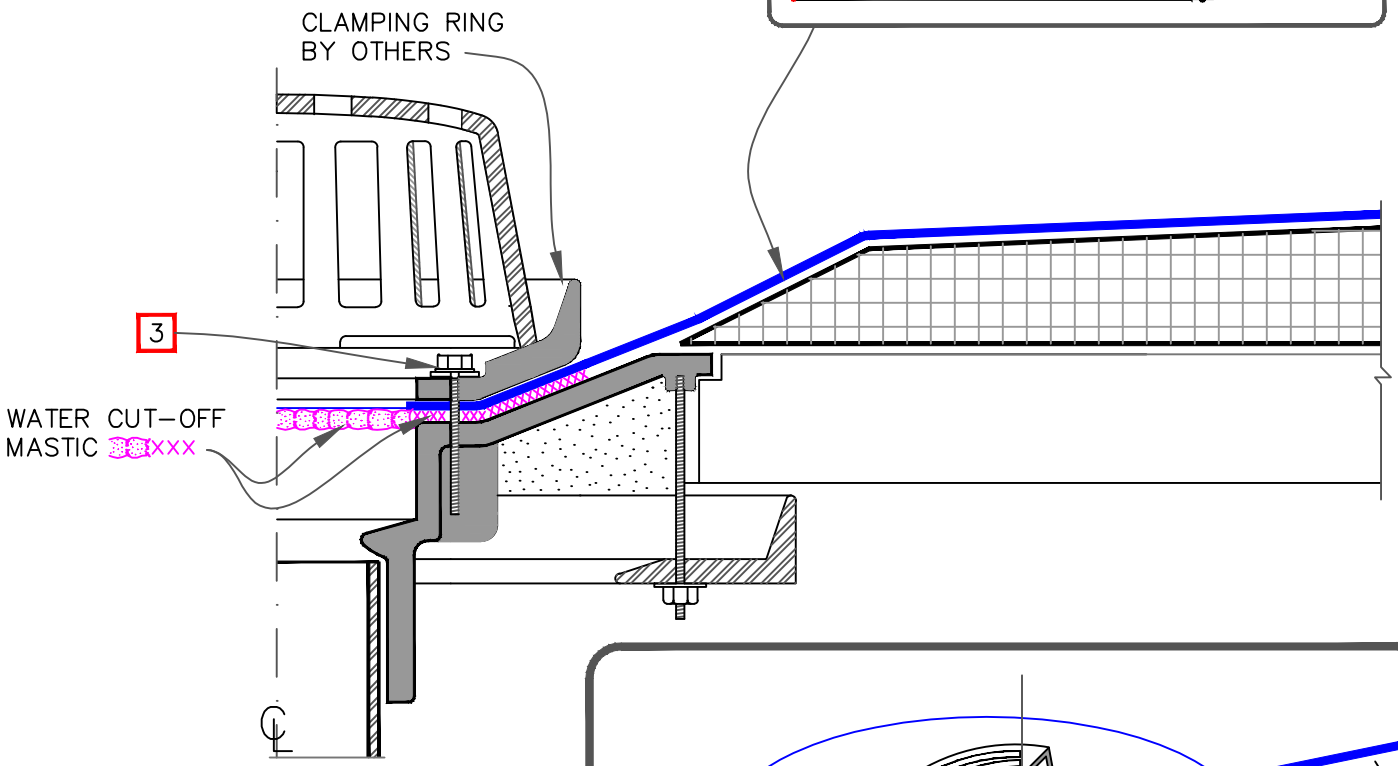
SELF-FLASHING CURB

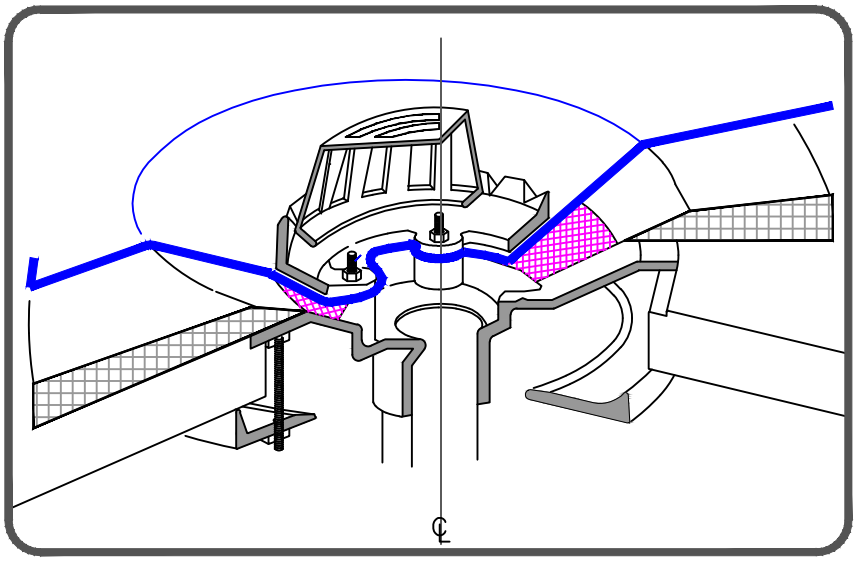
PVC MEMBRANE
APPROVED SUBSTRATE
[0] SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC-5.4

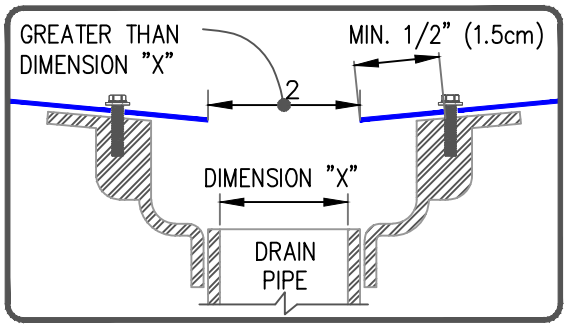






NOTES:

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.

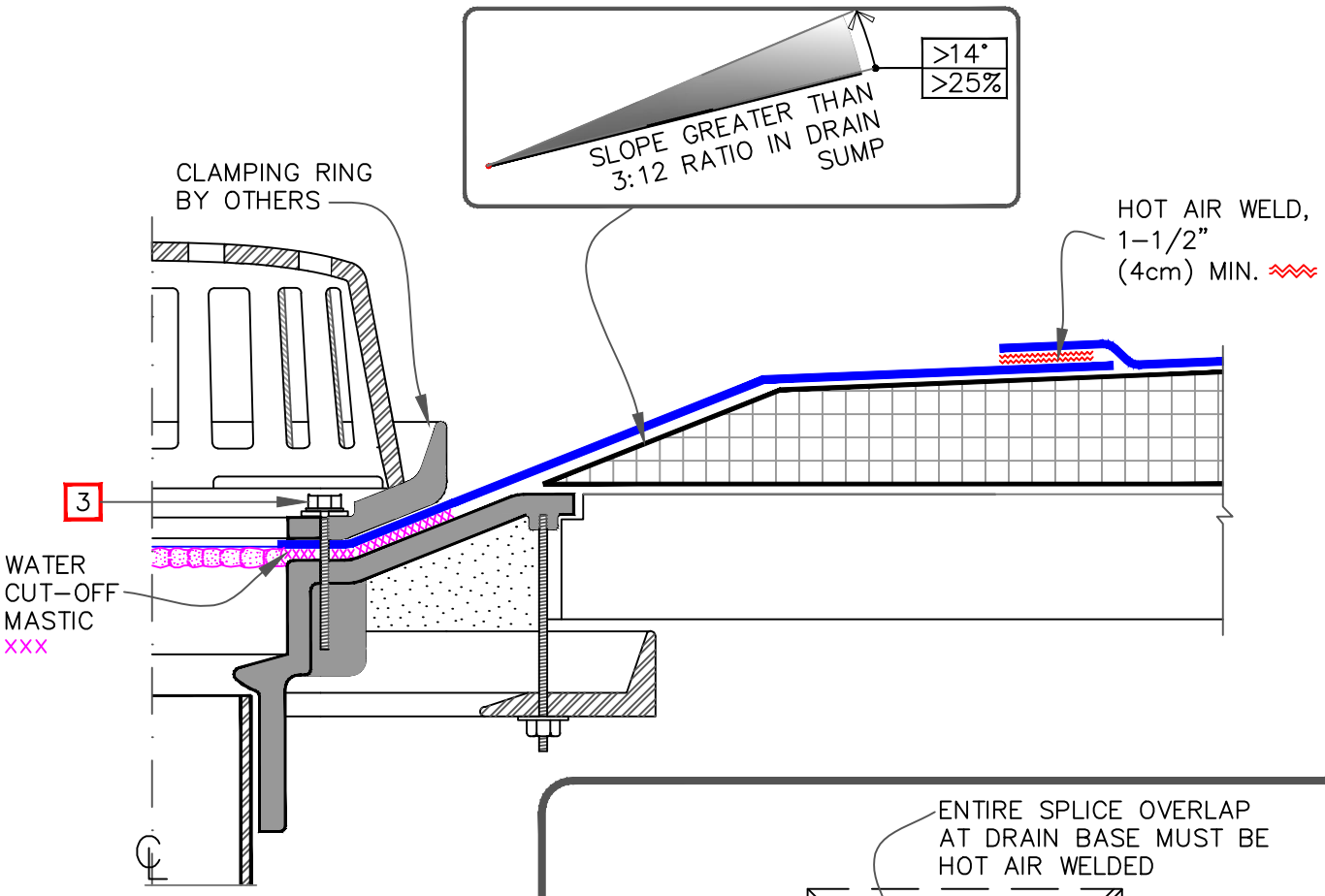


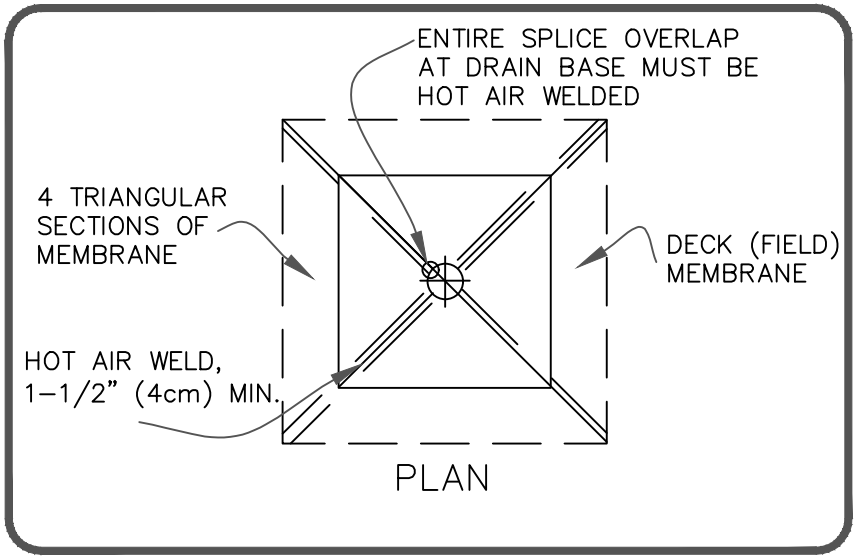
ROOF DRAIN (DRAIN SUMP UP TO 3 INCHES TO 1 HORIZONTAL FOOT)

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

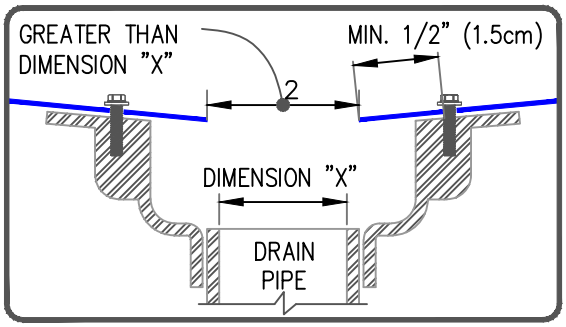
WBPC-6.1





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.

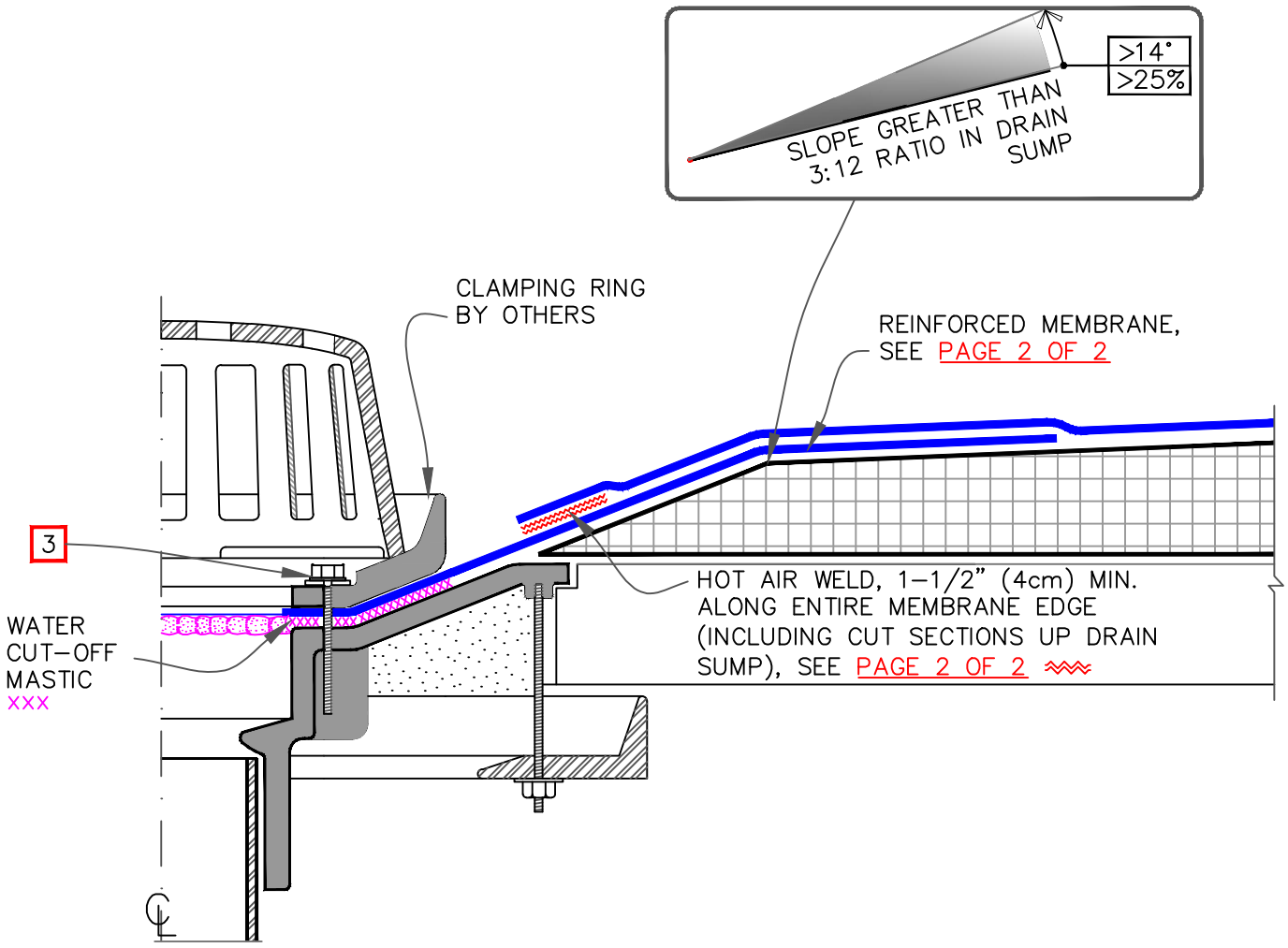


ROOF DRAIN (DRAIN SUMP GREATER THAN 3" TO 1 HORIZONTAL FOOT) OPTION 1

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC–6.2



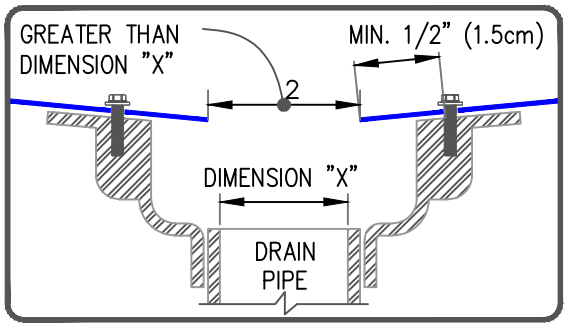
NOTES:

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.

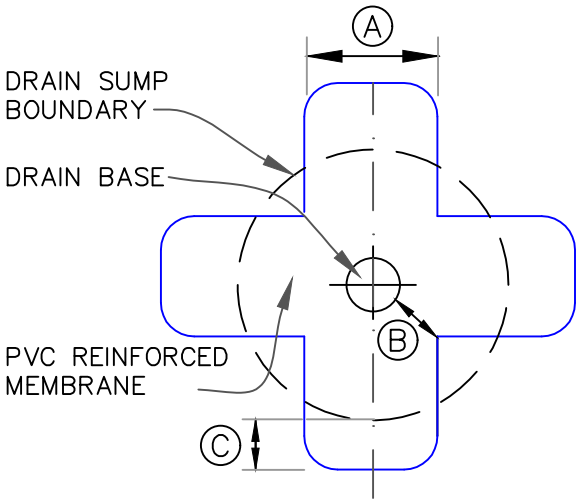


ROOF DRAIN (DRAIN SUMP GREATER THAN 3" TO 1 HORIZONTAL FOOT) OPTION 2, PAGE 1 OF 2

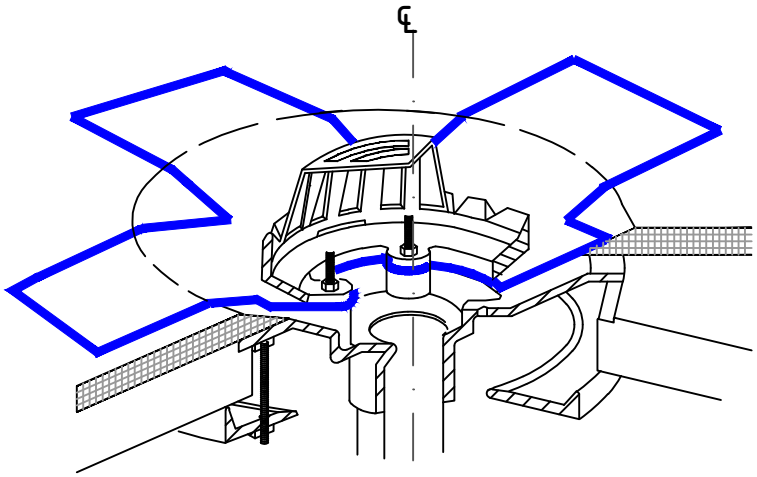
PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC-6.3

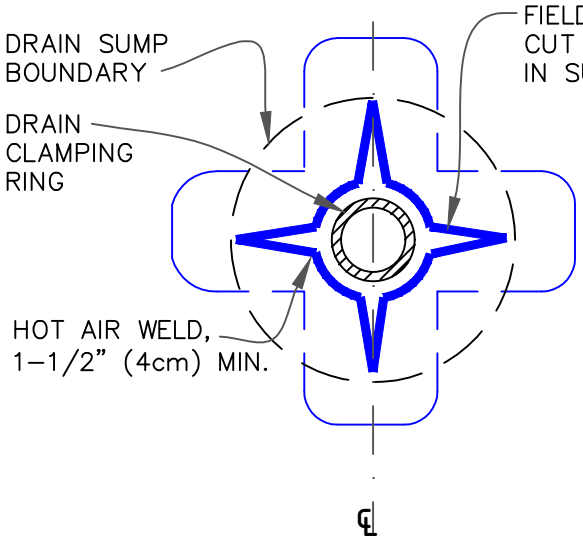


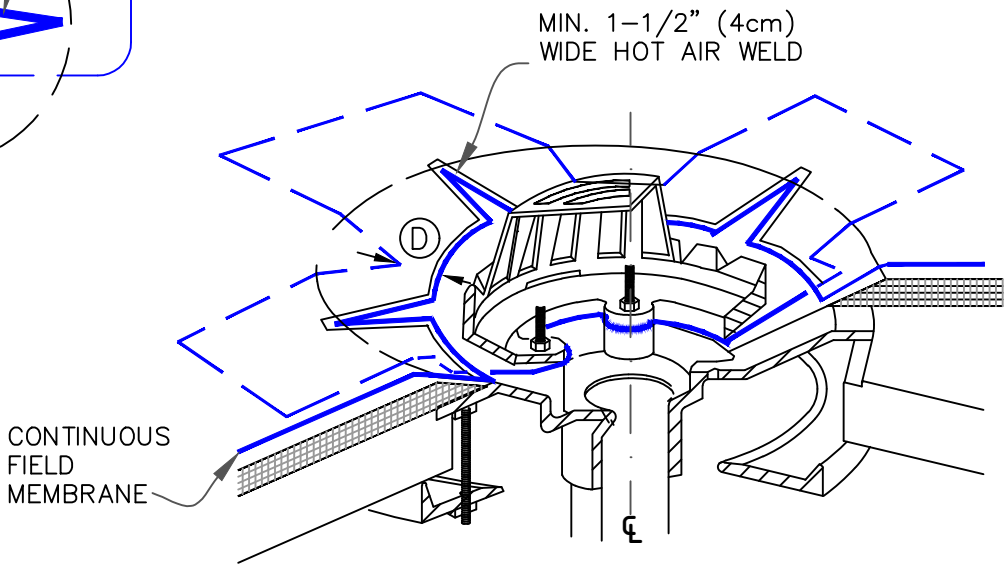
CUT SECTION OF PVC REINFORCED MEMBRANE AS SHOWN AND POSITION INTO DRAIN SUMP. EXTEND MEMBRANE OUT OF DRAIN SUMP APPROXIMATELY 6" (15cm) (ROUND CORNERS).

