

IMPORTANT: READ ALL INSTRUCTIONS BEFORE PROCEEDING WITH INSTALLATION

General

The following guidelines provide basic assembly and installation instructions for EXA-645-MD extruded aluminum combination louvers mounting to grout-filled concrete masonry (CMU) building conditions. The EXA-645-MD is designed to withstand severe weather effects typically associated with hurricanes, and is certified by Miami-Dade County for resistance to impacts, cyclic fatigue, and static pressures up to 120 psf. The design features stationary drainable louver blades to protect against water penetration and an integral airfoil-blade control damper to allow positive shut-off of air intake and exhaust openings.

1. For additional details, refer to the product drawing package posted at www.pottorff.com as well as any job-specific submittal drawings when provided.
2. Carefully lift louver sections by the frames using multiple lifting points if necessary to avoid distortion, racking, or other damage. **Do not apply excessive force to a single point and NEVER LIFT UNITS BY LOUVER BLADES, LINKAGE, OR ACTUATOR.** Take necessary precautions to prevent marring the louver finish.
3. While installation is underway and before louver sections are permanently fastened in place, Pottorff recommends that the installer employ temporary straps or bracing (by others) to prevent units from shifting unexpectedly.
4. All gaskets, caulk, and anchors to the building condition 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, refer to Table 1. Installation hardware will typically be shipped in a separate box.
3. Notify your Pottorff 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 all sill flashing (by others or optional by Pottorff). Sill flashing is recommended for all louver installations, especially for multiple-section wide louvers.
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. Closed end flashing pieces (if supplied by Pottorff) will include extra length on each end which must be cut, and manually bent into place to close off the sill flashing ends. Carefully bend up the end tabs and thoroughly caulk the corner seams. See figure 1.3.

Single Section Louver Installation

1. Drill a 9/16" clearance hole through the 5" leg of each jamb shelf angle (A-2). The hole should be located at the midpoint of the angle's length and 1-3/4" from the angle corner.
2. Using Figure 2 as a guide, determine clip angle locations along the sides of the opening.
 - a. Clip angle centers should be no more than 14" apart and a maximum of 7" from the top or bottom of the opening.
 - b. NOTE: On the right-hand side, clip angles may need to be shifted several inches up or down in order to avoid interference with the actuator or locking quadrant. Be sure to determine the required clearance before anchoring the jamb clip angles.
3. At the centerline of each clip angle, drill a 3/8"-diameter hole into the rear of the CMU wall.
 - a. Holes should be located 1-3/4" from the edge of the opening.
 - b. Holes must be drilled at least 4-1/4" deep.
4. After cleaning any dust or loose material from the holes, use 3/8" x 4" DeWalt Screw-Bolt+ anchors (F-6) to fasten the jamb shelf angles to the rear face of 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.
5. Fasten a jamb clip angle (A-1) to each secondary jamb clip angle using two (2) 1/4-14 x 1-1/2" self-drilling screws (F-4) per connection. Pottorff recommends that the installer drill clearance holes in the jamb clip angles, and pilot holes in the secondary jamb clips. To ensure proper thread engagement pilot hole diameters must not exceed 3/16". Fasteners should be located no closer than 9/16" to angle edges.
6. Lift the louver section up and place it into the opening as shown in Figure 2. With the jamb clip angles located correctly, the front of the louver will be approximately flush with the outside face of the wall while the back of the louver sits directly against the clip angles.
7. 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).
8. Fasten the louver section to the jamb clip angles using 1/4-14 x 1-1/2" self-drilling screws (F-4) running through the existing 5/16" holes in the clips into the louver frame.
 - a. Three (3) fasteners will be used per jamb clip angle.
 - b. As necessary, drill pilot holes into the frame. To ensure proper thread engagement, pilot hole diameters must not exceed 3/16".
9. Install backer rod and caulk around the entire perimeter of the louver, as required. If flashing is used, do not caulk between louver and sill flashing to allow for drainage.

