

# TUBELITE®

## DEPENDABLE

LEADERS IN ECO-EFFICIENT STOREFRONT,  
CURTAINWALL AND ENTRANCE SYSTEMS



ENTRANCE DOORS  
HURRICANE IMPACT

# INSTALLATION INSTRUCTIONS

3056 Walker Ridge Dr. NW, Suite G • Walker, MI 49544 • 800-866-2227

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**GENERAL CONSTRUCTION NOTES**

1. These instructions cover typical product application, fabrication, installation and standard conditions and are general in nature. They provide useful guidelines, but the final shop drawings may include additional details specific to the project. Any conflict or discrepancies must be clarified prior to execution.
2. Materials stored at the job site must be kept in a safe place protected from possible damage by other trades. Stack with adequate separation so materials will not rub together and store off the ground. Cardboard or paper wrapped materials must be kept dry. Check arriving materials for quantity and keep a record of where various materials are stored.
3. For cold weather installations, glazing materials (including but not limited to glazing gaskets, isolators and gaskets for air seals and expansion mullions) can become more rigid and thus more difficult to install. These materials should be installed at temperatures above 40°F for proper system performance and ease of installation. A hot box may be required to warm the glazing materials prior to installation. Allow glazing materials to lay flat at 50°F minimum temperature prior to installing.
4. All field welding must be done in accordance with AISC guidelines. All aluminum and glass should be shielded from field welding to avoid damage from weld splatter. Results will be unsightly and may be structurally unsound. Advise general contractor and other trades accordingly.
5. Coordinate protection of installed work with general contractor and/or other trades.
6. Coordinate sequence of other trades which affect framing installation with the general contractor (e.g. fire proofing, back up walls, partitions, ceilings, mechanical ducts, HVAC, etc.).
7. General contractor should furnish and guarantee bench marks, offset lines and opening dimensions. These items should be checked for accuracy before proceeding with erection. Make certain that all adjacent substrate construction is in accordance with the contract documents and/or approved shop drawings. If not, notify the general contractor in writing before proceeding with installation because this could constitute acceptance of adjacent substrate construction by others.
8. Isolate all aluminum to be placed directly in contact with masonry or other incompatible materials with a heavy coat of zinc chromate or bituminous paint. Fasteners attaching framing to building structure are typically not provided by Tubelite.
9. Sealant selection is the responsibility of the erector, installer and/or glazing contractor and must be approved by the sealant manufacturer with regard to application and compatibility for its intended use. All sealants must be used in strict accordance with the manufacturer's instructions and applied only by trained personnel to surfaces that have been properly prepared.
10. Sealant must be compatible with all materials with which they have contact, including other sealant surfaces. Consult the sealant manufacturer for recommendations relative to shelf life, compatibility, cleaning of substrate, priming, tooling adhesion, etc. Recommend sealant manufacturer perform adhesion "pull test" at "wet" glazing for quality assurance.
11. Drainage gutters and weep holes must be kept clean at all times. Tubelite will not accept responsibility for improper drainage as a result of clogged gutters and weep holes.
12. This product requires clearances at the head, sill and jambs to allow for thermal expansion and contraction as well as construction tolerances. Refer to final distribution drawings for joint sizes.
13. All framing members, entrances and other materials are to be installed plumb, level and true with regard to established bench marks, column center lines or other working points established by the general contractor and checked by the erector, installer and/or glazing contractor.
14. After sealant is set and a representative amount of the wall has been glazed (500 square feet or more), run a water hose test to check installation. On large projects, a hose test should be repeated during glazing operation. This testing should be conducted in accordance with AAMA 501.2 specifications.
15. Cleaning of exposed aluminum surfaces should be done per AAMA recommendations.
16. Care must be taken when assembling aluminum framing components. Over tightening any fastener may cause stripping or fastener failure. Tubelite recommends the use of clutched drivers to provide satisfactory tightening of the screw while preventing over torque. The use of impact drill motors is not recommended due to the absence of a clutch device.
17. Check [www.tubeliteinc.com](http://www.tubeliteinc.com) for any installation instruction updates.

