Paratech Mechanically Attached System

Installer Guide

siplast®

With you every step of the way

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I. System Overview

Siplast's Paratech Mechanically Attached Roof Membrane System consists of a polyester-reinforced SBS-modified bitumen base ply that is mechanically attached to the structural roof deck with fasteners and barbed plates placed within the side and end laps followed by the application of a fully adhered SBS-modified bitumen finish ply. Paratech Mechanically Attached Roof Membrane Systems may be utilized over insulated and non-insulated roof substrates.

II. Safety Considerations

A. As with any construction project, safety is a key element. All applicable safety standards and good roofing practices must be followed. Please review Siplast's specifications, details, as well as these instructions before starting an application.

B. Only properly trained and professionally equipped Siplast Select Contractors experienced in the installation of the roofing applications listed herein should install these systems. Never allow contact between the heated surface of a torch, hot air welder, or other tool and the applicator's hair, skin, or clothing. Always wear protective gear, including but not limited to: hardhats, eye protection, heavy-duty gloves, and snug-fitting clothing that fully covers workers' arms and legs.

C. Solvent-containing accessories may be combustible and should always be kept from heat, flame, or any source of ignition. Empty containers must be disposed of in posted toxic substance landfills in accordance with local, state, and federal regulations.

D. Thoroughly train all personnel in first-aid procedures, and obey all applicable government safety standards and fire codes. Use extreme caution when working around equipment, such as gas lines or HVAC units, which have electrical or gas connections.

III. Storage and Handling

Store materials out of direct exposure to the elements. Store roll goods on a clean, flat, and dry surface. All material stored on the roof should be stored on pallets. Rolls of roofing must be stored on ends. Store materials on the roof in a manner so as to preclude overloading of the roof deck and building structure. Store materials such as solvents, adhesives, and asphalt cutback products away from open flames, sparks, or excessive heat. Cover all material using a breathable cover such as a canvas. Polyethylene or other non-breathable plastic coverings are not acceptable. Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Handle rolled goods to prevent damage to edges and ends.

IV. Materials

Mechanically Attached Base Ply with Fasteners & Plates			
Name	**Graphic**	**Base Ply**	**Substrate**
Parafast Fastener With Parafast 2-3/8" Barbed Plates		Paratech 180 Base	Steel, Wood
Parafast HD Fastener With Parafast 2-3/8" Barbed Plates			Steel, Wood, Concrete
Parafast XHD Fastener With Parafast 2-3/8" Barbed Plates			Steel, Wood
Parafast CD-10 Fastener With Parafast 2-3/8" Barbed Plates			Concrete

Paratech Series Cap Sheets		
Name	**Application**	**Properties**
Paratech Glass Cap FR	Cold Adhesive Or Hot Asphalt	Nominal 0.986 square coverage, surfaced with roofing granules (Typical with 3-inch side and end laps)
Paratech Glass Cap FR TG	Heat Weld	
Paratech 180 Cap Paratech 180 Cap FR	Cold Adhesive Or Hot Asphalt	
Paratech 180 Cap TG Paratech 180 Cap FR TG	Heat Weld	

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V. Preparation

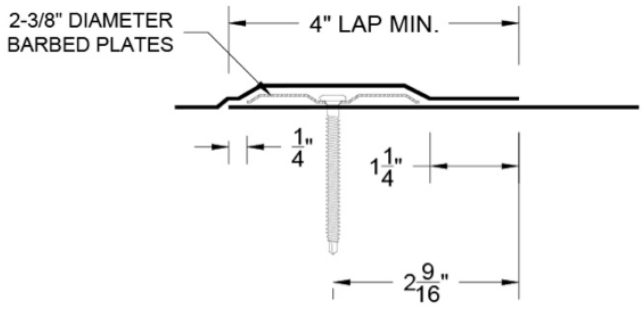
Before installation of any materials, the Siplast Select Contractor should make a thorough inspection of the deck/substrate to verify that it will meet design requirements and is suitable for application of the specified Paratech Mechanically Attached Roof System. Defects in the deck, design deficiencies, or other conditions that would affect the performance of the roofing materials should be brought to the attention of the appropriate party, which may include the general contractor, deck contractor, architect, engineer, and/or owner.

Sweep or vacuum all surfaces, removing all loose aggregate and foreign substances prior to the application of the roof system. At locations where flashing and stripping membranes are to be applied, prime metal, concrete, and masonry surfaces with a uniform coating of the specified asphalt primer.

VI. Application

A. Unroll the Paratech 180 series base ply and allow the sheet sufficient time to relax prior to mechanical attachment.

B. Beginning at the low point of the roof, set the rolls in position utilizing minimum 4-inch side laps and 4-inch end laps. Stretch out and hold each sheet firmly at both ends to prevent wrinkles. Starting in the middle of the sheet and working toward both ends, mechanically attach the sheet through the side laps with Parafast Fasteners and Parafast XHD Barbed Plates ensuring that the outer edges of the plates are approximately 1/4 inch from the edge of the sheet and spaced according to the specified fastening pattern. A reduced base ply fastener spacing or additional rows of fasteners may be necessary to meet wind uplift requirements for the various zones of the roof.



C. After the sheet is fastened, position adjacent sheets over the fasteners in the laps of the proceeding sheets ensuring minimum 4-inch side laps and 4-inch end laps. Offset adjacent end laps a minimum of 3 feet. Cut a dog ear angle at the end laps of overlapping selvage edges.

D. Fully heat-weld all side and end laps with a minimum 1/6-inch to maximum 1/4-inch continuous bleed out to ensure that all laps are watertight. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Roll all laps with a weighted steel roller and check laps after cooling to ensure full lap adhesion has been achieved.

E. Fasten the base ply every 12 inches on center at walls, curbs, drain sumps, and at penetrations with a minimum of 4 fasteners per penetration.

F. Strip in all exposed fasteners and plates with a minimum 9-inch wide cover strip of Paratech 180 base ply fully adhered to extend a minimum of 3 inches beyond plate edges in all directions. For areas with high fastening frequencies, use one cover strip encapsulating the fasteners in the center of the sheet extending 3 inches beyond the plate edges in all directions.

G. Fully adhere the specified Paratech series finish ply into place utilizing the approved application method, ensuring minimum 3-inch side and end laps are maintained. Stagger end laps of the finish ply a minimum of 3 feet from adjacent finish ply sheets and end laps of underlying base ply. Stagger side laps of the finish ply a minimum 12 inches from side laps of the underlying base ply. Cut a dog ear angle at the end laps of overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application.

H. Complete application of the specified finish and flashing plies in accordance with Siplast standard specifications and details.