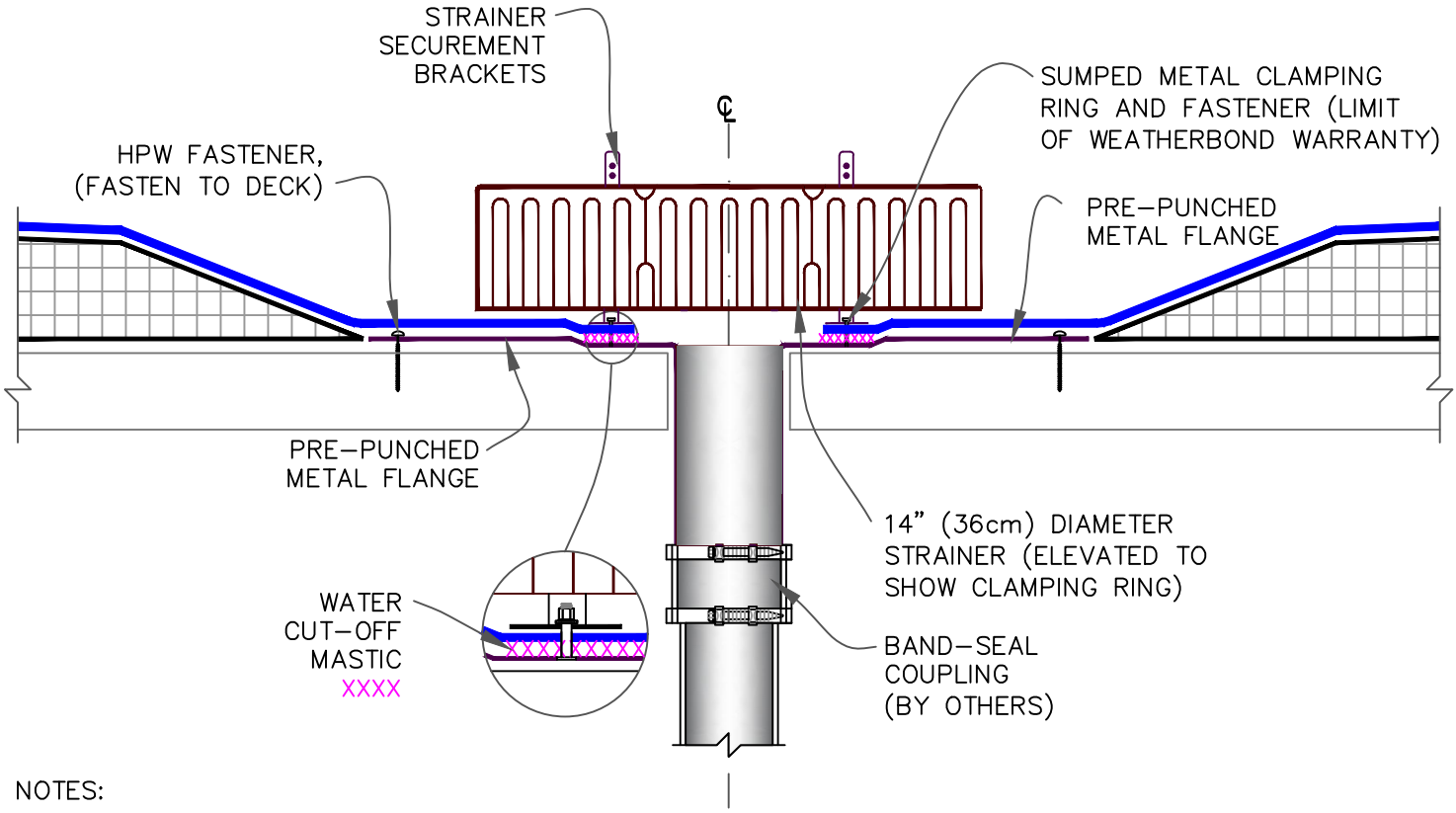


EXTEND PVC MEMBRANE ONTO MEMBRANE SECTION POSITIONED AT DRAIN SUMP AND CUT AS SHOWN TO LAY FLAT IN SUMP. HOT AIR WELD A MINIMUM OF 1–1/2" (4cm) COMPLETELY SURROUNDING AREA.

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







NOTES:

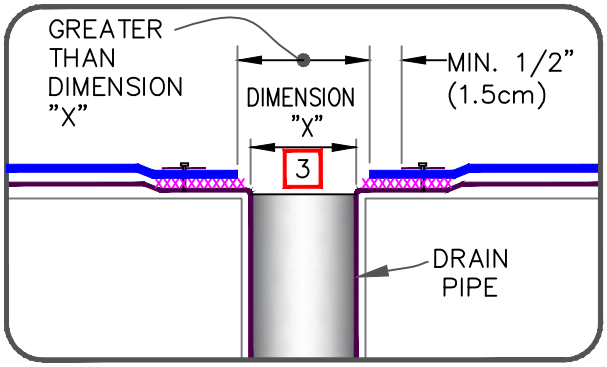
1. ROOF DRAIN SIZE AND NUMBER OF DRAINS SHALL BE IN ACCORDANCE WITH THE LOCAL CODES.

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.

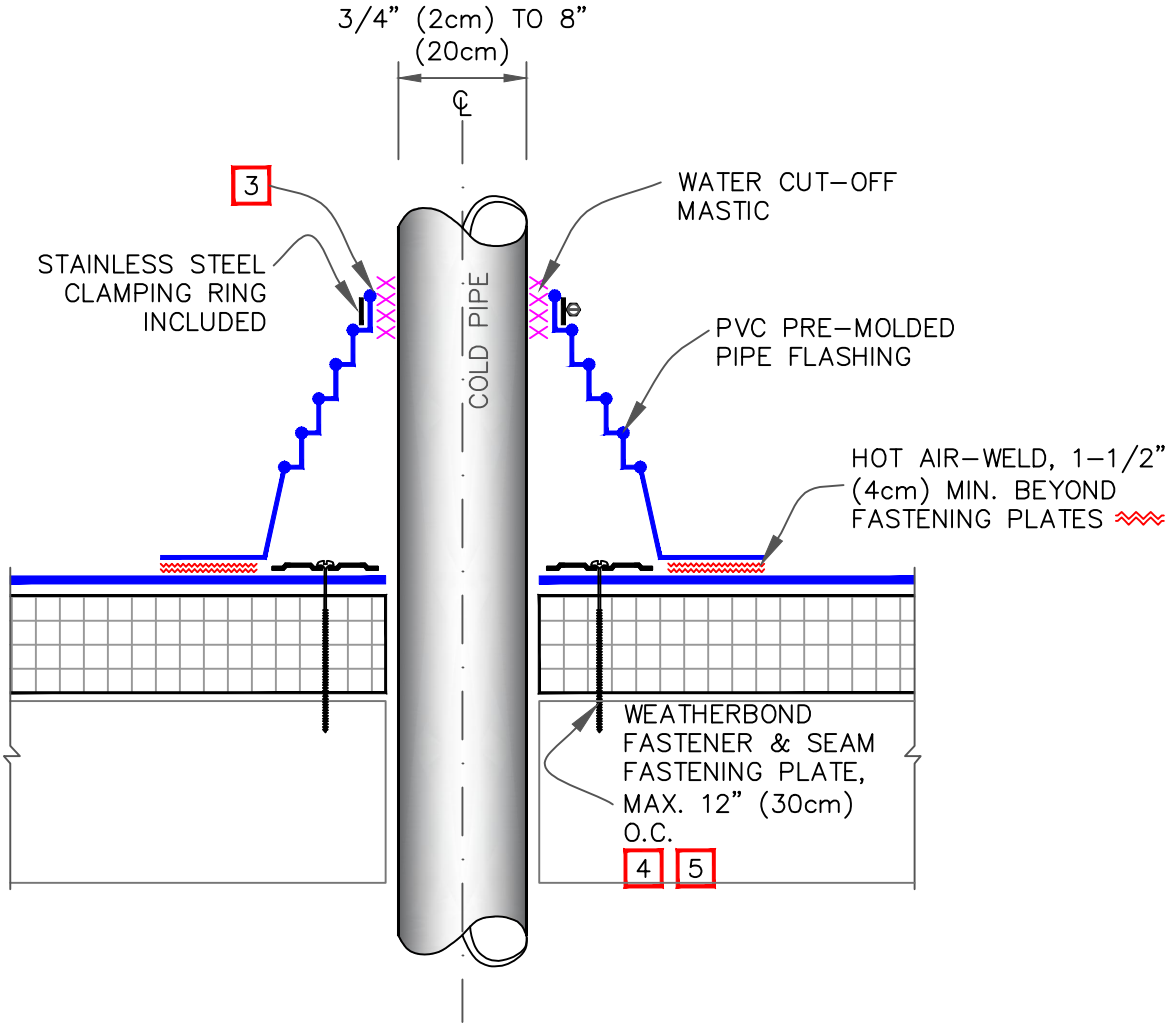
4. FIELD SPLICES MUST BE LOCATED AT LEAST 6" (15cm) OUTSIDE THE DRAIN SUMP.

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



ADD-ON DRAIN

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE



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 WBPC-8.2.

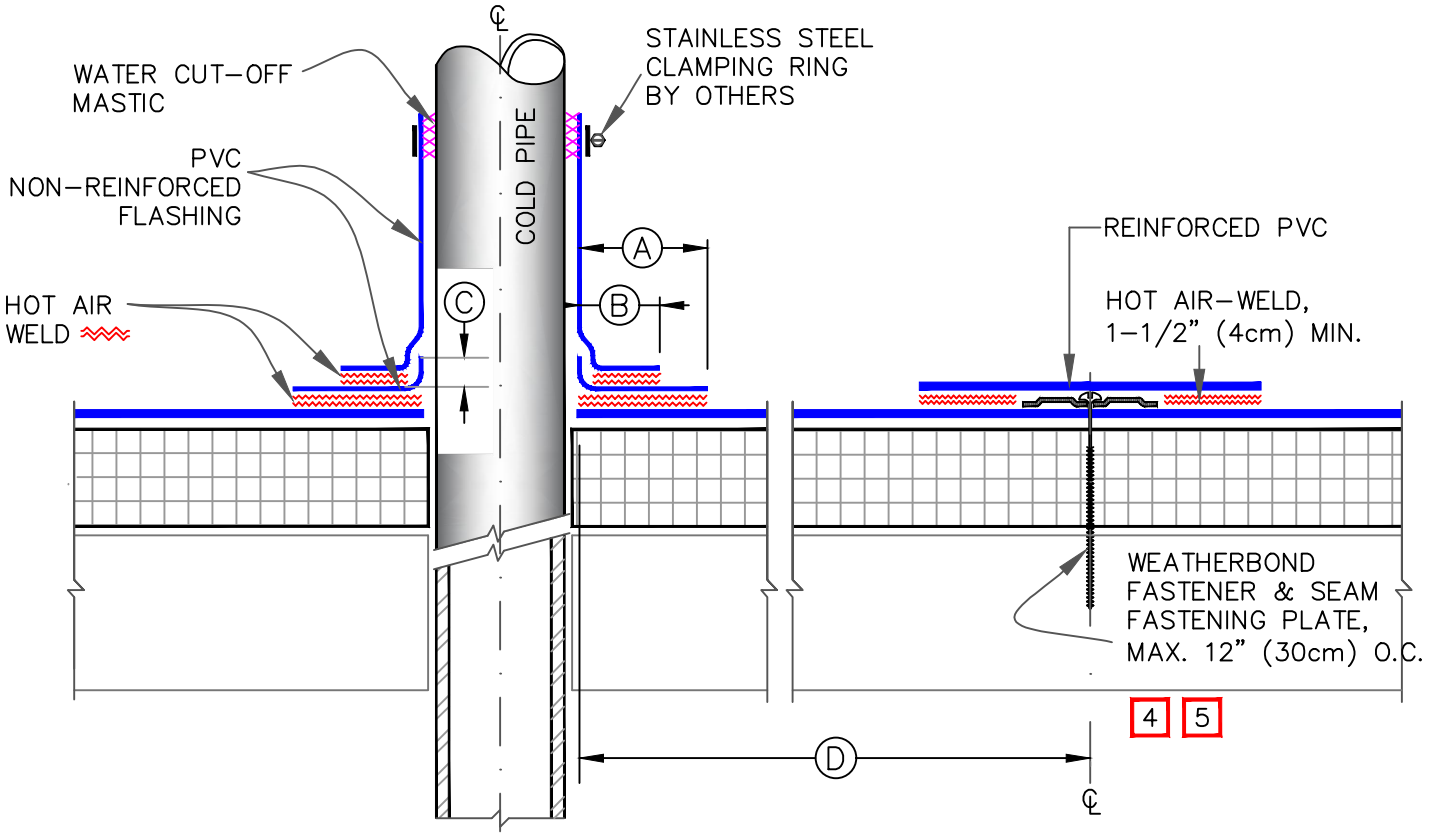
5. FASTENERS AND PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS PIPE DIAMETER EXCEEDS 18" (46cm).

FASTENER & PRESSURE PLATE TYPES FOR DIFFERENT ROOF DECKS

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

PRE-MOLDED FLASHING

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE



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 & PRESSURE PLATE TYPES FOR DIFFERENT ROOF DECKS

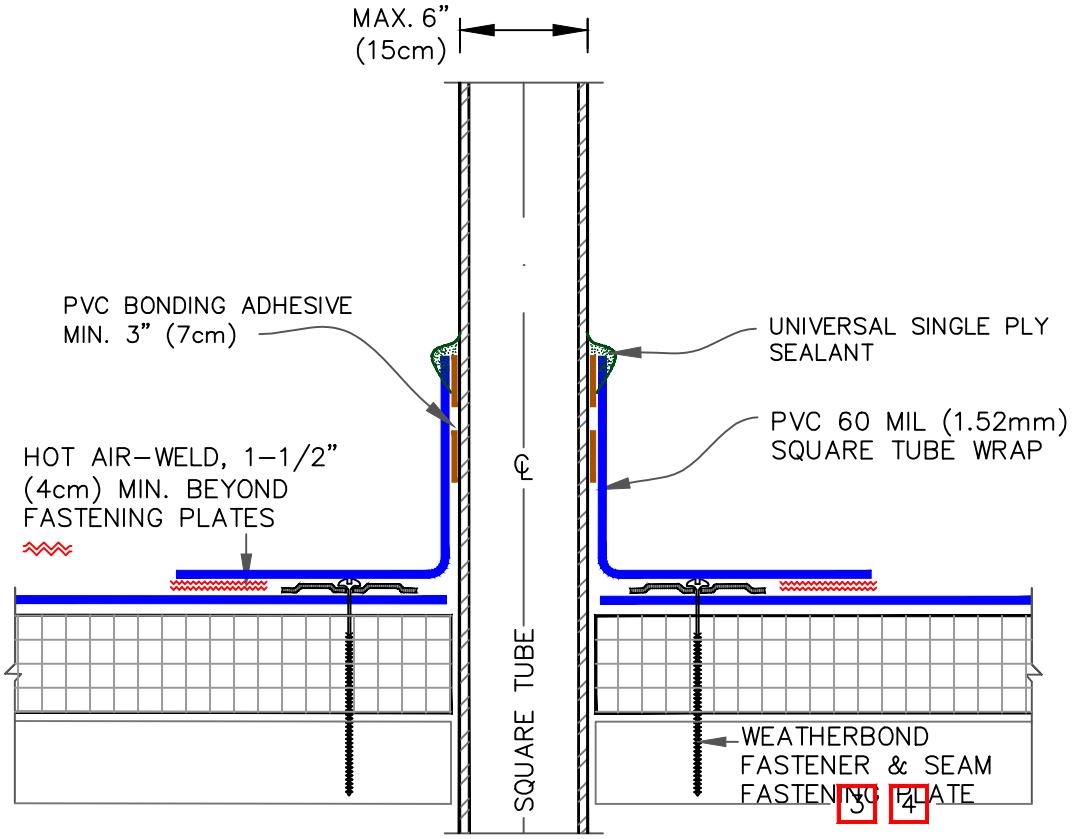
DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPWX	HPWX
	B	HPW-XL	HPW-XL
STRUCTURAL CONCRETE	A	CD-10	HPWX
	B	MP 14-10	HPWX

FIELD FABRICATED PIPE FLASHING

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

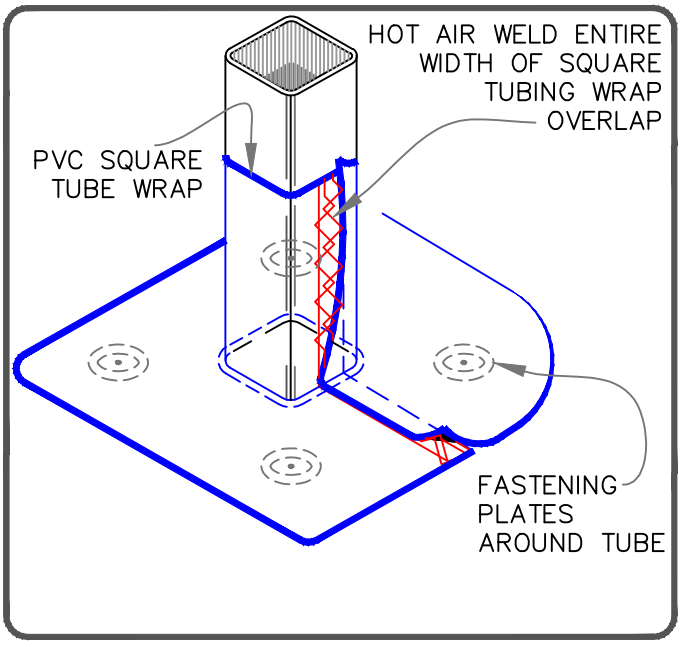
THERMOPLASTIC ROOFING SYSTEM

WBPC-8.2



FASTENER & PRESSURE PLATE TYPES FOR DIFFERENT ROOF DECKS

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



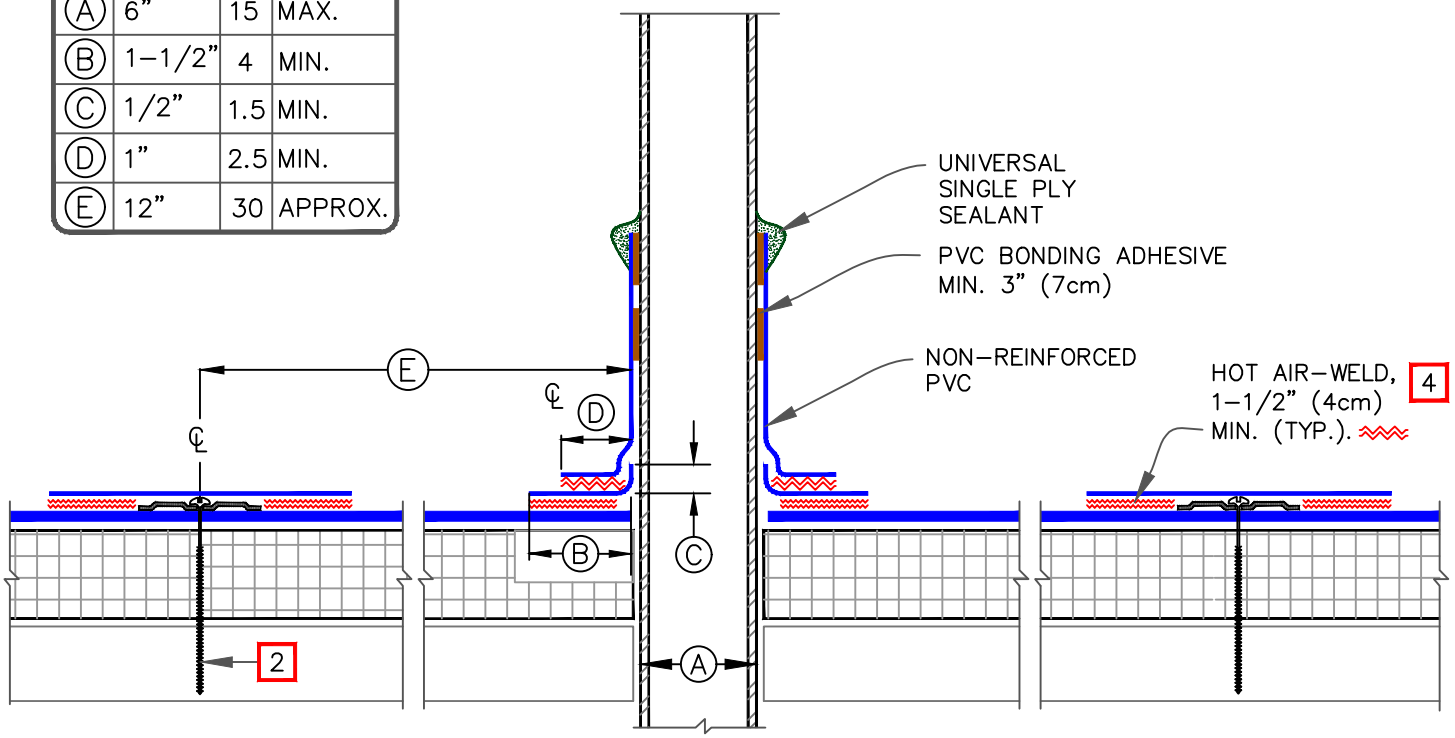
NOTES:

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.

