afc cladding

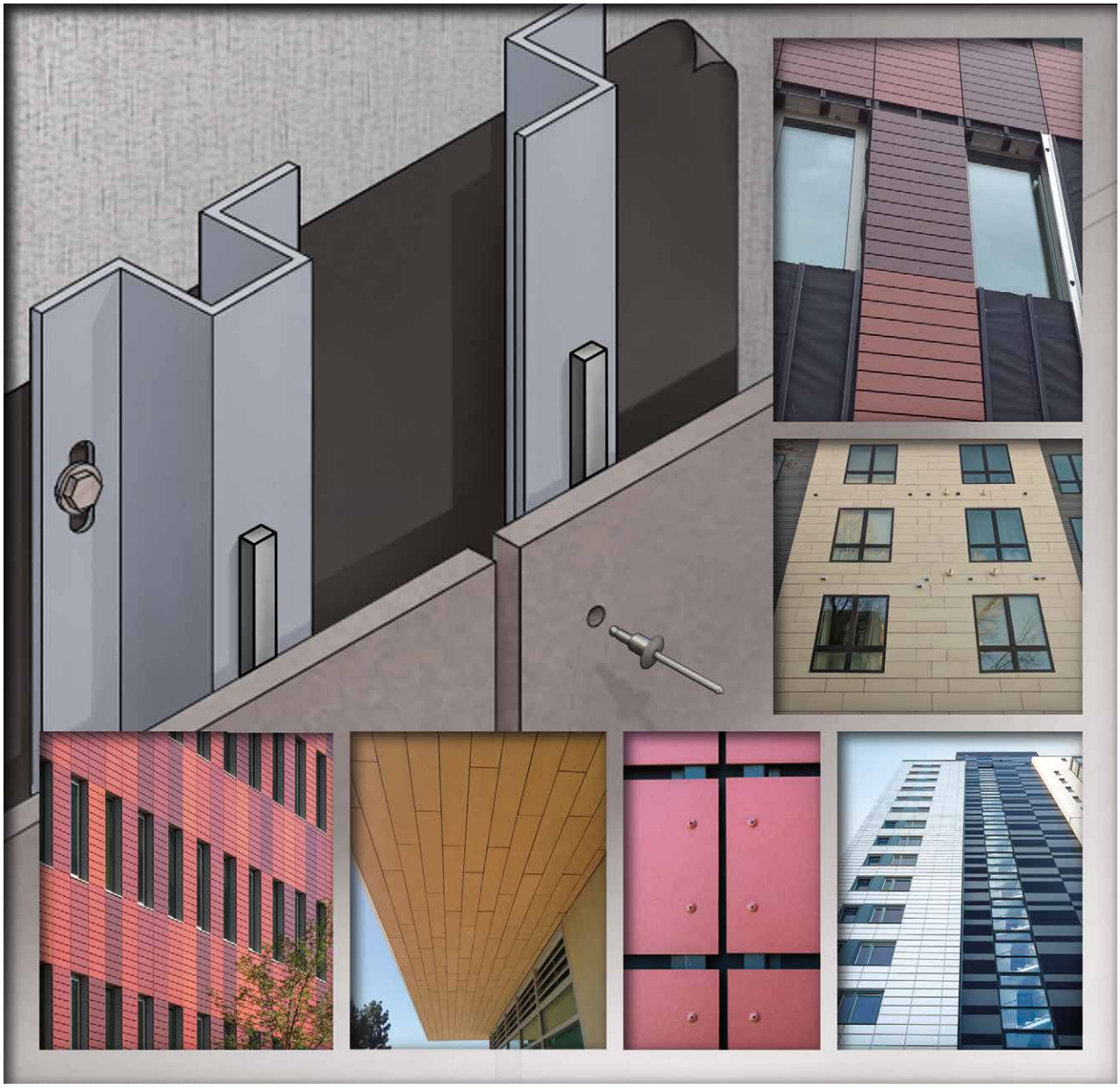
Architectural Panels

SUSTAINABLE SOLUTIONS

Standard Installation Guidelines [1]