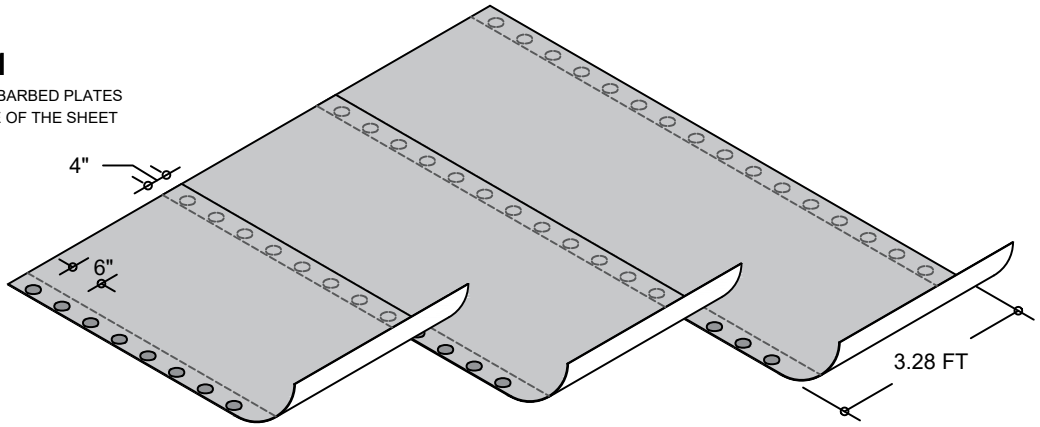
VII. Fastening Patterns with Prescriptive Enhancement

Fastening Schematic: 6-inch Seam Spacing

Paratech Mechanically Attached System

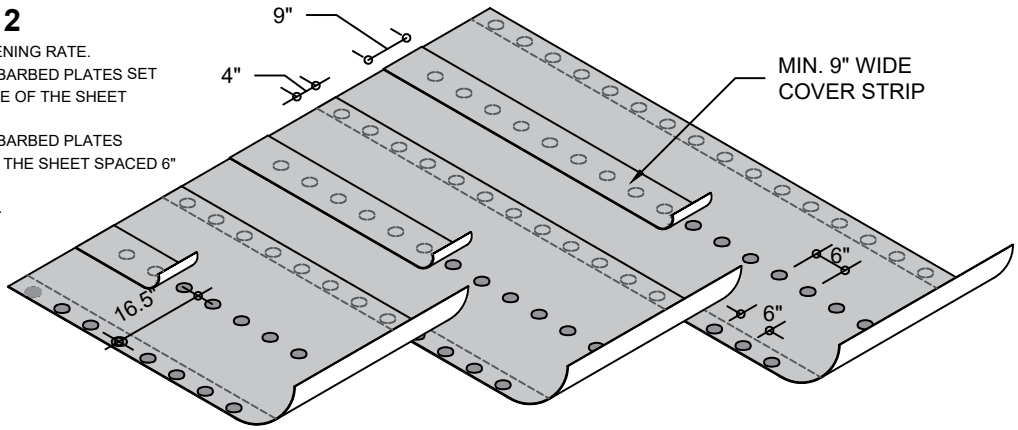
ZONE 1

- (1) ONE ROW OF FASTENERS/BARBED PLATES SET 1/4 INCH FROM THE EDGE OF THE SHEET SPACED AT 6" O.C.
- 69 FASTENERS PER SQUARE.



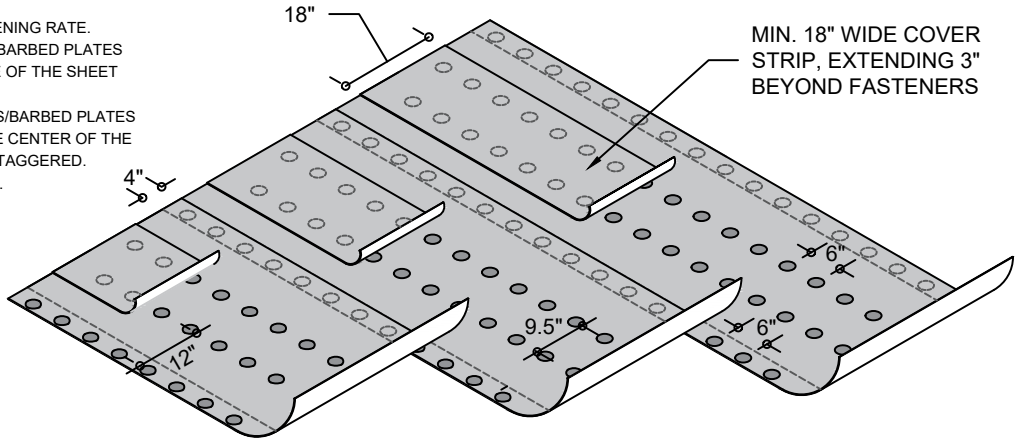
ZONE 2

- MINIMUM 60% OF FIELD FASTENING RATE.
- (1) ONE ROW OF FASTENERS/BARBED PLATES SET 1/4 INCH FROM THE EDGE OF THE SHEET SPACED AT 6" O.C.
- (1) ONE ROW OF FASTENERS/BARBED PLATES WITHIN THE CENTER OF THE SHEET SPACED 6" O.C. AND STAGGERED.
- 138 FASTENERS PER SQUARE.



ZONE 3

- MINIMUM 40% OF FIELD FASTENING RATE.
- (1) ONE ROW OF FASTENERS/BARBED PLATES SET 1/4 INCH FROM THE EDGE OF THE SHEET SPACED AT 6" O.C.
- (2) TWO ROWS OF FASTENERS/BARBED PLATES EQUALLY SPACED WITHIN THE CENTER OF THE SHEET SPACED 6" O.C. AND STAGGERED.
- 206 FASTENERS PER SQUARE.