PRE-FABRICATED SQUARE TUBE WRAP

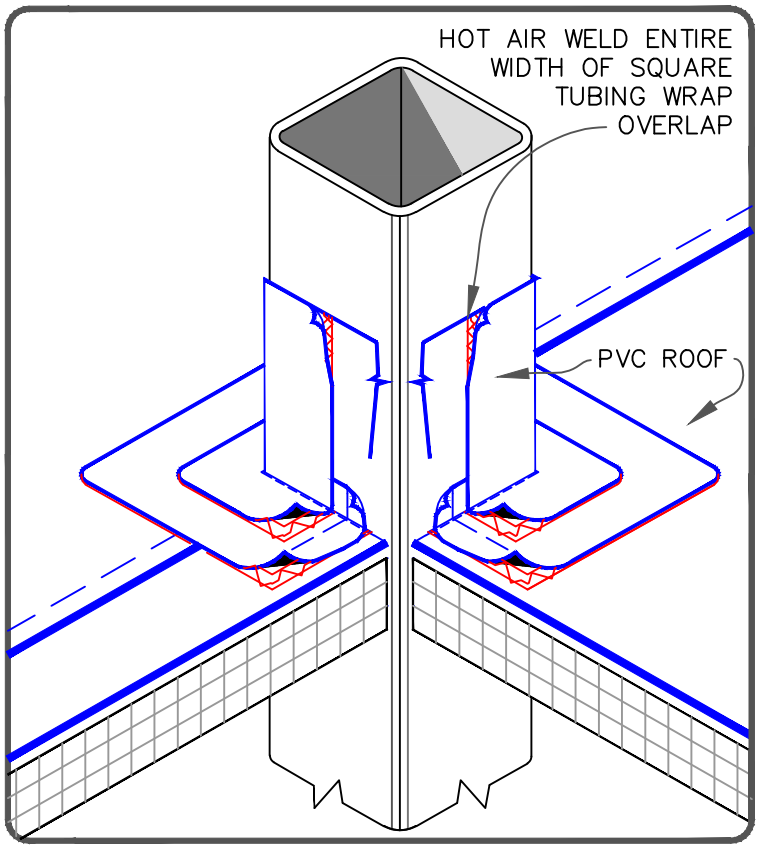
PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

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



FASTENER & PRESSURE PLATE TYPES FOR DIFFERENT ROOF DECKS

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



NOTES:

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

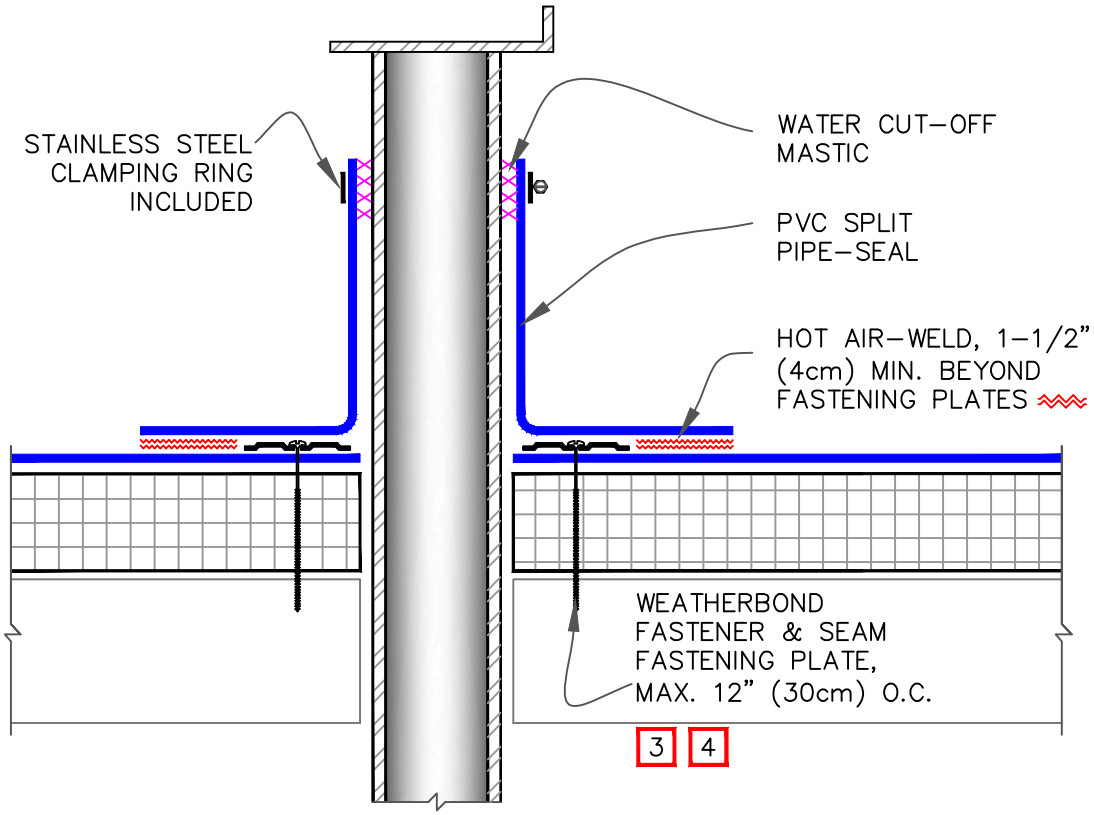
WEATHERBOND ROOFING SYSTEMS

FIELD–FABRICATED SQUARE TUBE FLASHING

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC–8.4

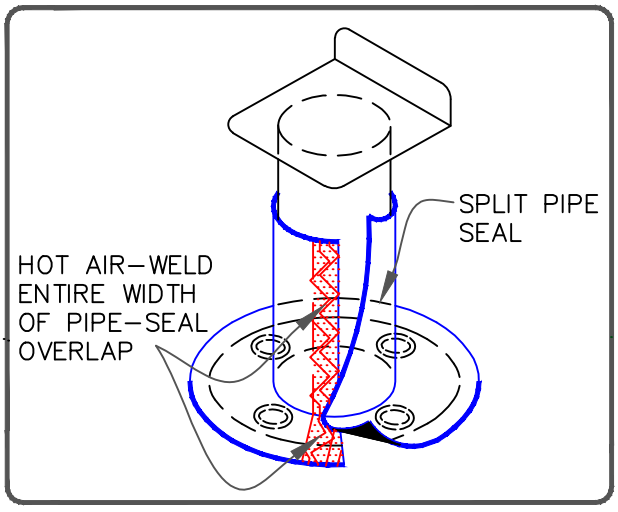


FASTENER & PRESSURE PLATE TYPES FOR DIFFERENT ROOF DECKS

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

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 WBPC–8.2.
4. FASTENERS AND PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS PIPE DIAMETER EXCEEDS 18" (46cm).

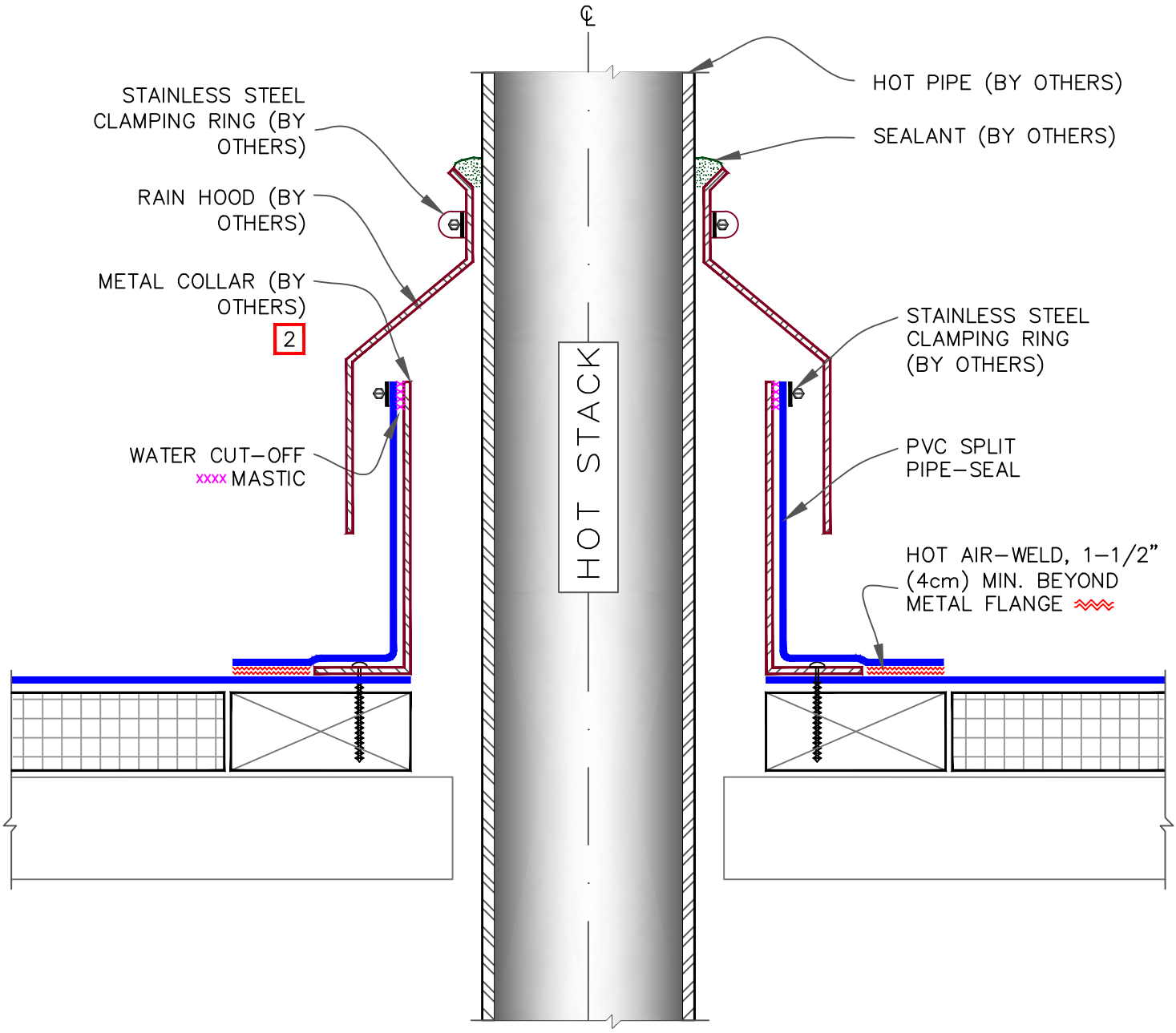


PRE–FABRICATED SPLIT PIPE SEAL

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC–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.

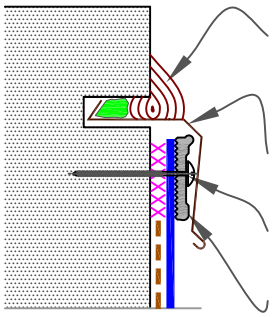
HOT PIPE FLASHING

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC–8.6

9.1 MECHANICAL TERMINATION WITH COUNTER FLASHING



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

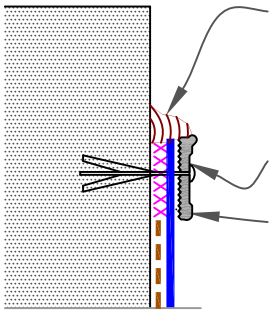
METAL COUNTER-FLASHING, WITH LEAD WEDGES AS REQUIRED (BY OTHERS)

THREADED FASTENERS OR WEATHERBOND ZINC NAIL-IN ANCHOR

WEATHERBOND TERMINATION BAR

SEE INSET A

9.2 MECHANICAL TERMINATION



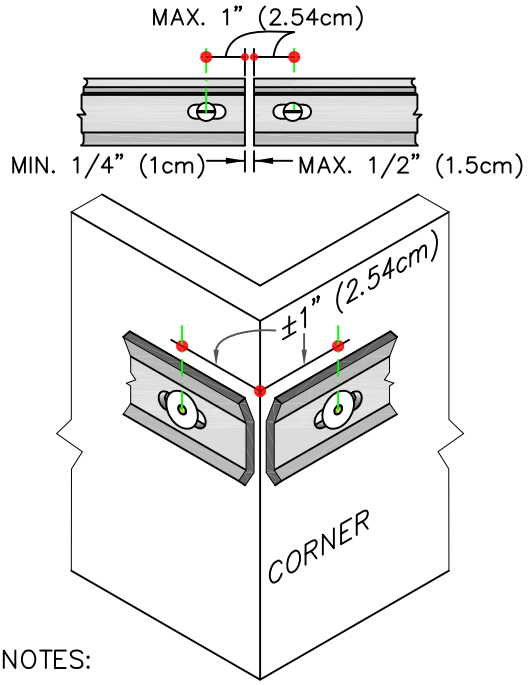
WEATHERBOND UNIVERSAL SINGLE-PLY SEALANT OR SEALANT (BY OTHERS)

WEATHERBOND ZINC NAIL-IN ANCHOR, RECOMMENDED AT 6" (15cm) O.C.

WEATHERBOND TERMINATION BAR

SEE INSET A

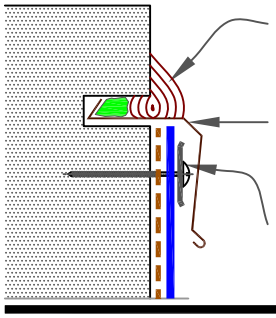
INSET A



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.

9.3 COUNTER FLASHING TERMINATION



WEATHERBOND 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:

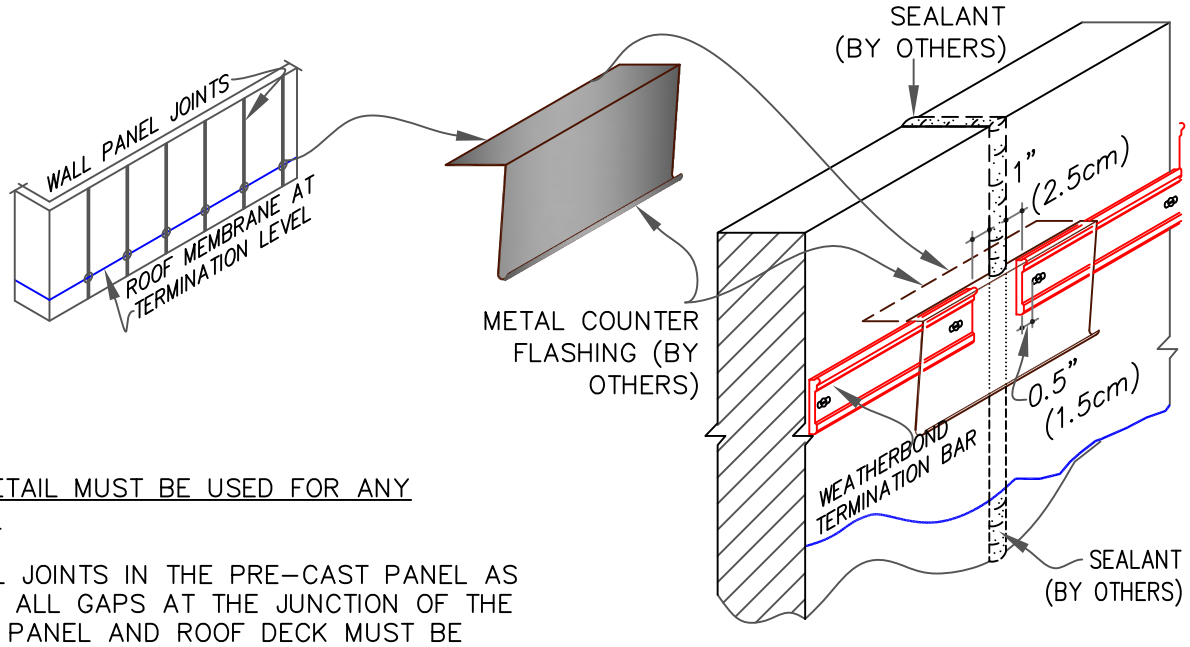
1. WHEN MECHANICAL FASTENERS ARE USED TO PENETRATE THE METAL COUNTER-FLASHING, USE EPDM WASHERS, APPLY WATER CUT-OFF MASTIC UNDER THE COUNTER-FLASHING OR SEAL THE FASTENER HEADS.

APPLICABLE BONDING ADHESIVE

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

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

9.4	MECHANICAL TERMINATION AT VERTICAL JOINTS



NOTES:

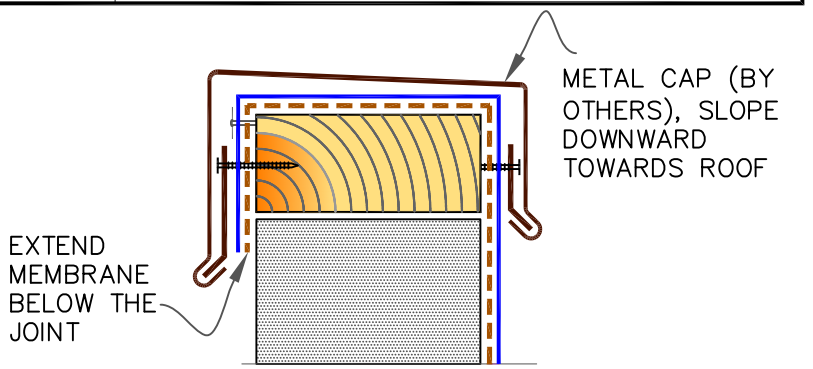
1. THIS DETAIL MUST BE USED FOR ANY PROJECT
2. VERTICAL JOINTS IN THE PRE-CAST PANEL AS WELL AS ALL GAPS AT THE JUNCTION OF THE TILT-UP PANEL AND ROOF DECK MUST BE FULLY SEALED TO PREVENT AIR INFILTRATION.
3. APPLY ON HARD SMOOTH SURFACE ONLY.

