



PAREX DIRECT-APPLIED FINISH TO CEMENT BOARD

Overview

This overview in italics is explanatory for the designer and specifier and is not part of the specification that follows.

Parex Direct Applied Finish System (DAFS) is an exterior coating system for application to cement board wall coverings and soffits.

The DAFS has four components:

- 1) Cementitious acrylic base coat, approximately 1/16" thick*
- 2) Fiberglass reinforcing mesh embedded in the base coat, with an additional strip of fiberglass mesh placed over cement board joints*
- 3) Acrylic Primer*
- 4) Acrylic or elastomeric textured, colored finish*

The DAFS is for coating cement board on above grade vertical walls and soffits of buildings up to three stories. A water-resistive barrier and sheathing are required behind the cement board on vertical surfaces. Under some environmental conditions, thermal conduction of fasteners and framing can become evident in the finish as "telegraphing" or "ghosting", and efflorescence can occur from hydration products of the cement. These are natural phenomena which occur through no fault in the products. Also, planar irregularities in framing can be reflected as planar irregularities in the wall surface. Coarser finish textures and interruptions of plane by projecting decorative elements can make such irregularities less evident. As with other cementitious materials, minor cracking may occur, but can be reduced by control joints, just as in conventional portland cement plaster.

09 25 13 Acrylic Plastering

09 25 13.13 Acrylic Plaster Finish

SPECIFICATION FOR PAREX DIRECT APPLIED FINISH SYSTEM (DAFS) FOR EXTERIOR CEMENT BOARD WALLCOVERING

PART 1 - GENERAL

1.01 DESCRIPTION AND SCOPE

A. Provide all labor, materials and equipment necessary to install the Parex Direct Applied Finish System. The finish system consists of the following:

1. Parex Cementitious Base Coat/Adhesive
2. Parex fiberglass reinforcing mesh and fiberglass joint mesh
3. Parex Primer
4. Parex Finish Coat

B. Finish system is applied to National Gypsum PermaBase® cement board. Alternative brands of cement board shall not be used.

C. Related Sections:

1. Division 03 – Concrete Section

Parex Direct Applied Finish System (DAFS)

2. Division 04 – Unit Masonry Section
3. Division 05 – Light Gauge Cold-formed Steel Framing Section
4. Division 06 – Carpentry Section for Sheathing and Wood Framing
5. Division 07 – Flashing Section and Joint Sealant Section

1.02 LIMITATIONS

Installation is limited to vertical walls and to soffits. Height is limited to three stories without prior project-specific approval by ParexLahabra, Inc. Efflorescence can occur from hydration products in the cement board. Under some environmental conditions, thermal conduction of fasteners and framing can become evident in the finish as "telegraphing" or "ghosting" and efflorescence can occur from hydration products of the cement. These are natural phenomena which occur through no fault in the products. Planar irregularities in framing will be reflected in planar irregularities in the wall surface and minor cracking of the finish can occur.

The coating system and cement board sheathing do not form a weather barrier. A continuous water resistive barrier, installed to the exterior of the sheathing that is behind the cement board, and flashed to shed water to the exterior, is required behind the cement board. Openings in the wall must be flashed to the water resistive barrier or to the exterior.

1.03 QUALITY ASSURANCE

- A. Applicator Requirements: The system shall only be applied by qualified applicators who have attended the Parex Education Seminar and hold a current certificate of education.
- B. Conform to Parex current published literature including installation instructions, detail drawings, and Products Data Sheets.
- C. Single Source: DAFS components shall be from a single manufacturing source.

1.04 SUBMITTALS

- A. Submit a current certificate of attendance at a Parex education seminar.
- B. Submit copies of manufacturer's specifications, details and installation instructions.
- C. Samples:
 1. The applicator shall provide to owner/architect samples of the system, showing texture and color for approval prior to starting the project.
 2. Each sample shall be prepared using the same tools and techniques as required for the actual application.
 3. The accepted color sample shall be approved by the signature of the authorized person(s) on the back of the sample. This signed sample shall be in the possession of the applicator before ordering Parex finish.
- D. Provide Sample copy of standard Parex Limited DAF System Warranty

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver all materials supplied by ParexLahabra, Inc. in original unopened containers with manufacturer's identification and labels intact and legible.
- B. Store all products supplied by Parex, Inc. in a cool, dry place out of direct sunlight, protected from weather and other damage. Products shall be stored at a temperature above 40°F (4°C) and less than 110°F (43°C), at all times.

1.06 PROJECT/SITE CONDITIONS

- A. Application of the system shall not take place during inclement weather unless appropriate protection is employed.
- B. Installation of wet materials in temperatures less than 40°F (4°C) is allowed only if 40°F (4°C) or higher ambient air temperature is provided and maintained for a minimum of 24 hours after application.

Parex Direct Applied Finish System (DAFS)

- C. Protection:
 - 1. Protect surrounding area and surfaces during application of the Parex finishing system.
 - 2. Remove protection when work is completed.
- D. The system shall be protected when work stops for the day or when an area is completed so that water will not infiltrate behind the system.