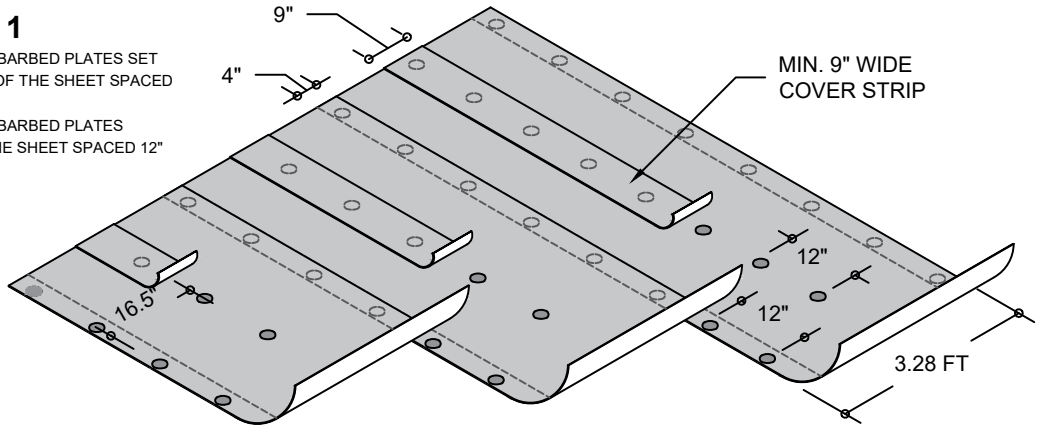
Scale: NTS

Fastening Schematic: 12-inch Seam Spacing with 1 Center Row

Paratech Mechanically Attached System

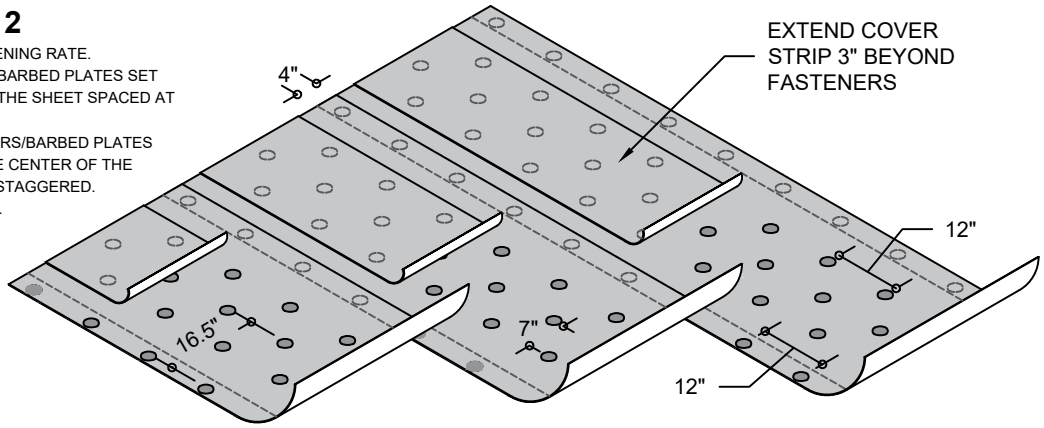
ZONE 1

- (1) ONE ROW OF FASTENERS/BARBED PLATES SET 1/4 INCH FROM THE EDGE OF THE SHEET SPACED AT 12" O.C.
- (1) ONE ROW OF FASTENERS/BARBED PLATES WITHIN THE CENTER OF THE SHEET SPACED 12" O.C. AND STAGGERED.
- 69 FASTENERS PER SQUARE.



ZONE 2

- MINIMUM 60% OF FIELD FASTENING RATE.
- (1) ONE ROW OF FASTENERS/BARBED PLATES SET 1/4 INCH FROM THE EDGE OF THE SHEET SPACED AT 12" O.C.
- (3) THREE ROWS OF FASTENERS/BARBED PLATES EQUALLY SPACED WITHIN THE CENTER OF THE SHEET SPACED 12" O.C. AND STAGGERED.
- 138 FASTENERS PER SQUARE.



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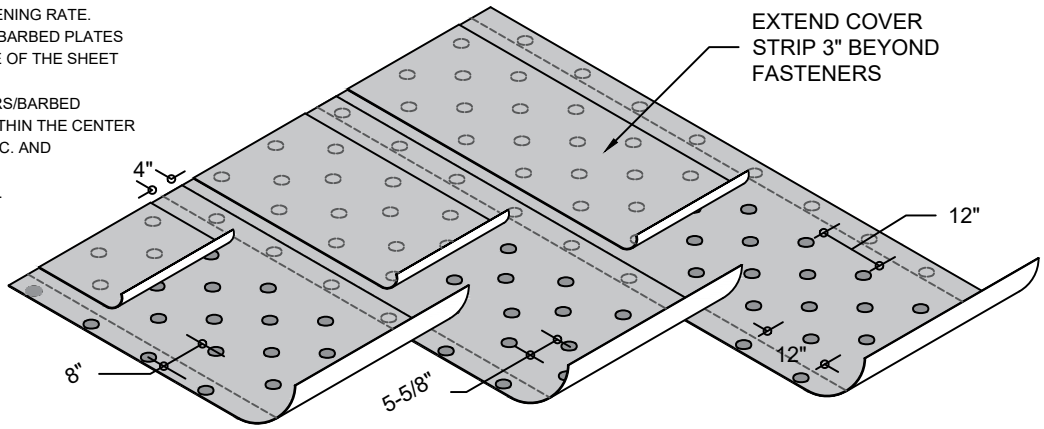
- MINIMUM 40% OF FIELD FASTENING RATE.
- (1) ONE ROW OF FASTENERS/BARBED PLATES SET 1/4 INCH FROM THE EDGE OF THE SHEET SPACED AT 12" O.C.
- (4) FOUR ROWS OF FASTENERS/BARBED PLATES EQUALLY SPACED WITHIN THE CENTER OF THE SHEET SPACED 12" O.C. AND STAGGERED.
- 172 FASTENERS PER SQUARE.



Scale: NTS

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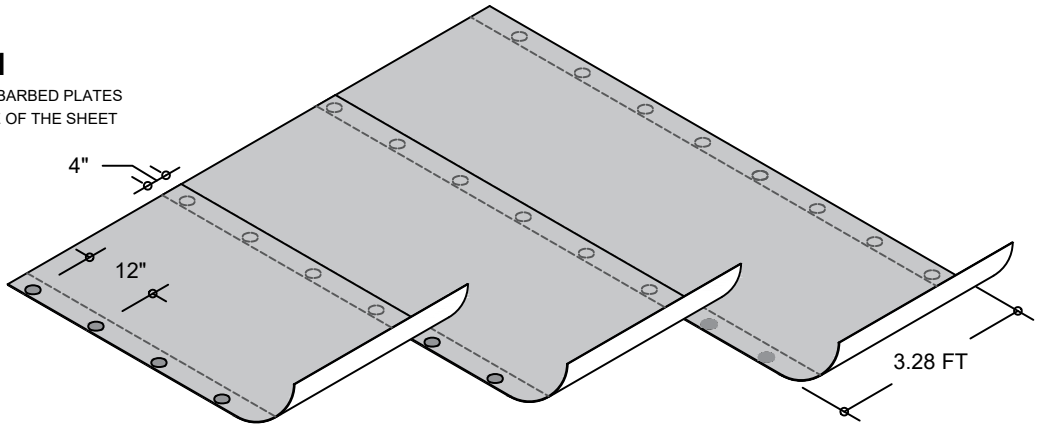
Fastening Schematic: 12-inch Seam Spacing

Paratech Mechanically Attached System

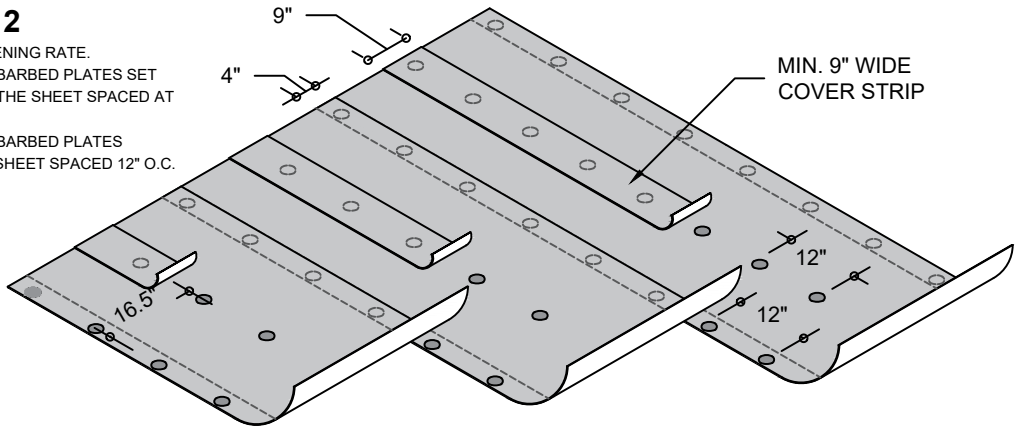
ZONE 1

- (1) ONE ROW OF FASTENERS/BARBED PLATES SET 1/4 INCH FROM THE EDGE OF THE SHEET SPACED AT 12" O.C.
- 35 FASTENERS PER SQUARE.