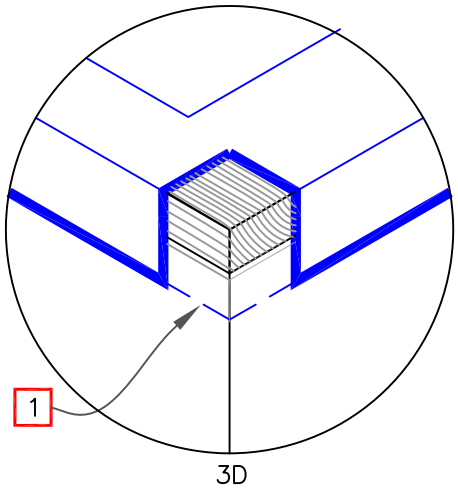
APPLICABLE BONDING ADHESIVE

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

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

9.6 SHEET METAL COPING (BY OTHERS)

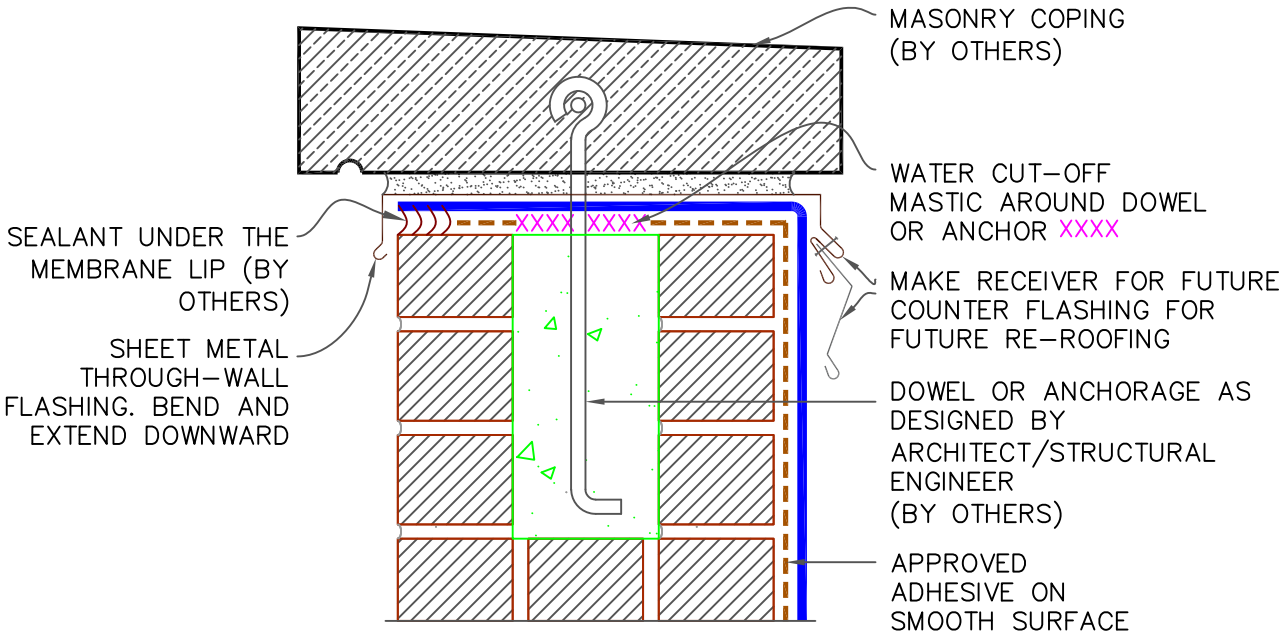




NOTES:

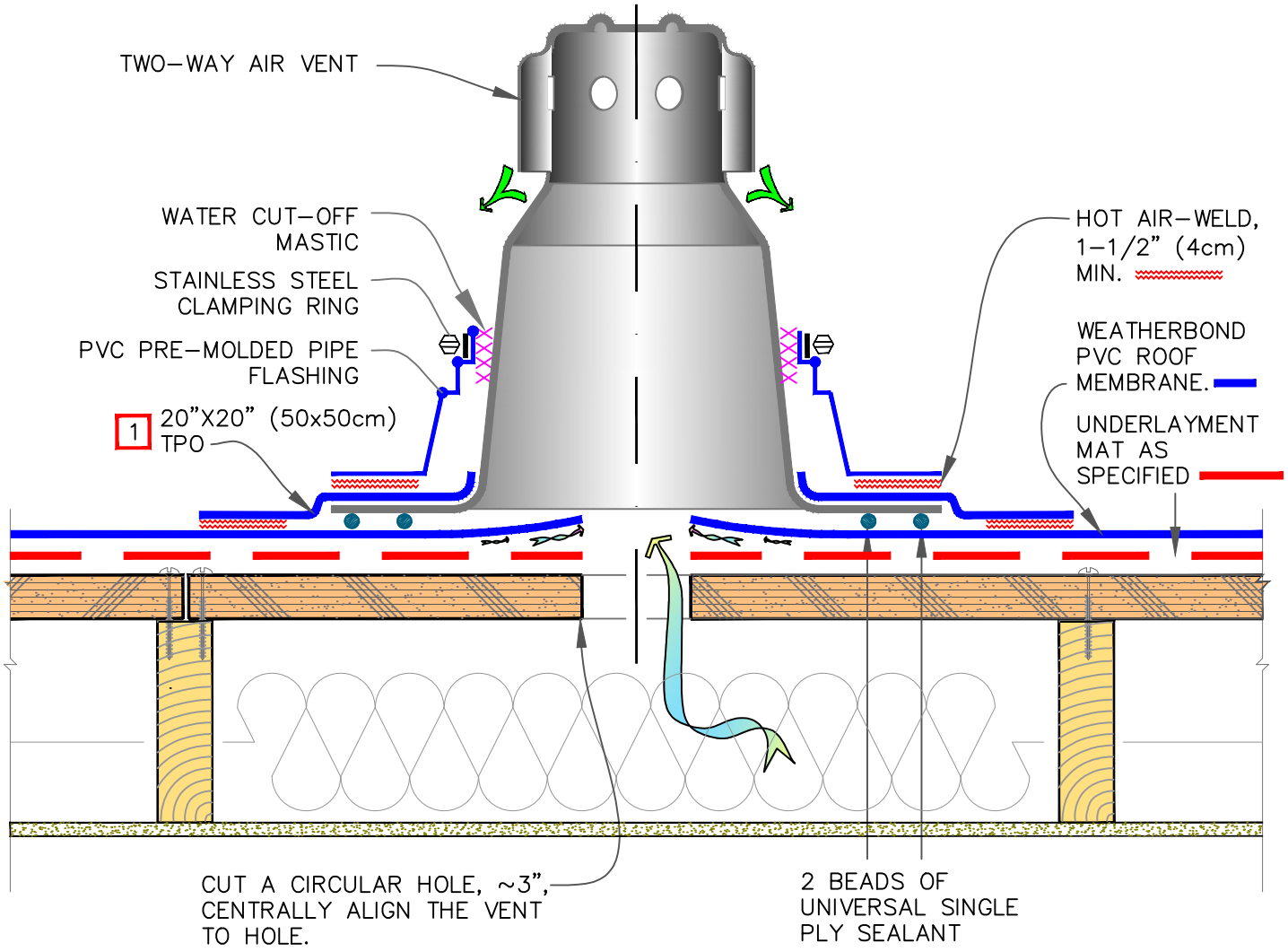
1. MEMBRANE MUST BE EXTENDED TO CORNERS TO PROVIDE COMPLETE COVERAGE OF THE TOP WALL SURFACE.
2. WARRANTY AS PROVIDED (BY OTHERS).

9.7 MASONRY COPINGS (BY OTHERS)



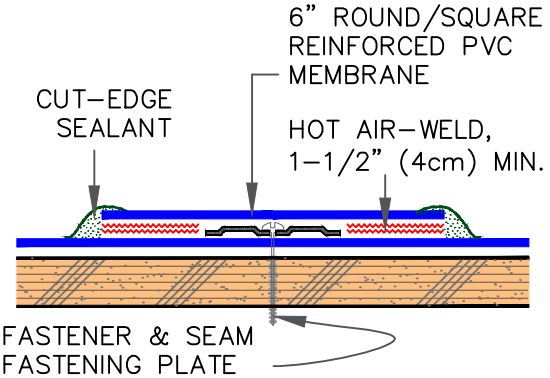
APPLICABLE BONDING ADHESIVE

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

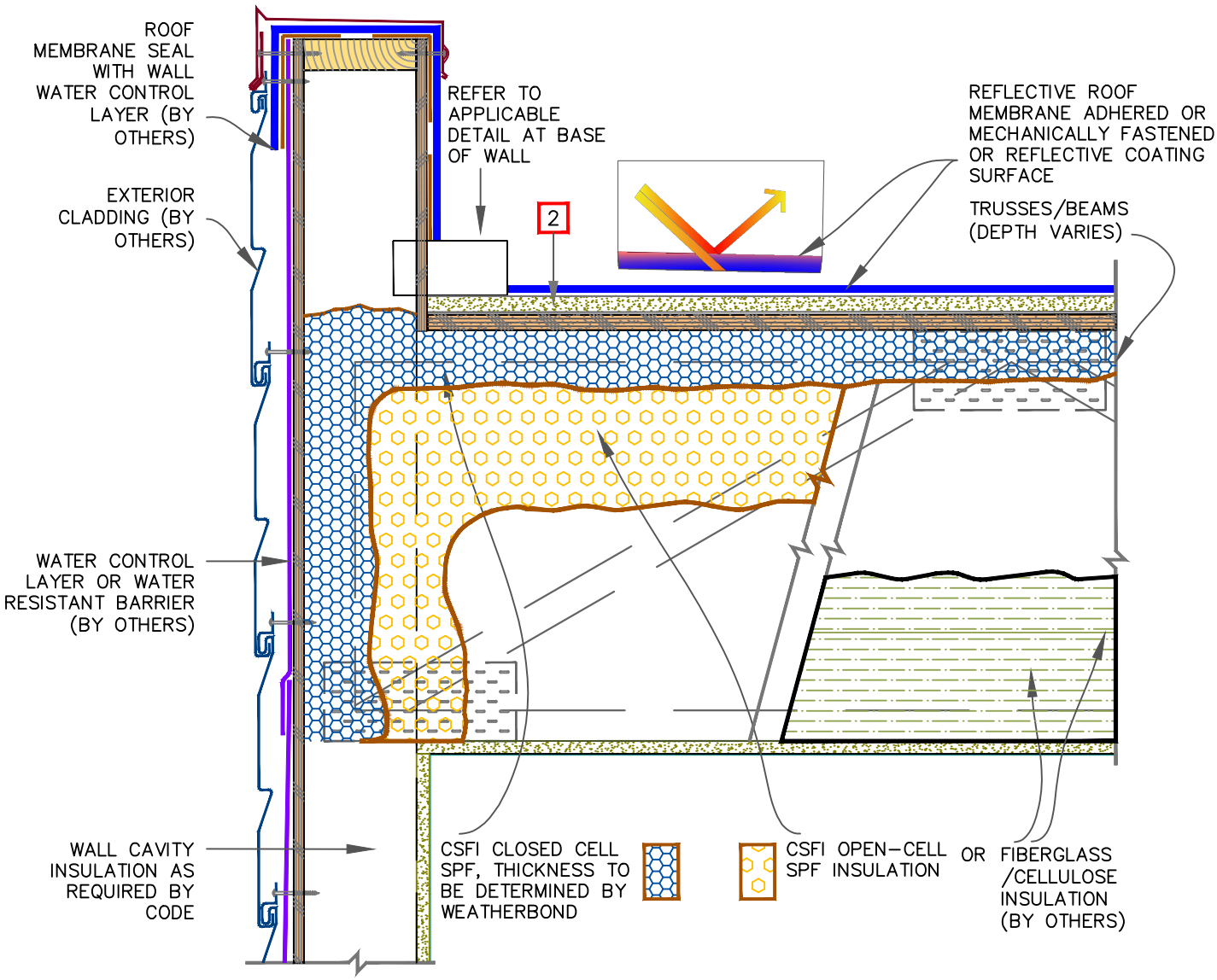


NOTES:

1. CUT SQUARE PIECE, TRIM ROUNDED EDGES, DRAW CENTER LINES AND CUT A 5-1/2" (14cm) DIAMETER HOLE AT THE CENTER OF PIECE. SLIDE THE PIECE THROUGH THE VENT.
2. ONE VENT PER 2,000 S.F. PROPERLY SPACED. MIN. 2 VENTS IF ROOF IS <2,000 S.F., AND INSTALL AT OPPOSITE CORNERS WITHIN 8'X8' CORNER AREA.
3. AVOID VENTS IN VALLEYS/LOWS/TRAFFIC AREAS OR NEAR THE ROOF EDGES AND PARAPET WALLS. POSITION VENTS AT LEAST 7'-0" FROM ROOF EDGE.
4. INSTALL MIN. 4 FASTENERS AT 4 CORNERS @ 12" FROM THE OUTER EDGE OF VENT. SEE DETAIL A.



DETAIL A: REQUIRED FASTENING AROUND EACH VENT FOR MF ASSEMBLY



NOTES:

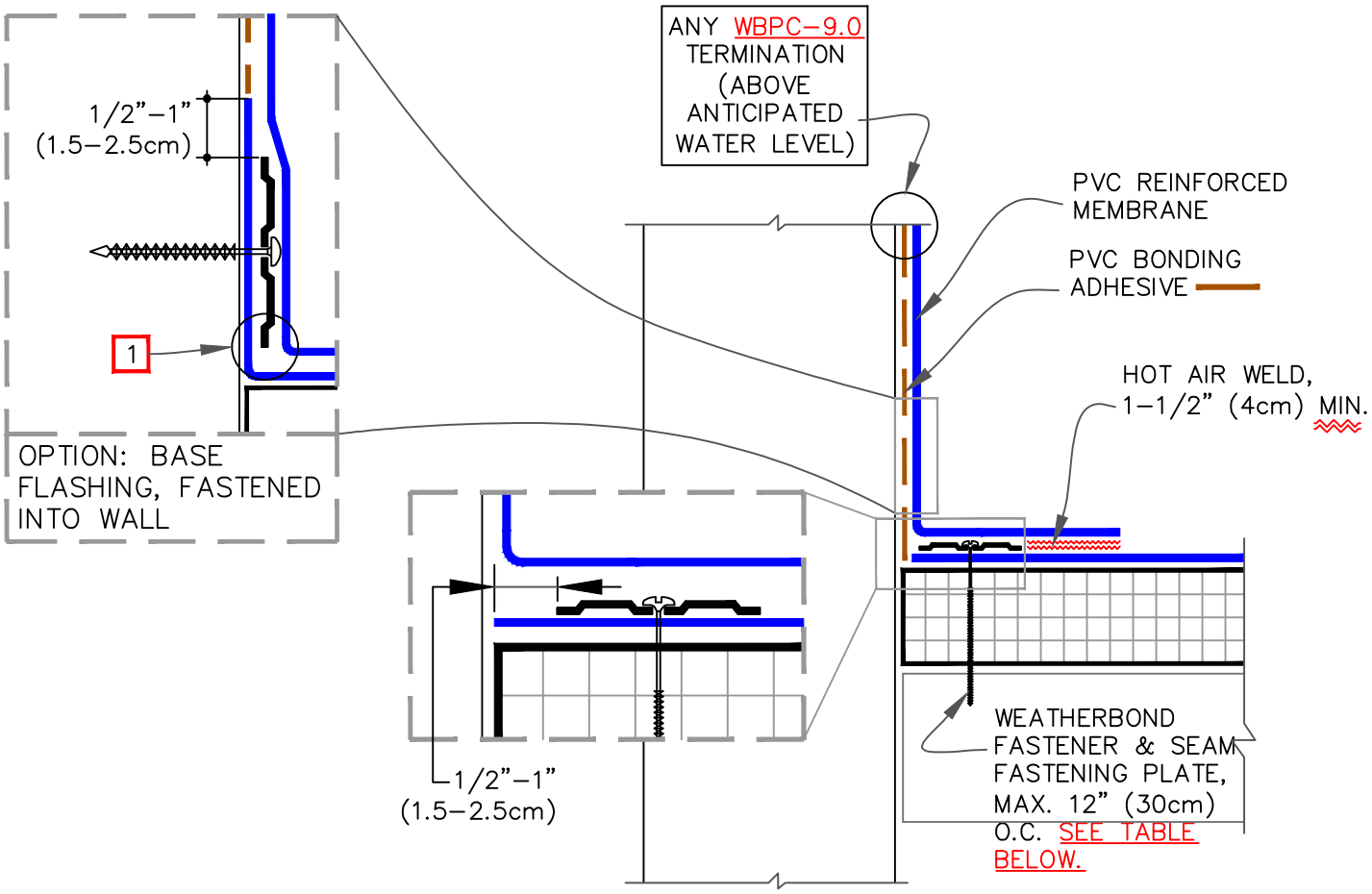
1. DETAIL IS SUITABLE FOR NEW CONSTRUCTION TO AVOID FUTURE CONDENSATION DUE TO REFLECTIVE ROOF MEMBRANES OR REFLECTIVE ROOF COATINGS RESULTING IN LOWER DEW POINT TEMPERATURES WITHIN ROOF ASSEMBLY.
2. THERMAL BARRIER AS REQUIRED PER CODE.
3. R-VALUE & THICKNESS OF ATTIC INSULATION TO COMPLY WITH APPLICABLE CODE.

LOW-SLOPE ROOF: SEALING THE UNDERSIDE OF THE DECK TO PREVENT CONDENSATION

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC-9.2

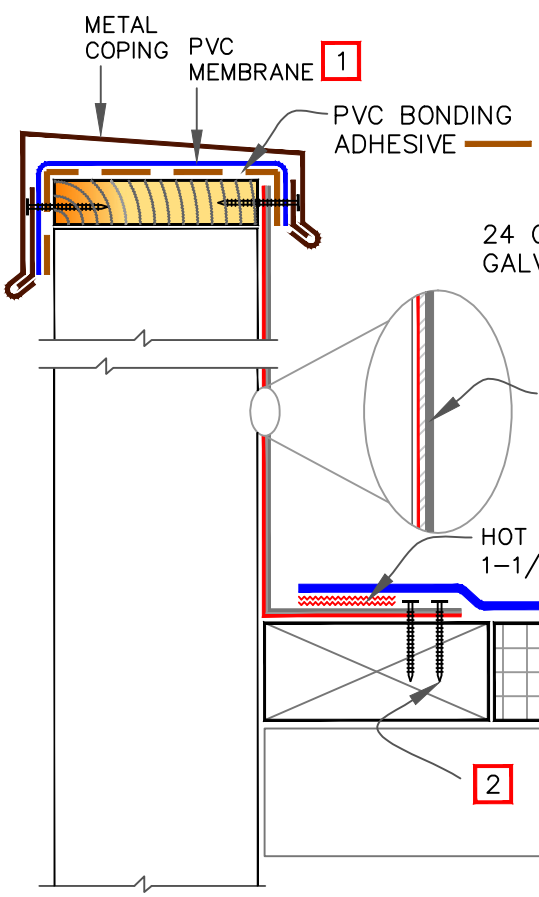


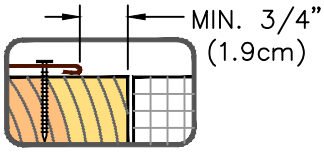
FASTENER & PRESSURE PLATE TYPES FOR DIFFERENT ROOF DECKS

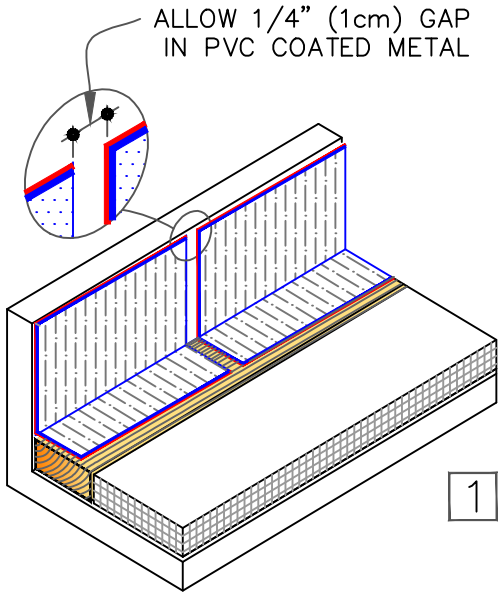
DECK TYPE	OPTION	FASTENER	PLATE
STEEL OR WOOD	A	HPWX	HPWX
	B	HPW–XL	HPW–XL
STRUCTURAL CONCRETE	A	CD–10	HPWX
	B	MP 14–10	HPWX

NOTE:

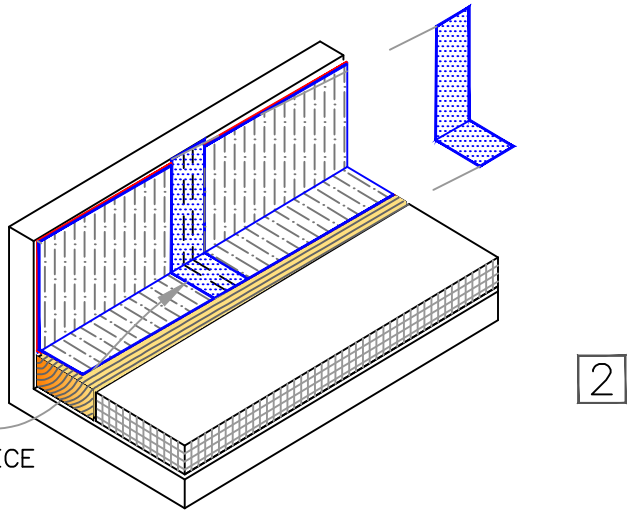
1. CARE MUST BE TAKEN TO PRESS THE MEMBRANE TIGHTLY INTO THE ANGLE CHANGE. PLACING THE PLATES TIGHT INTO THE ANGLE CHANGE WILL HELP HOLD THE MEMBRANE IN THE PROPER POSITION.

