



**WINDOWS and DOORS**

## **Installation Recommendations for Mounting Fin Windows**

These installation recommendations are made available by Milgard Manufacturing LLC (Milgard) to assist with the integration of products with a mounting fin into a typical wood-framed building less than three stories in height. Installation into other structures and frame types are not addressed here.

Please contact Milgard or visit [www.Milgard.com](http://www.Milgard.com) for additional information.

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### **IMPORTANT DESIGN CONSIDERATIONS**

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Read this entire document before proceeding with installation of Milgard'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 Milgard's products into a building's water management system have been addressed.

Milgard 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 Milgard's warranty. Provide a copy of these recommendations and the applicable Milgard warranty to the owner before installing. Milgard does not permit adoption of its installation recommendations into the contracts of others without its prior, written consent.

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### **IMPORTANT PRE-INSTALLATION CONSIDERATIONS**

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- 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](http://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.

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

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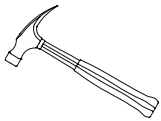
## MATERIALS REQUIRED

- Non-compressible shims.
- Fasteners. The applicable building code should be consulted, to ensure compliance with all state and local requirements. At a minimum, fastener type should be sufficient to properly affix the frame and penetrate rough framing by 1-1/2" or more.
- High-quality compatible exterior grade sealant.
- Seal tape for the weather-resistant 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. \*

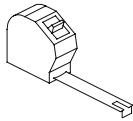
\* Use and placement of these materials may be required by code, plan, or good building practices.

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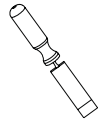
## TOOLS REQUIRED



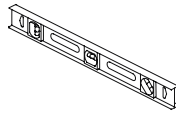
HAMMER



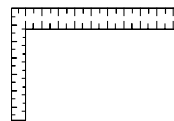
TAPE  
MEASURE



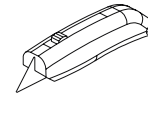
CHISEL



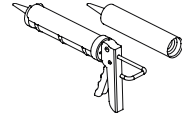
LEVEL



SQUARE



UTILITY  
KNIFE



CAULK  
GUN

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## INSPECT AND PREPARE THE PRODUCT FOR INSTALLATION

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1. Inspect the window product thoroughly before beginning installation.
  - Confirm the window matches the size needed for the opening; measuring 1/2" 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.
  - 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.

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.

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## INSPECT AND PREPARE THE ROUGH OPENING

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1. Make sure the rough opening is in good condition and plumb, level, and square to within 1/8" nominal tolerance. 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 shall be 1/2" larger than window frame in width and height.
2. 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. Milgard recommends that the installer follow the WRB manufacturer's recommendation to prepare the opening. The steps that follow are Milgard'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.

- Begin with a horizontal cut across the entire width of the head and sill of the rough opening.
- Next, in the middle of the opening, make a vertical cut from head to the sill.
- Fold the WRB into the opening and secure, trimming excess as necessary. See Figure C.
- 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

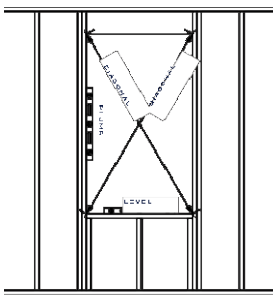


FIGURE B

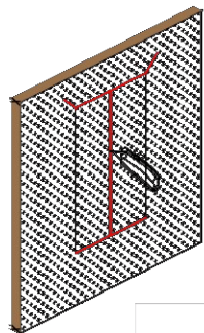


FIGURE C

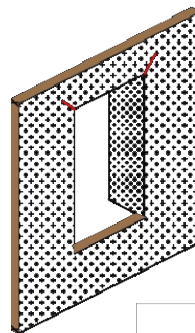
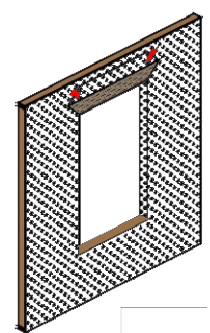


FIGURE D



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## FLASH AND SHIM THE SILL

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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. At a minimum, Milgard suggests installers use a pan at the sill combined with a complete interior air dam around the product. Installers should consult with the architect, owner, or other responsible site personnel for instructions regarding appropriate flashing of a window opening before installing Milgard's products.

1. Start by cutting flexible self-adhering flashing no less than 12" longer than the width of the opening.
  - 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".
  - 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.

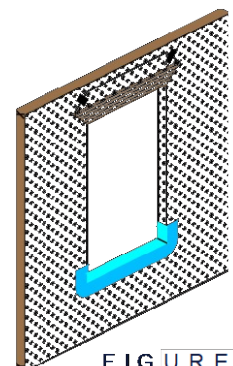
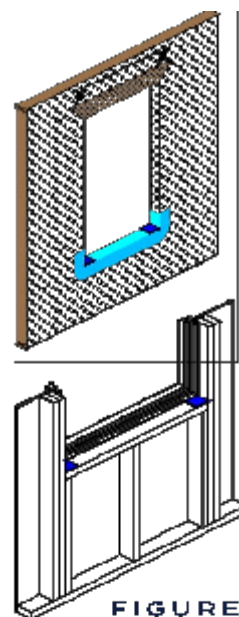


FIGURE E  
By MITER Brands™

- Fold flexible flashing down onto the WRB and secure. Use a J-roller to remove bubbles or creases.
- 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**.

