

IMPORTANT: READ ALL INSTRUCTIONS BEFORE PROCEEDING WITH INSTALLATION

General

The following guidelines provide basic assembly and installation instructions for EFJ-937 extruded aluminum dual-module louvers mounting to pre-cast concrete building conditions. The EFJ-937 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 130 psf.

1. For additional details, refer to the catalog submittal page posted at www.all-lite.com as well as any job-specific submittal drawings when provided.
2. 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.
3. 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.
4. All gaskets and caulk are supplied by others.

Preparation

Louvers and Hardware:

1. Locate all crates, boxes, cartons, etc.
2. 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.
3. Notify your All-lite representative immediately of any shortages or shipping damage.

Openings:

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

Sill Flashing

1. Locate the sill flashing (included). Closed-end sill flashing is recommended for all non-sleeved EFJ-937 installations.
2. Confirm that the sill of the opening and the underside of the flashing are clean and free of all debris.

3. Apply caulk to the sill of the opening and firmly set the sill flashing in the caulk. See Figure 1.1.
 - a. 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.
 - b. For closed-end flashing, All-Lite supplies flashing pieces with tabs on each which should be manually be into place to close off the flashing ends. Carefully bend up the end tabs and thoroughly caulk the corner seams. See Figure 1.3.

Table 1: Installation Hardware, Concrete Building Condition

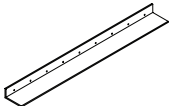

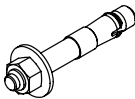
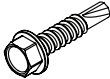
Part	Description		
A-1	Mounting Angle (2" x 4" x 1/4" x Varying Length)		Included
A-2	Secondary Angle (5" x 3" x 3/8" Varying Length)		Included
F-5	3/8" x 3" Hilti Kwik-Bolt TZ Expansion Anchor		Supplied by Others
F-9	#12-14 x 1" Hex-Head Self-Drilling Machine Screw		Included

Figure 1.1: Sill Flashing Vertical Section

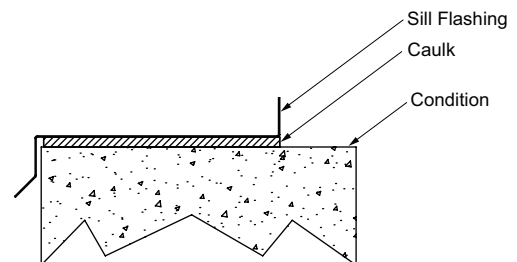
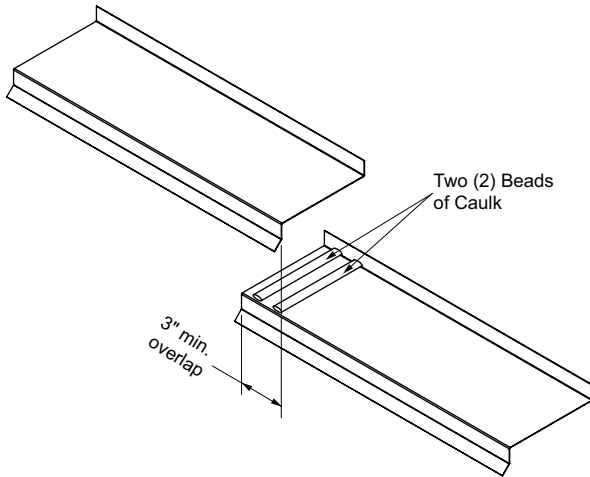
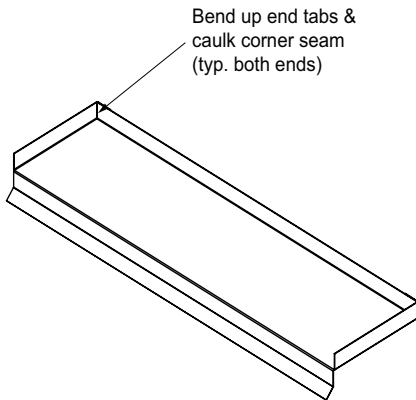


Figure 1.2: Sill Flashing Assembly

Figure 1.3: Closed End Sill Flashing


Single Section Louver Installation

- Determine the thickness of the building wall. If overall wall depth is less than 12-3/8", use the configuration shown in Figure 3 for a tension-type connection. Otherwise, refer to Figure 2 for a shear-type connection.

Tension Connections (Figure 3):

- Locate the 5" x 3" secondary angles (A-2) and drill a series of 7/16"-diameter clearance holes for anchors in each length of angle.
 - Place the holes in the 5" leg of the angle, along a line located at least 2-1/2" from the angle corner.
 - Drill one hole 3" from each end, and then locate the remaining holes no more than 6" apart.
- Determine the placement of the secondary angles along the top and bottom of the opening, referring to Figure 3. The 5" surface of the angle will sit against the rear face of the concrete wall, while the 3" angle surface should be flush with the top or bottom of the opening.
- Using the hole pattern in the secondary angles as a guide, drill 3/8"-diameter holes into the rear face of the concrete above and below the wall opening. Holes should be drilled at least 2-5/8" deep. Be careful to maintain at least 2-1/2" from hole locations to any edge of the concrete.