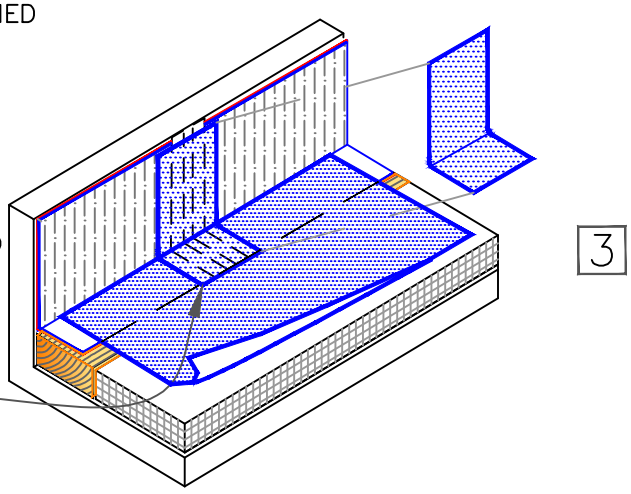






SEQUENCE:
1. 3" (7.6cm) REINFORCED MEMBRANE STRIPPING.
2. FIELD MEMBRANE.
3. TOP 6" (15.2cm) NON–REINFORCED MEMBRANE STRIPPING.



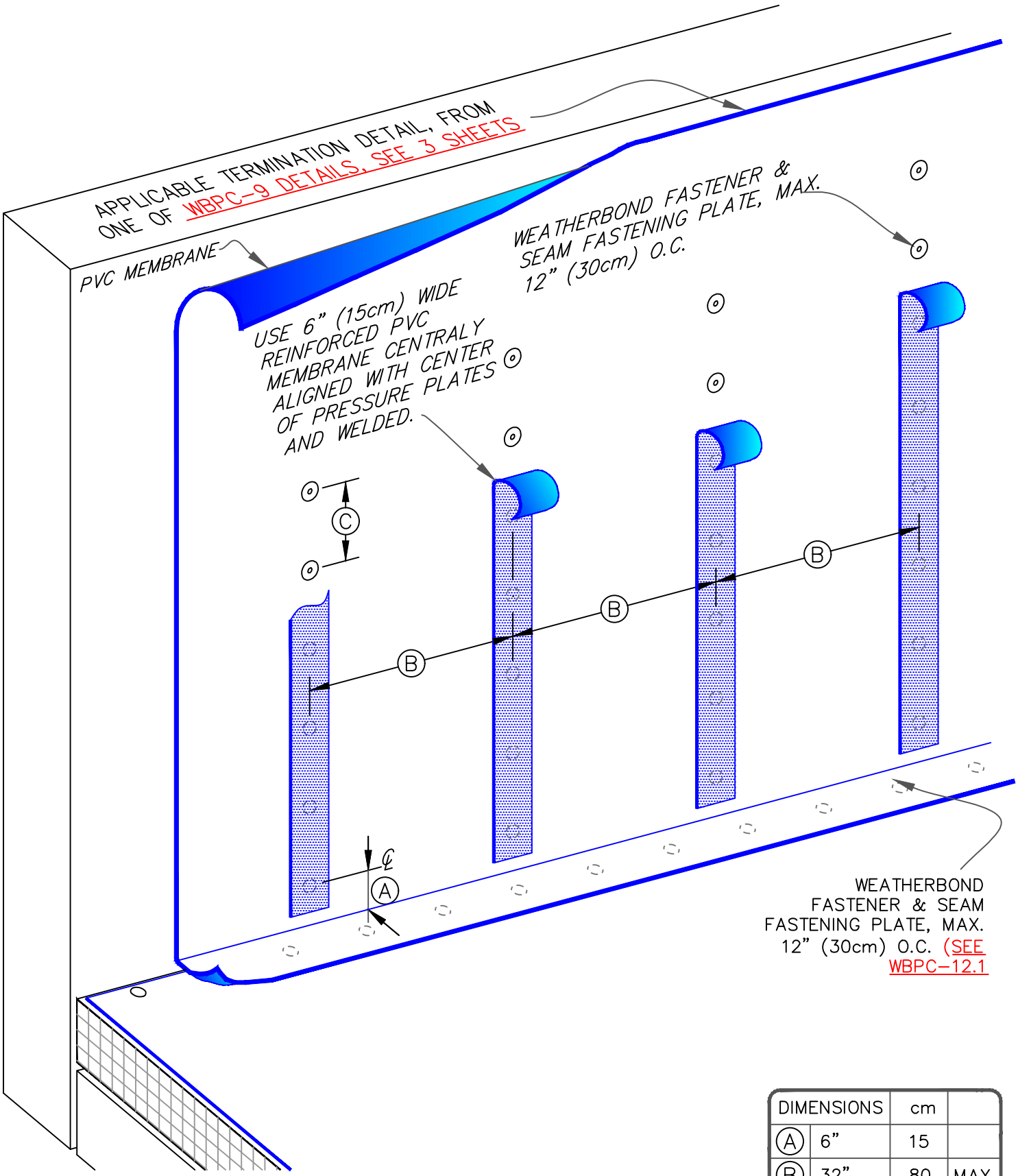


NOTES:

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 WBPC–15.3 FOR ADDITIONAL INFORMATION.

COATED METAL WALL FLASHING

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE



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

WEATHERBOND ROOFING SYSTEMS

PARAPET FLASHING / NO ADHESION – ANY HEIGHT OPTION

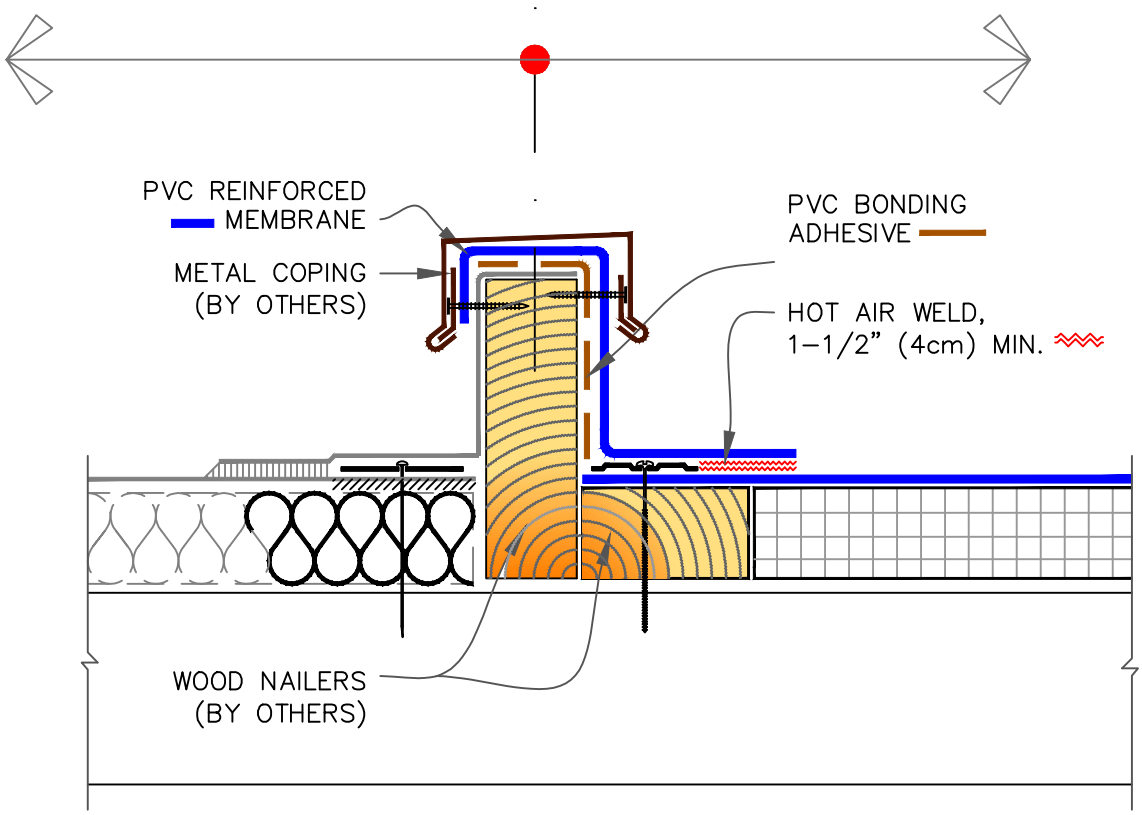
PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC-12.6

EXISTING MANUFACTURER'S WARRANTY. REPAIRS EXECUTED BY THE AUTHORIZED APPLICATOR OF THE EXISTING ROOF MANUFACTURER

LIMIT OF WEATHERBOND WARRANTY. LEAKS EXCLUDED WHERE METAL DECK FLUTES CHANNEL WATER FROM OLD ROOF TOWARDS NEW ROOF



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.

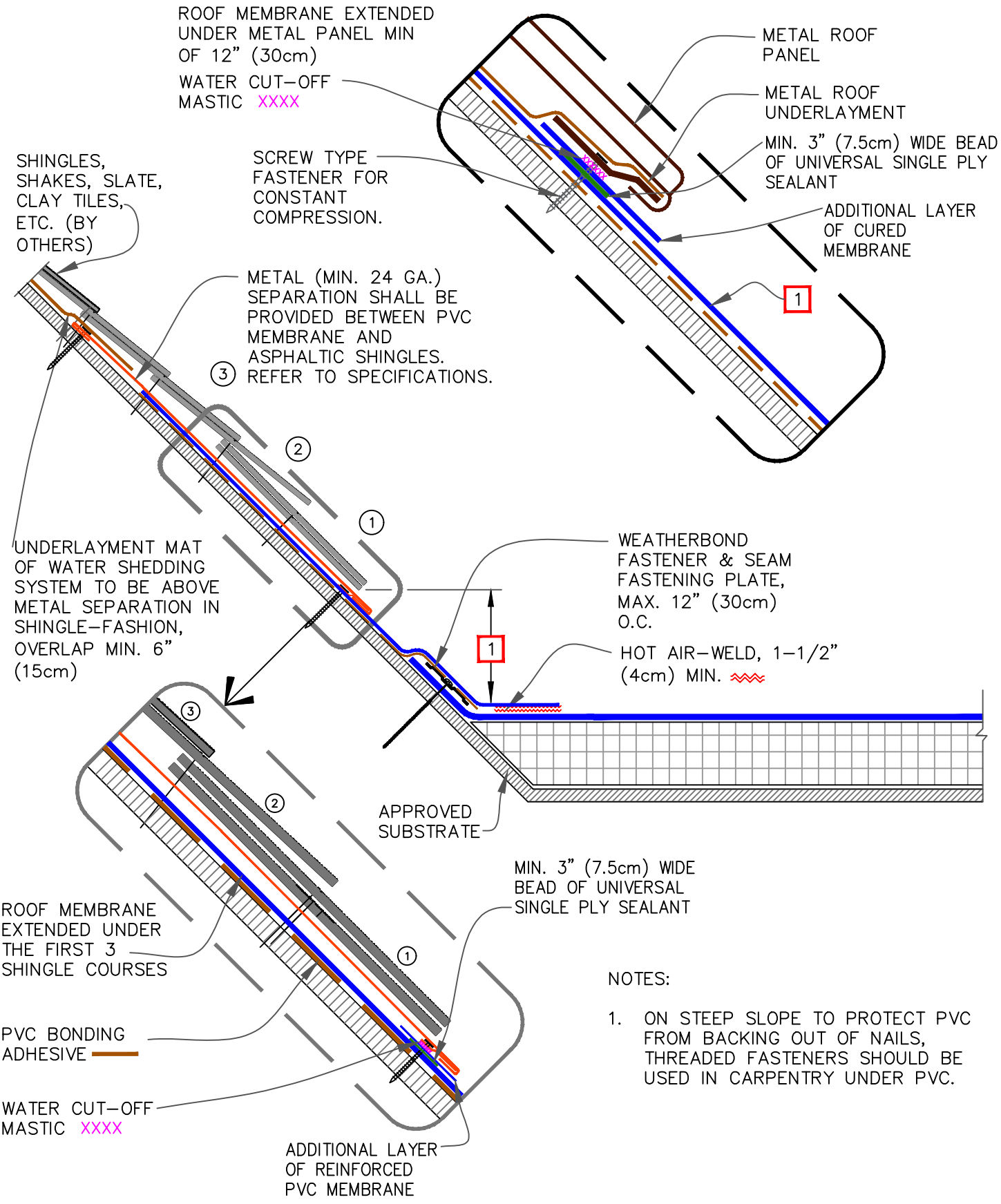
PVC ONLY (NOT KEE HP)
IN LIEU OF BONDING ADHESIVE, THE CURB FLASHING MAY BE INSTALLED IN CAV GRIP PVC.

TPO/PVC TIE–IN TO EXISTING SINGLE–PLY

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC–13.3



NOTES:

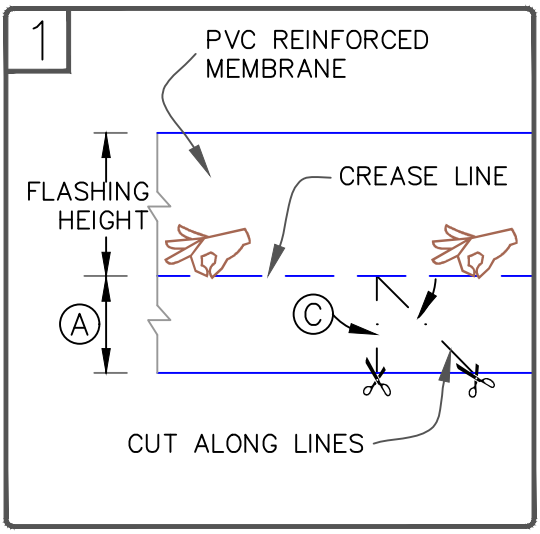
1. ON STEEP SLOPE TO PROTECT PVC FROM BACKING OUT OF NAILS, THREADED FASTENERS SHOULD BE USED IN CARPENTRY UNDER PVC.

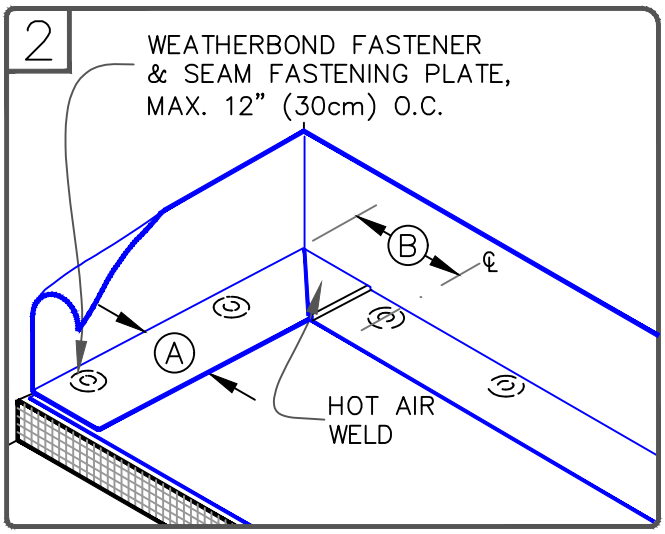
TPO/PVC TIE-IN TO SHINGLED ROOF

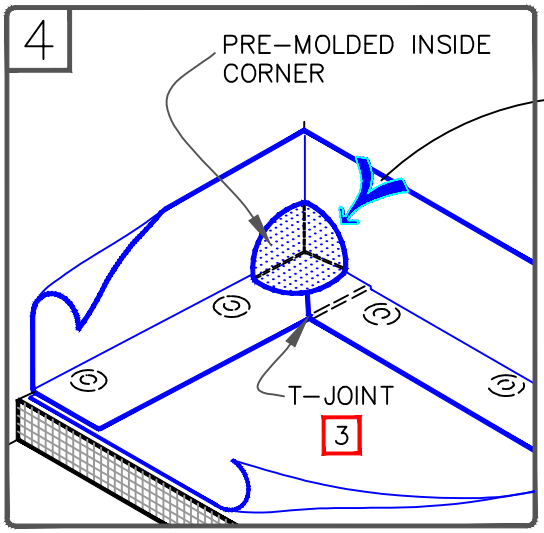
PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

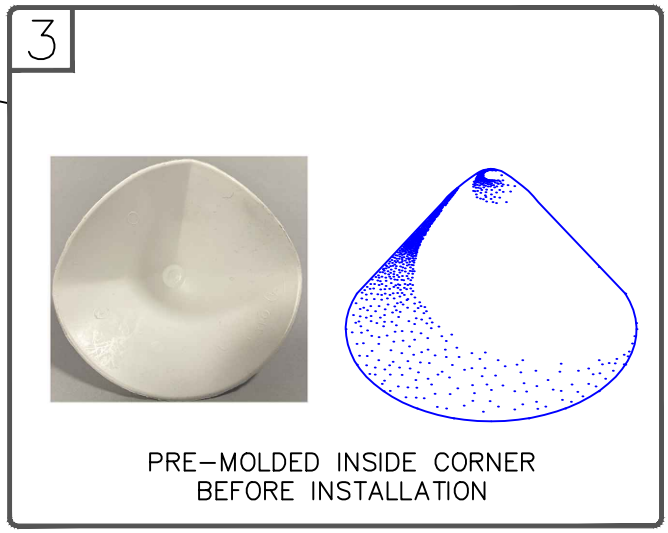
THERMOPLASTIC ROOFING SYSTEM

WBPC-13.6









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 WEATHERBOND SPECIFICATIONS FOR ACCEPTABLE WEATHERBOND FASTENERS AND PLATES.

