Installation Recommendations for Mounting Fin Windows

These installation recommendations are made available by MI Windows and Doors, LLC (MI) to assist with the integration of mounting fin products into a typical wood-framed structure three stories or fewer in height. Installation into other structures and frame types are not addressed here.

Please contact MI or visit www.miwindows.com for additional information.

Important Design Considerations

Read this entire document before proceeding with installation of MI's products. Responsibility for product selection and installation rests with the owner, architect, and installer. Do not proceed with installation unless all factors necessary to properly integrate MI's products into a building's water management system have been addressed.

MI makes no representation or warranty that these recommendations include all information necessary to ensure proper integration into every building. State and local code requirements may impose different or additional demands which will supersede these recommendations. For additional guidance regarding installation of window products, refer to applicable industry standards (e.g., AAMA 2400, AAMA InstallationMasters™, ASTM E 2112).

Failure to follow these recommendations, local requirements, or good building practices may affect the availability of remedies under MI's warranty. Provide a copy of these recommendations and the applicable MI warranty to the owner before installing. MI does not permit adoption of its installation recommendations into the contracts of others without its prior, written consent.

Important Pre-Installation Considerations

- Window installation may disturb finish surfaces and paint in existing structures. Specific notice and work site precautions may be required. Additional information is available at www.epa.gov/lead. Comply with all applicable federal, state, and local requirements.
- Special disposal considerations may be necessary for materials used during installation. Materials removed from an existing structure may also have their own disposal or recycling requirements. Comply with all applicable federal, state, and local requirements.
- Job site and worker protections are recommended and may be required. Follow all manufacturers' instructions for appropriate and safe use of protective equipment, tools, materials, hardware and site protections necessary for installation.
- Product specification sheets include important information regarding your product and may include additional installation recommendations, such as fastener use with impact resistant windows, finishing instructions, and appropriate use of low expansive foam insulation.

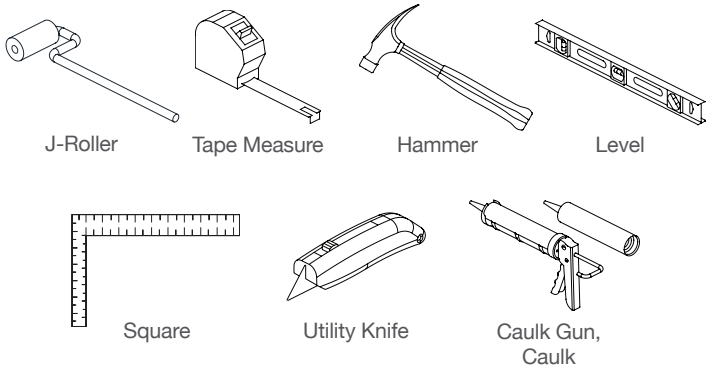
Contact MI for product specifications and additional product information for your MI product.

Materials Required

- Non-compressible shims.
- Fasteners. Type and number as required by code. At a minimum, fastener type should be sufficient to properly affix the frame and penetrate rough framing by 1" or more.
- High quality compatible exterior grade sealant.
- Seal tape for the weather resistive barrier*.
- Self-adhering flashing, in a width required by code but no less than 4". AAMA 711 compliant flexible butyl tape flashing or equivalent is recommended.*
- Backer rod*
- Low-expansive, low-pressure foam or batt type insulation*

* Use and placement of these materials may be required by code, plan, or good building practices.

Tools Required



Inspect and Prepare the Product for Installation

1. Inspect the window product thoroughly before beginning installation.
   - ☐ Confirm the window matches the size needed for the opening; measuring ½" smaller than the rough opening dimensions in width and height.
   - ☐ Confirm the window's features match the requirements of the project, order, and opening; e.g., Low-E, color, code, rating, operating direction, egress, fall protection device, and window operating control device.
   - ☐ Confirm there is no damage to the product and that all necessary pieces are in place for a complete installation; e.g., locks, labels, weather stripping, drip caps on mulled units.

