
Installation Instructions

ElementShield Aluminum SERIES 110

SINGLE HUNG WINDOWS

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NOTE: Read instructions completely before attempting any installation.

These instructions are provided as a general guide in the installation of our ElementShield Aluminum Series 110 Single Hung windows. Applicable approval documents (such as but not limited to Miami-Dade County NOA Product Approvals, State of Florida Approvals, TDI Approvals, etc.) should be used in conjunction with these instructions. Only experienced installers familiar with these or similar products should attempt to install these units. Incorrect installations could void the warranty.

Technical support is available by contacting CGI at 1-866-846-5335.

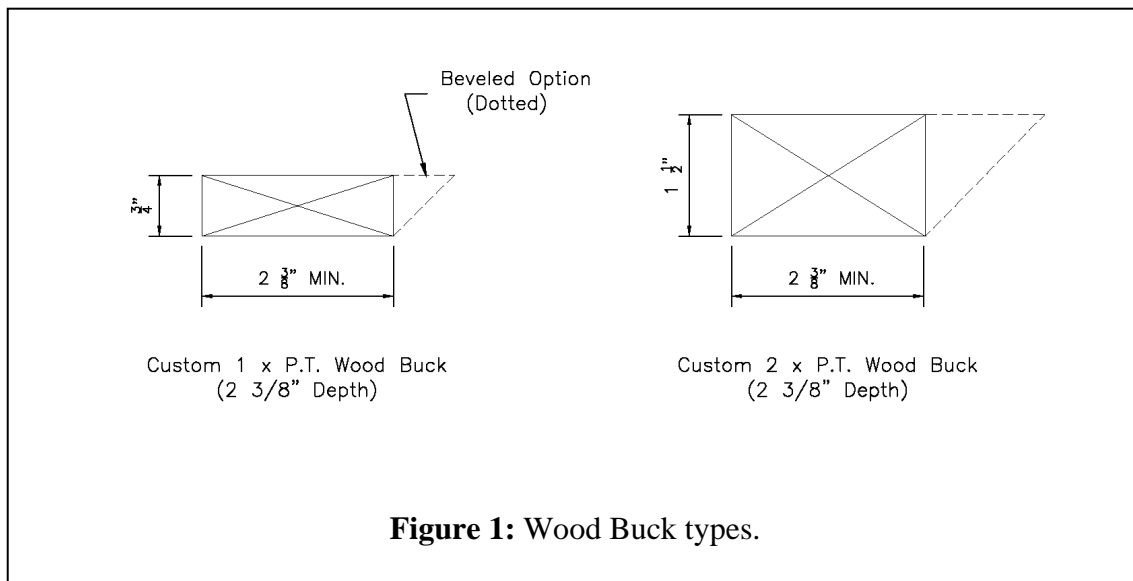


element**SHIELD**TM

ALUMINUM

WOOD BUCK INSTALLATION into MASONRY OPENINGS
for Flange Windows

1. Make sure that masonry opening (or rough opening on stud construction) is made to within tolerance, level and plumb. Verify by measuring at each end and every 24" (vertically and horizontally). Make any corrections required to openings. Bucks must be set on a smooth and flat surface. Remove or chip away any concrete, which protrudes from the face of the opening prior to setting bucks. Make sure ends of masonry opening are square and not rounded at corners. Chip concrete if necessary.
2. Select the size of Pressure Treated wood buck to be used (see *figure 1* or refer to approval documents for approved bucks) and decide how far from the face of the wall the bucks are going to be set. Most contractors like to set the wood bucks in about 1" to 2" from the exterior face of the 8" concrete walls when installing windows.
3. Set wood bucks in a continuous heavy bed of professional grade sealant. Make sure sealant is applied at ends where bucks touch one another. Run a continuous bead of sealant on exterior side of bucks between concrete and wood, after installing bucks.
4. Make sure wood bucks are installed continuous and on all four sides of the opening. Wood bucks must touch one another at ends.
5. Install wood bucks level and plumb in all directions. Verify that opening is square. Do not follow the walls, as many times they tend to be leaning in or out.
- 6. Wood bucks must be secured to the structure, independently of the window.**



INSTALLATION INSTRUCTIONS

for Flange or Equal Leg (Flush) Frame Windows (Refer to Figures 3, 4, & 5)