- After cleaning any dust or loose material from the holes, use a hammer to drive a 3/8" x 3" Hilti Kwik-Bolt TZ expansion anchor (F-5) into each hole. From 5/8" to 3/4" of the anchor's length should remain projecting out of the hole.
- Fasten the secondary angles to the rear face of the wall by tightening the nuts on the anchors to the correct installation torque specified by Hilti.
- Lift the louver section up and place it into the opening as shown in Figure 3. The front of the louver should be flush with the exterior surface of the wall.
- 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).
- Locate the 2" x 4" continuous angles (A-1) and fasten them to the back of the louver frame using #12-14 x 1" self-drilling screws (F-9) inserted through the existing clearance holes in the angles. The 4" leg of each angle should sit against the top or bottom surface of the opening.
- Fasten the 2" x 4" continuous angles to the 5" x 3" secondary angles using #12-14 x 1" self-drilling screws spaced no more than 6" apart and 3" from each end.
 - Drill clearance holes in the 2" x 4" continuous angles.
 - As necessary, drill pilot holes through the 5" x 3" secondary angles. To ensure proper thread engagement, pilot hole diameters must not exceed 3/16".
- Finish by installing backer rod and caulk around the perimeter of the opening. **To allow for drainage, do not caulk the front gap between louvers and sill flashing.**

Shear Connections (Figure 2):

- For shear connections, the 5" x 3" secondary angles (A-2) may be discarded. Begin by locating the 2" x 4" continuous angles (A-1), and determine their placement along the top and bottom of the opening, using Figure 2 as a reference. The continuous angles will sit against the rear side of the louver, so they should be placed 9-1/8" behind the exterior face of the wall. (If sill flashing has been installed, the angles will be immediately behind the flashing.)
- Drill a series of 7/16"-diameter clearance holes for anchors in each length of angle.
 - Each angle will arrive with one side pre-drilled with clearance holes for #12 fasteners. Anchor clearance holes should be drilled in the opposite leg of the angle (the side without pre-drilled holes).
 - Be careful not to locate any anchor closer than 2-1/2" to the edge of the concrete.
 - Drill one hole 3" from each end and then locate the remaining holes no more than 6" apart.
- Using the hole pattern in the continuous angles as a guide, drill 3/8"-diameter holes into the concrete above and below the wall opening. Holes should be drilled at least 2-5/8" deep. Again, be careful to maintain at least 2-1/2" from anchor locations to any edge of the concrete.