   Do not proceed with installation if there are any concerns about the condition or suitability of the product for installation or compliance with project, order, code, or opening requirements.
2. Keep the jambs plumb and square with the head and sill on the window throughout installation. Keep sashes closed and locked throughout installation. Avoid "crown up" or "bow down" conditions at both sill and head. Avoid "bowed out" installations by confirming equal jamb widths throughout installation, especially at meeting rails.

Inspect and Prepare the Rough Opening

3. Make sure the rough opening is in good condition and sits plumb, level, and square. *See Figure A.* Confirming measures should not exceed permissive tolerances in ASTM 2112: ⅛" nominal square tolerance for units less than 20 sq. ft. or ¼" for units more than 20 sq. ft. Framing conditions at the rough opening must be sufficient to support the window unit, framing header above, and permit appropriate integration of the window into the building's water management system. Rough openings should be ½" larger than window frame in width and height.
4. If the building already has a weather resistant barrier (WRB) installed, it is necessary to prepare an opening in the WRB to accept the window. MI recommends that the installer follow the WRB manufacturer's recommendation to prepare the opening. The steps that follow are MI's general guidelines for preparing a WRB opening and, where used, the installer must confirm these steps will not impact the WRB manufacturer's warranty or otherwise inhibit drainage before proceeding.

   Use a modified "I-cut" at the WRB. *See Figure B.*

   A) Begin with a horizontal cut across the entire width of the head and sill of the rough opening.

   B) Next, in the middle of the opening, make a vertical cut from head to the sill.

   C) Fold the WRB into the opening and secure, trimming excess as necessary. *See Figure C.*

   D) Finally, cut two slits in the WRB at the head corners that angle 45° away from the center of the opening. Each cut should be long enough to ensure that the WRB will fold over the entirety of the later-applied head flashing. Fold the WRB upward as shown and temporarily fasten with tape. *See Figure D.*

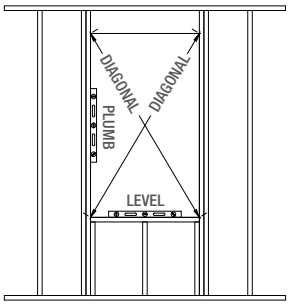


Figure A

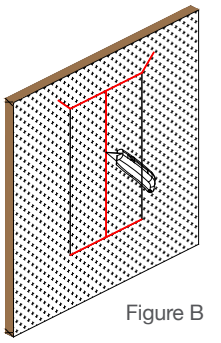


Figure B

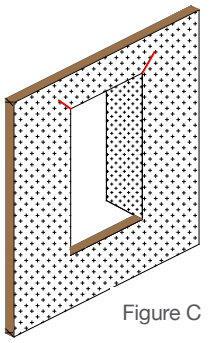


Figure C

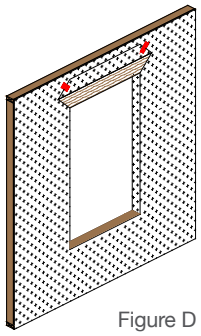


Figure D

Flash and Shim the Sill

Many options exist to flash a window opening. Method and material selection involve pre-installation consideration of factors such as the required building performance and specific water management system used. MI recommends installers use Pan flashing combined with a complete interior air dam around the product. This general recommendation may not be suitable for every application. Installers should consult with the architect, owner, or other responsible site personnel for instructions regarding appropriate flashing of a window opening before installing MI's products.

5. Start by cutting flexible self-adhering flashing no less than 12” longer than the width of the opening.
   A) Center the cut flashing piece and lay it across the rough opening, allowing equal overlaps up the jambs, but no less than 6” on each side. Position the flashing so that when pressed down onto the exterior sheathing or WRB, the flashing will extend beyond the window fin by at least 2”.
   B) Remove backing from flashing and apply across sill and up jambs. ***Do not round the corners.*** Flashing must be secured squarely into the jamb-sill corners to avoid the risk of puncturing the flashing. Use a J-roller to remove bubbles or creases.
   C) Fold flexible flashing down onto the WRB and secure. Use a J-roller to remove bubbles or creases.
   D) Where necessary, and using the steps above, apply an additional length of flexible flashing across the sill and up the jambs to ensure that the width of the window frame in the rough opening rests on applied and secured flashing material. A completed installation should reflect *Figure E.*