1. Check window opening for correct size. If the opening is incorrect, have it fixed. Never attempt to force a window into a small opening or install a window into an oversized opening.
2. If wood bucks are being used, make sure they are of the correct size and type for the installation method being used (*see figures 3 and 4 - Installations Types A and B*). The bucks must be properly bed in sealant and securely attached to structure. Wood bucks should not be separated at corners. Verify that wood bucks are plumb, level and square. Note that Installation Type C (Equal/Flush Leg) does not require a wood buck.
3. If installing flange windows, clean window flange and apply a generous amount of professional grade sealant / caulking material to flange at full perimeter. Make sure the sealant is compatible and will adhere to aluminum and wood. If installing equal leg frames (*figure5*), the perimeter sealant is applied after window is installed.
4. Stand window upright and open sash. Make sure the window is standing upright, as if it were installed. If the window is lying flat, upside down or on its side, the balance will not have enough counterweight from the sash and the sash will open very quickly. This may cause injury or damage to the window. Once the window is properly opened, install window from the outside on to the opening. If flange frame is being used, the backbed sealant should seep out as it gets compressed.
5. Temporarily secure window frame using installation screws as selected from the approval documents for your specific application (*see figures 3 – 5*). To simplify the pre-installation process, you may want to use a smaller temporary screw such as a #12 Sheet Metal Screw and only penetrate the wood. Shim every installation screw snugly (shim space should not exceed ¼”). Temporarily secure the window with one screw at each end of jamb member (top & bottom). Make sure window operates correctly and is plumb, level and square. **Caution: Any window, which is forced into an opening and racked or twisted, can eventually cause glass breakage.**
6. Once the window is correctly set, finish installing with the proper installation screws. If temporary #12 screws were used, replace those with the correct screws. Every hole must have a screw and every screw must have a shim. In order to access the installation holes on the head, the screw cover will need to be removed. To do this, gently remove the vinyl screw cover starting from one side and pull down out of the head. These covers have a slight snap engagement with the head that allows them to be easily removed. Install the installation screws at this area, and replace the screw covers.
7. If installing mullion tubes between S/H windows, make sure tubes are properly aligned on the window (see Figure 7). The standard Sentinel Series 110 SH

Window Mullions do not require end clips. The proper mullion length is the same size as the interior window dimension.

8. If the mullion being installed is long or the windows being mulled are large or the opening is located in a high windload area, additional installation holes may be required on each side of mullion, at the window member. Remember that these mullions do not have independent clips, so their anchorage is transferred to the window frames. The CGI Standard Hole Pattern includes one installation hole at each corner of the window. Certain installations will require two or three screws on each side of the mullion. Refer to the approval documents to see if additional screws are required. These additional screw holes must be field drilled.
9. On flange windows, make sure there is no daylight between wood buck and window flange. If any exist or as a precautionary step, apply additional sealant from the outside at this joint. If installing equal leg (flush) frames, initial perimeter sealant can be applied at this point.
10. Check window for leakage, especially on the frame joints. Although not normal, it may be necessary to reseal frame corners after installing. The factory applied sealant may get damaged during transport or installation of the window due to racking.
11. Perform a last check of the window operation. If the window is not opening properly, make sure the heads of the jamb installation screws are tight against the aluminum and not sticking out. Also, make sure there is no debris along the jambs where the sash slides on or in the sill. Lastly, make sure the frame sill is not bowed/twisted and preventing the sash from closing.

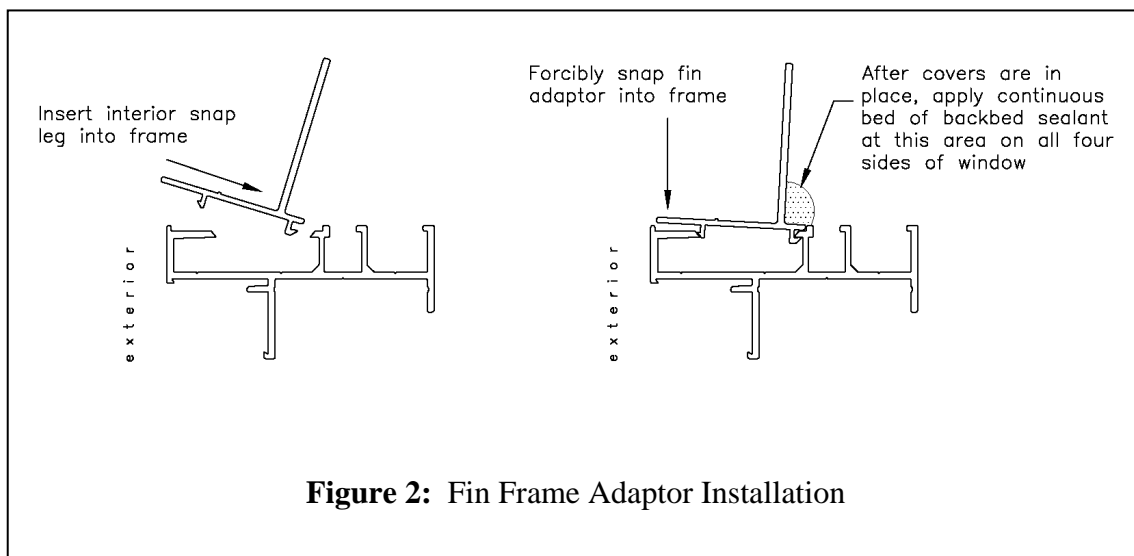
INSTALLATION HINT: If the window does not close properly and evenly, then re-check plumbness, level and squareness. Also make sure that the head and sill are not bowed at the center and the frame members are not twisted.