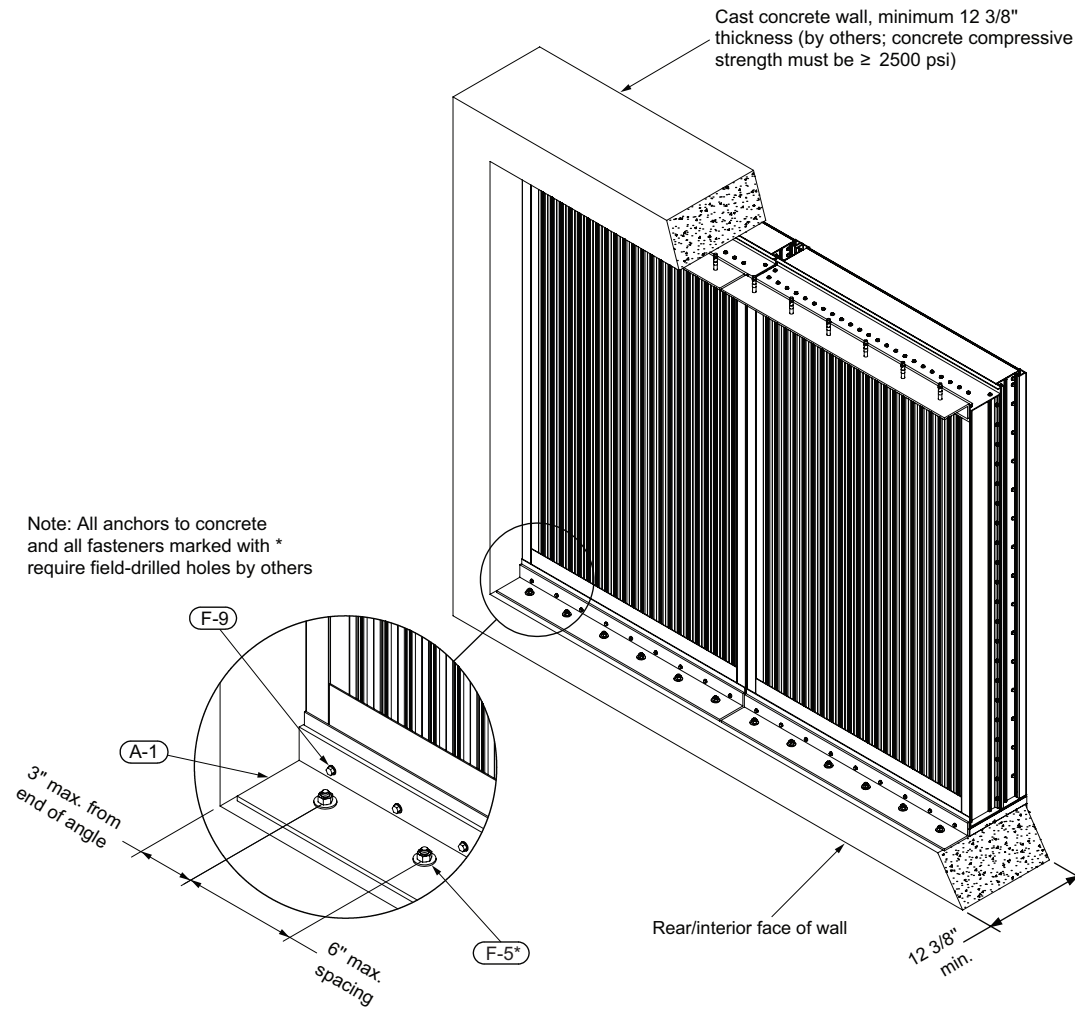
15. After cleaning any dust or loose material from the holes, use a hammer to drive a 3/8" x 3" Hilti Kwik-Bolt TZ expansion anchor (F-5) into each hole. From 5/8" to 3/4" of the anchor's length should remain projecting out of the hole.
16. Fasten the continuous angles to the top and bottom surfaces of the opening by tightening the nuts on the anchors to the correct installation torque specified by Hilti.
17. Lift the louver section up and place it into the opening as shown in Figure 2. The back of the louver should sit directly against the continuous angles.
18. 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).
19. Attach the louver section to the continuous angles using #12-14 x 1" self-drilling screws (F-9) running through the existing clearance holes in the angles.
20. Finish by installing backer rod and caulk around the perimeter of the louver, as required. **To allow for drainage, do not caulk the front gap between louvers and sill flashing.**

Multiple Section Louver Installation

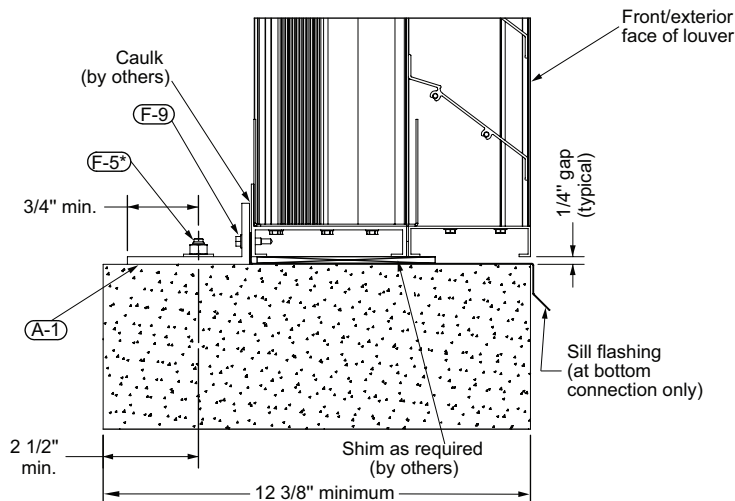
1. Determine the thickness of the building wall. If overall wall depth is less than 12-3/8", use the configuration shown in Figure 3 for a tension-type connection. Otherwise, refer to Figure 2 for a shear-type connection.
2. Moving from left to right, follow steps 2-10 or steps 12-19 from "Single Section Louver Installation," as applicable, to install each louver section within the opening.
 - a. For louvers ordered with an optional 1-1/2" flange, different louver sections are of distinct construction and are not interchangeable. The Left End section will have flange on the left side and the top, the Right End section will have flange on the right side and top, and any Center sections (if present) will be flanged on the top only.
 - b. For non-flanged louvers, different sections within an opening are completely interchangeable and may be installed in any order desired.
 - c. Shim as necessary to maintain an approximate 1/4" clearance between the louver frames and the wall condition, and approximately 1/4" between sections (shims by others).
3. Finish by installing backer rod and caulk in the following locations:
 - a. All vertical joints between sections.
 - b. Around the perimeter of the opening.

To allow for drainage, do not caulk the front gap between louvers and sill flashing.