Multiple Section Wide Louver Installation

- Follow steps 1-5 from "Single Section Louver Installation" to locate and install jamb clip angles (A-1) and jamb shelf angles (A-2) along both sides of the opening.
- Identify the left-most louver section and install it following steps 6-8 from "Single Section Louver Installation." [NOTE: Left, right, and center sections are of distinct construction and ARE NOT INTERCHANGEABLE. Refer to Figure 3 for correct identification of sections.]
- Moving to the right, lift the next section into place. Shim as necessary to maintain an approximate 1/4" clearance between the louver frame and the wall condition, and approximately 1/4" between sections (shims by others).
- Fasten mullion shelf angles (A-4) to the rear face of the wall above and below the joint between sections using eight (8) 3/8" x 4" DeWalt Screw-Bolt+ anchors for each angle. Refer to the mullion detail in Figure 2.
 - At each connection, the 6" angle leg will sit against the rear face of the wall with the 1-3/4" leg flush with the edge of the opening.
 - Determine anchor locations, and drill 7/16" clearance holes through the 6" leg of each secondary mullion clip angle. Anchors should be located 1-3/4" from the edge of the opening, at least 1" from the ends of the angle, and no closer than 1-1/4" to any vertical joint between masonry blocks.
 - Using the secondary mullion clip angles as templates, drill 3/8" diameter holes in the rear face of the wall to a depth of at least 4-1/4".
 - After cleaning any dust or loose material from the holes in the CMU, insert the anchors through the clearance holes in the angles into the wall, and tighten to the correct installation torque specified by Hilti.
- Fasten a mullion clip angle (A-3) to each secondary mullion clip angle using ten (10) 1/4-14 x 1-1/2" self-drilling screws (F-4) per connection. Again, refer to the mullion detail in Figure 2.
 - Drill 5/16" clearance holes through the mullion clip angles.
 - As necessary, drill pilot holes through the secondary mullion clip angles. To ensure proper thread engagement, pilot hole diameters must not exceed 3/16".
 - Fasteners should be located no closer than 9/16" to angle edges.
- Fasten each mullion clip angle to the back of the louver frame using eight (8) 1/4-14 x 1-1/2" self-drilling screws (F-4) running through the existing 5/16" holes in the 4" angle leg. As necessary, drill pilot holes into the louver frame, but do not exceed 3/16" for pilot hole diameters.
- Install any remaining louver sections using the procedure described above. Finish by installing backer rod and caulk in the following locations:
 - All vertical joints between sections.
 - Around the entire perimeter of the opening.

To allow for drainage, do not caulk between louvers and sill flashing (if used)

Actuator Connection

All electrical and pneumatic connections should be done in accordance with local code requirements and actuator installation documentation. Before applying power to an actuator, verify power requirements. After appropriate power has been connected to the actuator, cycle the louver to ensure proper operation.

