

IMPORTANT: READ ALL INSTRUCTIONS BEFORE PROCEEDING WITH INSTALLATION

General

The following guidelines provide basic assembly and installation instructions for EFD-437-FL extruded aluminum louvers mounting to grout-filled concrete masonry (CMU) building conditions. The EFD-437-FL is designed to withstand severe weather effects typically associated with hurricanes, and has been tested for resistance to impacts, cyclic fatigue, and static pressures up to 250 psf depending on section size.

- For additional details, refer to the product information posted at www.alllite.com as well as any job-specific submittal drawings when provided.
- Carefully lift louver sections by the frames using multiple lifting points as necessary to avoid distortion, racking, or other damage. **Do not apply excessive force to a single blade, and NEVER LIFT UNITS BY LOUVER BLADES.** Take necessary precautions to prevent marring the louver finish.
- While installation is underway and before louver sections are permanently fastened in place, All-Lite recommends that the installer employ temporary straps or bracing (by others) to prevent units from shifting unexpectedly.
- All gaskets and caulk are supplied by others.

Preparation

Louvers and Hardware:

- Locate all crates, boxes, cartons, etc.
- Remove louvers from packaging, inspect for damage, confirm quantities and sizes with packing list, and organize parts in order of installation. To verify installation hardware quantities, refer to Table 1. Installation hardware will typically be shipped in a separate box.
- Notify your All-Lite representative immediately of any shortages or shipping damage.





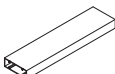



Openings:

- Inspect openings for damage, repair as needed, and remove any obstructions or debris.
- Prior to installation, verify that openings are square and plumb and the louvers will fit properly.

Sill Flashing

- Locate the sill flashing (by others, or optional by All-Lite). Closed-end sill flashing is recommended for all EFD-437-FL installations.
- Confirm that the sill of the opening and the underside of the flashing are clean and free of all debris.
- Apply caulk to the bottom of the opening and firmly set the sill flashing in the caulk. See Figure 1.1.
 - For wider openings, multiple pieces of flashing may be necessary in order to cover the entire width. When this occurs, caulk at all overlapping joints and firmly set. See Figure 1.2.
 - Closed end flashing pieces will include extra length on each end which must be notched and manually bent into place to close off the ends. Carefully bend up the end tabs and thoroughly caulk the corner seams. See Figure 1.3.

Table 1: Installation Hardware, CMU Building Condition

Part	Description		
A-1 (LH)	Clip Angle, Left Hand (4" x 4" x 1/4" x 9" Long)		Included for multi-wide assemblies only
A-1 (RH)	Clip Angle, Right Hand (4" x 4" x 1/4" x 9" Long)		Included for multi-wide assemblies only
E-6	Mullion Angle (3" x 1" x 1/8" x Varying Length)		Included for multi-wide assemblies only
E-7	Continuous Angle (3 1/2" x 1 1/2" x 1/8" x Varying Length)		Included
E-8	Mullion Tube (6" x 2" x 1/8" x Varying Length)		Included for multi-wide assemblies only
F-2	1/4"-14 x 1" Hex-Head Self-Drilling Screw		Included
F-3	1/4" x 2 5/8" DeWalt Screw Bolt+ Screw Anchor		Supplied by others
F-4	3/8" x 4" DeWalt Screw Bolt+ Screw Anchor		Supplied by others

Single Section Louver Installation

- Locate the 1 1/2" x 3 1/2" continuous angles (E-7), and determine their placement along the sides of the opening, using Figure 2 as a reference. Drill a series of 5/16"-diameter clearance holes for anchors in each length of angle.
 - Each angle will arrive with the 1 1/2" leg pre-drilled with clearance holes for 1/4" fasteners. Anchor clearance holes should be drilled in the opposite, 3 1/2" angle leg (the side without pre-drilled holes).
 - Be careful not to locate any anchor closer than 1 1/2" to any edge of the masonry. The anchors should also be at least 5/8" from the front or rear edges of the angle.
 - Drill one hole 1/2" from each end and then locate the remaining holes no more than 8" on center.
- Using the anchor hole pattern in the continuous angles as a guide, drill 1/4"-diameter holes into the masonry. Holes should be drilled at least 2 7/8" deep. Again, be careful to maintain the required minimum edge distance to the edges of the masonry, as shown in Figure 2. Angles will sit directly against the rear side of the louvers and should be recessed a corresponding distance behind the outside face of the wall.