INSTALLATION INSTRUCTIONS **for Fin Frame Windows (Refer to Figure 6)**

1. Check window opening for correct size. If the opening is incorrect, have it fixed. Never attempt to force a window into a small opening or install a window into an oversized opening.
2. Verify that opening is correctly prepared. Using a self adhering flexible flashing as part of the opening preparation is recommended. For more specific details on fin frame opening preparation, reference FMA/AAMA 100-07
3. Attach the fin frame adaptors to window. To install fin adaptor, snap adaptor as shown in figure 2. Install the adaptor on the head and sill first, then the jambs. The end of the fin will line up with the end of the frame. The jamb adaptors will be notched and the fin will run through. Once fin adaptors are installed, do not

stand the window on the fin edge as this may cause the adaptor to get damaged. If this window uses a mullion, the adaptor at the mullion side may need to be detached or ripped. For mullion information, refer to “Figure 7”.

4. If mullions are used, the ends of the mullions must be plugged and sealed watertight when fin frame installation is used. If the mullions are not sealed, go ahead and seal them now. The easiest way to seal them is using an expanding foam sealant. Once the foam hardens, you can trim the excess from the ends.
5. After fin adaptor is attached, drill two ¼” diameter drain holes (approx. 4” from each end) at the bottom fin adaptor on each window (*refer to figure 6*). This will allow any water that may get trapped behind the fin adaptors and the window to drain out. Note: These holes can also be drilled prior to attaching the adaptor.
6. With window in upright position, open sash. Make sure the window is standing upright, as if it were installed. If the window is lying flat, upside down or on its side, the balance will not have enough counterweight from the sash and the sash will open very quickly. This may cause injury or damage to the window. Once the window is properly opened, add a generous amount of backbed sealant (minimum 3/8” bead) to the backside of the fin adaptor as shown in figure 2. This seal is CRITICAL, especially at the sill area. This seals between the adaptor & the frame and between the window & the opening. Add this sealant to the head, sill and jambs. Install window from the outside into wood opening.



7. The fin adaptor has pre-punched slotted hole for installation screws (slotted holes allows for expansion and contraction of house structure). Note that there are more screw holes than necessary on the adaptors, so refer to approval documents to see where installation screws will be required.
8. Secure window using installation screws as selected from the approval documents for your specific application (*see figure 6*). Shim window to main structure at every installation screw location (shim space should not exceed ¼”). You can

secure the window with a few screws at first to make sure window operates correctly and is plumb, level and square. **Caution: Any window, which is forced into an opening and racked or twisted, can eventually cause glass breakage.**

Important Note: Since the pre-punched fin adaptor holes are slotted, make sure that the screws at the SILL are installed at the top of the slot. This will prevent the window from sliding down due to its weight once installed. All other screws should be placed at the center of the slot.

9. Once the window is correctly set, finish installing with the rest of the installation screws. If in doubt, use more screws rather than less.
10. After completely setting window, a self adhering flashing (SAF) which is a flexible water proofing film/membrane must be applied to the window fins. Begin by placing the film across the sill fin always extending the film on to the house wall. Next, place film on the jamb fins, overlapping the sill film at the bottom. Finally, place film across the head fin, overlapping the jamb film on each side. This technique/sequence of working from the sill up is critical in weather sealing the window. If mullions are used, make sure to run the film at the top all the way across the mullion area and on to the adjacent window.
11. Check window for leakage, especially on the frame joints. Although not normal, it may be necessary to reseal frame corners after installing. The factory applied sealant may get damaged during transport or installation of the window due to racking.
12. Perform a last check of the window operation. Make sure there is no debris along the jambs (where the sash slides on) or inside the sill. Lastly, make sure the frame sill is not bowed/twisted and preventing sash from closing.