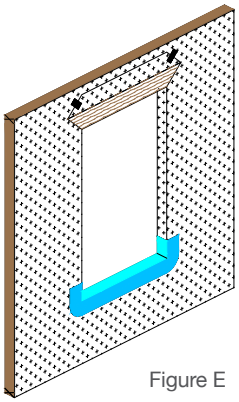


Figure E

6. Place flat, non-compressible, shims on the sill plate in each corner of the rough opening. ***Note: For windows with intermediate jambs, and all slider windows, additional shims are recommended under each intermediate jamb and meeting rail/stile to ensure a level sill and proper operation.*** Sill shims should remain after installation is complete. Apply additional shims as necessary to maintain a level sill throughout installation. If necessary, secure shims with tape to prevent movement during setting of the window. *See Figure F.*

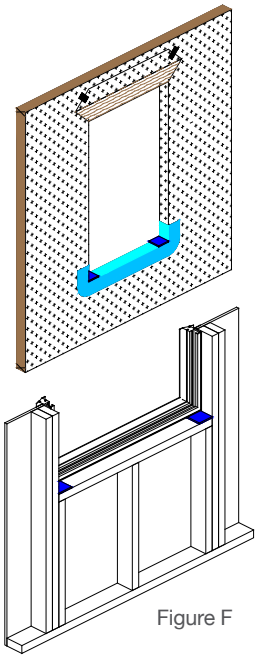


Figure F

Apply Sealant, Set, and Secure the Window

7. For aluminum windows it will be necessary to predrill fastener locations. Unless otherwise required by code, MI recommends fasteners be located no closer than 3” from any corner and no more than every 8” on center. Do not distort the mounting fin during this process. After fastener locations have been predrilled, inspect sealant at all frame joints. Apply sealant at mechanically fastened corners as well as the full length of the joints where mounting fins/flanges meet.
8. It is required to apply a continuous ⅜” bead of premium grade, compatible exterior sealant to the backside of the mounting fins (interior facing) at the head, sill, and jambs of the window near the outside edge of the mounting fin. IMPORTANT- If using Pan flashing, leave at least 2 gaps that are 2” wide in the sealant bead. *See figure G.* Do not align sill gaps with weeps. Gaps should be not more than 4' apart on large units. Add more gaps as necessary. *See Figure H.*

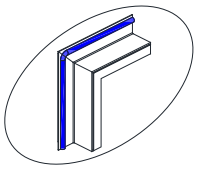
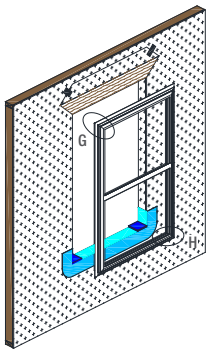


Figure G

9. Set window into center of opening at sill first. Push up into place. Place a temporary fastener near each corner at the head of the window no closer than 3” to either corner. Measure the window to ensure it has remained level and square, and the frame is not bowed. Unlock and open operable sashes. Adjust as required to ensure smooth operation. Close and relock sash. Adjust and place additional shims, as necessary, to secure the unit and ensure proper operation. Place additional fasteners in the bottom corners. Confirm again unit is level, plumb, and square.
10. Keeping the sash closed and locked, secure the window with fasteners of a type appropriate for the frame and that penetrate the rough framing by a minimum of 1” or as required by code. *See Figure I.* Take care to install fasteners straight, not angled. *See Figure J.* No fasteners should be located closer than 3” to any corner. Do not distort the mounting fin with the fasteners. Unless otherwise required by code, MI recommends its vinyl products have fasteners applied securely into every other pre-punched slot on all sides of the window. Fastening in locations other than the mounting fin may damage the unit. ***Do not fasten the window using staples.***