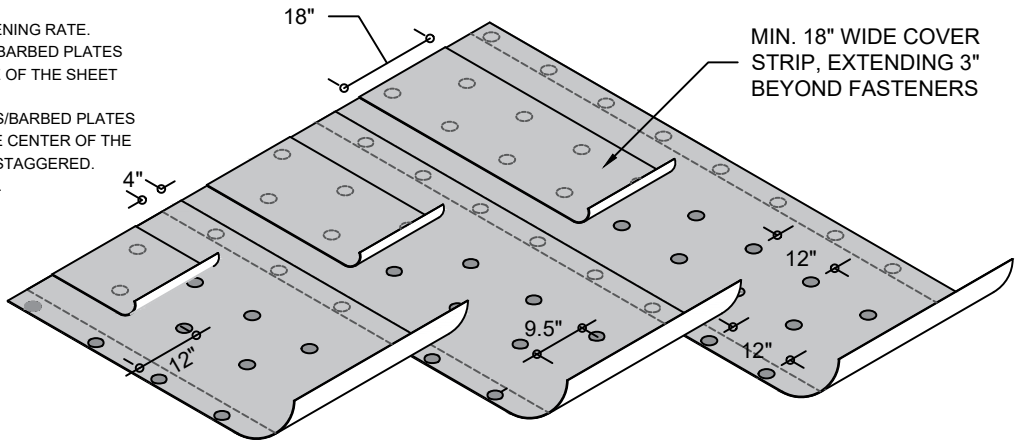
ZONE 2

- MINIMUM 60% OF FIELD FASTENING RATE.
- (1) ONE ROW OF FASTENERS/BARBED PLATES SET 1/4 INCH FROM THE EDGE OF THE SHEET SPACED AT 12" O.C.
- (1) ONE ROW OF FASTENERS/BARBED PLATES WITHIN THE CENTER OF THE SHEET SPACED 12" O.C. AND STAGGERED.
- 69 FASTENERS PER SQUARE.



ZONE 3

- MINIMUM 40% OF FIELD FASTENING RATE.
- (1) ONE ROW OF FASTENERS/BARBED PLATES SET 1/4 INCH FROM THE EDGE OF THE SHEET SPACED AT 12" O.C.
- (2) TWO ROWS OF FASTENERS/BARBED PLATES EQUALLY SPACED WITHIN THE CENTER OF THE SHEET SPACED 12" O.C. AND STAGGERED.
- 103 FASTENERS PER SQUARE.



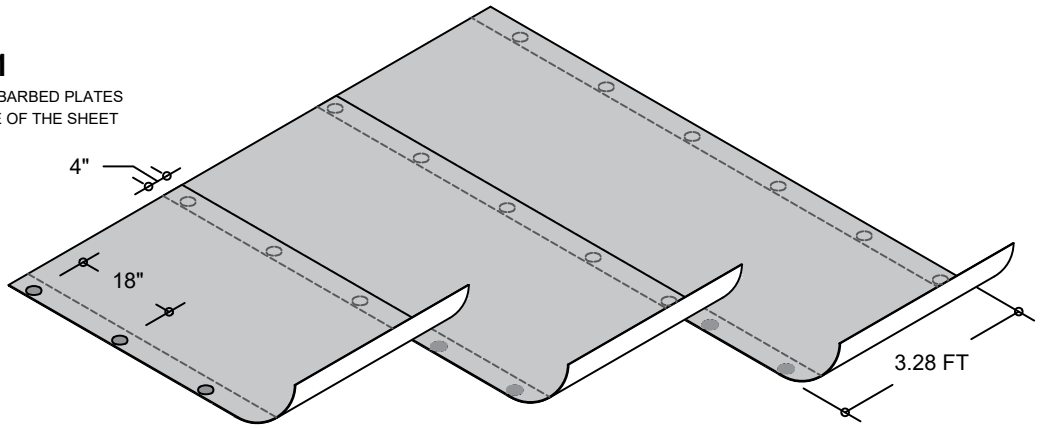
Scale: NTS

Fastening Schematic: 18-inch Seam Spacing

Paratech Mechanically Attached System

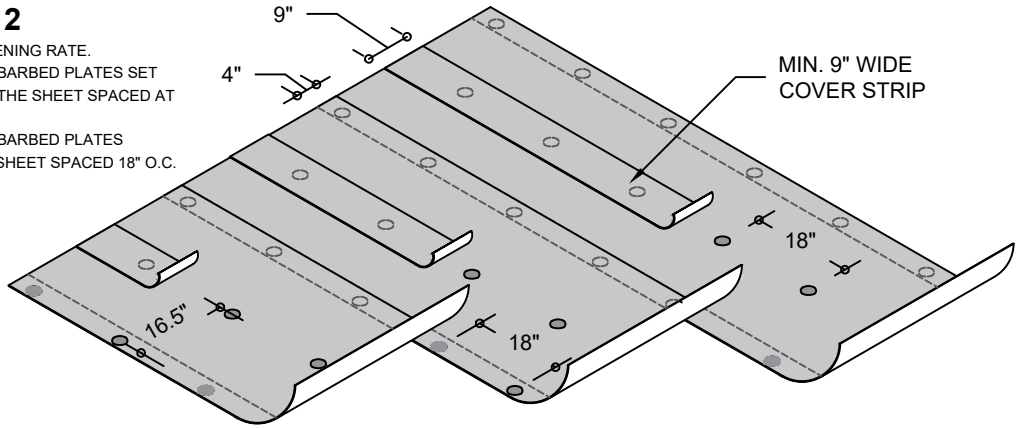
ZONE 1

- (1) ONE ROW OF FASTENERS/BARBED PLATES SET 1/4 INCH FROM THE EDGE OF THE SHEET SPACED AT 18" O.C.
- 23 FASTENERS PER SQUARE.



ZONE 2

- MINIMUM 60% OF FIELD FASTENING RATE.
- (1) ONE ROW OF FASTENERS/BARBED PLATES SET 1/4 INCH FROM THE EDGE OF THE SHEET SPACED AT 18" O.C.
- (1) ONE ROW OF FASTENERS/BARBED PLATES WITHIN THE CENTER OF THE SHEET SPACED 18" O.C. AND STAGGERED.
- 46 FASTENERS PER SQUARE.