INSTALLATION HINT: If the window does not close properly and evenly, then re-check plumbness, level and squareness. Also make sure that the head and sill is not bowed at the center and the frame members are not twisted.

RECOMMENDED INSTALLATION SCREWS (refer to approval documents) :

Window attachment to structure	Based on installation type used. Refer to figures 3 through 6 in these instructions for the minimum screw size recommended in installations type A, B, C, or D. Also, refer to approval documents.
Window to mullion screws	#14 x 1" Flat Head SMS (standard point) or #14 x 1" Self Drilling Flat Head Tekes or #14 x 3/4" Flat Head B Point SMS

Pressure Treated Wood Buck Options

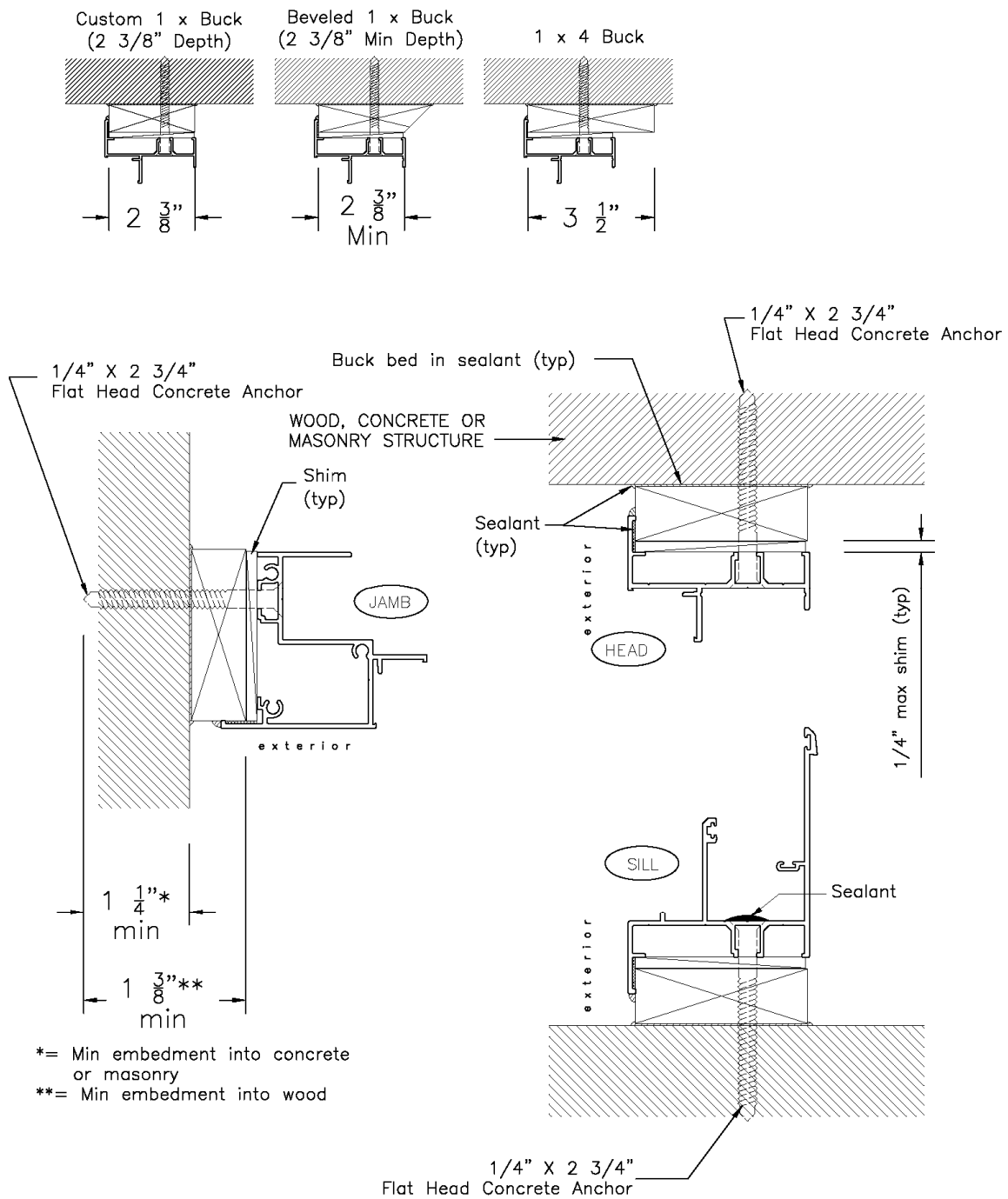


Figure 3: Installation type "A" using 1 x bucks

Pressure Treated Wood Buck Options

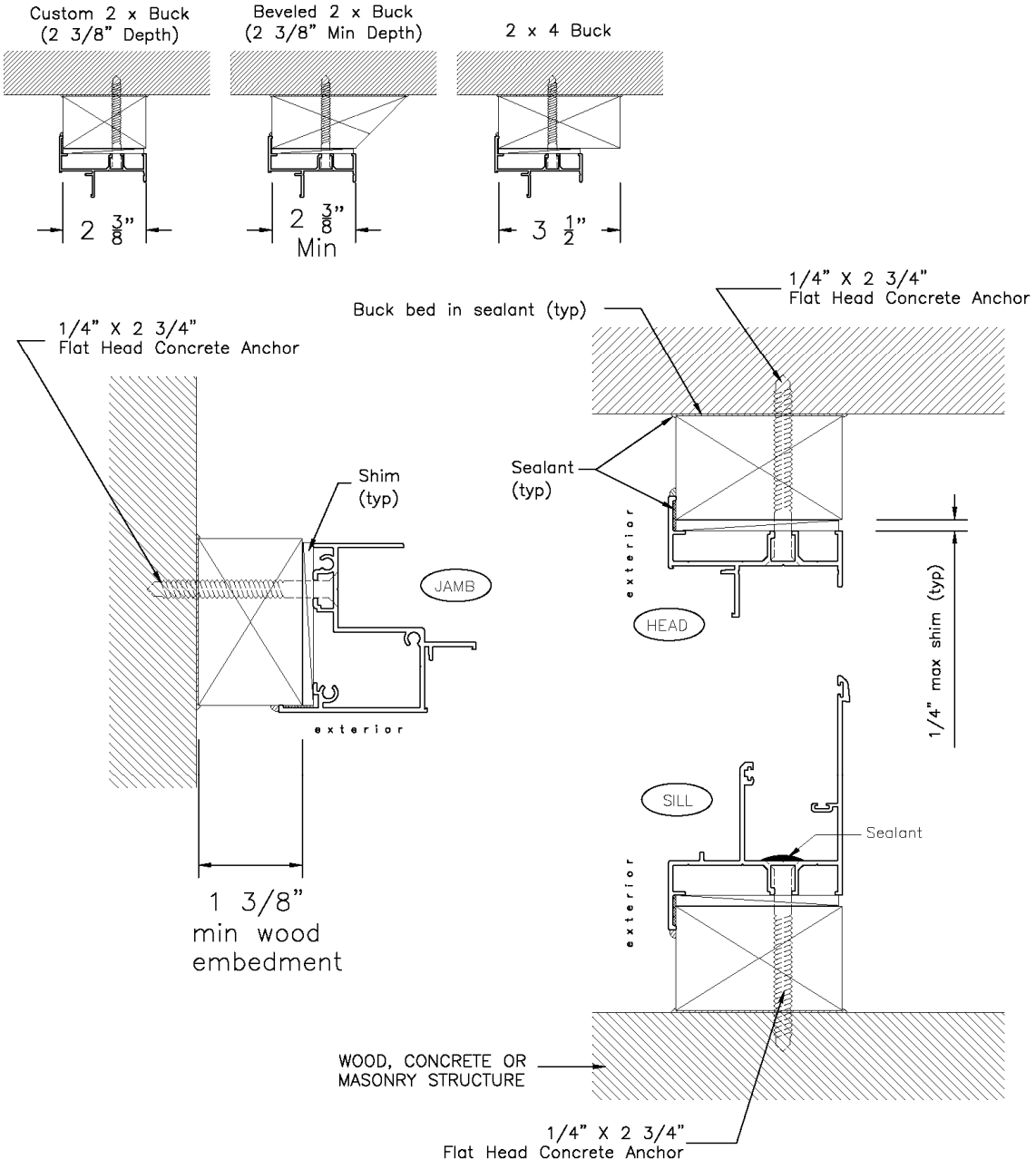


Figure 4: Installation type "B" using 2 x bucks

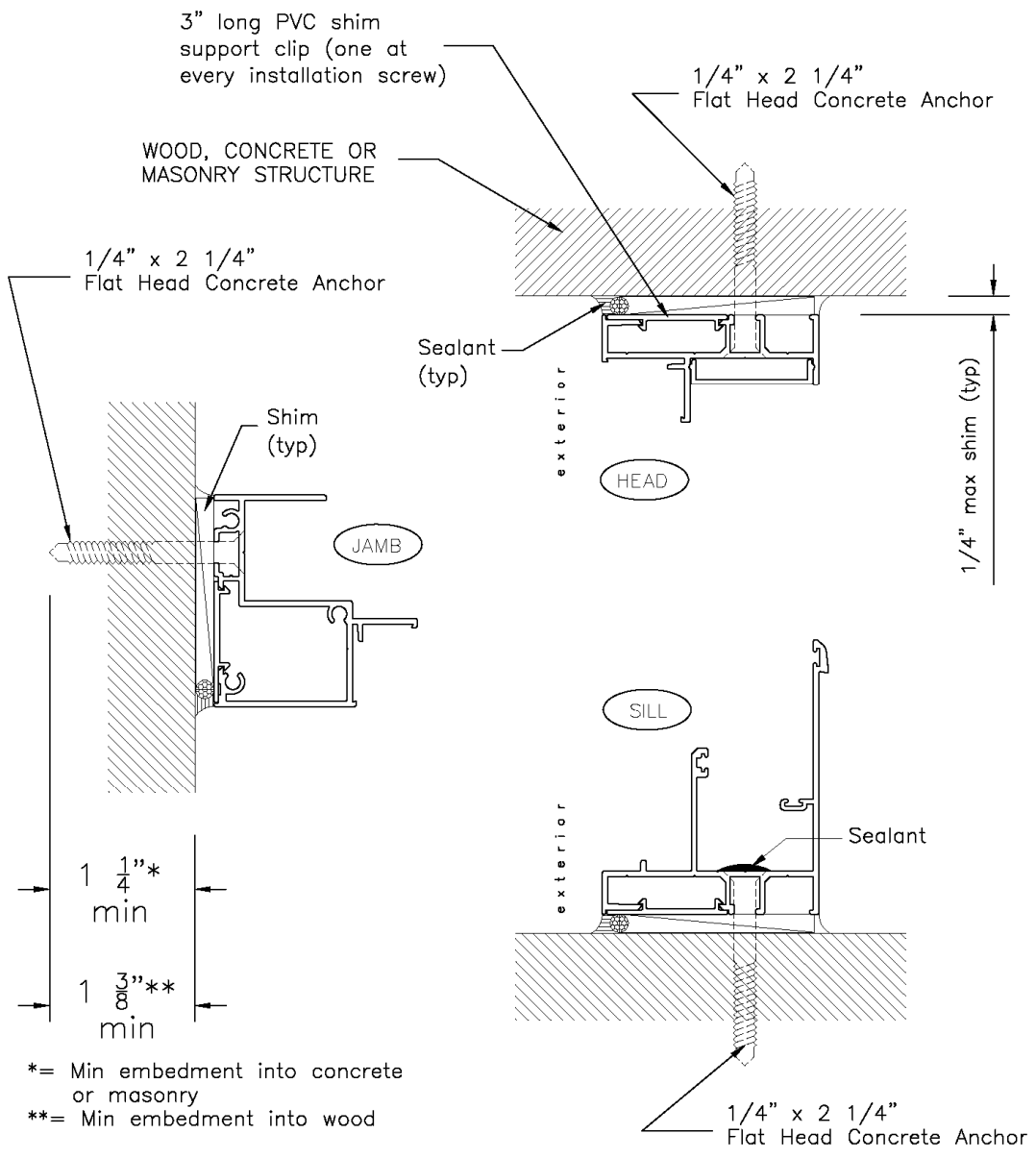
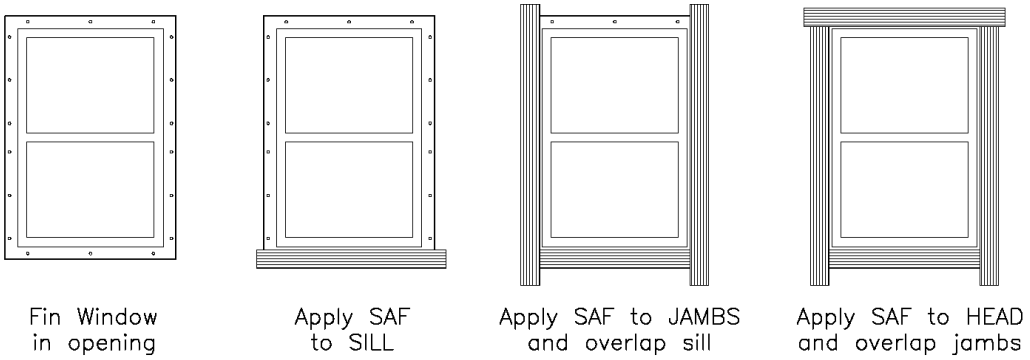