Figure 1.1 Sill Flashing Vertical Section

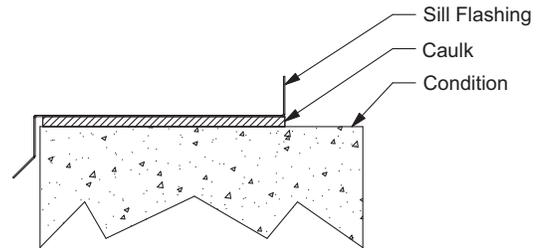


Figure 1.2 Sill Flashing Assembly



Figure 1.3 Closed End Sill Flashing

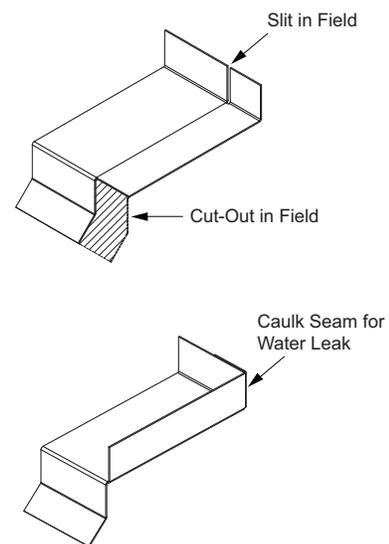
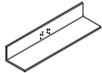
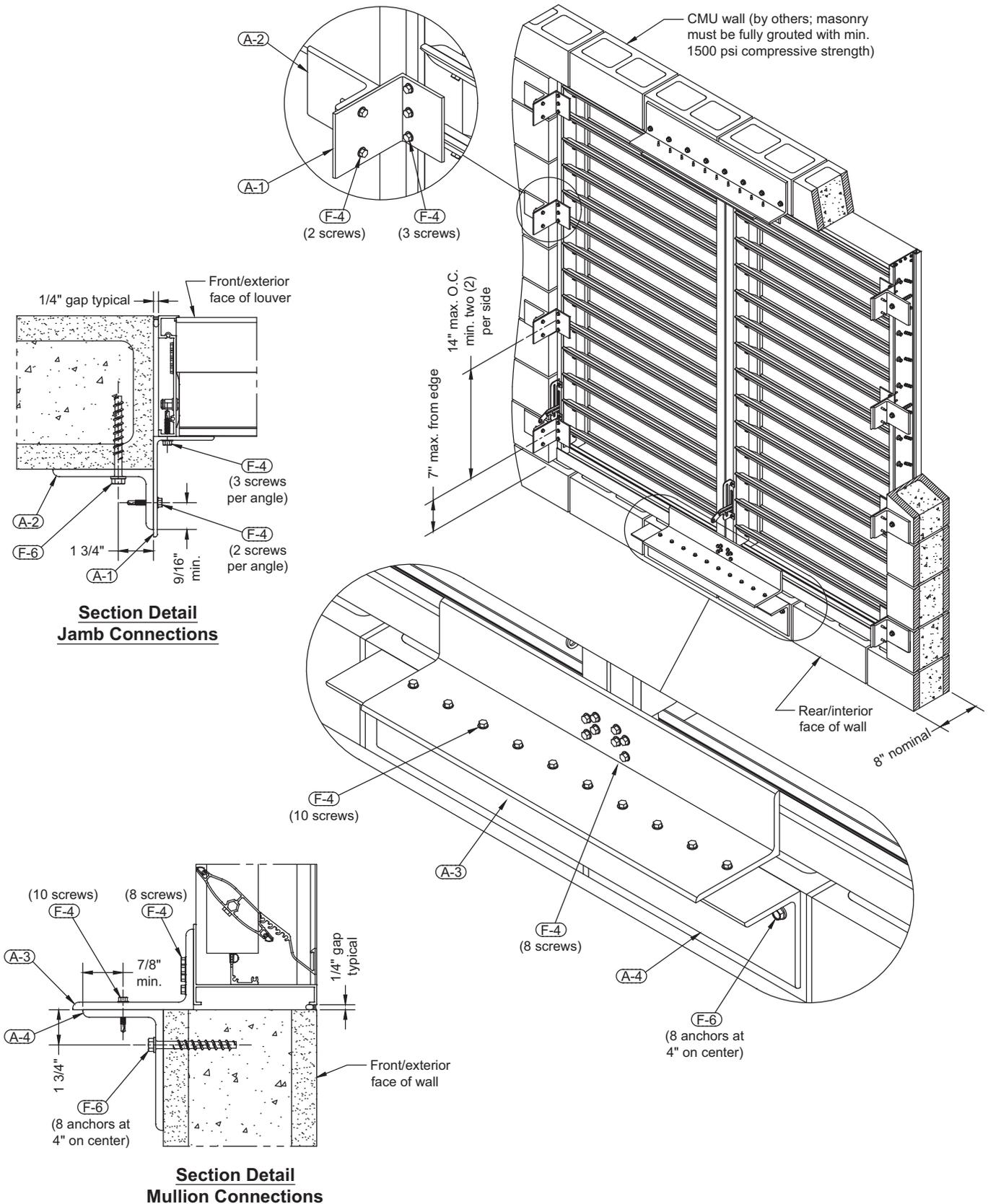


