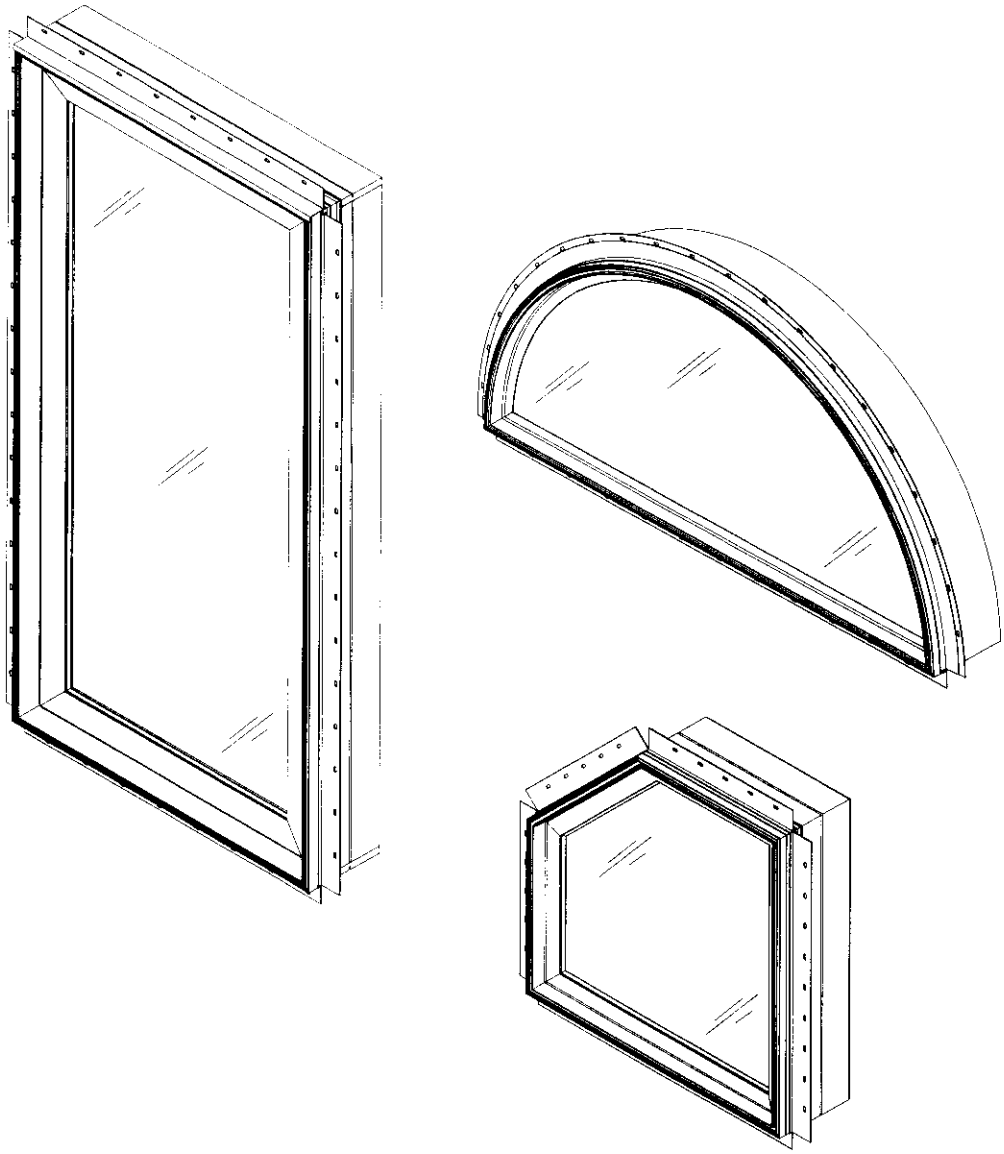
Impact Resistant Glass

Installation Instructions



MARVIN WINDOWS & DOORS

11/30/99
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BEFORE YOU BEGIN

Important! Read these instructions thoroughly before beginning to install your product using impact resistant glass. Regional applications and standards may vary significantly, therefore Marvin Windows & Doors is not responsible for interpretations of federal, state, county or local codes and ordinances. It is imperative that the product using impact glass has been analyzed and approved for the specific installation application.