2. Install with FULL support under the entire width of the window sill. Note: For windows with intermediate meeting rails (IMR), and all slider windows, additional shims are recommended under each IMR 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**.



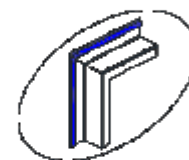
**FIGURE F**

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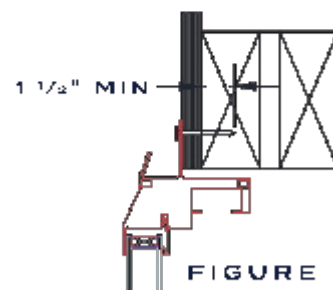
### APPLY SEALANT, SET, AND SECURE THE WINDOW

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1. Milgard recommends corrosion-resistant fasteners be located 3" to 6" from each corner, and then every 8" to 12" on center. Do not distort the mounting fin during this process. 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.
2. Apply a continuous 3/8" bead of premium grade, compatible exterior sealant to the backside of the mounting fins (interior facing) at the head and jambs of the window near the outside edge of the mounting fin. See **Figure G**. Apply a 3/8" bead of premium grade, compatible exterior sealant on the backside of the sill mounting fin (interior facing).
3. 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.
4. 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 1-1/2" 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. Milgard 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 G**



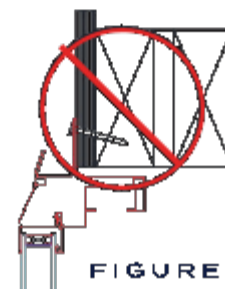
**FIGURE I**

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### INTEGRATE THE WINDOW

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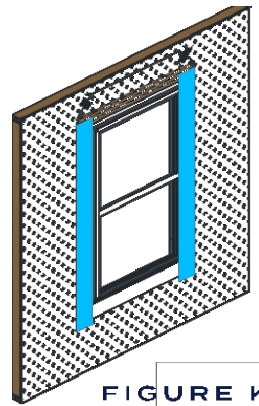
1. Cut two pieces of self-adhered flashing for the jambs that extend a minimum of 1" above the head mounting fin and a minimum of 1" below the sill flashing previously installed in **Figure E**. Apply flashing over jamb mounting fins. Use a J-roller to remove bubbles or creases. See **Figure K**.



**FIGURE J**

2. 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 **Figure E**. Apply flashing over the head mounting fin. Use a J-roller to remove bubbles or creases. See **Figure L**.
3. 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**.

**NOTE:** Ensure that the flashing tape is installed flush to the window main frame completely covering the mounting flanges.



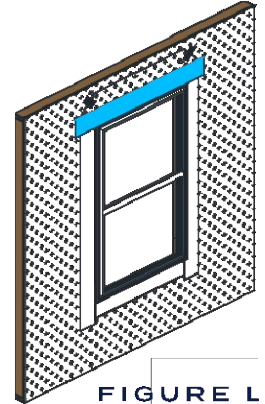
**FIGURE K**

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## INSULATE THE OPENING

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4. 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.
5. A complete interior perimeter seal around the window product is essential to ensure proper functioning of the sill flashing method. 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 pan.



**FIGURE L**

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## CONSIDERATIONS AND CAUTIONS

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### Considerations and Cautions

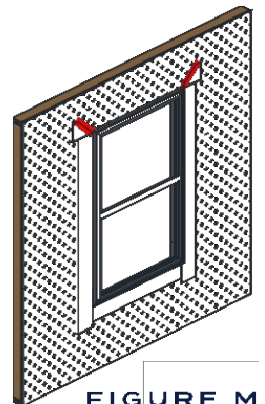
- Care should be taken to ensure proper integration of the window into the building's water management system and with the selected cladding. A properly designed  $\frac{1}{4}$ " sealant joint between all sides of the window frame and exterior cladding may be advisable. Consult the responsible architect, owner, or builder, as well as the cladding manufacturer's instructions.
- It is the sole responsibility of the owner, architect, and/or builder to select correct products to be in compliance with applicable laws, site requirements and building codes and to ensure that installation is in compliance with applicable laws, site requirements and building codes.

### Important Cautions

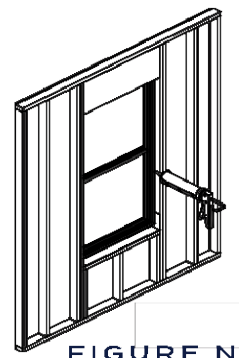
- ⚠ Use of solvents or acids may damage components of this product and will limit rights under the warranty.
- ⚠ Stage and store window products with caution. Do not store in the sun or lay flat before or during installation.
- ⚠ Care must be taken to ensure material compatibility of the window unit and surrounding building conditions. Where necessary, steps should be taken to isolate the window from reactionary building elements.

### Post Installation Reminders

- With the exception of logo and NFRC labels, all Milgard applied labels should remain in place and not be removed after installation is complete (e.g., AAMA labels, warranty labels, warning labels).
- Milgard 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 M**



**FIGURE N**

Please contact Milgard or visit [www.Milgard.com](http://www.Milgard.com) for additional information.