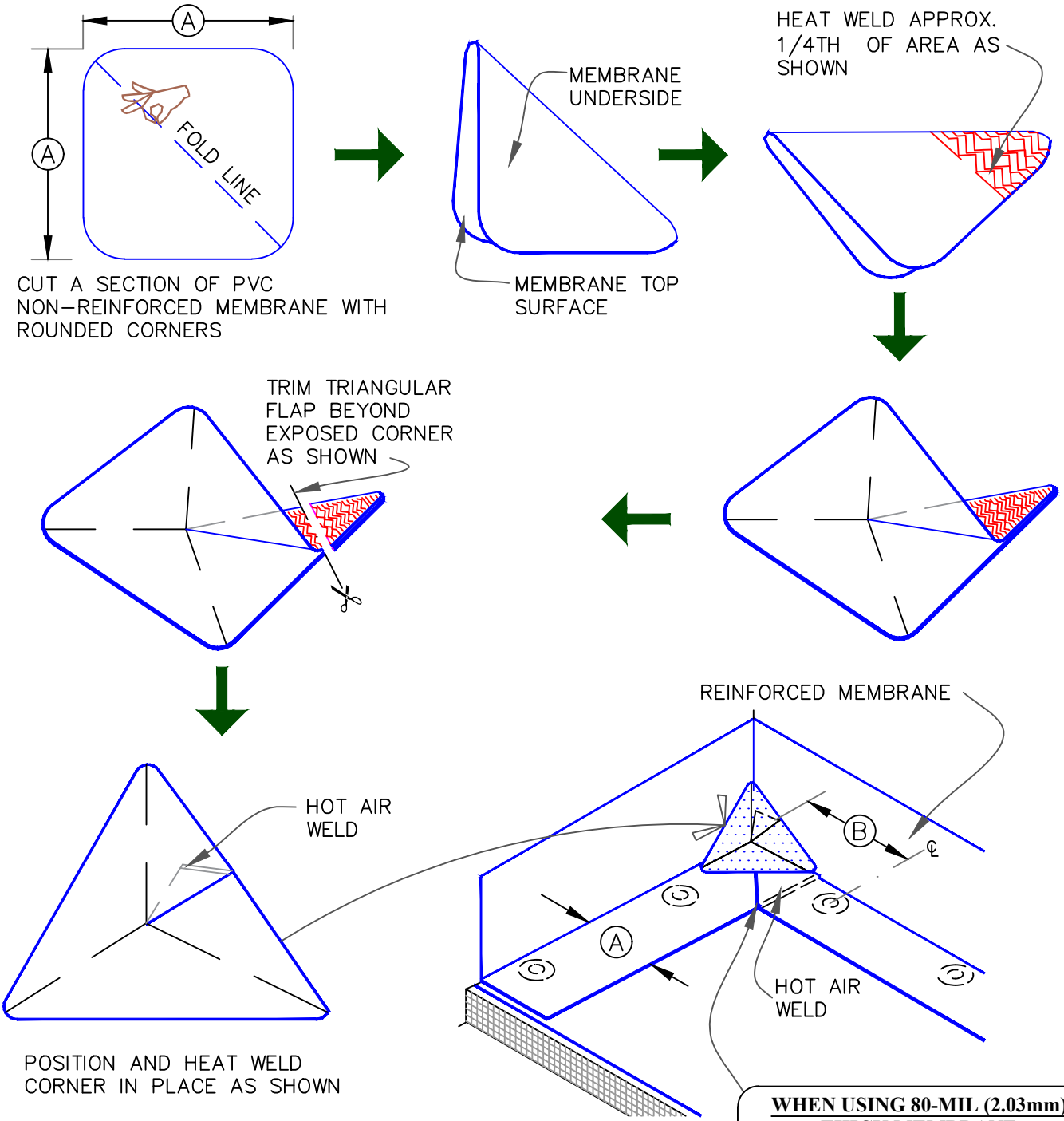
DIMENSIONS		cm	
A	6"	15	APPROX.
B	6"-9"	15-23	
C	45-DEGREES APPROX.		

PRE-MOLDED INSIDE CORNER FLASHING

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC-15.1



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.

WEATHERBOND ROOFING SYSTEMS

FIELD FABRICATED INSIDE CORNER FLASHING

PVC MEMBRANE

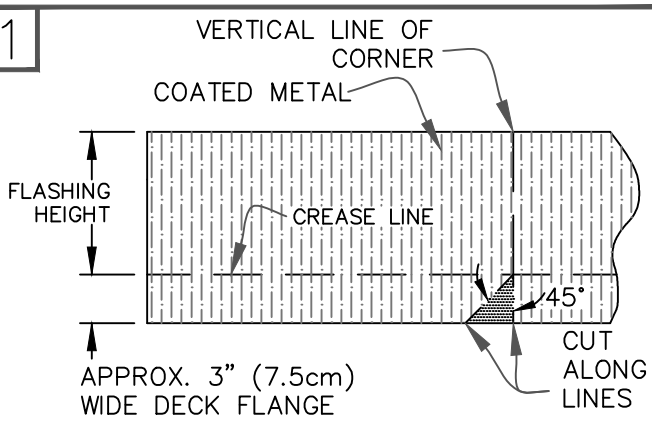
APPROVED SUBSTRATE

0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

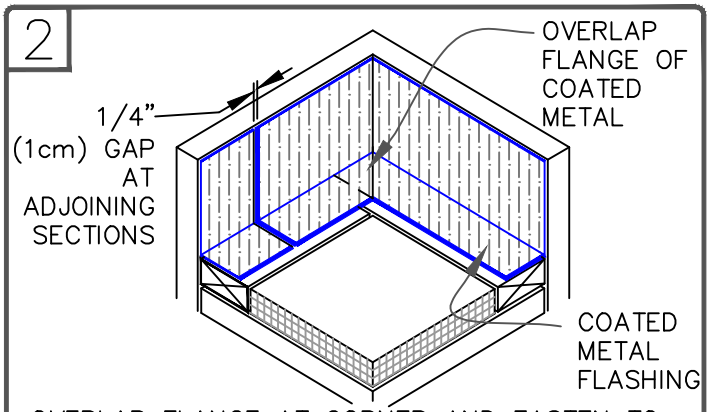
WBPC-15.2

1



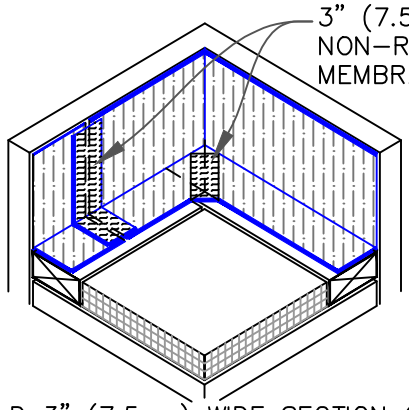
CREASE COATED METAL FLASHING ALONG DASHED LINES AFTER CUTTING AND REMOVING SHADED TRIANGLE.

2



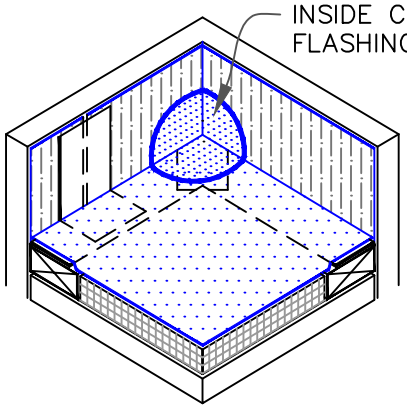
OVERLAP FLANGE AT CORNER AND FASTEN TO WOOD NAILERS USING 1–1/2" (4cm) RING SHANK NAILS SPACED 6" (15cm) O.C., STAGGERED 1/2" (1.5cm).

3



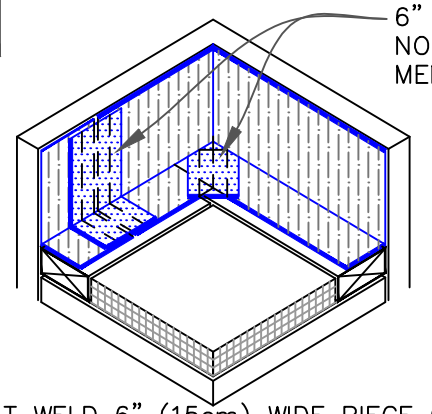
HEAT WELD 3" (7.5cm) WIDE SECTION OF NON–REINFORCED MEMBRANE OVER VERTICAL JOINT IN COATED METAL AND OVER CUT EDGE AT CORNER AS SHOWN.

4



INSTALL FIELD MEMBRANE AND HEAT WELD TO FLANGE OF COATED METAL. ALSO INSTALL INSIDE CORNER FLASHING PER DETAILS: TPC–15A OR TPC–15B OR TPC–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 WBPC–12.3 FOR ADDITIONAL INFORMATION.

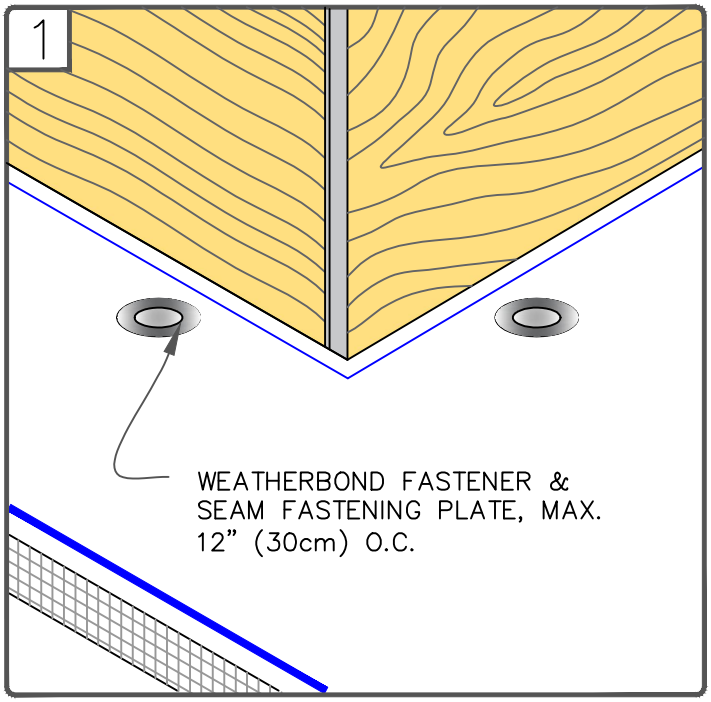
SEQUENCE:
1. 3" (7.6cm) REINFORCED MEMBRANE STRIPPING.
2. FIELD MEMBRANE.
3. TOP 6" (15.2cm) NON–REINFORCED MEMBRANE STRIPPING.

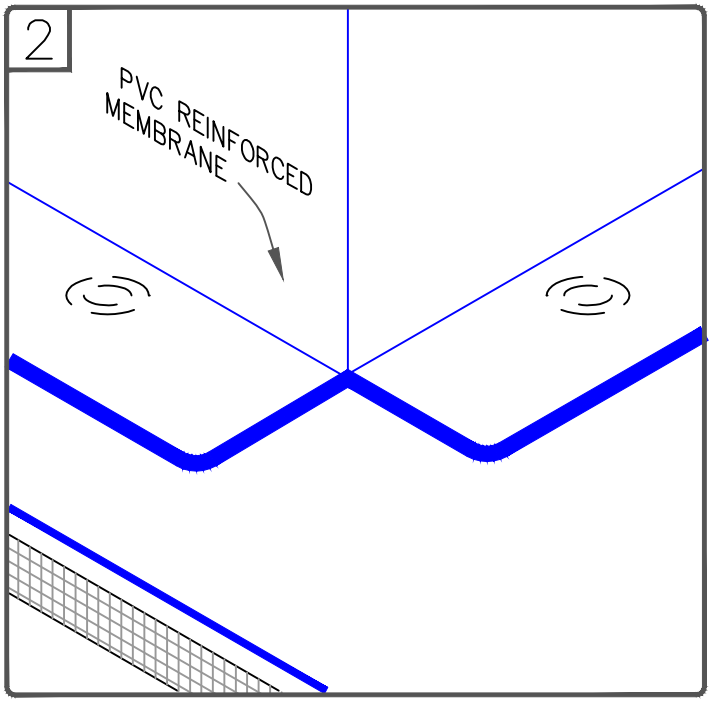
INSIDE CORNER WITH COATED METAL WALL FLASHING

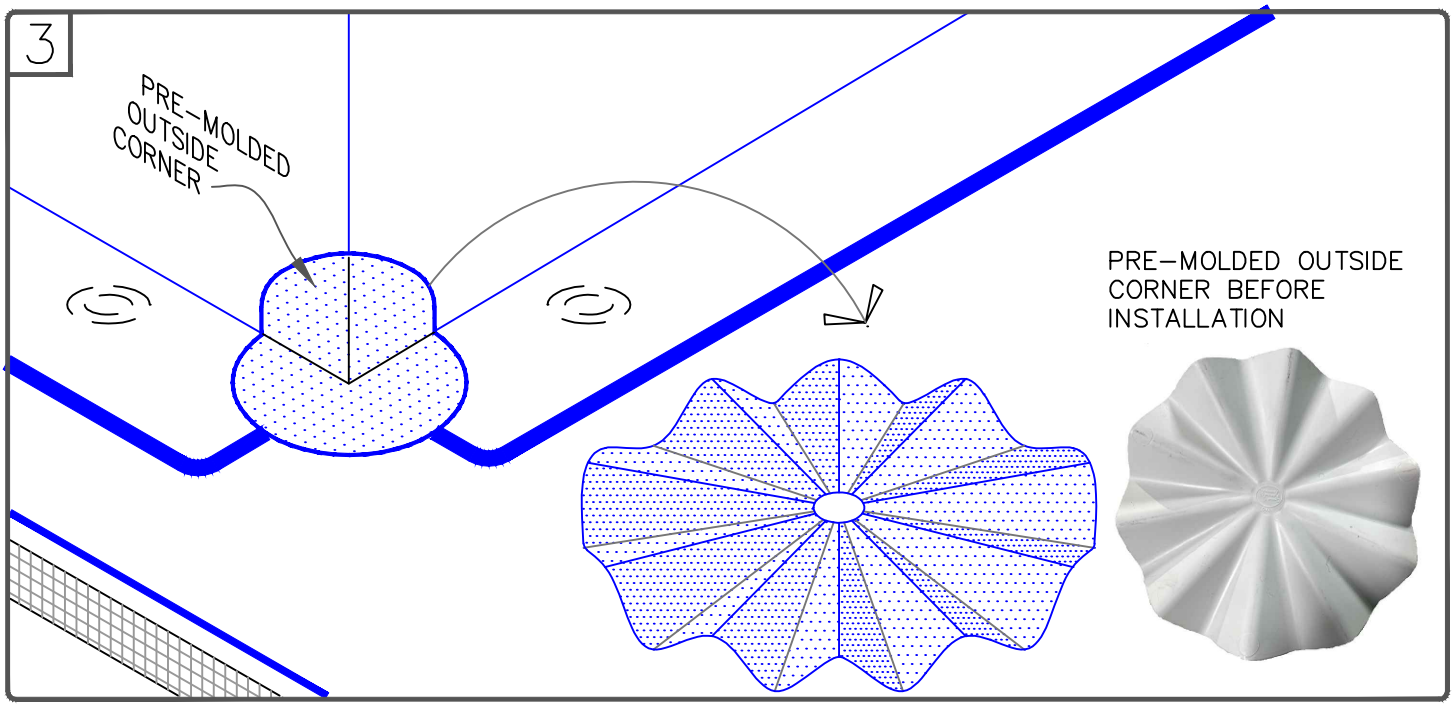
PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC–15.3







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 WEATHERBOND SPECIFICATIONS FOR ACCEPTABLE WEATHERBOND FASTENERS AND PLATES.

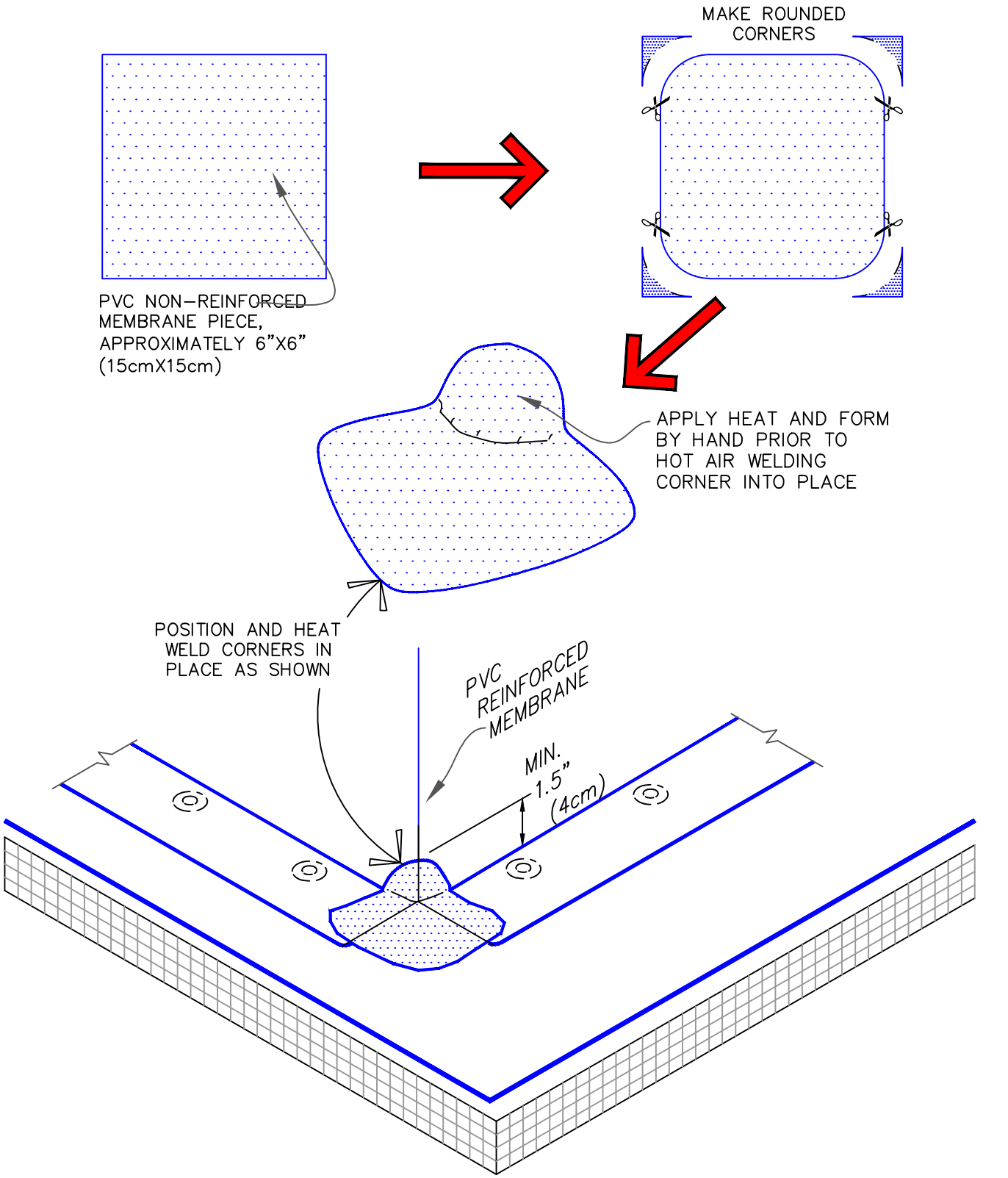
WEATHERBOND
ROOFING SYSTEMS

PRE-MOLDED OUTSIDE
CORNER FLASHING

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC
ROOFING SYSTEM

WBPC-15.4



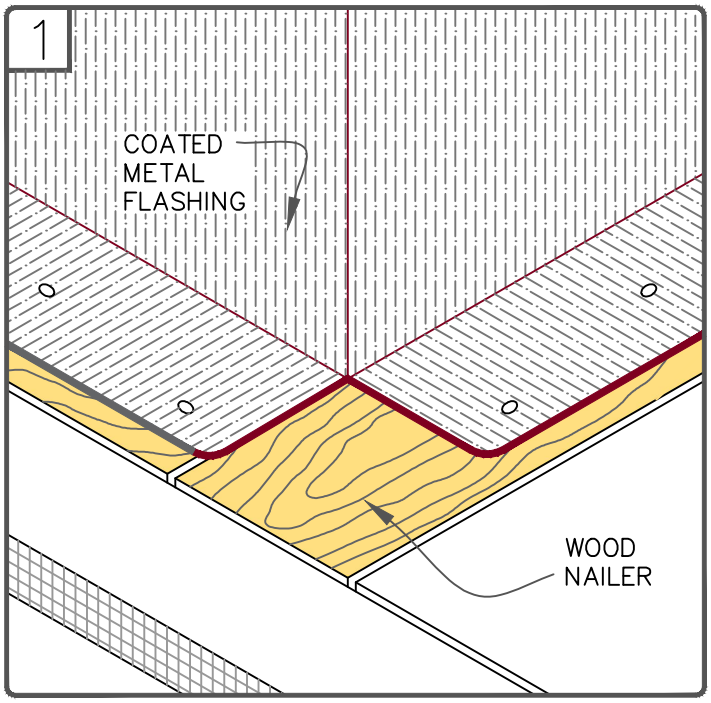
WEATHERBOND ROOFING SYSTEMS

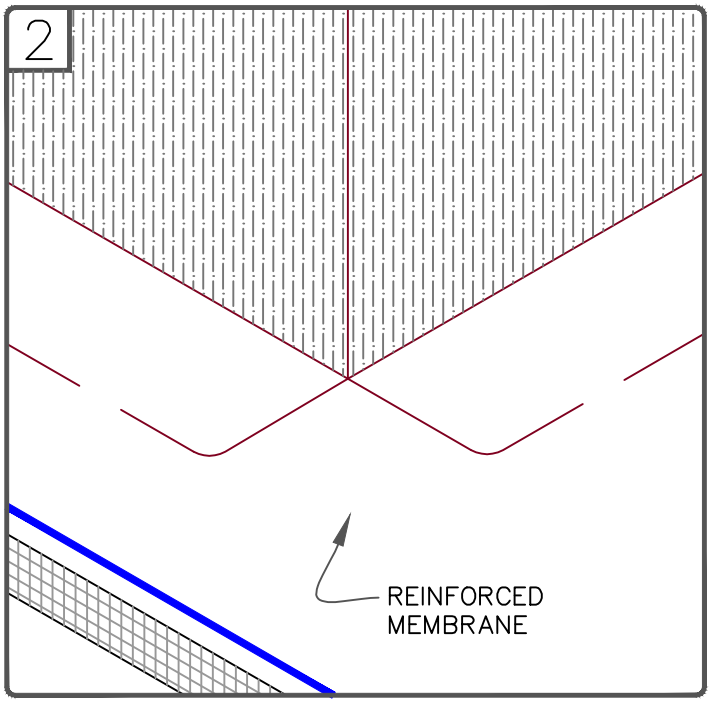
FIELD FABRICATED OUTSIDE CORNER FLASHING