1.07 COORDINATION/SCHEDULING

- A. The work in this section shall be coordinated with related sections and trades.

1.08 WARRANTY

- A. Warranty: Upon request, at completion of installation, provide standard Parex Limited DAF Systems Warranty

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. All products shall be manufactured by ParexLahabra, Incorporated or shall be as specified by ParexLahabra, Inc.

2.02 MATERIALS

- A. Base Coats:
 - 1. Parex Base Coat and Adhesive 121: 100% acrylic polymer based, requiring the addition of Type I or II portland cement.
 - 2. Parex Base Coat and Adhesive 121 Dry: copolymer based, factory blend of cement and proprietary ingredients that requires only the addition of water.
- B. Reinforcing Meshes:
 - 1. Parex Short Detail Mesh 356: Weight 4.5 oz per sq. yd. (153 g/m²), 9 1/2" (240mm) 9 1/2 inch wide flexible glass fiber reinforcing mesh used for joint reinforcement and detailing. Alkali resistant.
 - 2. Parex Standard Reinforcing Mesh 355: Weight 4.5 oz per sq. yd. (153 g/m²), an open weave glass fiber fabric, specially coated for protection against alkali.
 - 3. Parex Intermediate Mesh 358.10: Weight 10 oz per sq. yd. (407 g/m²), glass fiber reinforcing mesh used for increased impact resistance. Alkali resistant.
 - 4. Parex Corner Mesh 357: Weight 7.2 oz per sq. yd. (249 g/m²), a pre-bent, heavy duty glass fiber mesh used specifically on outside corner details. Alkali resistant.
- C. Parex Primers:
 - 1. Primer 310: 100% acrylic based coating to prepare surfaces for Parex finishes.
 - 2. Sanded Primer 313: 100% acrylic based coating to prepare surfaces for Parex finishes.
- D. Parex Finish Coat: Factory blended, 100% acrylic polymer based synthetic finish, integrally colored. Type, color and texture shall be specified by the owner/architect.
- E. Insulation Board for projecting shapes: Expanded polystyrene conforming to ASTM C578 Type I and ASTM E2430. Minimum thickness: 3/4 inch (19mm).

2.03 RELATED MATERIALS

- A. National Gypsum PermaBase cement board substrate conforming to ASTM C1325 (Type A Exterior), and with minimum thickness of 1/2" (12.7mm). Alternative brands of cement board shall not be used.

Parex Direct Applied Finish System (DAFS)

B. Sheathing:

1. Sheathing shall be installed in accordance with its industry standards and applicable building code.
2. Gypsum Sheathing shall conform to ASTM C79, C1396, or C1177 glass mat gypsum sheathing, minimum thickness 1/2" (12.7mm).
3. Plywood shall be not less than 15/32" (11 mm) thick, PS-1 Exposure 1 or Exterior grade.
4. Oriented strand board (OSB) shall be not less than 7/16" thick (11.1mm), PS-2 Exposure 1.
5. For wood-based sheathing (Plywood and OSB), comply with APA-The Engineered Wood Association spacing recommendations for edge and end joints. Gap wood sheathing panels minimum 1/8".
6. Sheathing shall be protected from weather before, during and after application of Parex DAFS.

C. Flashing: Refer to Division 07 Flashing Section for flashing materials.

D. Sealant System:

1. Sealant for expansion joints within or adjoining DAFS covered wall areas shall be ultra-low modulus designed for minimum 100% elongation and minimum 50% compression and as selected by Architect.
2. Sealant for perimeter seals around window and door frames and other wall penetrations shall be low modulus, designed for minimum 50% elongation and minimum 25% compression, and as selected by Architect. Perimeter joints shall
3. Sealants shall conform to ASTM C 920, Grade NS.
4. Expansion joints shall have a minimum width of 3/4 inch (19 mm).
5. Perimeter joints shall be a minimum width of 1/2 inch (12.7mm).
6. Sealant backer rod shall be closed-cell polyethylene foam. Sealant bond breaker tape shall be as recommended by the sealant manufacturer.
7. Apply sealant to the accessories, tracks or base coat of Parex DAF System.
8. Refer to Parex current bulletin for listing of sealants which have been tested and have been found to be compatible with Parex materials by their manufacturers.
9. Color shall be as selected by Architect/Owner.
10. Joint design, surface preparation, and sealant primer shall be based on sealant manufacturer's recommendations and project conditions.

E. Water-resistive barrier:

1. DuPont™ Tyvek® StuccoWrap® or DrainWrap®

F. Accessories: Casing beads, expansion and control joints of exterior grade, rigid PVC in accordance with ASTM D1784 and ASTM D4216, as manufactured by Vinyl Corp. or Plastic Components, Inc.

PART 3 - EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Installation shall be performed in accordance with Parex current published literature, installation instructions, and detail drawings.
- B. Under no circumstances shall any of the products be altered with additives (unless specifically required in the product mixing instructions, i.e. cement added to the Parex Base Coat & Adhesive 121), except for small amounts of clean, potable water as necessary for workability.
- C. Unsatisfactory conditions or discrepancies shall be corrected before the application of the DAFS.