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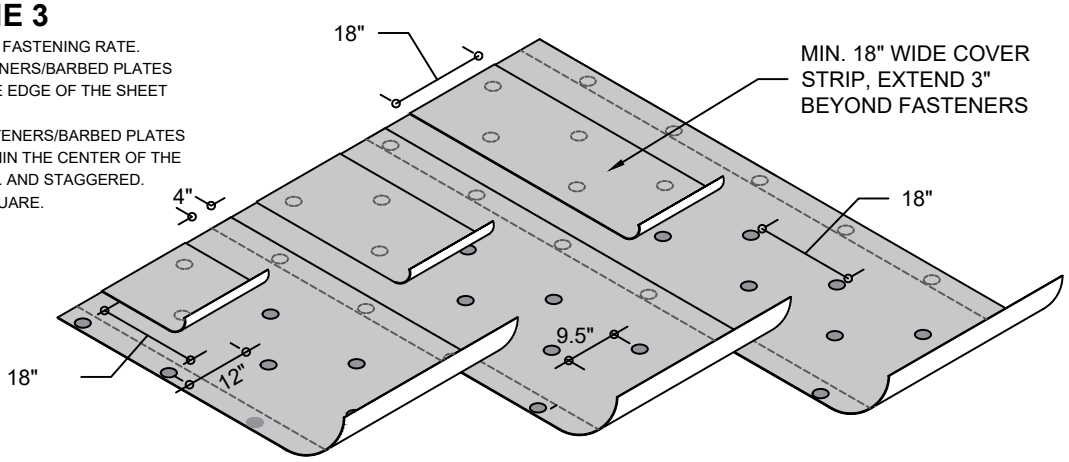
- (2) TWO ROWS OF FASTENERS/BARBED PLATES EQUALLY SPACED WITHIN THE CENTER OF THE SHEET SPACED 18" O.C. AND STAGGERED.
- 69 FASTENERS PER SQUARE.



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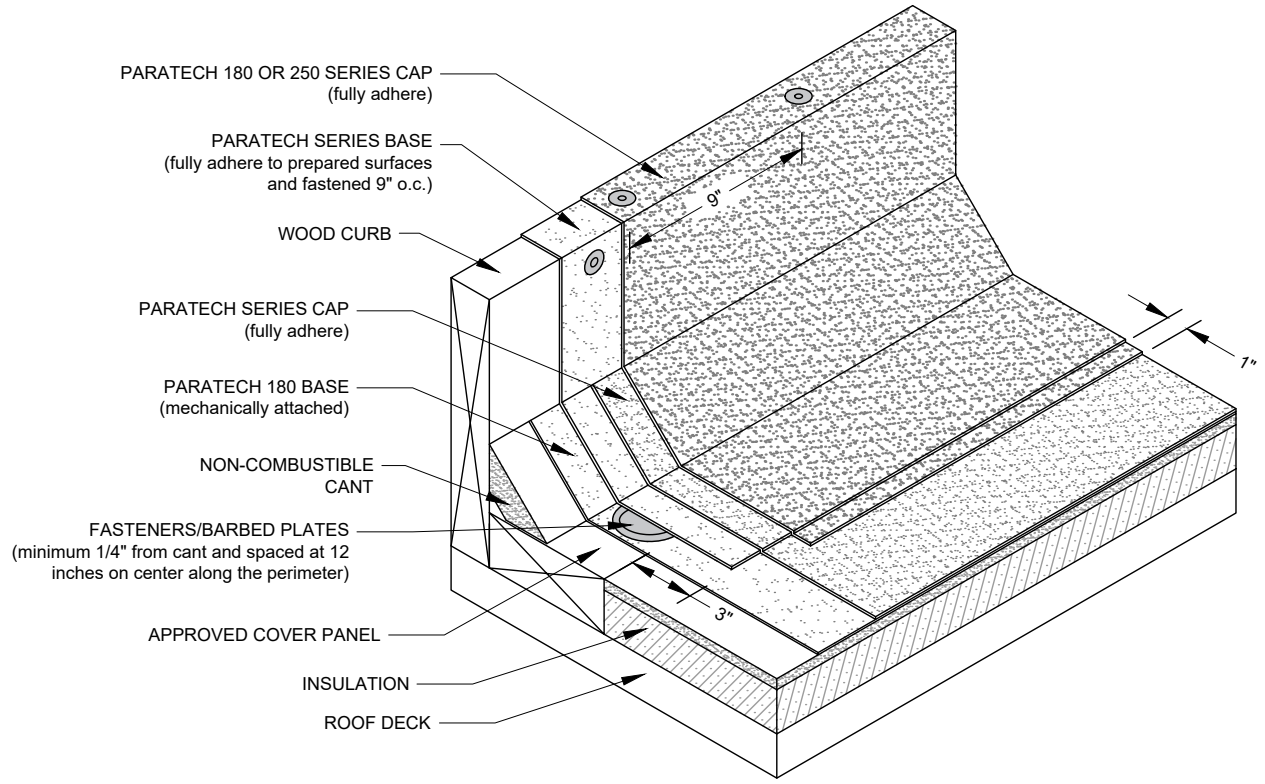
VIII. Details

Curb

Paratech Mechanically Attached System – Insulated



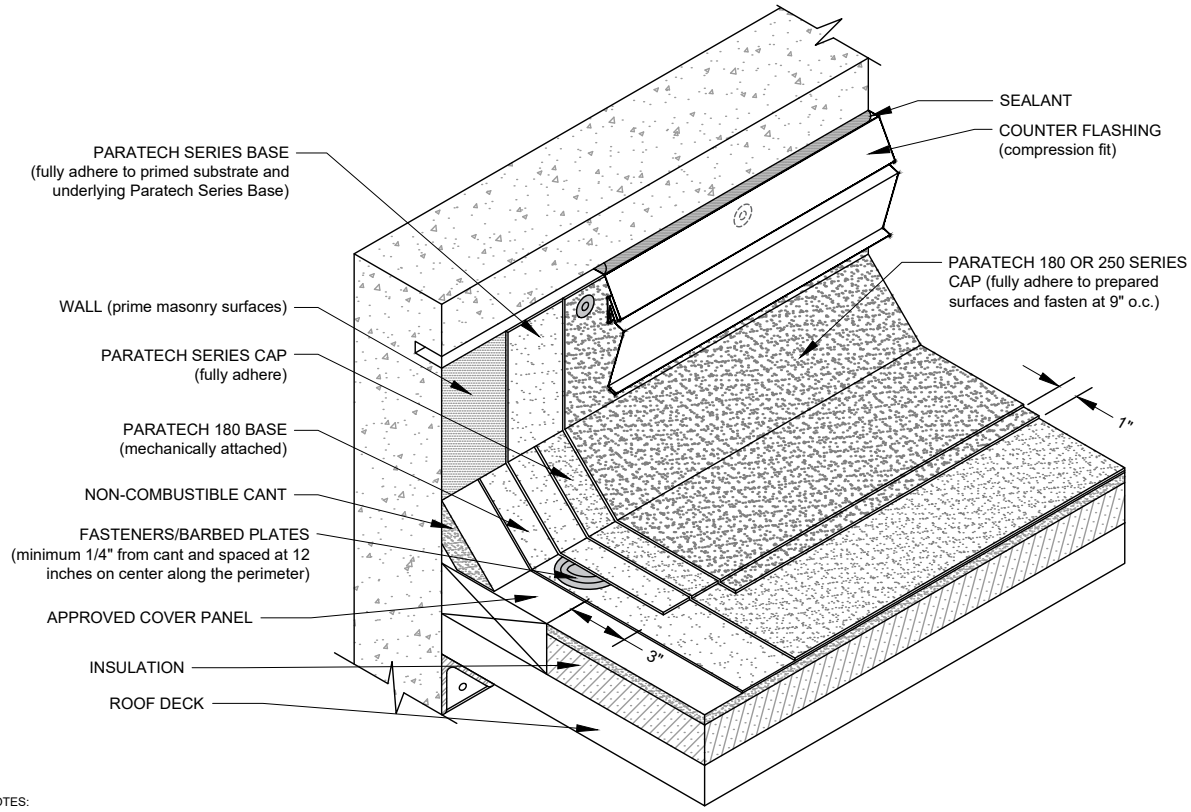
NOTES:
1. THE CARPENTRY AND METAL WORK SHOWN DEPICTS SHOP FABRICATION AND JOB-SITE ASSEMBLY. THESE COMPONENTS SHOULD BE DESIGNED/FABRICATED/INSTALLED ACCORDING TO GENERALLY ACCEPTED INDUSTRY PRACTICES, STANDARDS, AND APPROVALS.
2. REQUIREMENTS AND RECOMMENDATIONS DETAILED IN CURRENT SIPLAST SPECIFICATIONS SHALL APPLY IN ADDITION TO THE ABOVE DRAWING.