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Single Section Louver Installation con't

3. After cleaning any dust or loose material from the holes, use 1/4" x 2 5/8" DeWalt Screw Bolt+ screw anchors (F-3) to fasten the continuous angles to the wall. Anchors will run through the clearance holes in the angles into the anchor holes in the masonry. Tighten anchors to the correct installation torque specified by DeWalt.
4. Lift the louver up and place it into the opening as shown in Figure 2. The back of the louver should sit directly against the front of the continuous angles.
5. As necessary, shim around the perimeter to level the louver and to maintain an approximate 1/4" clearance between the louver frame and the edges of the opening (shims are by others).
6. Attach the louver section to the continuous angles using 1/4-14 x 1" self-drilling screws (F-2) running through the existing clearance holes in the angles into the louver frame jambs.
7. Finish by installing backer rod and caulk around the perimeter of the louver, as required.

Multiple Section Louver Installation

1. Follow steps 1-3 from "Single Section Louver Installation" to install continuous angles (E-7) along the sides of the opening.
2. Lay out the louver sections face down in the approximate order in which they will be positioned within the opening. At mullion joints between adjacent sections, use 1/4-14 x 1" self-drilling screws (F-2) to install mullion angles (E-6) to the back of the louver frame jambs. Use Figures 3 and 4 as a reference.
 - a. Align the edge of the 1" angle leg with the outside edge of the frame jamb. The bottom end of the angle will sit directly against the top of the frame sill.
 - b. Screws will run through the existing clearance holes in the mullion angles into the louver frame.
3. Lift each louver section up and place it within the opening as shown in Figure 2. Shim as necessary to maintain a 1/4" gap between sections, and approximately 1/4" of clearance around the perimeter of the opening (shims by others). Secure louvers in place with temporary straps and bracing, as needed.
4. Locate the mullion tubes (E-8), and slide a tube between each pair of mullion angles as shown in Figure 4.
5. Shim under each tube as needed to maintain an approximate 1/4" clearance between the ends of the tube and the top and bottom of the opening.
6. Fasten the mullion angles to the sides of the tube using 1/4-14 x 1" self-drilling screws (F-2).
 - a. Screws should be located no more than 5" on center, 1/2" from each end of the angle, and at least 1/2" from edges of angles and tube.
 - b. Drill pilot holes as necessary. To ensure proper thread engagement, pilot hole diameters must not exceed 3/16".
7. Locate the clip angles (A-1) and determine their orientation at the mullion connections, using Figure 2 as a reference. Note that the clip angles come in left-hand and right-hand versions for placement on opposite sides of the mullion tube.

Multiple Section Louver Installation con't

8. Using the mullion section details from Figure 2 as a guide, drill one 7/16"-diameter anchor clearance hole in each clip angle.
 - a. Each angle will arrive with one side drilled with a pattern of eight clearance holes for 1/4" fasteners. Anchor holes should be drilled in the opposite leg (the side without pre-drilled holes).
 - b. Be careful to maintain the appropriate minimum edge distances. In addition, adjust the location of each anchor as necessary to keep at least 1 1/4" from the center of the anchor to any vertical (head) joint in the masonry.
9. Fasten the clip angles to the sides of the mullion tubes using 1/4-14 x 1" self-drilling screws running through the existing clearance holes.
10. Using the anchor holes in the clip angles as a guide, drill 3/8" diameter holes into the masonry. Holes should be drilled at least 4 1/8" deep. Again be careful to maintain the required minimum edge distances to the edges of the concrete, as shown in the mullion section details from Figure 2.
11. After cleaning any dust or loose material from the holes, use 3/8" x 4" DeWalt Screw Bolt+ screw anchors (F-4) to fasten the clip angles to the wall. Anchors will run through the clearance holes in the angles into the anchor holes in the masonry. Tighten anchors to the correct installation torque specified by DeWalt.
12. Finish by installing backer rod and caulk in the following locations:
 - a. All vertical joints between sections.
 - b. Around the perimeter of the opening.