3.02 SHEATHING SUBSTRATE

Parex Direct Applied Finish System (DAFS)

- A. Wall framing shall be installed with studs spaced a maximum of 16" (407mm) on center. Limit stud design lateral deflection to L/360. Install framing so as to ensure that all cement board edges at the system terminations will be continuously supported on framing members.
- B. The substrate shall be continuously sheathed behind the cement board with an exterior grade sheathing. The sheathing substrate shall have no irregularities greater than 1/4" (6.35mm) in 10 feet (3m) and shall be sound, dry, and free of foreign substances.

3.04 WATER RESISTIVE BARRIER

Protect the sheathing behind the cement board with StuccoWrap® or DrainWrap® and flash rough openings and any sloped surfaces in accordance with the flashing manufacturer's written instructions and the building code requirements. Flash all sloped surfaces, windows, doors, louvers and other openings, using appropriate flashing material and installation procedures, to ensure a weather tight seal with the StuccoWrap or DrainWrap water-resistive barrier.

3.03 CEMENT BOARD SUBSTRATE

- A. The cement board shall be installed in accordance with this specification and the cement board manufacturer's written instructions.
- B. Cement board shall be fastened to framing by corrosion resistant steel screws.
- C. Locate screws 8" (20.4cm) maximum on center along framing members or closer as required by design loads. Screws at board edges shall be placed 3/8" (0.95mm) in from the edge. Fastener heads are to be driven flush with the face of the cement board.
- D. All vertical joints of the cement board shall be staggered in a running bond pattern and terminate on framing. All cement board joints shall be butted together.
- E. Offset horizontal cement board joints a minimum of 12" (300 mm) from horizontal sheathing joints. Offset vertical cement board joints a minimum of one stud space from vertical sheathing joints.
- F. Offset cement board joints a minimum of 8" (203mm) from the corners of openings by "L" cutting the cement board around corners of openings.
- G. Install expansion joints at floor lines of wood framed construction, substrate changes and substrate expansion joints. Install vertical cement board control joints not more than 50 feet (15.24m) apart. The cement board on each side of vertical joints shall be backed by a framing stud.
- H. Pitch of sloped surfaces shall be 6/12 minimum. The maximum horizontal run of sloped surface shall be 8 inches (203 mm). For larger dimensions, consult Parex Technical Services.

3.04 APPLICATION

- A. Joint Treatment:
 - 1. Embed Parex Short Detail Fiberglass Mesh 356 in Parex Base Coat & Adhesive121 centered over all cement board joints, inside and outside corners, and as diagonal "butterflies" at corners of openings.
 - 2. Optional: Embed Parex Corner Mesh 357 Parex Base Coat & Adhesive121 in at outside corners in place of Short Detail Mesh.
- B. Optional Insulation Board Trim and Features: Apply Parex Base Coat and Adhesive 121 to the entire back surface of the insulation board with a Parex 5/8" notched trowel. Press and slide insulation board into place for continuous adhesion.
- C. Using a stainless steel trowel, apply Base Coat approximately 1/16" (1.6mm) thick to the entire cement board and insulation board exposed surfaces, including previously meshed joints and corners. Lap mesh joints 2 1/2 " (64mm) minimum.

Parex Direct Applied Finish System (DAFS)

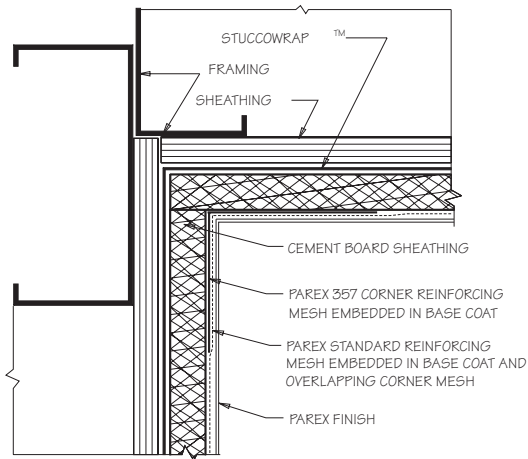
- D. Apply diagonal mesh "butterflies" to corners of insulation board bands that surround openings. Embed Parex Standard Mesh 355 into the wet base coat on the entire base coated surface. Apply additional base coat if required to ensure mesh is completely embedded and to achieve a final nominal thickness of 1/16" (1.6mm). The mesh shall not be visible and shall show no texture. The base coat shall have a smooth and continuous texture prior to proceeding to primer and finish coat application.
- E. Where indicated on the drawings, install Parex Mesh 358.10 for additional impact resistance. Follow Parex Product Data Sheet application details for mesh installation.
- F. After the base coat has dried a minimum of 24 hours or longer as required by conditions, the surface shall be examined for any irregularities. Correct any irregularities to produce a flat surface.
- G. Apply Parex Primer 310 or 313 to the dry base coat prior to the application of the finish coat.
 - 1. Tint the Primer to the color of the finish coat.
 - 2. Mix and apply Primer per Parex's instructions. Primer shall be completely dry before application of finish coat.
- H. After the primer has dried, one of the Parex finish coats shall be applied. The finish shall be applied by troweling using a stainless steel trowel or by spraying.
 - 1. Provide specified texture by spray or floating of wet finish coat. The application of these products in direct sun light and high winds should be avoided.
 - 2. The addition of small amounts of clean, potable water may be required for workability. Add the same amount of water to each pail.
 - 3. The finish shall be applied in a continuous application always working to a wet edge. The thickness of the finish coat shall depend on aggregate size, type and texture. Good workmanship is critical to the performance and aesthetics of this coating system.