These instructions are not intended to replace product installation instructions, but are to be used as a supplement to provide structural integrity guidance for impact resistant glass installation. Therefore, the installer must follow these guidelines, along with specific installation instructions and practices when installing the product. These instructions currently cover specific approved sizes of Clad Polygon and Round Top direct glazed units, and Clad Casemaster units, both operator and stationary.

NOTE: These instructions are divided into three separate applications - nailing fin, structural masonry brackets and masonry screw applications. Please review and follow the section that applies to your specific installation.

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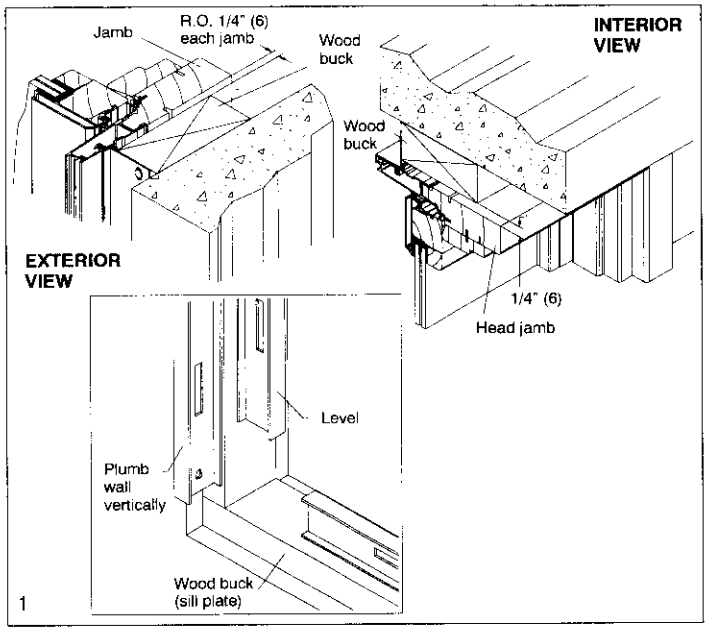
NAILING FIN APPLICATION PROCEDURES

YOU WILL NEED TO SUPPLY

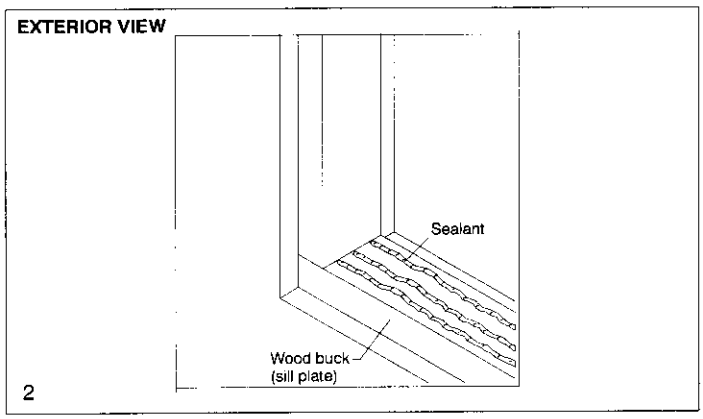
Safety glasses
Hearing protection
2″ x 11 gauge roofing nails
1/8″ drill bit and drill
#8 x 2 1/2″ flathead silcomanganese steel screws (SMS) for polygons
#8 x 2″ flathead SMS screws for round tops
#8 x 3″ flathead SMS screws for Casemaster units
APA approved AFG-01 rated adhesive w/gun
Phillips head screwdriver or drill with Phillips bit
Backing material (foam backing rod) used for masonry applications
High quality sealant w/gun

INSTALLATION PREPARATION

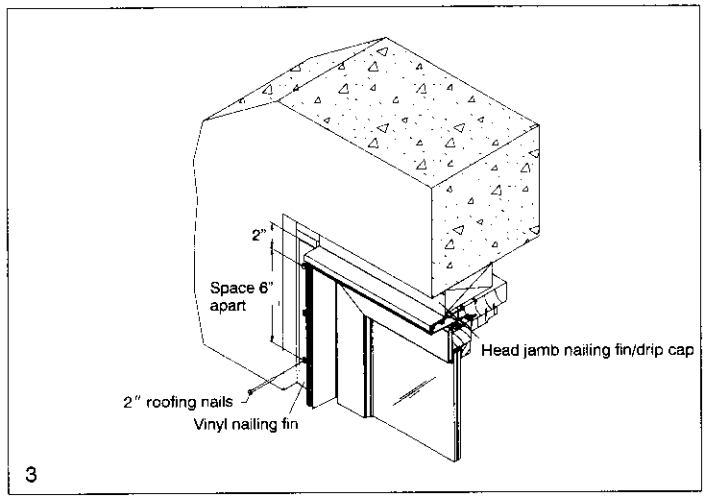
IMPORTANT: When installing a unit using impact resistant glass, it should be clearly noted that the rough opening (RO) to frame dimension will be reduced to 1/4" (6) rather than the standard 1/2" (13). However, the masonry opening (MO) dimensions remain the standard 1/4" around the perimeter of the frame. When framing the rough opening, care should be taken to ensure opening is square and sill plate is level. See illustration 1.