Figure 2: Standard Installation to Concrete, Shear Connection

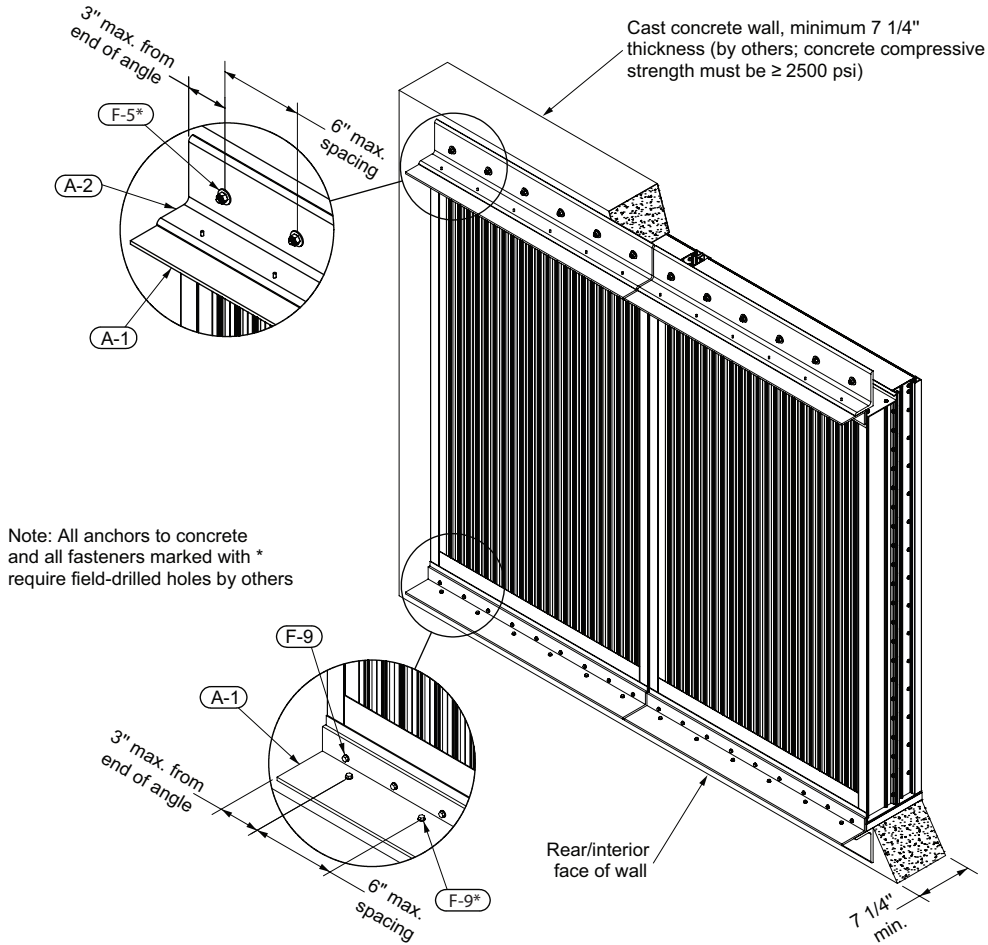


Section Detail for Bottom Connection (Top Connection Similar)

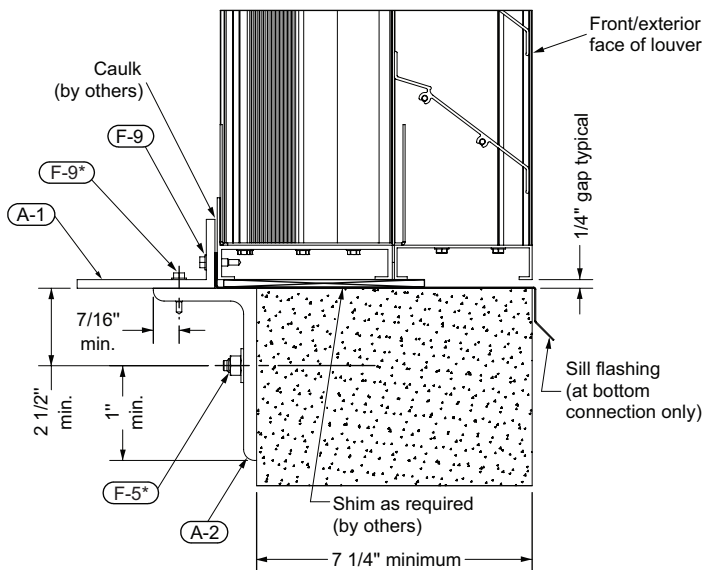


EFJ-937 Installation Instructions, Concrete Building Condition **M-60121-2** (4/5) December 2017

Figure 3: Standard Installation to Concrete, Tension Connection



Section Detail for Bottom Connection (Top Connection Similar)



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