3.05 CLEAN UP

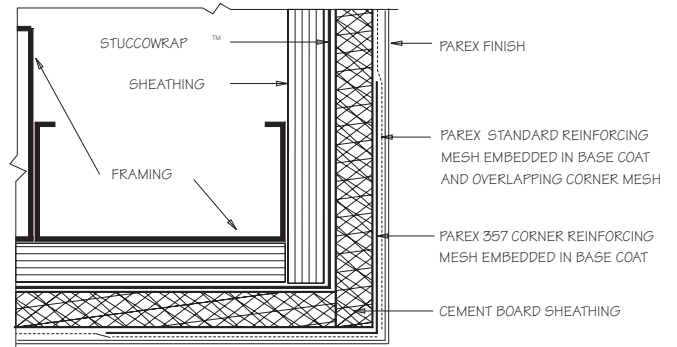
- A. Remove excess and waste materials from job-site.
- B. Clean DAFS surfaces and work area of foreign materials resulting from the DAFS installation.

END OF SECTION

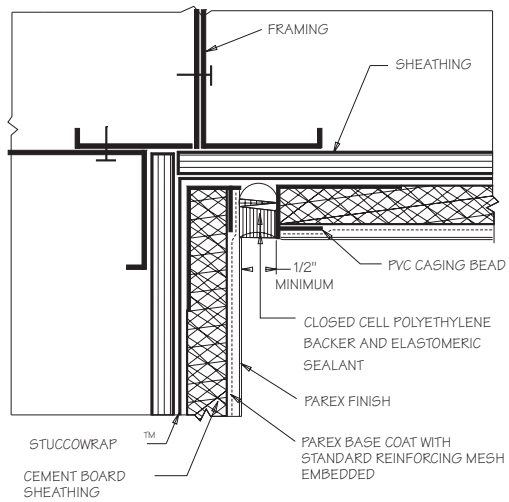
Disclaimer: This guide specification is intended for use by a qualified designer. The guide specification is not intended to be used verbatim as a specific project specification without appropriate modifications for the specific use intended. The guide specification must be integrated into and coordinated with the procedures of the designer and the requirements of a specific project.