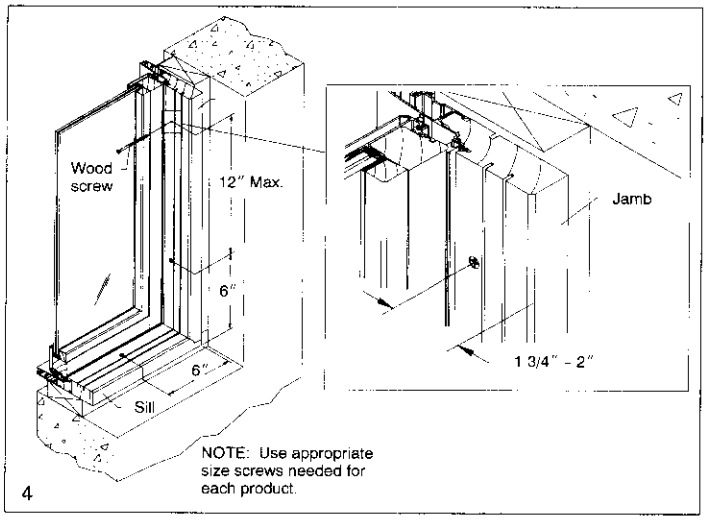
1. Position the factory applied nailing fin/drip cap in the upright position.
2. Apply three beads of APA approved AFG-01 rated adhesive to the surface of the sill as shown in illustration 2. The beads should be 3/8″ in diameter and run the full length of the sill plate.



3. Position window into the properly prepared rough opening. Ensure unit is properly shimmed. See specific instructions for proper shimming procedures.
4. Place 2″ roofing nails 2″ from each corner and 2″ from each mull joint. Remaining nails will be placed 6″ on center (OC) around nailing fin perimeter. See illustration 3.



5. Units installed with a nailing fin require additional securement to the interior. Using the appropriate length screw (#8 x 2″ for round tops, #8 x 2 1/2″ for polygons or #8 x 3″ for Casemaster) place 6″ from the corners and 12″ on center. Two additional screws must be placed 3″ from the mull joint on either side of the mull. Note: Screws must not be placed less than 1 1/2″ from the interior edge of the jambs and sill. Ideally they should be place between 1 3/4″ to 2″ from the edge as shown in illustration 4. Additionally the screws must penetrate the wood buck a minimum of 1 1/4″, if not, the screw length must be adjusted accordingly. If stops are removed, exercise care as to not damage the components. Drill screw pilot holes using a 1/8″ drill bit. If securing through the stop, be sure to countersink screw heads below the wood surface and cover with an appropriate wood plug. See illustration 4.



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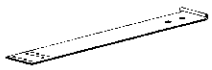
6. Follow specific installation instructions regarding backing rod and sealant application. Follow sealant manufacturer's recommendations regarding proper surface preparation and application.

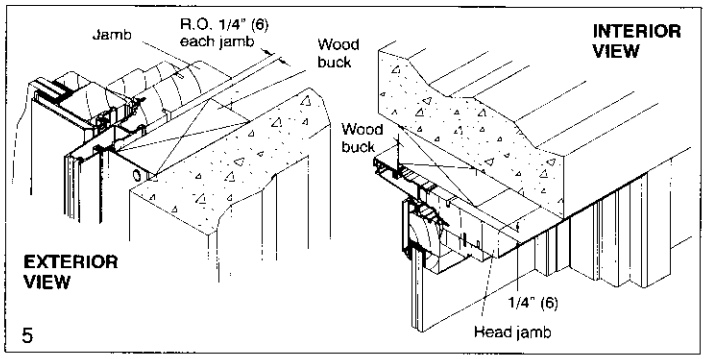
STRUCTURAL MASONRY BRACKET INSTALLATION

STANDARD PARTS SHIPPED WITH UNIT		
ILLUSTRATIONS (not to scale)	**DESCRIPTION AND COLOR**	**PART/PROFILE NUMBER**
	Structural Masonry Bracket 6" Each 10"	 11860012 11860013