Aluminum Profiles with Rivets

Rainscreen Application — 8 mm Panels



American Fiber Cement Corporation

1 These guidelines represent an **abbreviated illustration** for proper installation of Cembrit Cover, Patina, Solid and Transparent architectural panels in a ventilated rain screen application. Additional guidelines for interior applications, hidden adhesive attachment, sealing, and weather barrier attachment can be found at www.americanfibercement.com

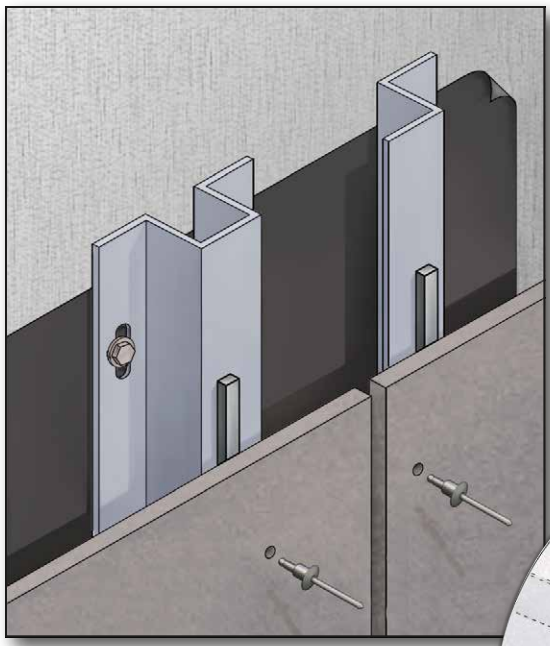
CEMBRIT

Note: The online copy of the Installation Guidelines obtained at www.americanfibercement.com supersedes any printed copy.

Profile Attachment — illustrated

For wall assemblies utilizing exterior sheathing with low screw holding strength, a two-layer attachment system may be required. (See *FIG.* ***D-1B***)

FIG. ***D-1A*** —
Vertical profiles are typically "Z" channels or "Hat" channels.



Hat channel can be attached with the crown facing in or out, depending on fastener spacing and the visibility of the profile through the joint.

Building wrap *per AFCC. Weather and UV resistant. Check local codes for proper placement.*

FIG. ***D-1B***

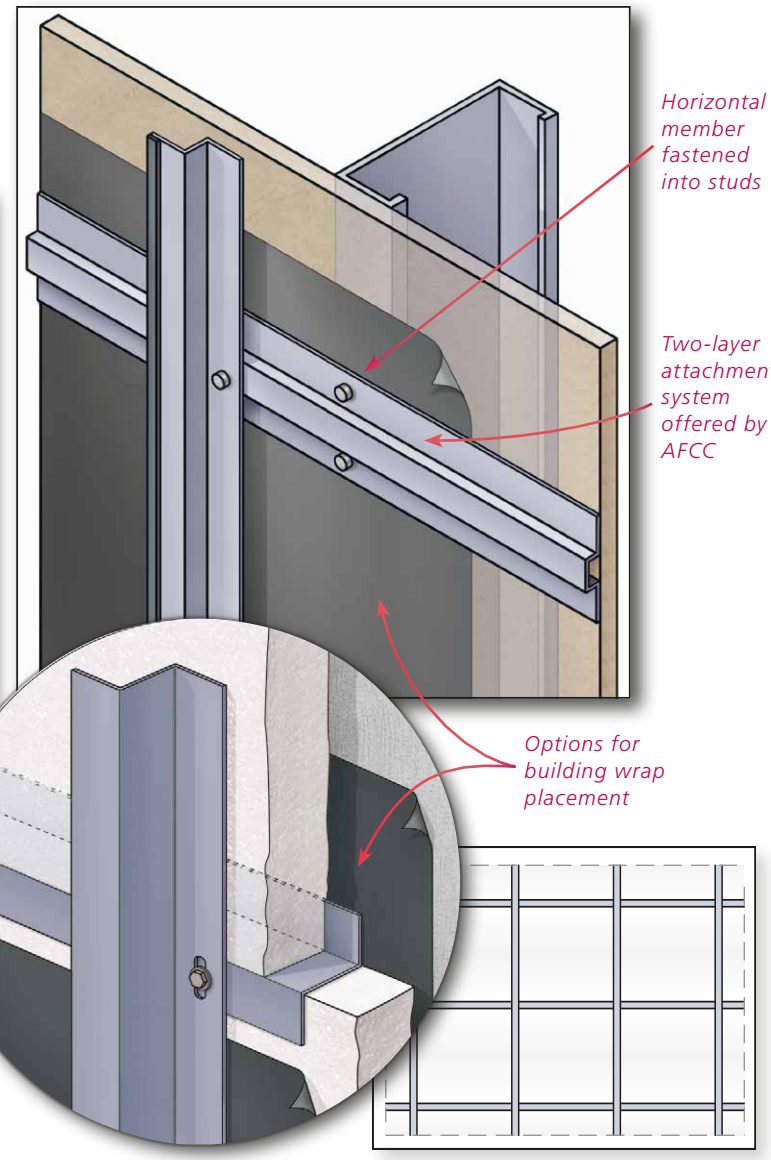
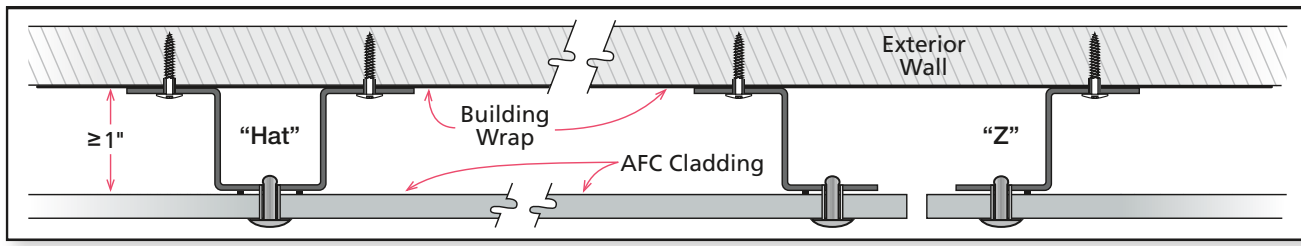