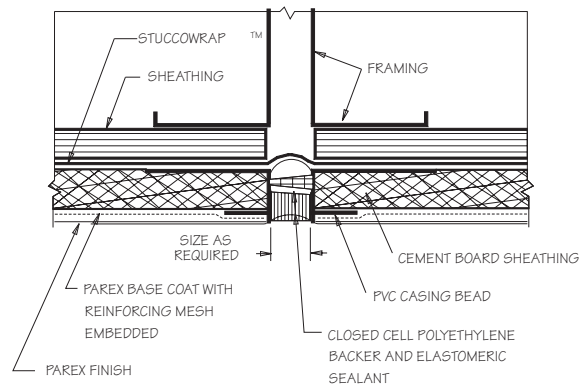
DAFS G4.01 INSIDE CORNER



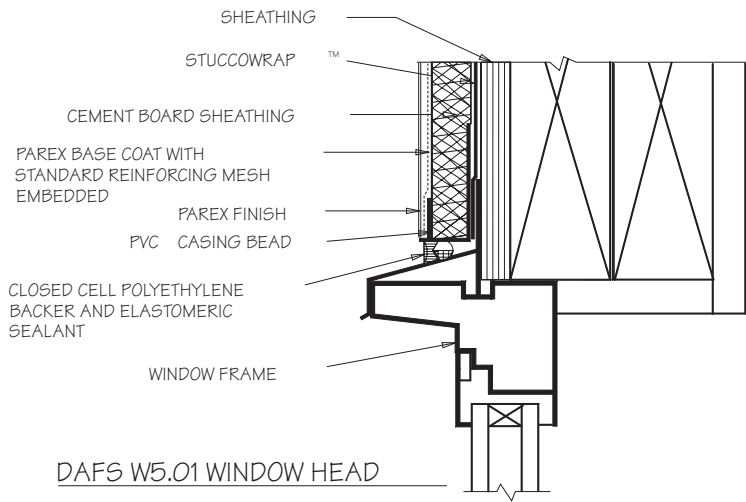
DAFS G5.01 OUTSIDE CORNER



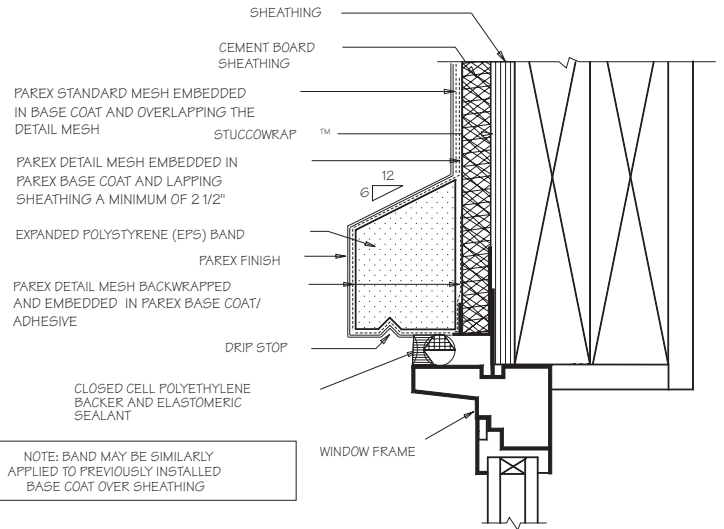
DAFS E5.01 EXPANSION JOINT AT INSIDE CORNER



DAFS E3.01 BUILDING EXPANSION JOINT

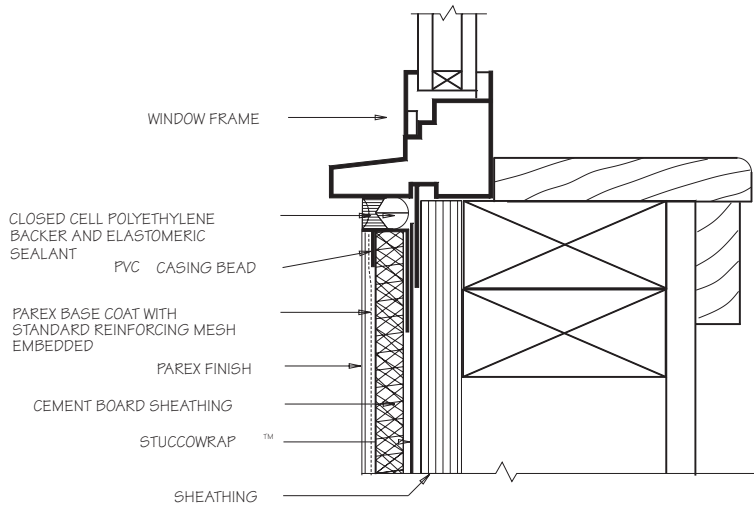


DAFS W5.01 WINDOW HEAD



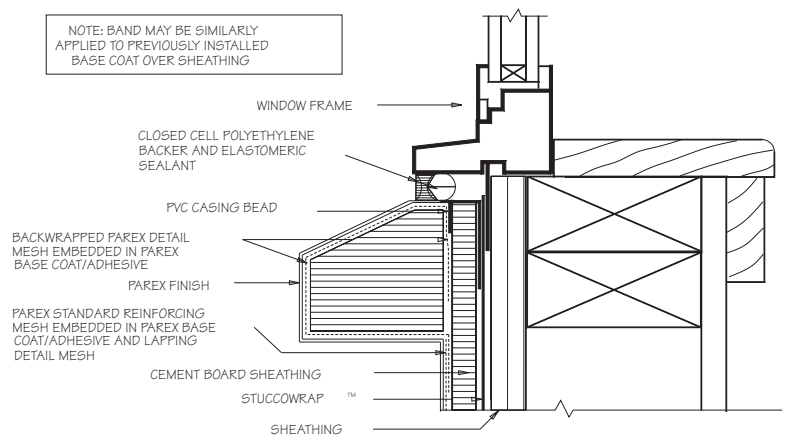
DAFS W5.02 DECORATIVE WINDOW BAND AT HEAD

JAMB CONDITION SIMILAR



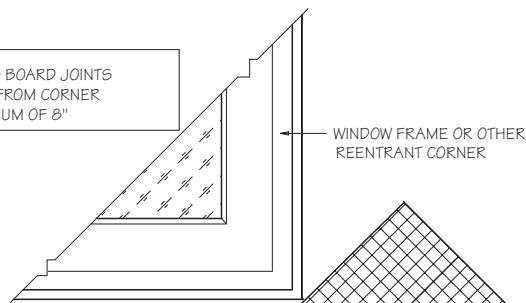
DAFS W8.01 WINDOW SILL

NOTE: BAND MAY BE SIMILARLY APPLIED TO PREVIOUSLY INSTALLED BASE COAT OVER SHEATHING

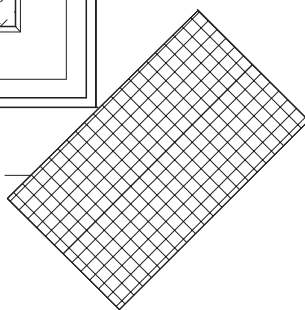


DAFS W8.01 WINDOW SILL

NOTE: SHEATHING BOARD JOINTS MUST OFFSET FROM CORNER A MINIMUM OF 8"