YOU WILL NEED TO SUPPLY

Safety glasses Hearing protection
#8 x 7/8" flathead silcomanganese (SMS) screws
#8 x 1 1/2" flathead SMS screws (two per clip)
APA approved AFG-01 rated adhesive w/gun
Phillips head screwdriver or drill with Phillips bit
Backing material (foam backing rod) used for masonry applications
High quality sealant w/gun

IMPORTANT: When installing a unit using impact resistant glass, it should be clearly noted that the rough opening (RO) to frame dimension will be reduced to 1/4" (6) rather than the standard 1/2" (13). However, the masonry opening (MO) dimensions remain the standard 1/4" around the perimeter of the frame. When framing the rough opening, care should be taken to ensure opening is square and sill plate is level. See illustration 5.



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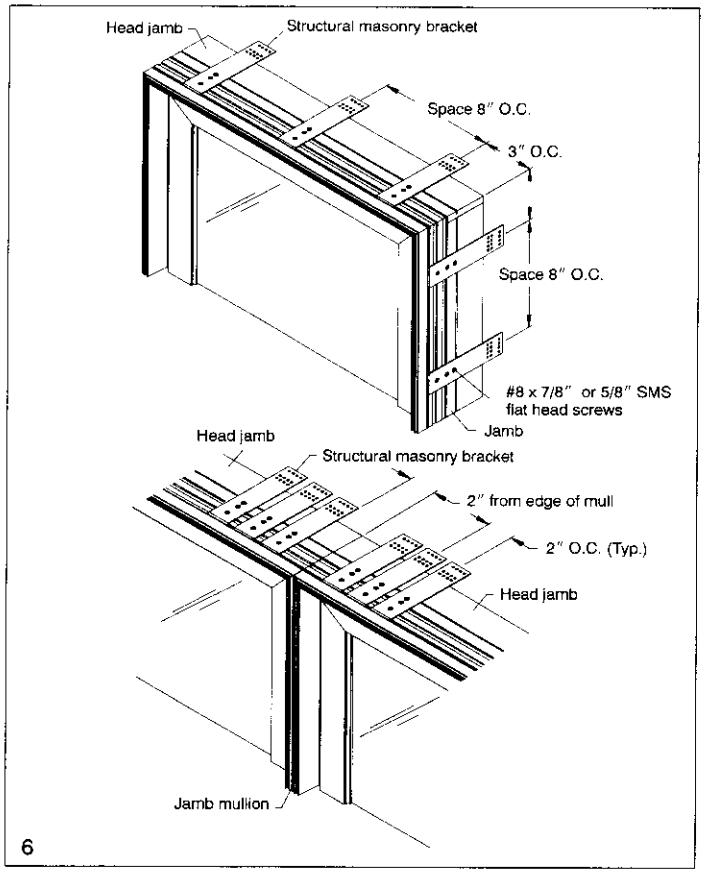
7. Apply the structural masonry brackets to the frame at this time using #8 x 7/8" SMS flathead screws for Casemaster applications or #8 x 5/8" screws for Polygon or Round Top applications. Structural masonry brackets should be applied no less than 3" from each corner and 8" OC. Mullions will have six additional structural masonry brackets attached at each mull point. The first one will be placed no more than 3" from the edge of the mull with the remaining two, no more than 3" apart as shown in illustration 6. This step will be accomplished at all mull joints.



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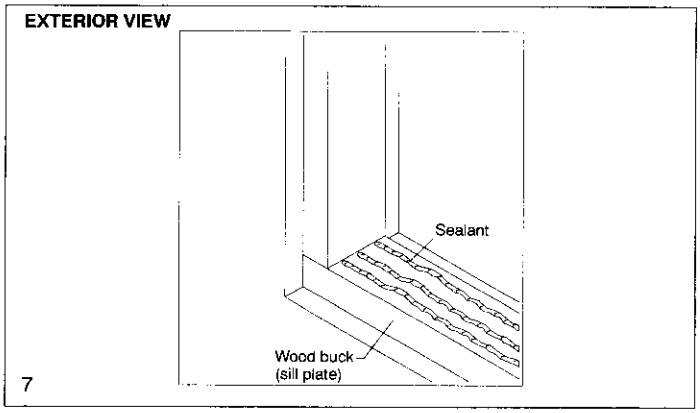
8. Apply three beads of APA approved AFG-01 rated adhesive to the surface of the sill as shown in illustration 7. The beads should be 3/8" in diameter and run the full length of the sill plate.