FIG. ***D-2*** —
Exterior insulation, when vertical profiles are attached to horizontal profiles affixed to wall.

FIG. J — "Hat" or "Z" channels and vertical joint. (Black Anodized "Z" channels offered by AFCC.)



Can be affixed vertically directly to wall if there is no exterior insulation (provided sheathing has adequate screw-holding strength; ¾" plywood sheathing is recommended).

FIG. ***H*** *— Astro Rivet® with fixed cylinder*

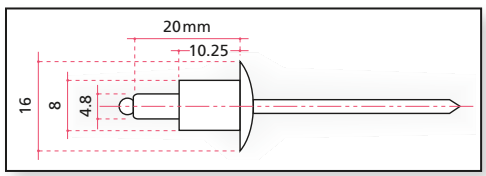
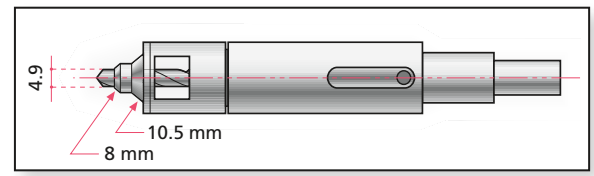


FIG. ***I*** *— Centralizing drill bit*



For centering pilot hole in profile for ***Fixed Points*** *and* ***Gliding Points****.*

Prepare Profile

1. Typical vertical and horizontal joints are left open and have a black background (use a black weather and UV resistant building wrap). Metal profiles visible at joint openings (vertical and horizontal) can be covered with a black UV weather resistant tape or UV weather resistant coating. Other reveal colors are possible if desired.
2. Affix adhesive foam tape (supplied by AFCC) to the profile's full length — 1 strip on either side of the rivet location or 1 strip on each side of the rivet location. At vertical joints, place 1 strip on the panels center side of the rivet location. (See *FIG. **B***)
3. Horizontal and vertical joints can be closed with aluminum profiles (21 gauge or less) if desired.