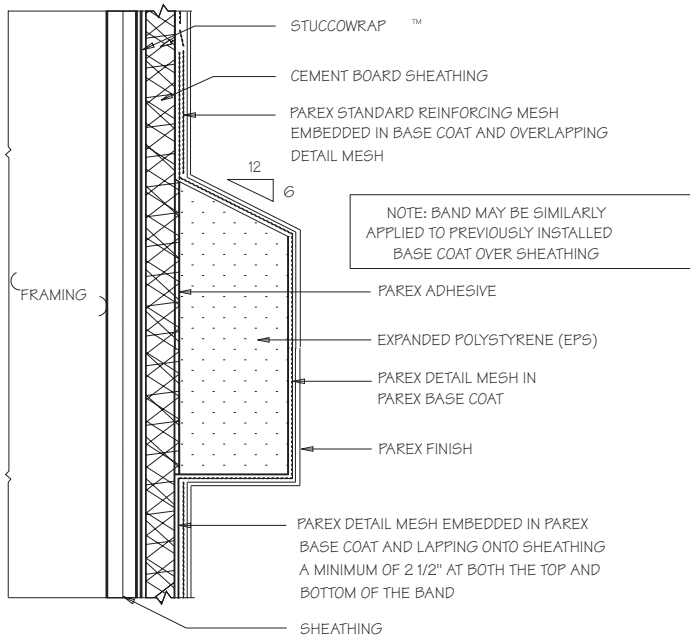
9" x 12" PAREX DETAIL MESH EMBEDDED DIAGONALLY IN BASE COAT AT CORNERS



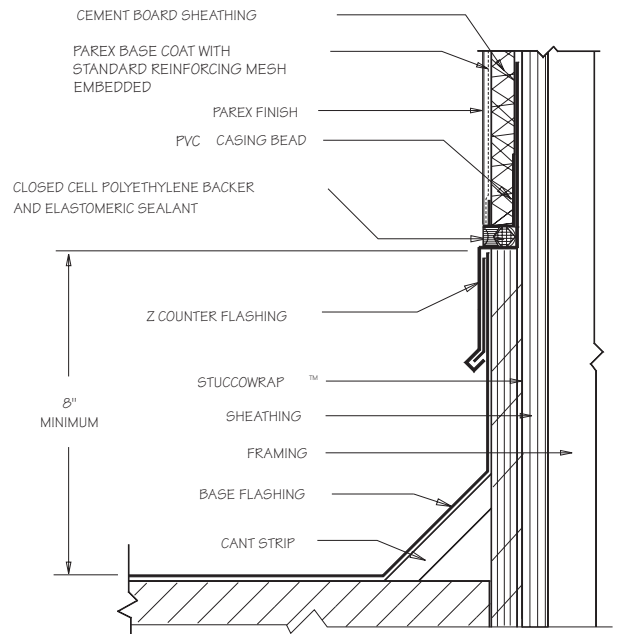
DAFS G3.01 PRELIMINARY MESH APPLICATION

ELEVATION VIEW

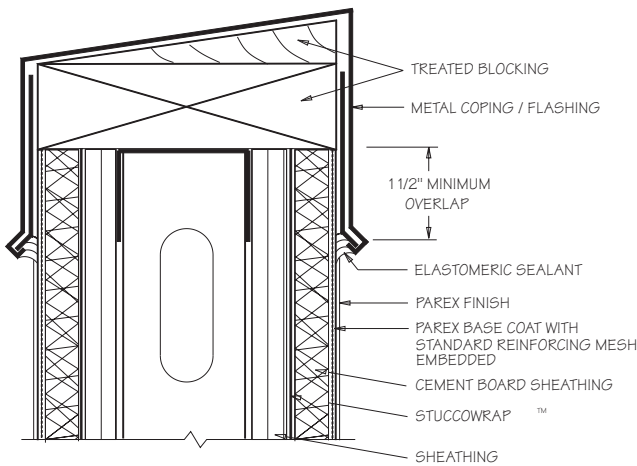
Note: Parex Direct Applied Finish System (DAFS): Parex Base Coat 121 with Parex Fiberglass Mesh embedded, (optional Parex Primer), and Parex DPR Finish. All related materials by others. Details the same for either steel or wood studs.