Figure 1.1 Sill Flashing Vertical Section

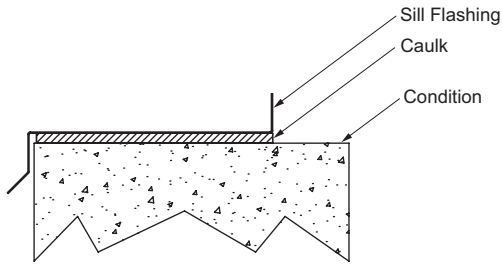


Figure 1.2 Sill Flashing Assembly

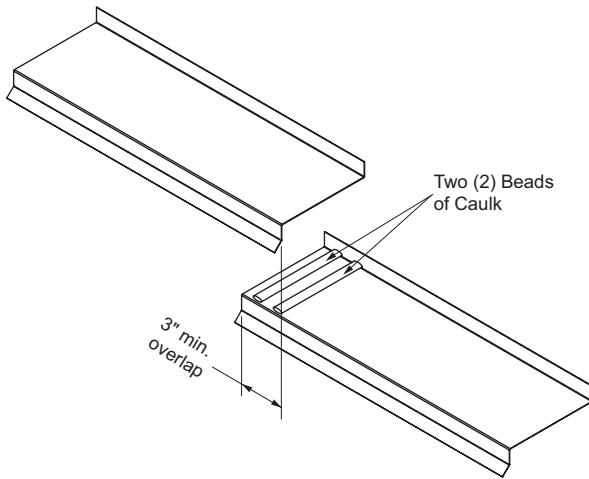
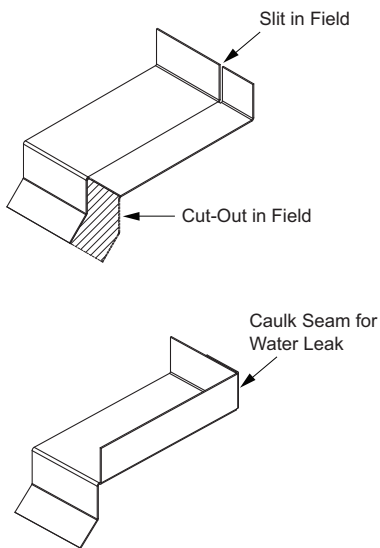
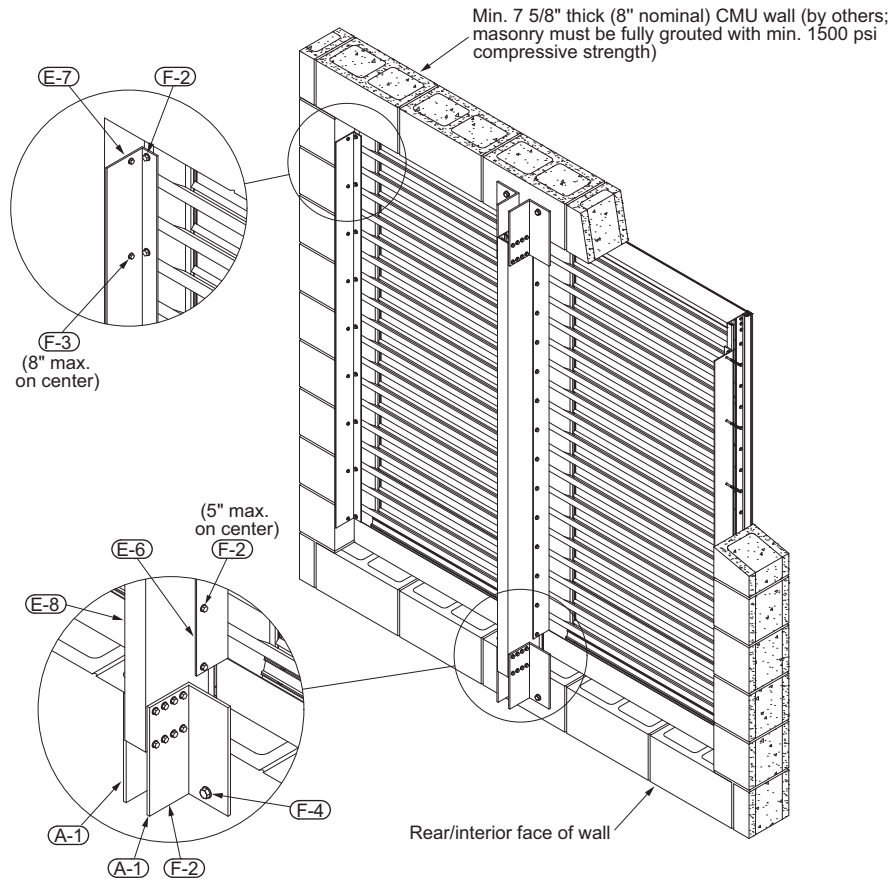