Panels

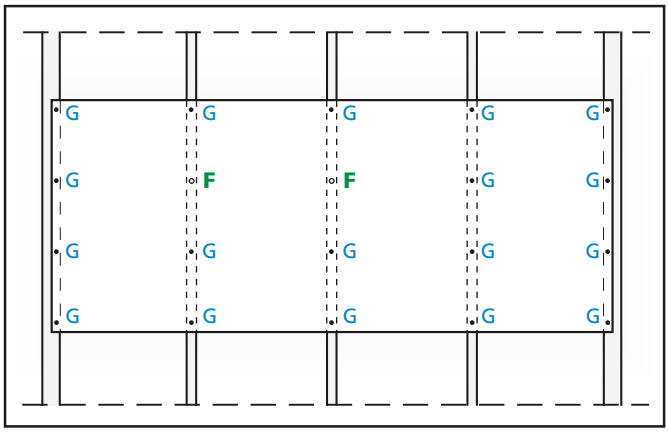
1. Panels to be Patina, Solid, Transparent or Cover.
   - Patina panels have a sanding grain that must be accounted for when positioning panels. Rotating some panels 90° from the orientation of adjacent panels can result in the appearance of color shading.
2. Vertical and horizontal joints to be 10 mm (3⁄8"). This is the minimum distance between the edges of two adjacent panels, or the distance from panel edge to metal trim extrusions or structural members. (See *FIG. **A***)
3. Pre-drill holes in panel so that there are: (See *FIGS. **E, F** & **G***)
   - Two (2) **fixed points** per panel (**F**).
   - The rest of the holes are to be **gliding points** (**G**).
   - See **Fixing** section (and *FIGS. **F** & **G***) for determining location of fixed points in each panel.
4. Diameter of the fixed point hole is to be 8.3 mm (21⁄64").
5. Diameter of the gliding point hole is to be 11 mm (7⁄16").
6. Joints between profiles must coincide with horizontal joints in the panels. ***Panels cannot bridge a break in the profiles.*** (See *FIG. **A***)
7. **The pilot hole in metal profile** must be in the center of both the fixed point and gliding point holes. Use a drill bit centralizing fixture (supplied by AFCC) to accomplish this geometry. Pilot hole to be 4.9 mm in diameter — use #10 drill bit (4.9149 mm). (See *FIG. **I***)
8. After first affixing the two fixed-point rivets, work from the top of the panel to the bottom to avoid damage to the panel.

Fixing

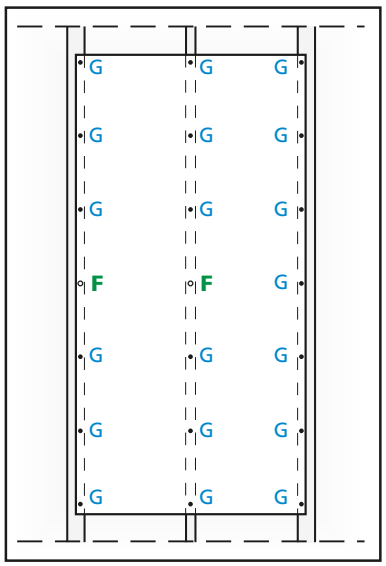
1. Rivets to be Astro Rivet (supplied by AFCC) with colored or stainless steel head with 8 mm x 11.1 mm cylinder. Shank of rivet is 4.8 mm x 20 mm long, with a 16 mm diameter head. (See *FIG. **H***)
2. Fixing pattern is typically either 16" or 24" on center horizontally (based upon metal profile spacing) and 16" to 24" on center vertically, depending upon building height, building location, design criteria/specifications, and panel/fastener location on building. Edge areas on facades and high wind load conditions require closer fixing distances. Structural engineer to determine spacings. For soffit applications, the maximum fastener spacing is 16" on center in both directions.
3. Corner rivets to be located at 40 – 150 mm horizontally and 70 – 150 mm down/up vertically from each corner of panel. (*FIG. **C***)
4. 10 mm (3⁄8") clearance is required from the edge of metal profile to pilot hole for rivet.
5. Two **fixed points** are required per panel. (*FIGS. **I** & **J***)

   Fixed points (for attachment to vertical profiles) are:
   - Always the same height in each panel.
   - As close to center of panel as possible, and then either the next adjacent point to the left ***or*** right. Be consistent in panel-to-panel location (center and left ***or*** center and right, so fixed points are at the same level horizontally for attachment to vertical profiles).
   - No two fixed points on one panel can be on the same profile, and no two fixed points on two adjacent panels can be on the same profile when adjacent panels share a profile at a vertical joint.