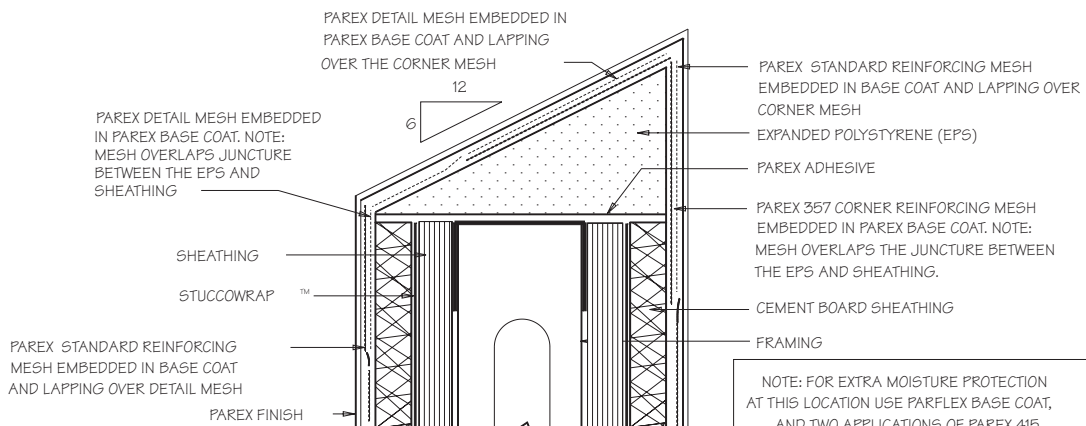
DAFS A2.01 DECORATIVE BAND



DAFS R2.01 HIGH WALL AT LOW ROOF

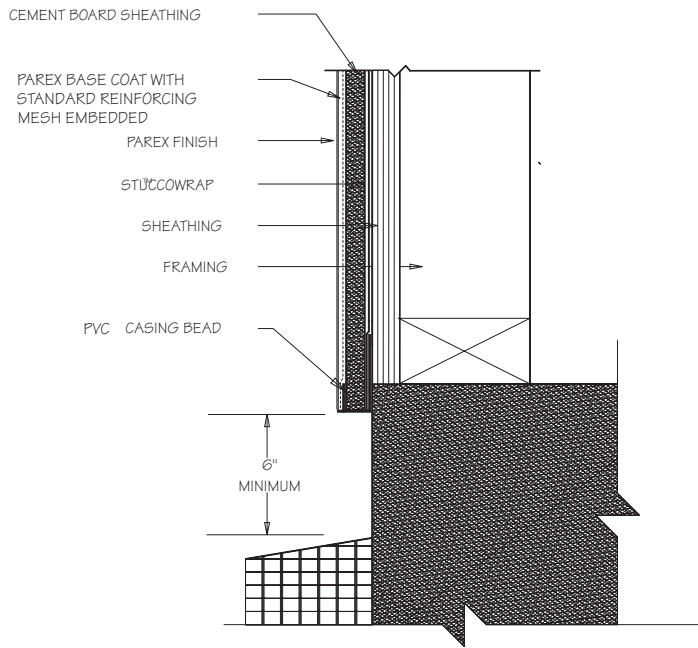


DAFS R1.01 PARAPET WITH METAL FLASHING

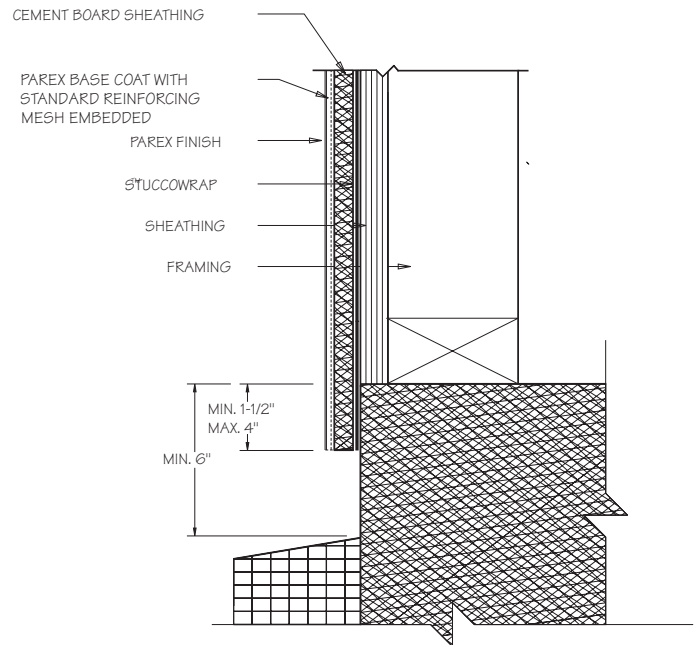


DAFS R1.02 EPS PARAPET

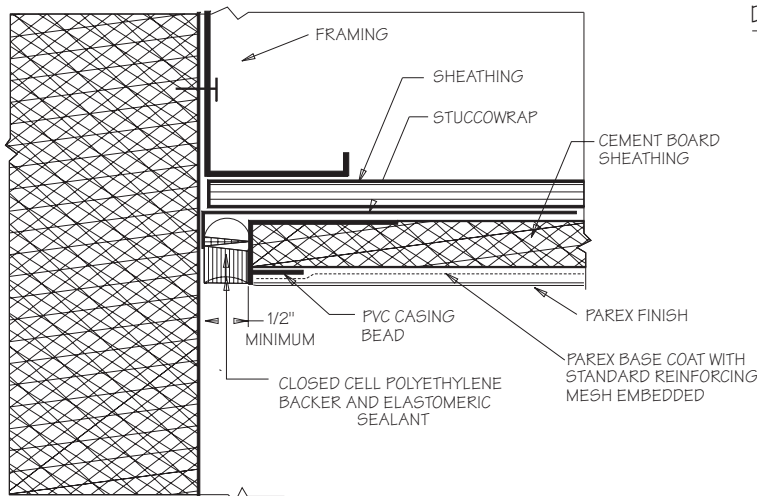
Note: Parex Direct Applied Finish System (DAFS): Parex Base Coat 121 with Parex Fiberglass Mesh embedded, (optional Parex Primer), and Parex DPR Finish. All related materials by others. Details the same for either steel or wood studs.