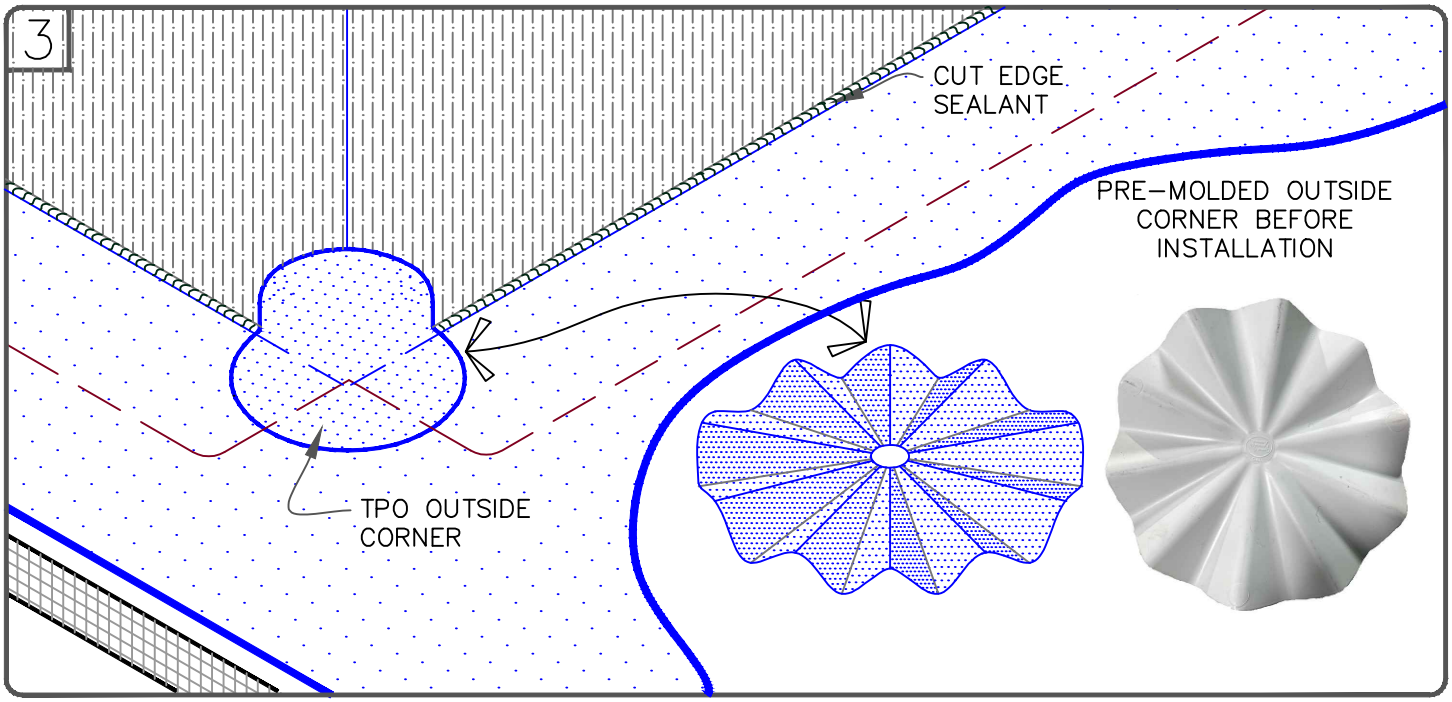
PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC-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 WBPC-5.2 FOR FLASHING VERTICAL JOINTS IN COATED METAL.

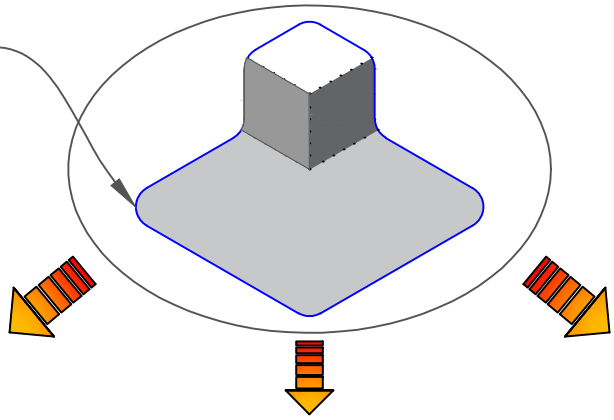
OUTSIDE CORNER WITH COATED METAL WALL FLASHING

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

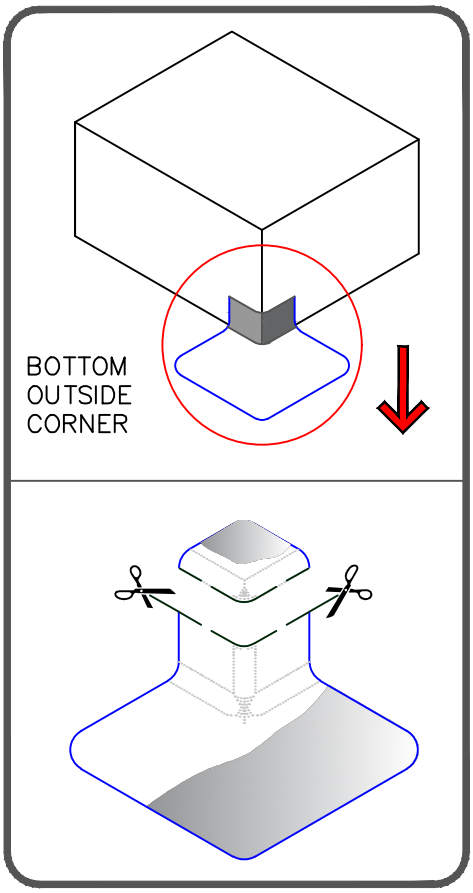
THERMOPLASTIC ROOFING SYSTEM

WBPC-15.6

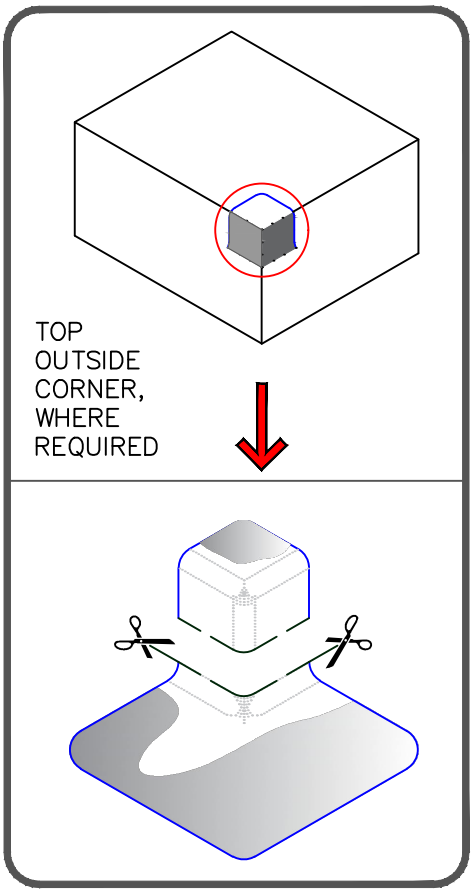
60–MIL THICK PVC, UNIVERSAL CORNERS CAN BE USED FOR 3 DIFFERENT CORNER CONDITIONS AS SHOWN BELOW



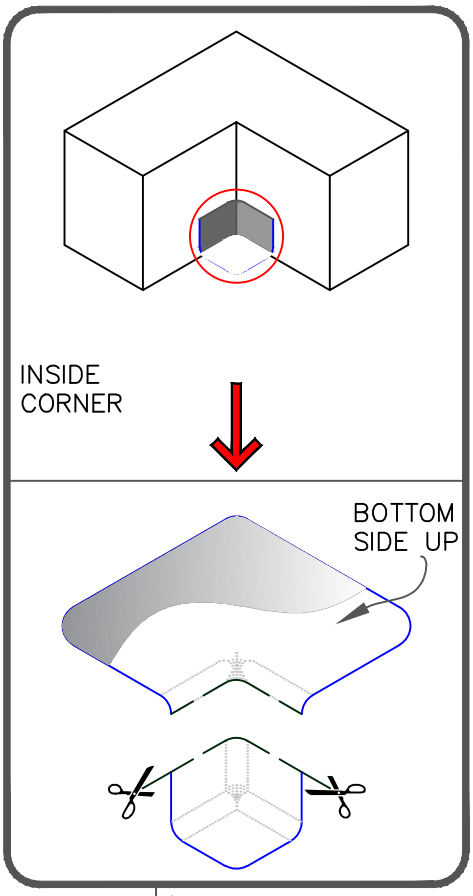
OPTION A



OPTION B

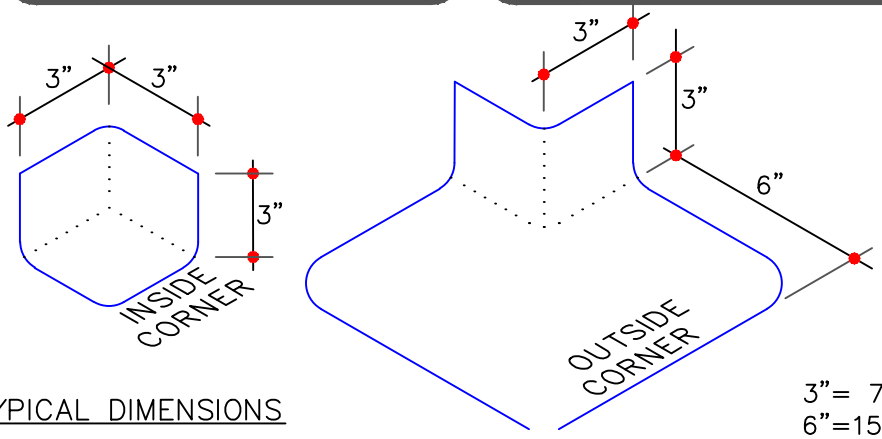


OPTION C



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

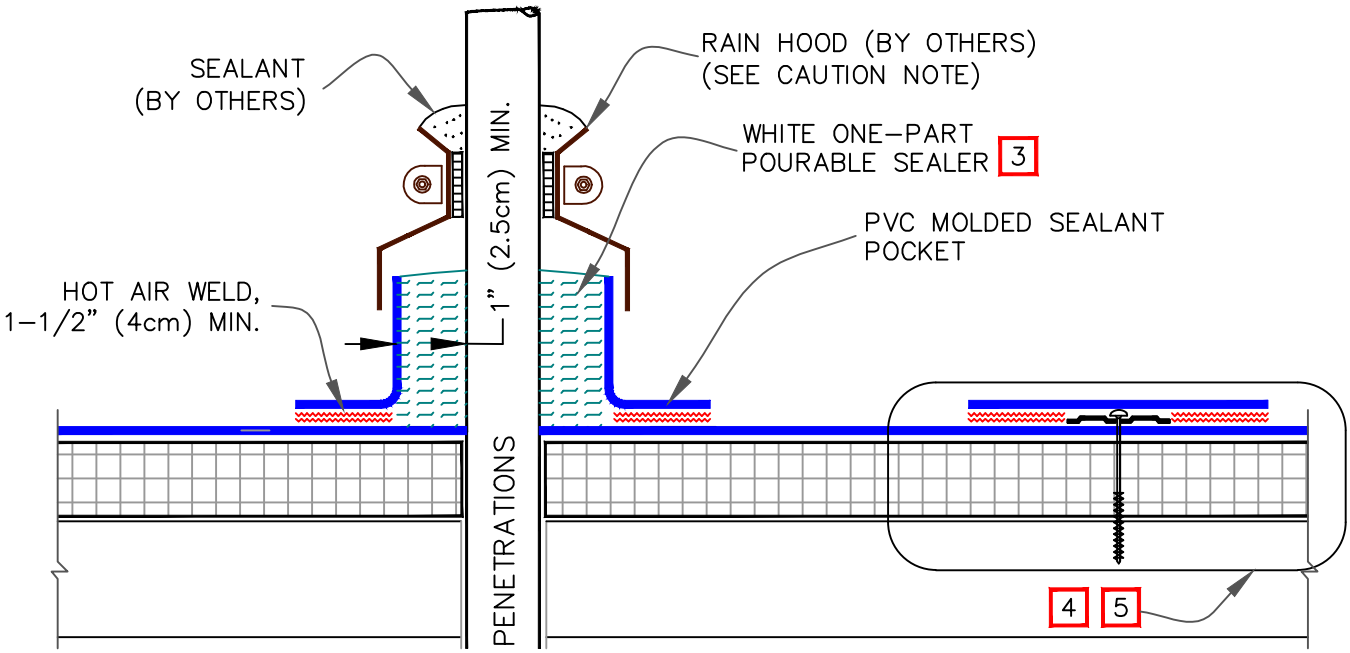
3”= 7.5cm
6”=15cm

PVC OR TPO: UNIVERSAL CORNERS – COMBINATION INSIDE & OUTSIDE CORNERS

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

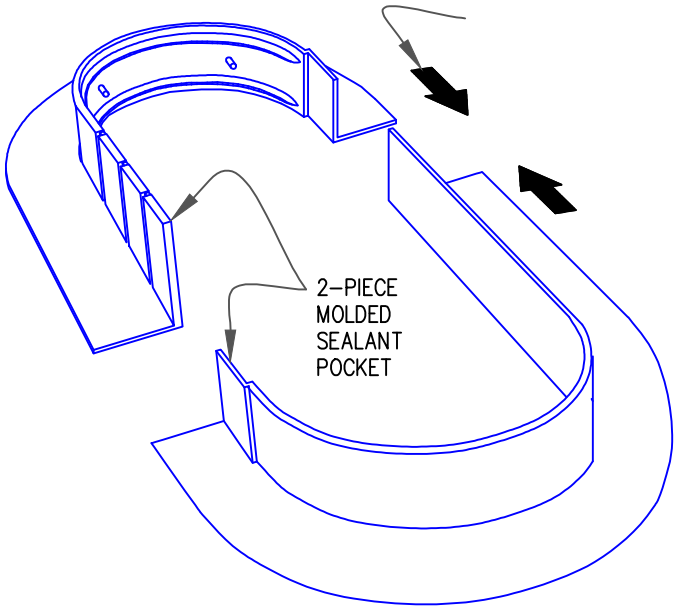
WBPC–15.7



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 WEATHERBOND SPECIFICATIONS FOR PROPER FASTENERS AND PLATES.

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



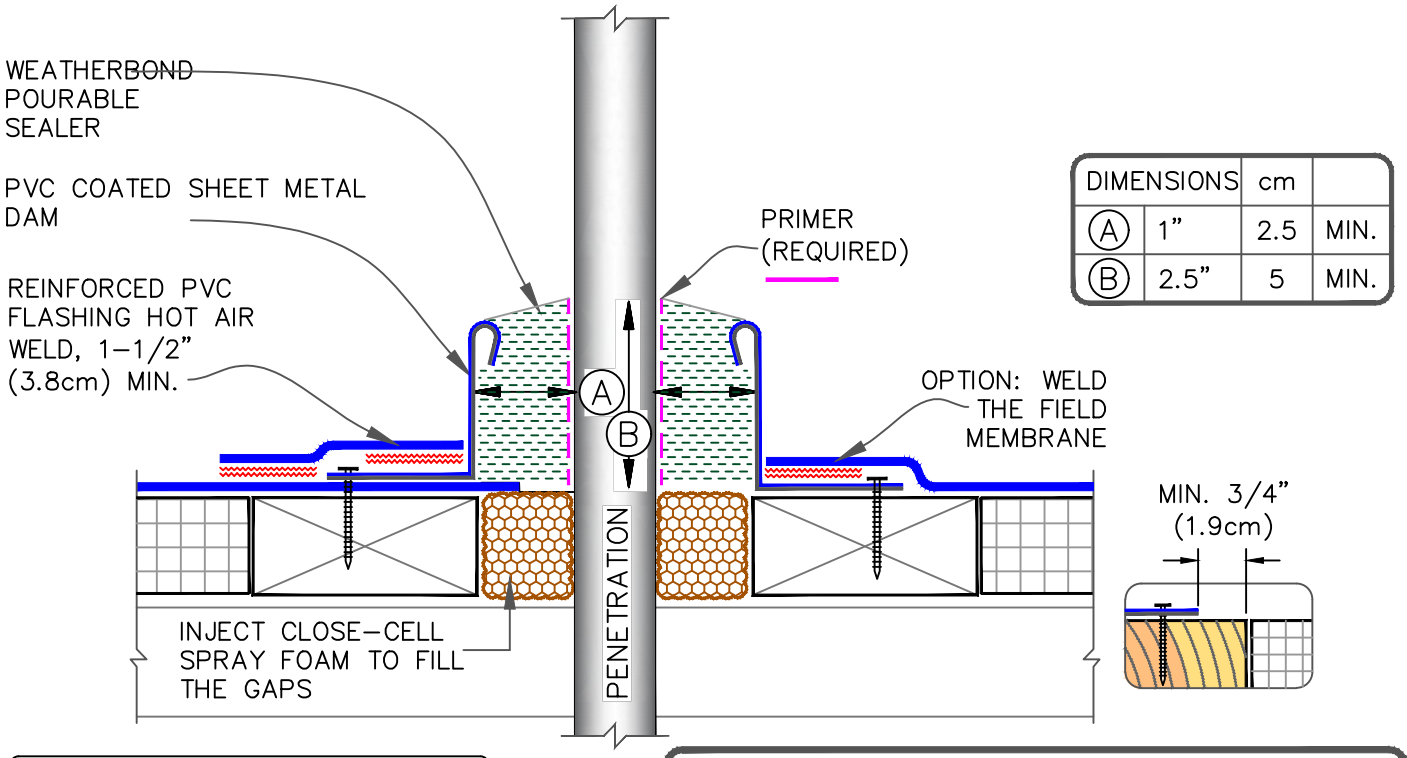
REFER TO PRODUCT DATA SHEET FOR STEP-BY-STEP INSTALLATION PROCEDURES

MOLDED SEALANT POCKET

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

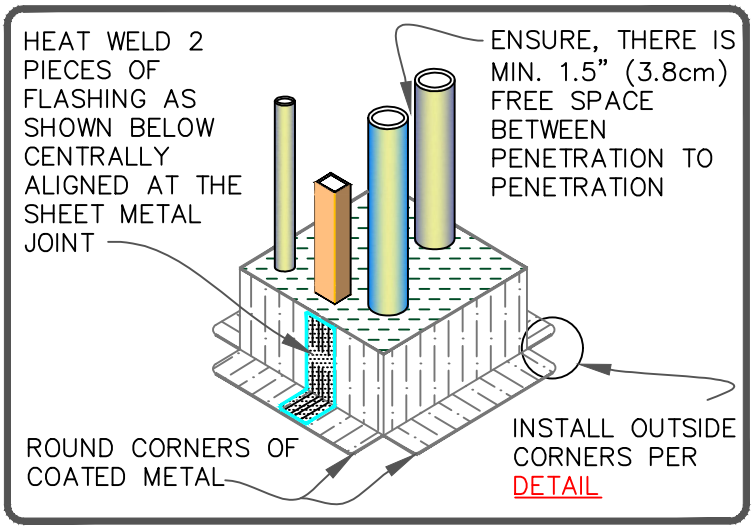
THERMOPLASTIC ROOFING SYSTEM

WBPC-16.1



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

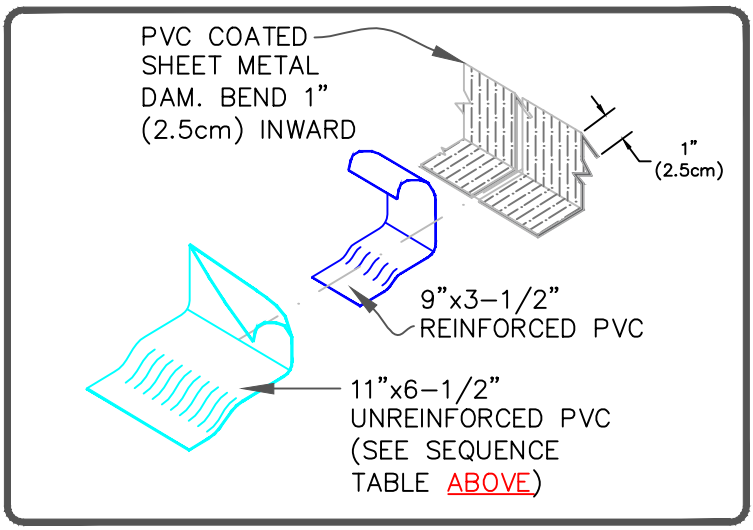
SEQUENCE:
1. 3" (7.6cm) REINFORCED MEMBRANE STRIPPING.
2. FIELD MEMBRANE.
3. TOP 6" (15.2cm) NON–REINFORCED MEMBRANE STRIPPING.