▼ *FIG. **G** — Horizontal installation on vertical profiles*



▼ *FIG. **F** — Vertical installation on vertical profiles*



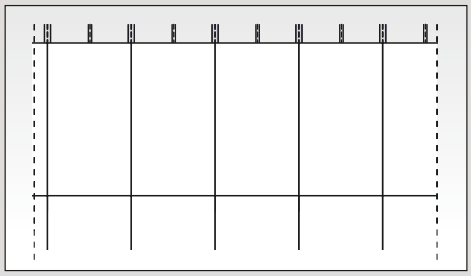
Fixing *(continued)*

- For smaller panel sizes with only two rows of fasteners, fixed points to be top center and top left ***or*** top right (horizontal applications on vertical profiles). For vertical narrow panel applications on vertical profiles, vertical joints must incorporate two separate profiles (as illustrated, *FIG J*).

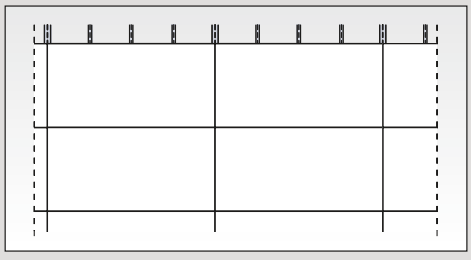
6. Aluminum joint closures can be installed (maximum thickness of finishing profile to be .8 mm or 21 gauge). Standard practice is to leave the joints open.
7. Pilot hole for rivet in metal profile to be 4.9 mm diameter. See **Panel** section for drill size. (See *FIGS. E & I*)
8. Remove drill shavings from metal profile holes and panel fixed and gliding holes prior to installing rivets. Prior to brush off any dust on panel due to drilling residue using a microfiber cloth.

Typical Pattern Layout

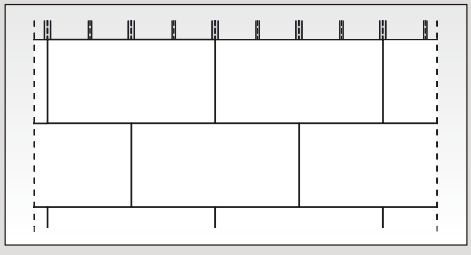
Panels can be used full size (4' x 8' or 4' x 10'), or fabricated to smaller dimensions.



Straight pattern with vertical panels



Straight pattern with horizontal panels

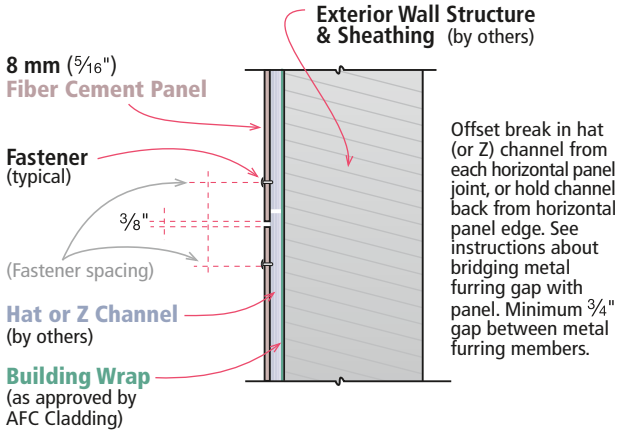


Semi pattern with horizontal panels

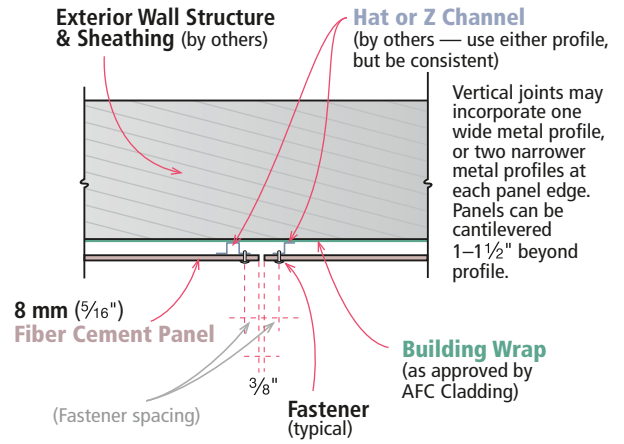
Details

See AFCC Standard Details for detailing requirements in architectural drawing format.