Figure 5: Installation type "C" using Equal Leg (Flush) frame directly to structure

Installation Sequence for SAF



SAF = Self Adhering Flashing
It is a flexible waterproofing film/membrane that usually comes in rolls and seals watertight.

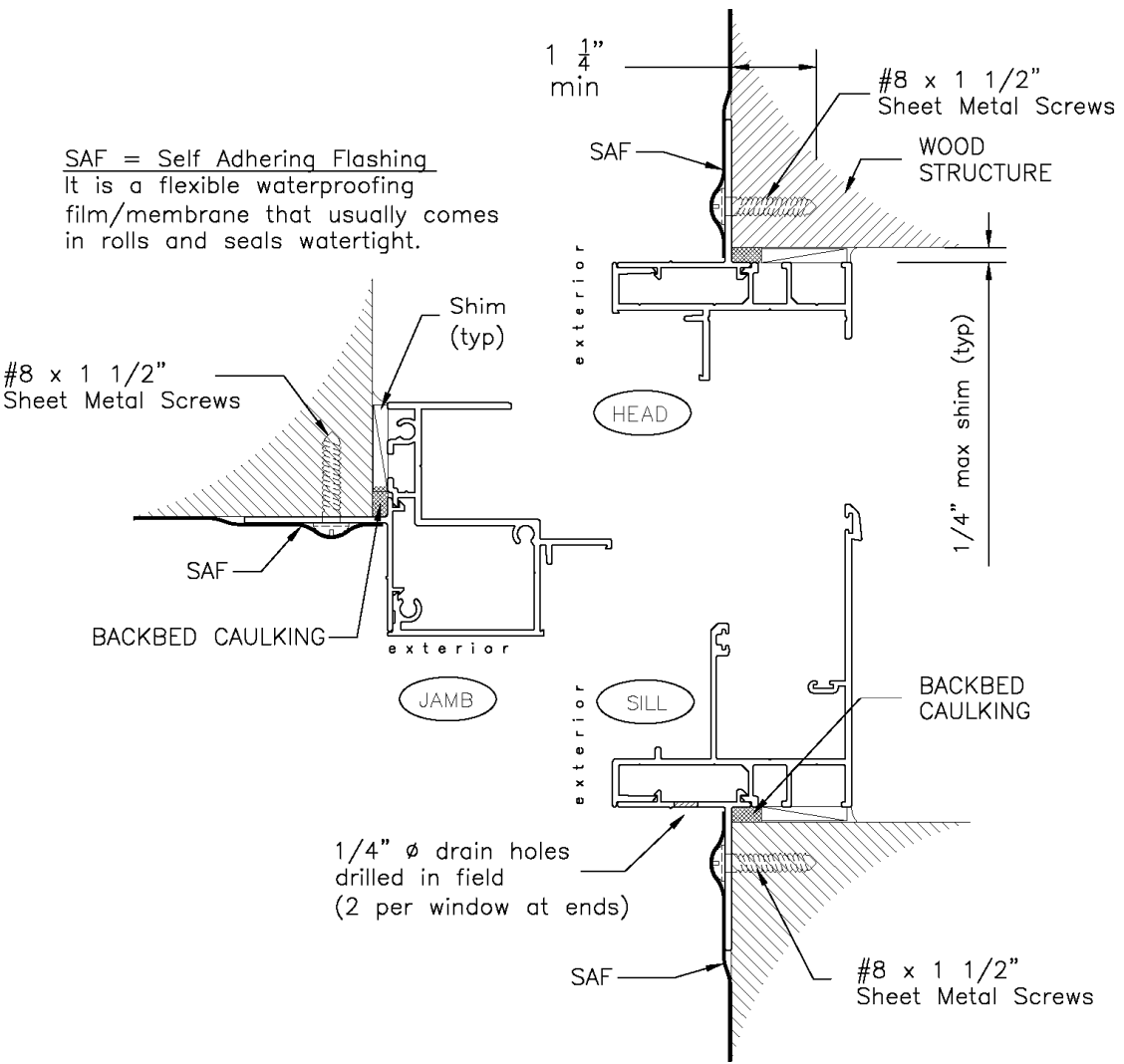


Figure 6: Installation type "D" using Fin Frame

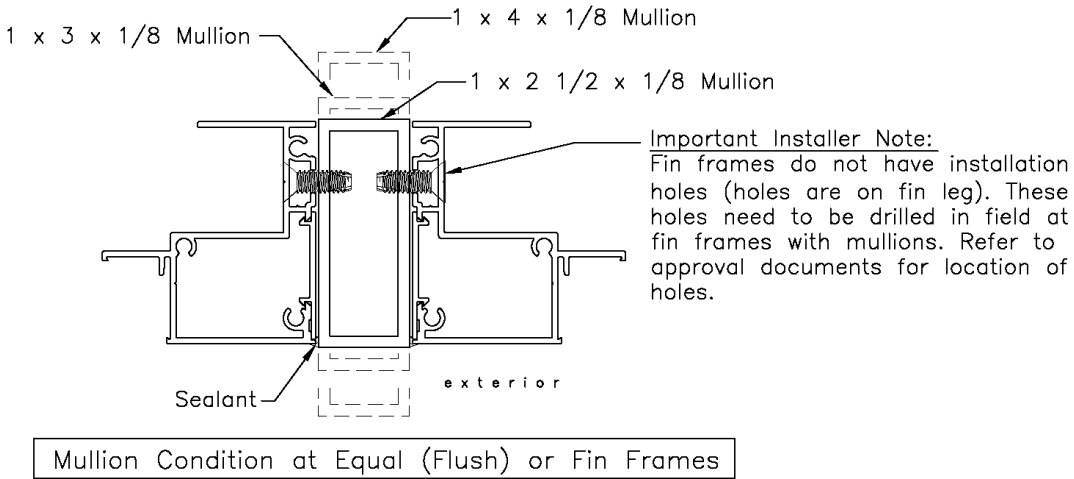
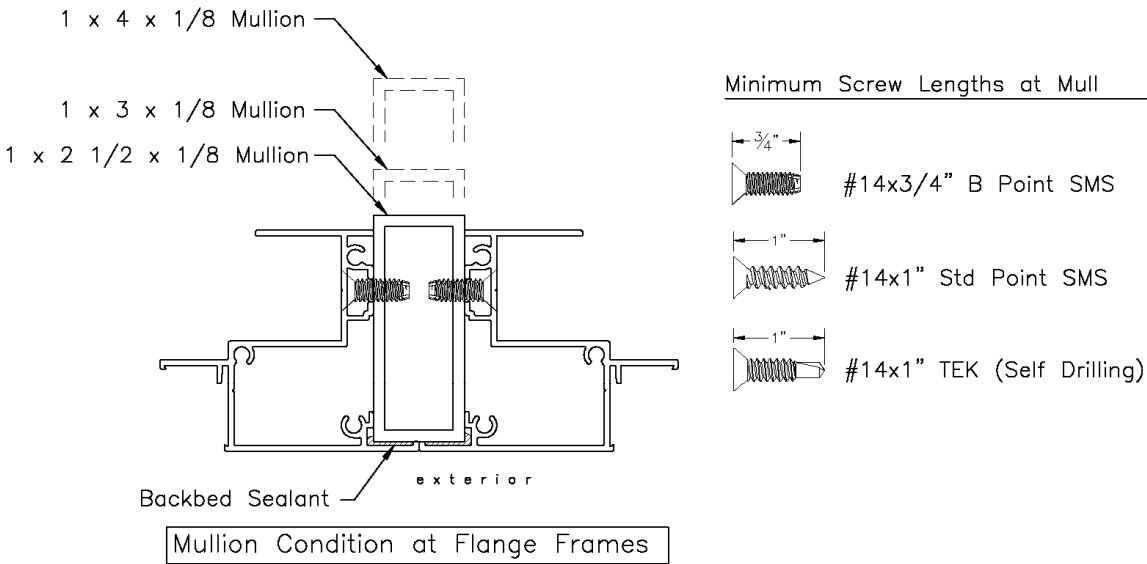


Figure 7: Mullion Installation Details