Table 1: Installation Hardware, CMU Building Condition

Part	Description		
A-1	Jamb Clip Angle (5" x 3" x 3/16" x 4"-Long)		Included
A-2	Jamb Shelf Angle (5" x 3" x 3/8" x 4"-Long)		Included
A-3	Mullion Clip Angle (6" x 4" x 3/8" x 24"-Long)		Included for multi-wide assemblies only
A-4	Mullion Shelf Angle (6" x 4" x 3/8" x 30"-Long)		Included for multi-wide assemblies only
F-4	1/4-14 x 1 1/2" Hex-Head Self-Drilling Screw		Included
F-6	3/8" x 4" DeWalt Screw-Bolt+ Screw Anchor, Galvanized Finish		Supplied by others

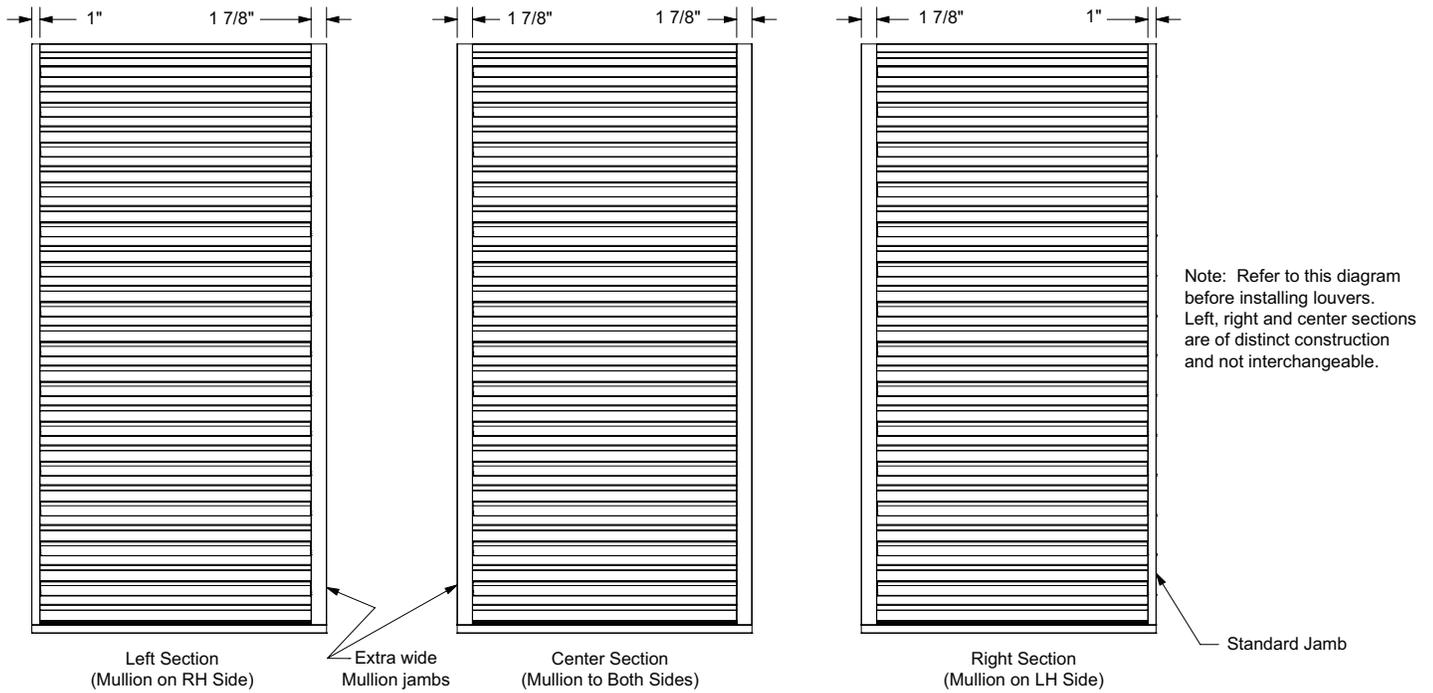
EXA-645-MD Installation Instructions, CMU Condition M-54883 Rev. A. (3/5) October 2021

Figure 2: Installation to CMU



EXA-645-MD Installation Instructions, CMU Condition **M-54883** Rev. A. (4/15) October 2021

Figure 3: Identifying Sections in a Multi-Wide Assembly



EXA-645-MD Installation Instructions, CMU Condition **M-54883** Rev. A. (5/5)October 2021