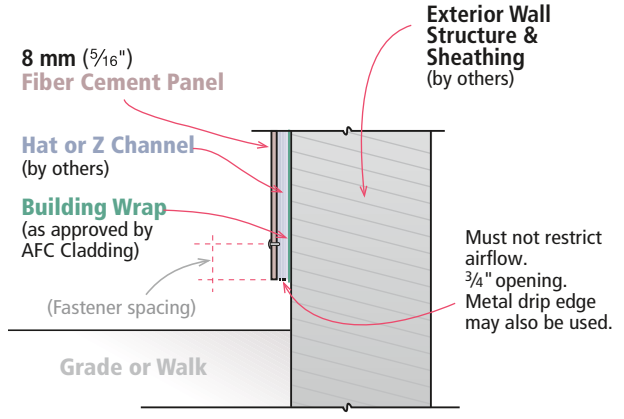
Typical Horizontal Panel Joint



Typical Vertical Panel Joint



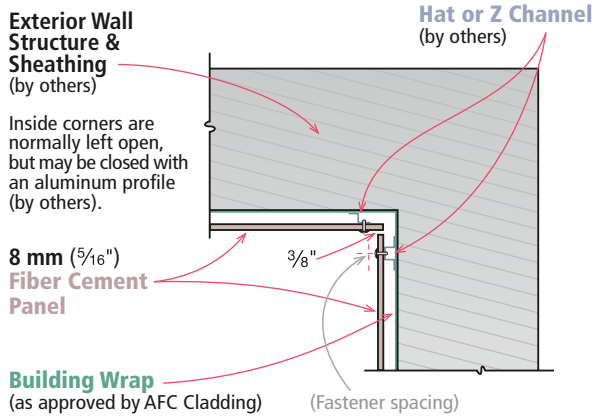
Typical Panel Base



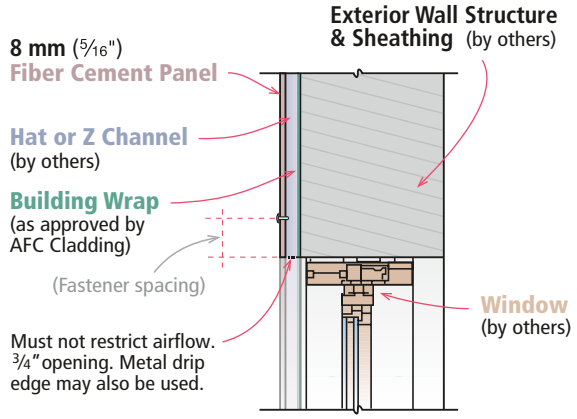
Details *(continued)*

See AFCC Standard Details for detailing requirements in architectural drawing format.