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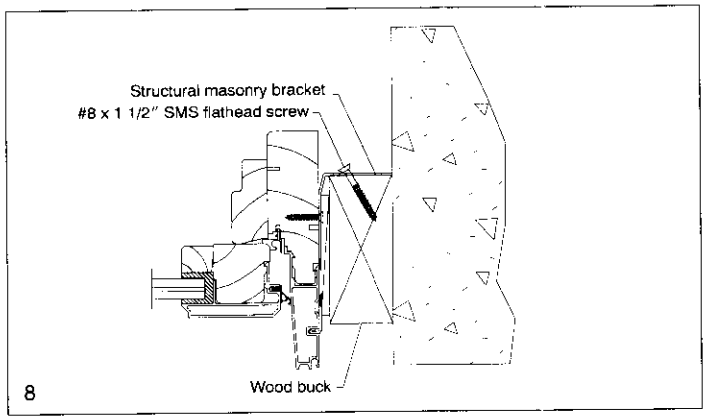
9. Position window into the properly prepared rough or masonry opening. Ensure unit is properly shimmed.
10. Bend structural masonry bracket around the wood stud or buck on the interior of the dwelling. Secure, use a #8 x 1 1/2" SMS screw at a 15 to 30 degree angle as shown in illustration 8. If existing holes in the structural masonry bracket are not located correctly for the screw placement, simply drill pilot holes with a drill bit.



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11. Follow specific installation instructions regarding backing rod and sealant application. Follow sealant manufacturer's recommendations regarding proper surface preparation and application.

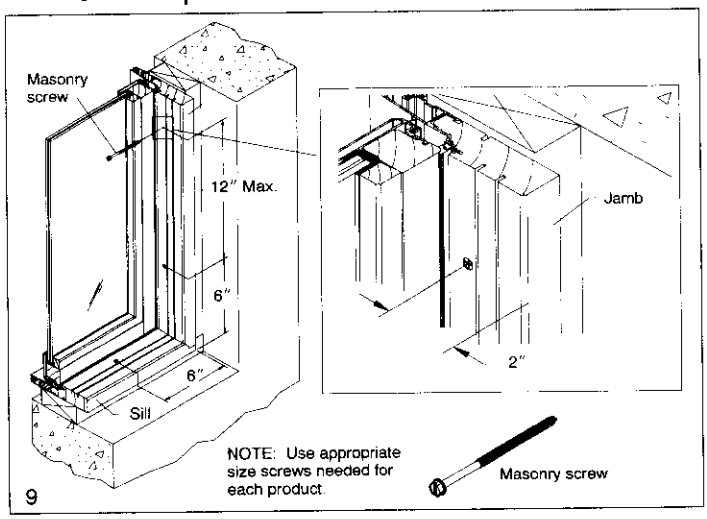
MASONRY SCREW INSTALLATION

YOU WILL NEED TO SUPPLY

Safety glasses Hearing protection
3/16" masonry screws of the appropriate length
APA approved AFG-01 rated adhesive w/gun
Appropriate screwdriver or socket
Backing material (foam backing rod) used for masonry applications
High quality sealant w/gun

12. Masonry screws 3/16" in diameter and of the appropriate length (supplied by others) can be used in lieu of screws or can be used if a smaller or no buck is specified. In some instances it may be used in lieu of nailing fin or structural installation brackets. Be sure to check code requirements and recommendations.

13. Place masonry screws 6" from the corners and 12" OC. Two additional screws must be placed 3" from the mull joint on either side of the mull. Note: Screws must not be placed less than 2" from the interior edge of the jambs and sill. It is very important that the screw length allows for a minimum penetration into the framing material or concrete of no less than 1 1/4". Be sure to follow manufacturer's recommended installation procedures. See illustration 9.



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14. Follow specific installation instructions regarding backing rod and sealant application. Follow sealant manufacturer's recommendations regarding proper surface preparation and application.