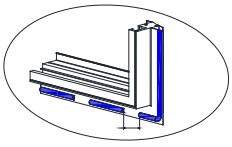


Figure H

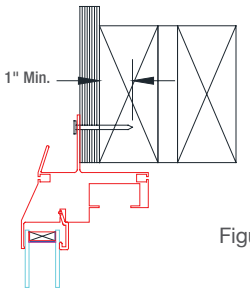


Figure I

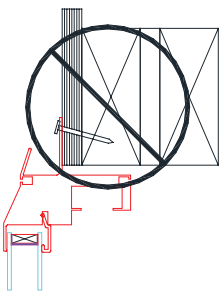


Figure J

Integrate the Window

11. Cut two pieces of self-adhered flashing for the jambs that extend a minimum of 1" above the head mounting fin and a minimum of 1" below the sill flashing previously installed in *step 6*. Apply flashing over jamb mounting fins. Use a J-roller to remove bubbles or creases. *See Figure K.*
12. Cut a piece of self-adhered flashing for application at the head of the window. Flashing must extend a minimum of 1" beyond the jamb flashing applied in *step 11*. Apply flashing over the head mounting fin. Use a J-roller to remove bubbles or creases. *See Figure L.*
13. Remove tape holding WRB flap and fold WRB downward covering the head mounting fin. Be sure the WRB does not affix to the head flashing or create a pocket at the head of the window. Seal the WRB to the head flashing using WRB sealant tape to cover the entirety of the top cuts previously made. *See Figure M.*

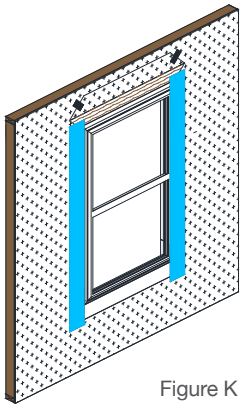


Figure K

Insulate the Opening

14. From the interior, insulate between the window frame and rough opening with fiberglass insulation or a measured use of low pressure, low expansion foam. Only use foam after determining that it will not distort the window frame when fully expanded. Check operation of the window after insulating to ensure proper operation.
15. A complete interior perimeter seal around the window product is essential to ensure proper functioning of the sill flashing method in *step 5*. Apply a properly backed continuous bead of sealant around the entire interior perimeter of the window. *See Figure N.* The seal must connect the flashing applied at the sill plate to the window unit for proper functioning of the sill flashing.

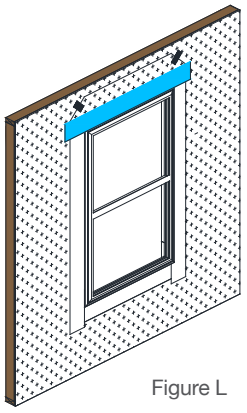


Figure L

Considerations and Cautions

Exterior Considerations

- Care should be taken to ensure proper integration of the window into the building's water management system and with the selected cladding. A properly designed ¼" sealant joint between all sides of the window frame and exterior cladding may be recommended. Consult the responsible architect, owner, or builder, as well as the cladding manufacturer's instructions.

Important Cautions

⚠ Use of solvents or acids will damage components of this product and will limit rights under the warranty.

⚠ Stage and store window products with caution. Do not store in the sun or lay flat before or during installation.

⚠ Care must be taken to ensure material compatibility of the window unit and surrounding building conditions. Where necessary, steps should be taken to isolate the window from reactionary building elements.

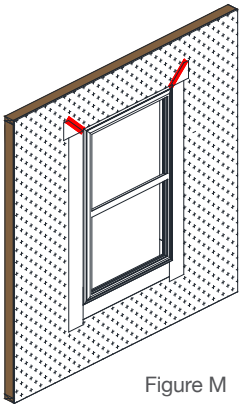


Figure M

Post Installation Reminders

- With the exception of logo and NFRC labels, all MI applied labels should remain in place and not be removed after installation is complete (e.g., AAMA labels, warranty labels, warning labels).
- MI recommends a yearly inspection of its products and the surrounding materials, inside and outside the home. Upkeep of sealant joints, hardware and weather stripping can ensure longevity and proper functioning of the window products.

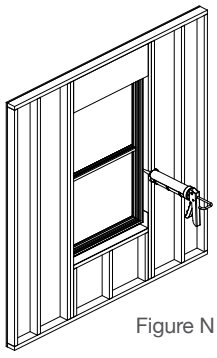


Figure N

Please contact MI or visit www.miwindows.com for additional information.