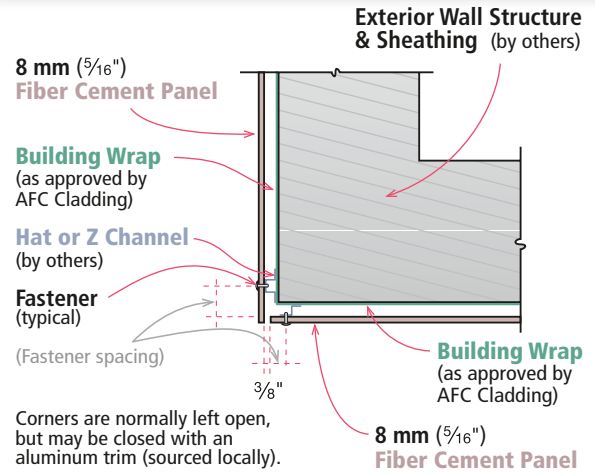
Typical Inside Corner – Plan View



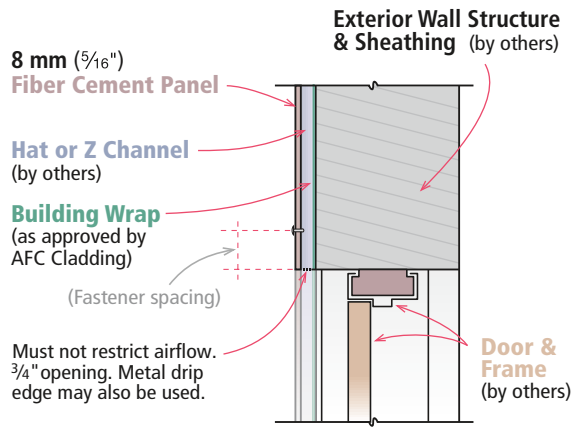
Typical Panel @ Window Head



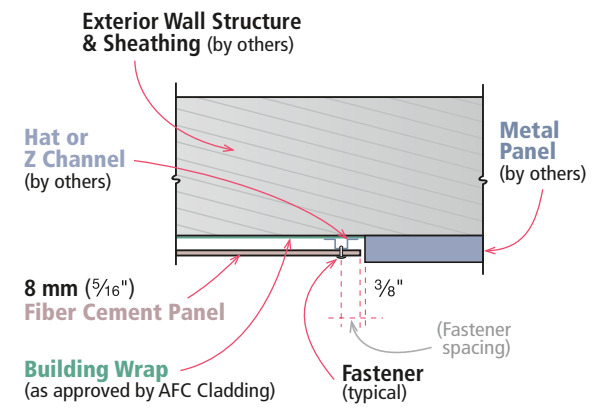
Typical Outside Corner – Plan View



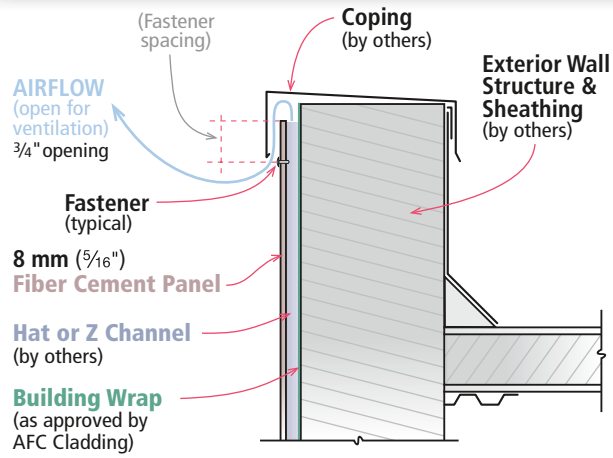
Typical Panel @ Door Head



Typical Panel End @ Metal Panel



Typical Panel @ Parapet



AFC cladding

Product Sustainability Statement

AFC Cladding is committed to providing the highest quality high density compressed fiber cement panels to the U.S. building markets. In order to do this, we feel it necessary to provide not only high quality products, but sustainable products that can contribute to green (LEED) building projects, which in turn benefit the environment we all live in.

AFC Cladding products currently have a potential contribution to various LEED credits including but not limited to:

Direct Contribution

Materials and Resources:

- BPDO – Environmental Product Declarations

Indirect Contribution

Indoor Environmental Quality:

- Thermal Comfort

Energy and Atmosphere:

- Optimize Energy Performance

One of the most important sustainable attributes is the durability of AFC Cladding panels. With their long lifespan, virtually requiring no refurbishment, AFC Cladding panels can contribute to less replacement of materials and to drastically lower maintenance costs over the useful life of the building.

The Ventilated and Insulated Rainscreen Cladding (VIRSC) system, which is used to affix AFC Cladding panels to the exterior of a structure, offers many benefits and green attributes to the performance of the building envelope. Durability and resistance to moisture and mold build-up are noteworthy benefits. Equally important is its ability to accommodate external insulation.

In addition, AFC Cladding is dedicated to further research and analysis of our products to achieve additional LEED credits, and help further the cause of building sustainable and efficient buildings.

Warranty information available upon request.

Limited Warranty

American Fiber Cement Corporation (AFCC) warrants that its products are manufactured in accordance with its applicable material specifications and are free from defects in materials and workmanship using AFCC's specifications as a standard. Only products which are installed and used in accordance with applicable AFCC instructions and specifications are in any way warranted by AFCC. This warranty is applicable only to claims made in writing and received by AFCC within thirty (30) days after the defect was discovered *and* within ten (10) years after the date of the shipment of the product by AFCC. All other claims are waived. If a claim is made, you must allow reasonable investigation of the product you claim is defective and you must supply samples that adequately demonstrate the problem you claim for testing by AFCC.

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