CAUTION: SIPLAST RECOMMENDS THAT ALL PRACTICES PERTAINING TO INDUSTRY STANDARD TORCH SAFETY REQUIREMENTS AND GUIDELINES BE FOLLOWED. THIS INCLUDES PERFORMING A FIRE WATCH FOLLOWING ANY TORCH APPLICATIONS. ALWAYS HAVE APPROVED FIRE EXTINGUISHING EQUIPMENT NEARBY WHEN USING A TORCH.

Scale: NTS

Parapet – Wall Supported Deck

Paratech Mechanically Attached System – Insulated



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Scale: NTS

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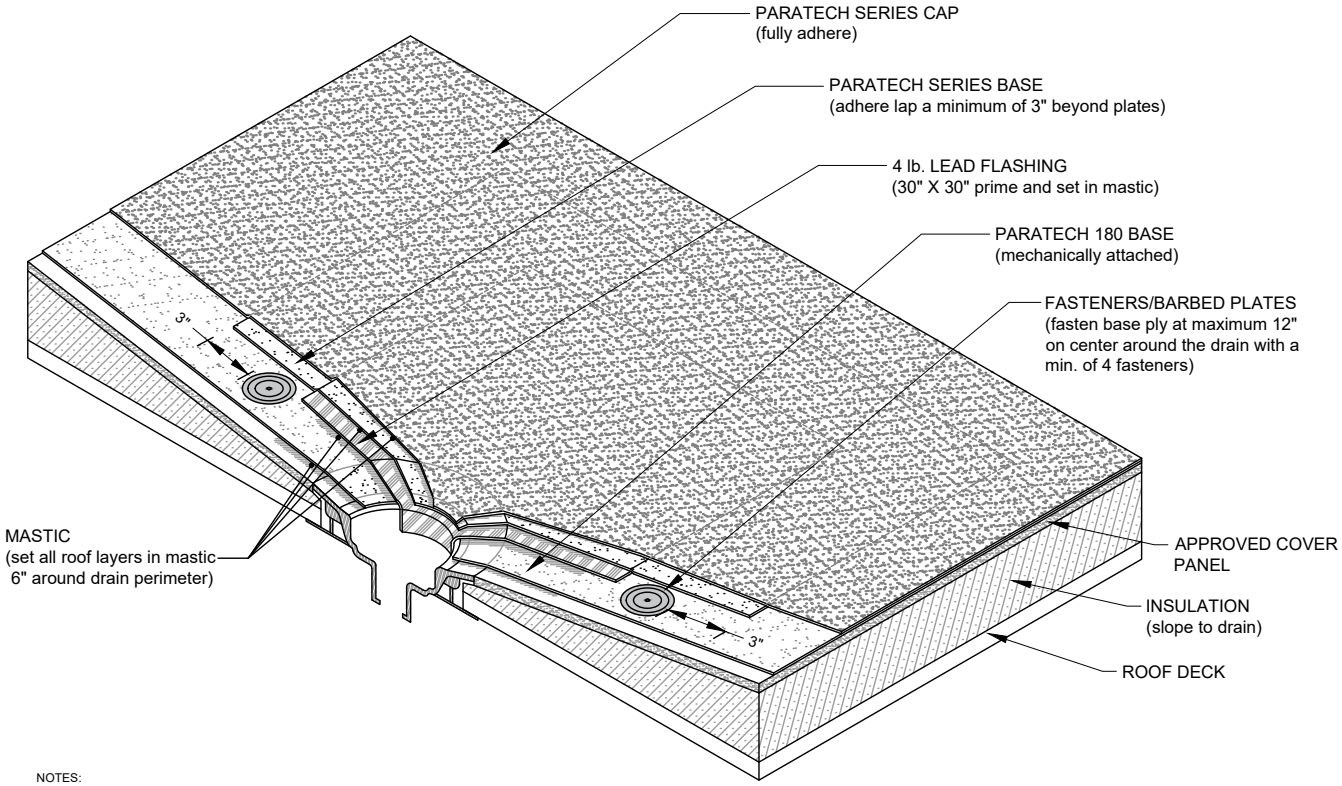
Roof Drain