DAFS T1.01 TERMINATION AT GRADE

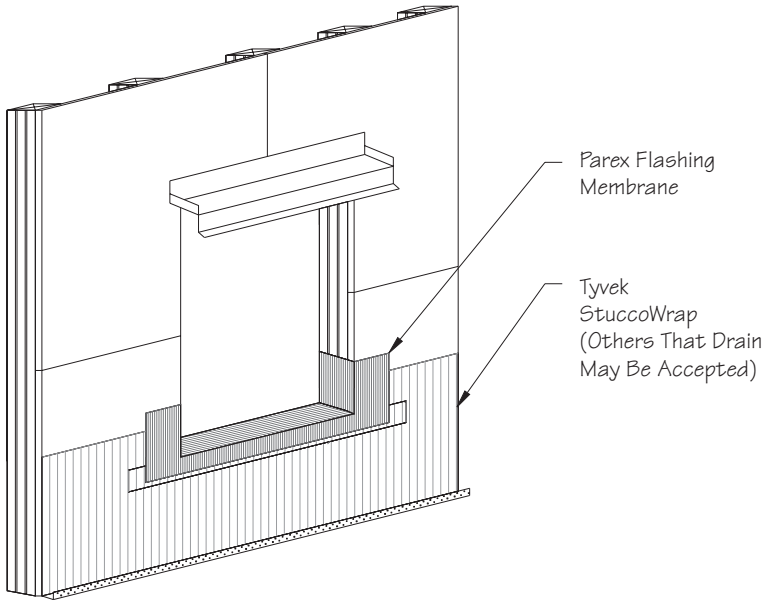


DAFS T1.02 TERMINATION AT GRADE

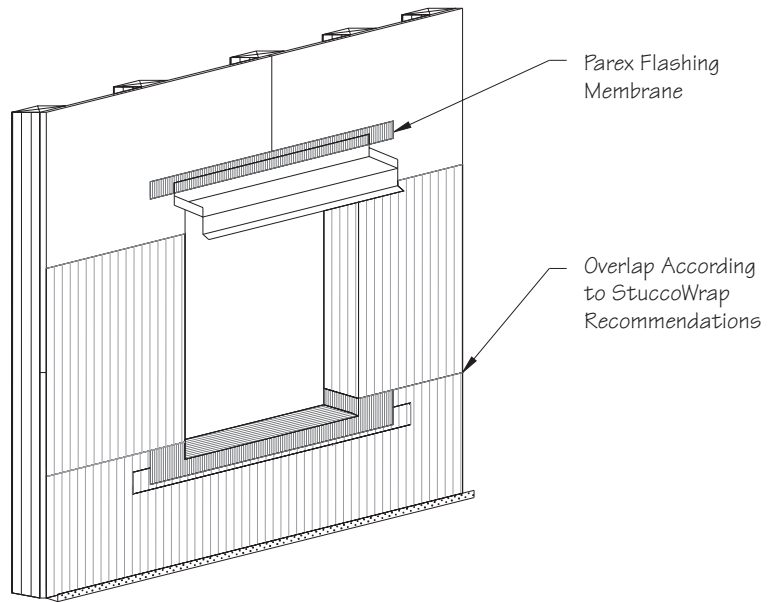


DAFS T2.01 TERMINATION AT DISSIMILAR MATERIAL

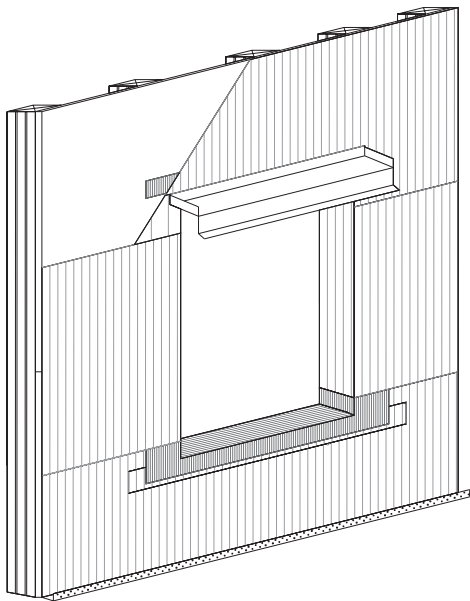
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DAFS G3.02A STUCCOWRAP INSTALLATION



DAFS G3.02B STUCCOWRAP OVERLAPPED



DAFS G3.02C STUCCOWRAP COMPLETION

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