WBPC

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 12" (305mm).
5. REFER TO WEATHERBOND SPECIFICATIONS FOR PROPER TYPES OF FASTENERS AND PLATES.

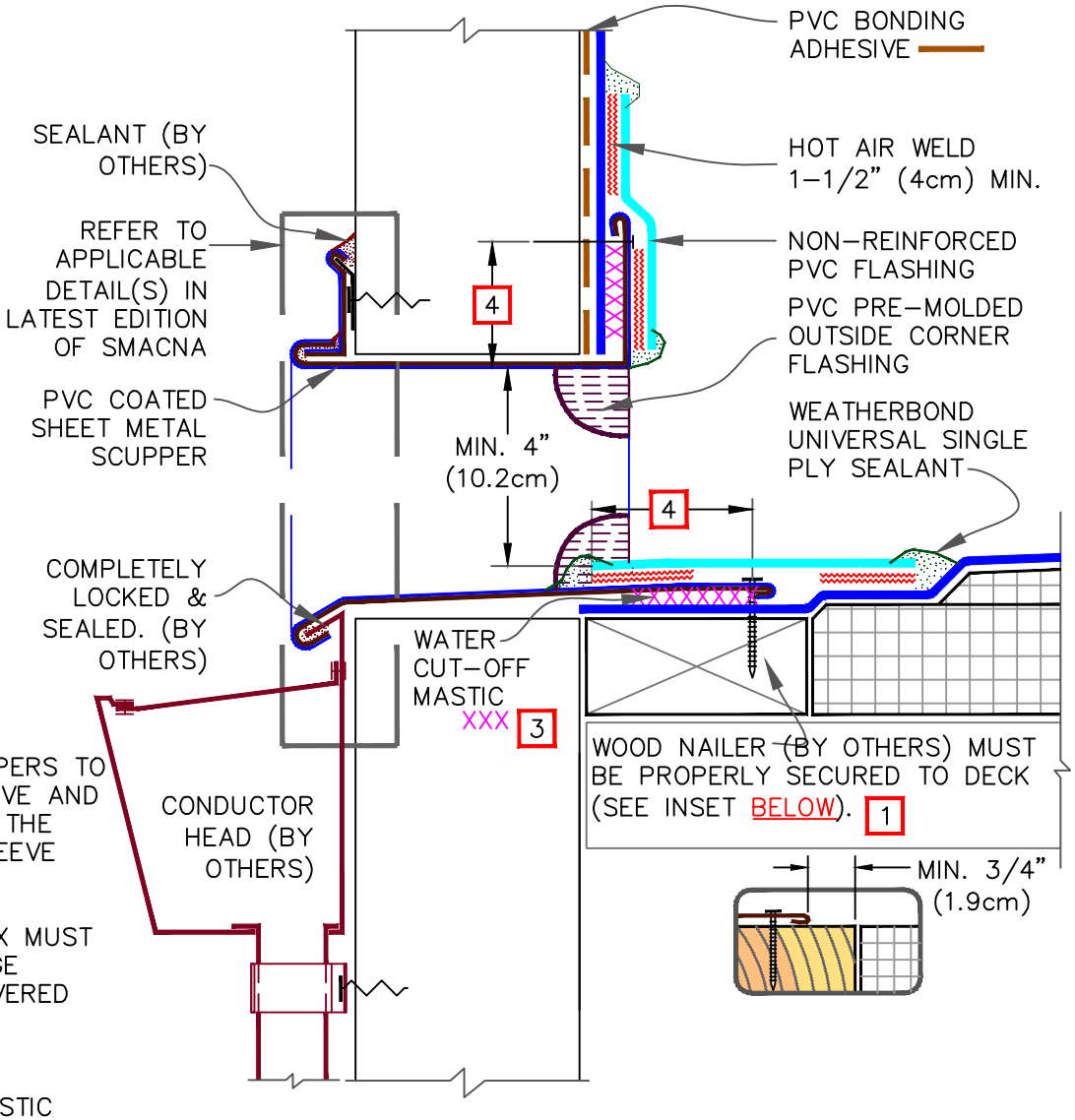


FIELD FABRICATED TPO COATED METAL POCKET

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

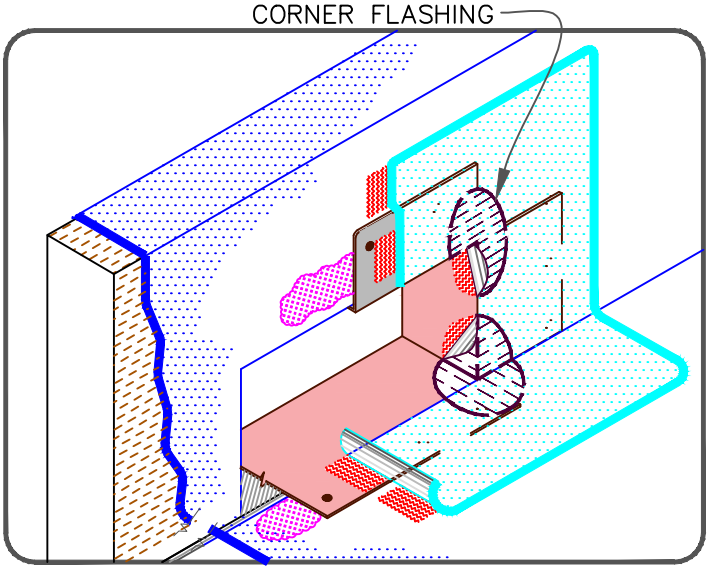
THERMOPLASTIC ROOFING SYSTEM

WBPC–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.

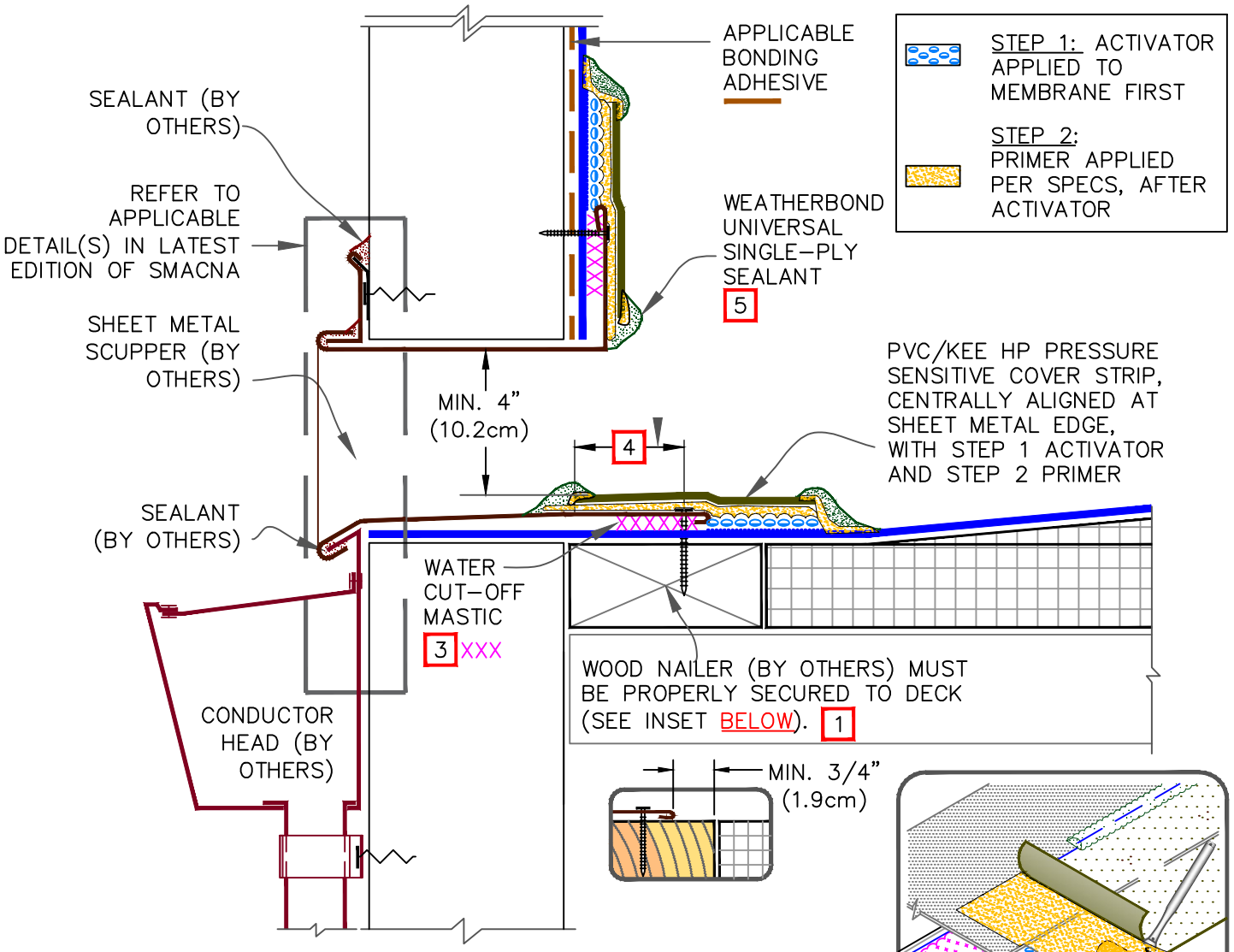


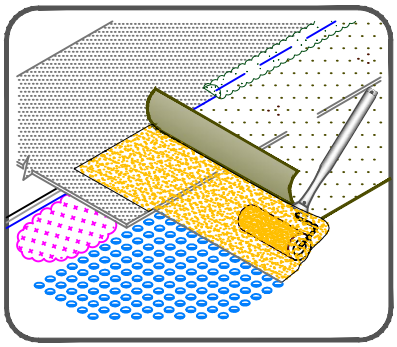
SCUPPER WITH COATED METAL

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

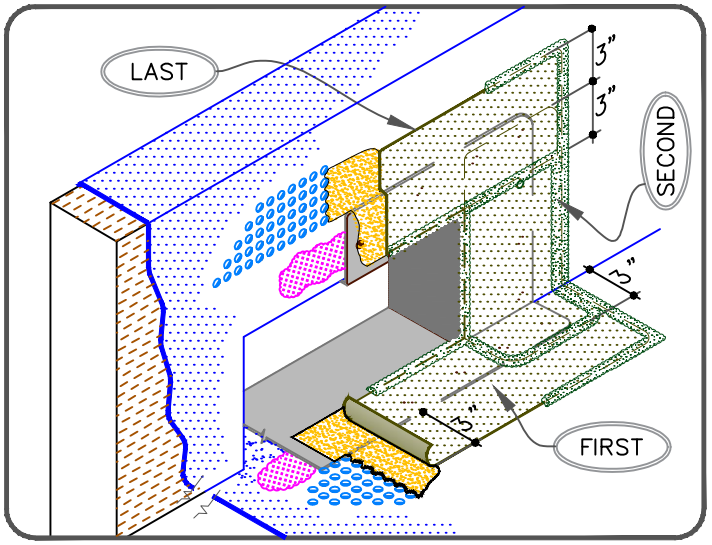
WBPC–18.1





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.



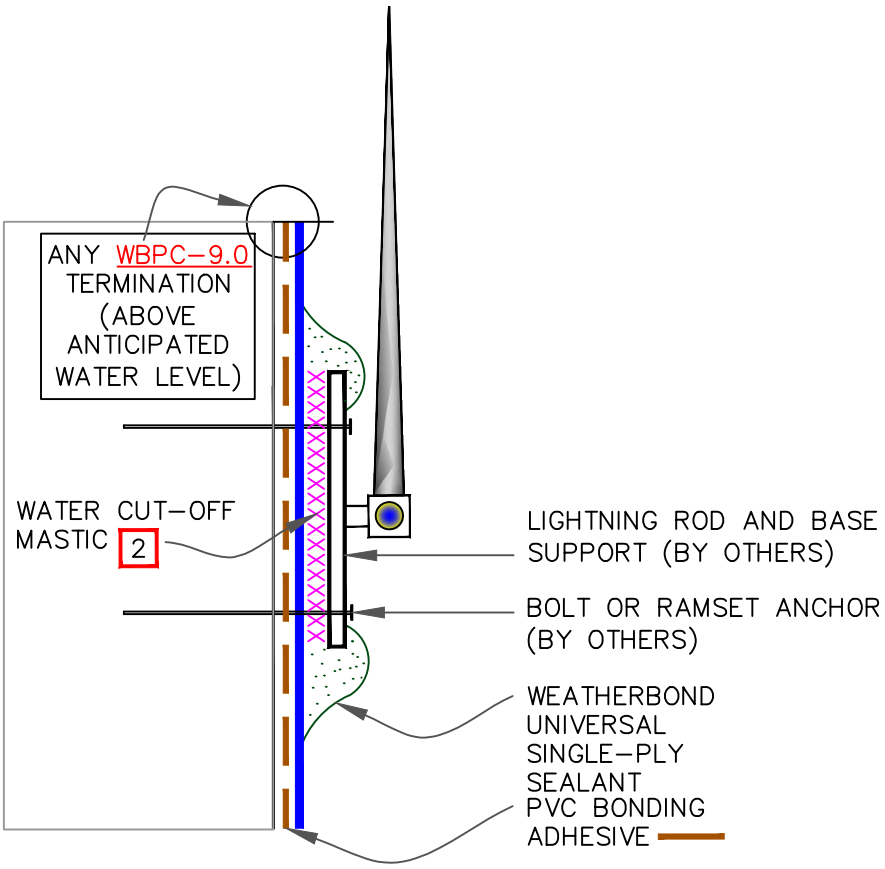
WEATHERBOND ROOFING SYSTEMS

SCUPPER AT DECK-TPO

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC-18.4



NOTES:

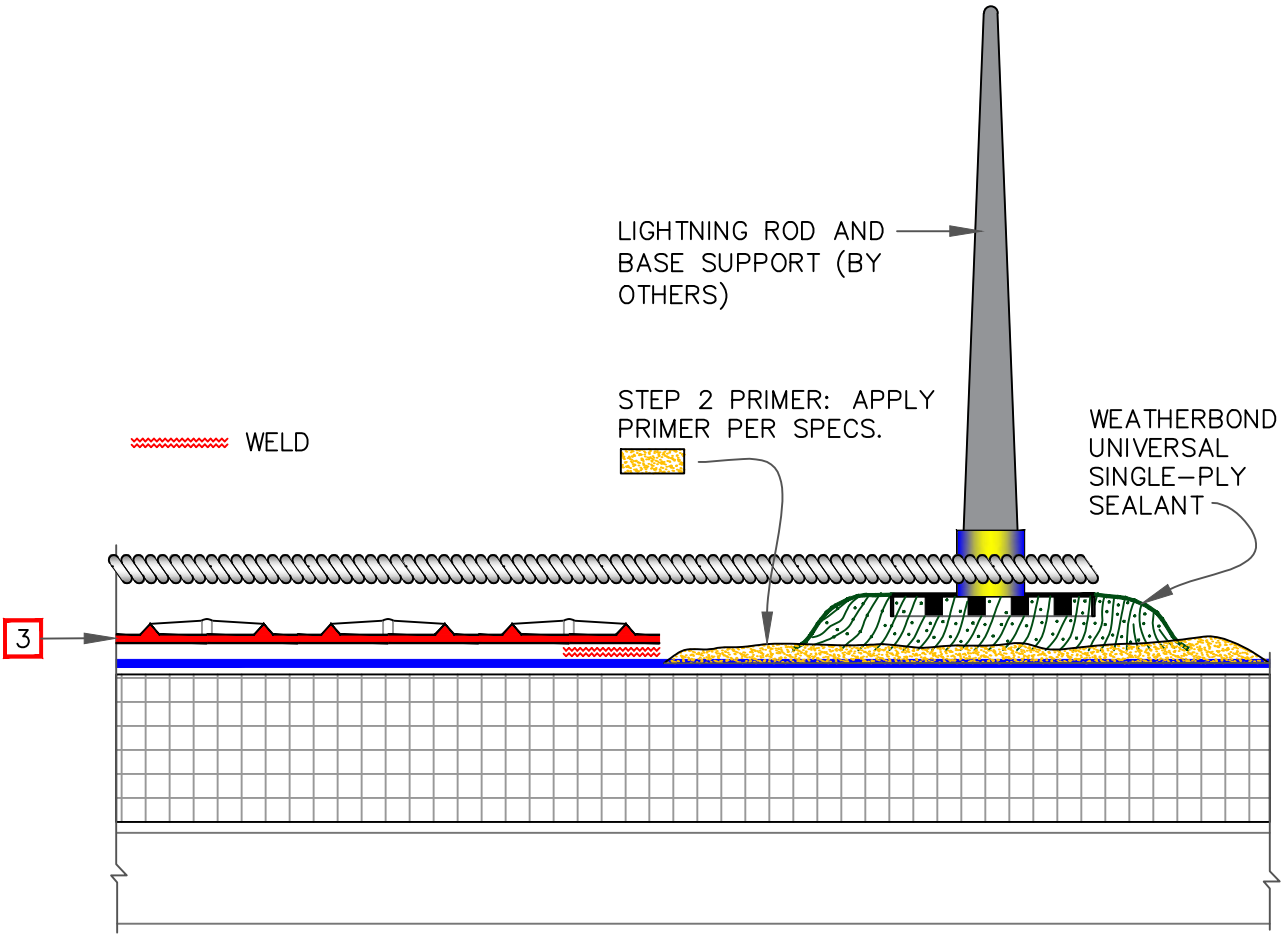
1. DETAIL MAY BE USED FOR ANY FASTENER PENETRATION (E.G., ACCESS LADDER, ANCHOR SUPPORT TO PARAPET).
2. WATER CUT-OFF MASTIC MUST BE UNDER CONSTANT COMPRESSION.
3. DETAIL UNACCEPTABLE FOR HORIZONTAL APPLICATION ON ROOF DECK.
4. COMPLY WITH ZONING ORDNANCE AND LOCAL CODES FOR MOUNTING A LIGHTNING SYSTEM.

LIGHTNING ROD AT PARAPET (VERTICAL ATTACHMENT)

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC-20.1



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.

3. TO AVOID SURFACE ABRASION, PIECES OF WALK-WAY PADS SHOULD BE WELDED UNDERNEATH THE BRAIDED WIRES. ENSURE, WATER FLOW IS NOT RESTRICTED AND PROVIDE PROPER GAPS.

EXAMPLE: BRAIDED WIRE IN CERTAIN COUNTRIES

LIGHTNING ROD AT DECK LEVEL

PVC MEMBRANE
APPROVED SUBSTRATE
0 SEE NOTE

THERMOPLASTIC ROOFING SYSTEM

WBPC-20.2