Paratech Mechanically Attached System – Insulated



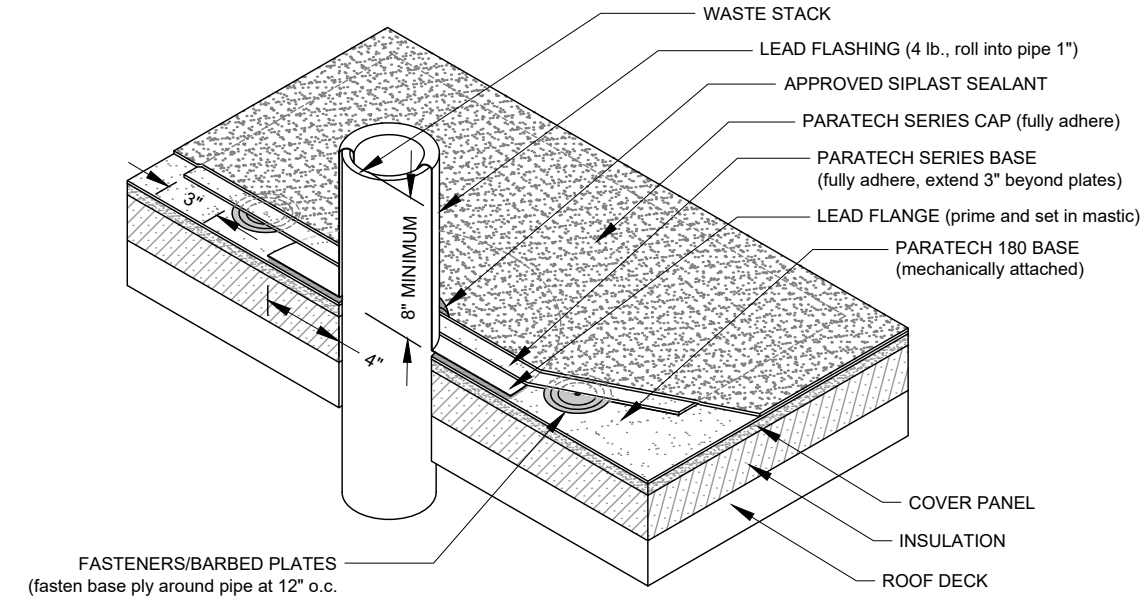
NOTES:
1. WHERE PRIMER IS INDICATED TO MAINTAIN PROPER ADHESION, USE PA-1125 OR PA-917 PRIMER. CONTACT SIPLAST FOR SPECIFIC REQUIREMENTS.
2. ROOF DRAIN COMPONENTS AND INSTALLATION GUIDELINES ARE SUPPLIED BY THE DRAIN MANUFACTURER.
3. REQUIREMENTS AND RECOMMENDATIONS DETAILED IN THE CURRENT SIPLAST SPECIFICATIONS SHALL APPLY IN ADDITION TO THE ABOVE DRAWING.
4. PA-1021 PLASTIC CEMENT, PA-828 FLASHING CEMENT, SFT CEMENT, OR PS-715 NS ELASTOMERIC SEALANT IS REQUIRED WHERE MASTIC IS INDICATED.

CAUTION: SIPLAST RECOMMENDS THAT ALL PRACTICES PERTAINING TO INDUSTRY STANDARD TORCH SAFETY REQUIREMENTS AND GUIDELINES BE FOLLOWED. THIS INCLUDES PERFORMING A FIRE WATCH FOLLOWING ANY TORCH APPLICATIONS. ALWAYS HAVE APPROVED FIRE EXTINGUISHING EQUIPMENT NEARBY WHEN USING A TORCH.

Scale: NTS

Waste Stack

Paratech Mechanically Attached System – Insulated



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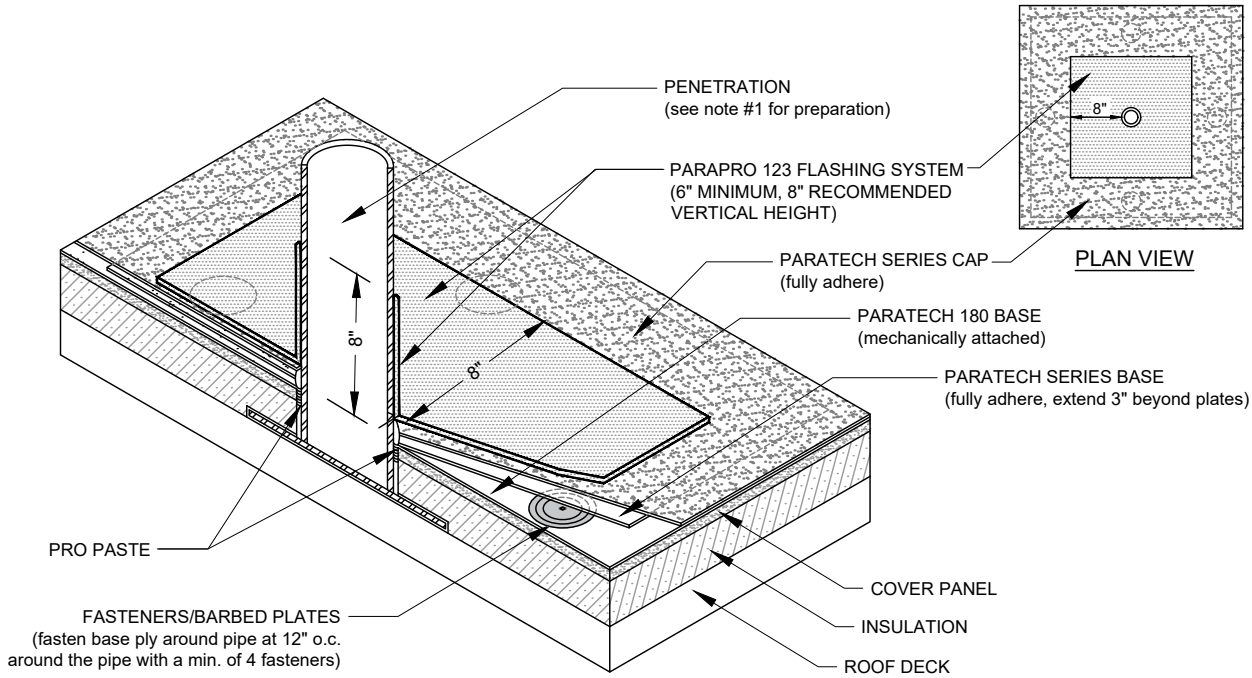
Scale: NTS