Figure 1.3 Closed End Sill Flashing

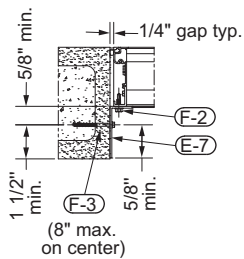


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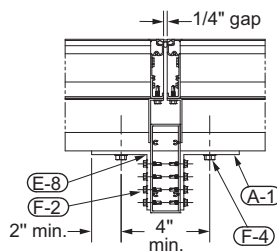
Figure 2: Installation to CMU



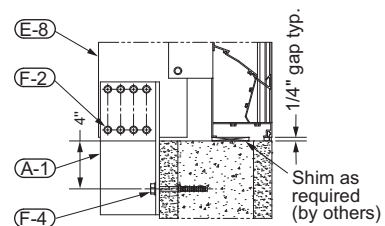
Horizontal Section Detail Side Connections



Horizontal Section Detail Mullion Connections



Vertical Section Detail Mullion Connections



Note: Anchor centers may be located no closer than 1 1/4" to a vertical (head) joint in the masonry.

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Figure 3: Installing Mullion Angles

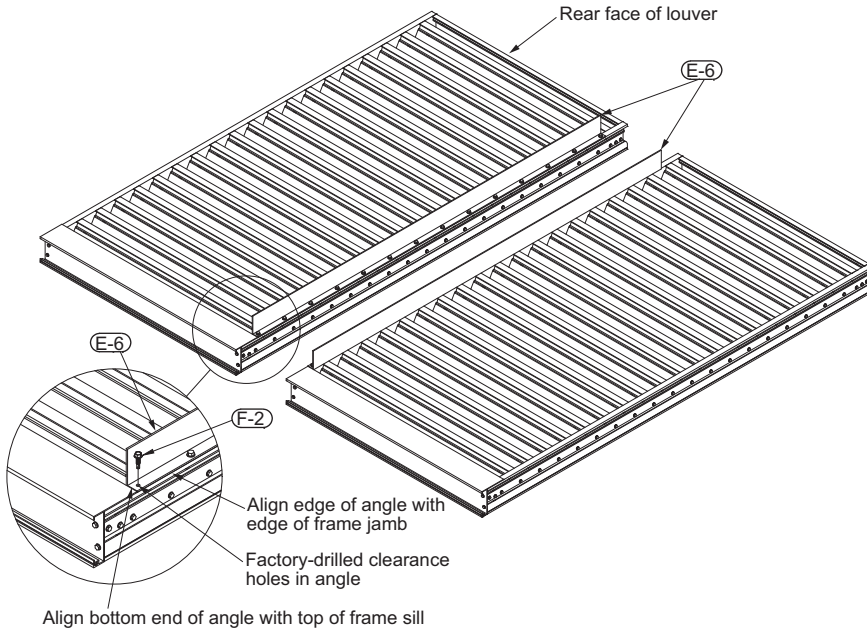
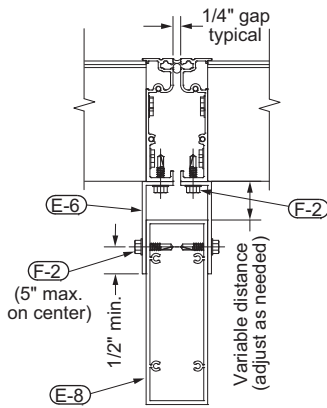


Figure 4: Mullion Section Detail



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