Penetration with Parapro 123 Flashing System

Paratech Mechanically Attached System – Insulated



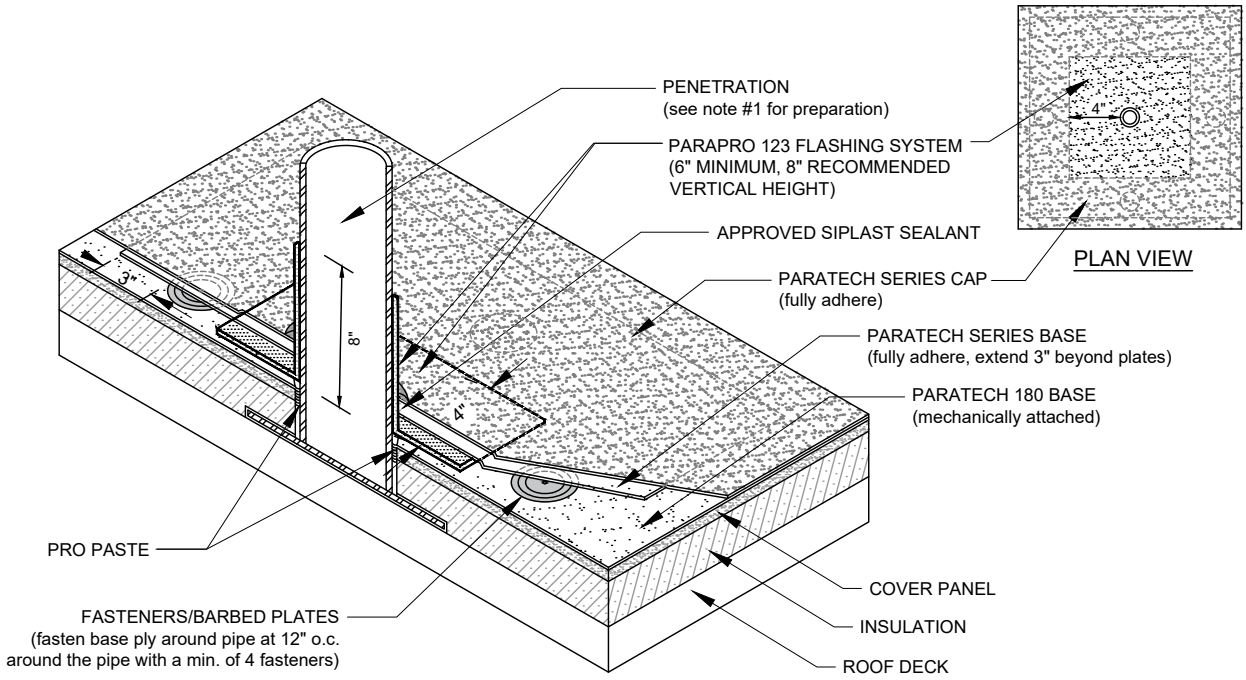
NOTES:
1. REFER TO SIPLAST PREPARATION GUIDELINES FOR PROPER SURFACE TREATMENT OF ALL SUBSTRATES PRIOR TO APPLICATION OF PARAPRO MATERIALS.
2. PARAPRO CANNOT BE APPLIED IN THE ABOVE CONFIGURATION OVER MEMBRANES OR OTHER MATERIALS CONTAINING UNCURED, SOLVENT-BASED MATERIALS, IN SUCH CASES, MEMBRANES TO BE COVERED WITH PARAPRO MUST BE ADHERED WITH SFT ADHESIVE, SFT CEMENT, PS-209, OR PS-715 NS ELASTOMERIC SEALANT, CONTACT SIPLAST FOR ALTERNATIVE DETAILS THAT ALLOW FOR APPLICATION OVER A BASE PLY APPLIED IN SOLVENT BASED ADHESIVE.
3. REFER TO SIPLAST FLEECE CUTTING RECOMMENDATIONS FOR CONFIGURATIONS, CUTTING, FOLDING, AND LAPPING TECHNIQUES.
4. REQUIREMENTS AND RECOMMENDATIONS DETAILED IN CURRENT SIPLAST SPECIFICATIONS AND THE PARAPRO 123 FLASHING INSTALLERS GUIDE SHALL APPLY IN ADDITION TO THE ABOVE DRAWING.

CAUTION: SIPLAST RECOMMENDS THAT ALL PRACTICES PERTAINING TO INDUSTRY STANDARD TORCH SAFETY REQUIREMENTS AND GUIDELINES BE FOLLOWED. THIS INCLUDES PERFORMING A FIRE WATCH FOLLOWING ANY TORCH APPLICATIONS. ALWAYS HAVE APPROVED FIRE EXTINGUISHING EQUIPMENT NEARBY WHEN USING A TORCH.

Scale: NTS

Penetration with Parapro 123 Flashing– Interply

Paratech Mechanically Attached System – Insulated



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Scale: NTS

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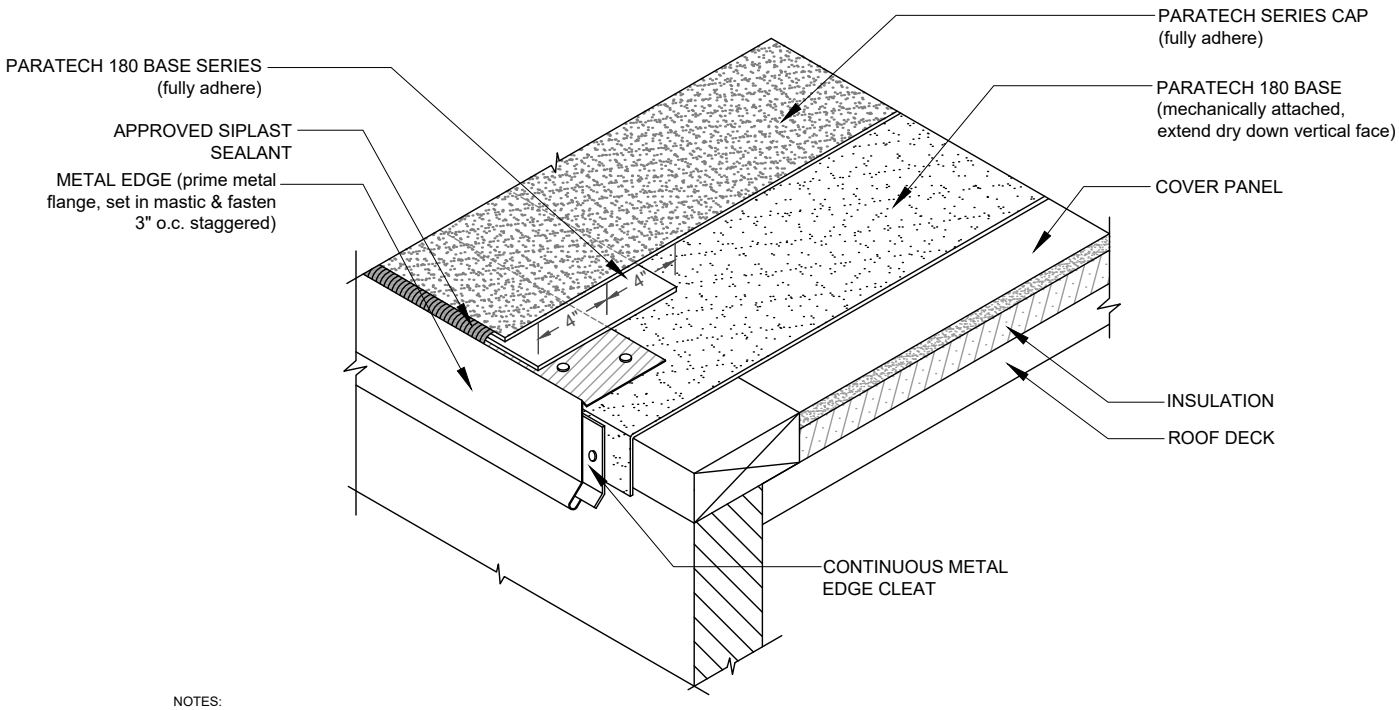
Roof Edge

Paratech Mechanically Attached System – Insulated



NOTES:
1. WHERE PRIMER IS INDICATED TO MAINTAIN PROPER ADHESION, USE PA-1125 OR PA-917 LS PRIMER. CONTACT SIPLAST FOR SPECIFIC REQUIREMENTS.
2. THE CARPENTRY AND METAL WORK SHOWN DEPICTS SHOP FABRICATION AND JOB-SITE ASSEMBLY. THESE COMPONENTS SHOULD BE DESIGNED/FABRICATED/INSTALLED ACCORDING TO GENERALLY ACCEPTED INDUSTRY PRACTICES, STANDARDS, AND APPROVALS.
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Scale: NTS

Notes

With you every step of the way

Siplast
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469-995-2200
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Vancouver, BC, Canada V7M 3M7
604-929-7687

Customer Service in
North America:
Toll Free 1-800-922-8800

siplast.com