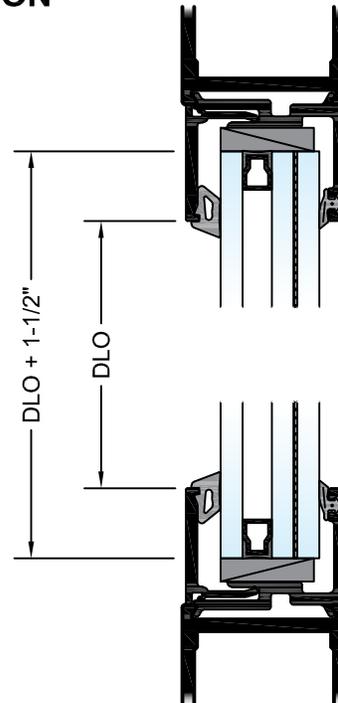
## QUICK REFERENCE CHECKLIST

1. Make sure the opening is square and the caulk joints are 3/8" maximum around the frame.
2. Ensure surfaces that will be sealed are free of contaminants that can lead to adhesion issues.
3. Cap seal any exposed anchor or screw.
4. Butter seal ends of horizontal frame members that are joined to vertical members.
5. Check installation against instructions to ensure conformity.
6. Glass bites must be equal on all sides.
7. Double check anchor size and location against installation instructions or approved shop drawings.

### GLASS SIZE CALCULATION

#### Entrance Doors:

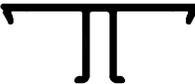
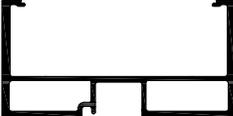
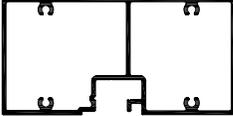
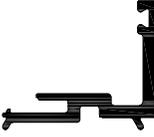
Glass Width = D.L.O. plus 1-1/2"  
Glass Height = D.L.O. plus 1-1/2"



### 3M VHB TAPE APPLICATION GLAZING

Approved shop drawings showing frame sizes and frame installation, AND finished sections of the glazing system are required to be sent to 3M for review and approval prior to purchasing tape or glazing commences. Glazing contractor will be required to be trained and certified by qualified 3M personnel prior to VHB tape application or glass installation. (See 3M website for contact information)

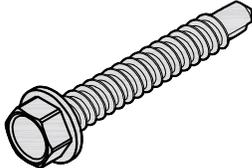
**DOOR FRAME EXTRUSIONS**

SHAPE	DESCRIPTION	PART No.
	<p>Snap-In Filler at Door Jamb</p>	<p>E34242</p>
	<p>Standard Door Jamb (Use only non-thermal closure pockets at door jams)</p>	<p>E34144</p>
	<p>Door Header (without Transom)</p>	<p>E34224</p>
	<p>Door Sub Frame Head</p>	<p>E4TB111</p>
	<p>Door Sub Frame Jamb</p>	<p>E4TB11</p>
	<p>Door Slide-In Gutter - VHB</p>	<p>E6512</p>
	<p>Door Slide-In Gutter - SSG</p>	<p>E6522</p>
	<p>Door Slide-In Gutter - Gasket</p>	<p>E6532</p>

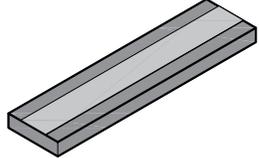
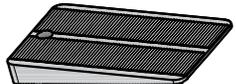
## TYPICAL FRAMING EXTRUSIONS

SHAPE	DESCRIPTION	PART No.
	Door Snap-In Stop (Use with 1-1/16" Glass)	E6523
	Door Snap-In Stop (Use with 9/16" Glass)	E6533
	Inner Door Stop (Use with E6505 Door Stop)	E6507
	Outer Door Stop (Use with E6507 Inner Door Stop)	E6505
	Inner Door Stop (Use with E6501 Door Stop)	E6511
	Outer Door Stop (Use with E6511 Inner Door Stop)	E6501
	Door Threshold (Use with P3450 Bulb Gasket)	E3550

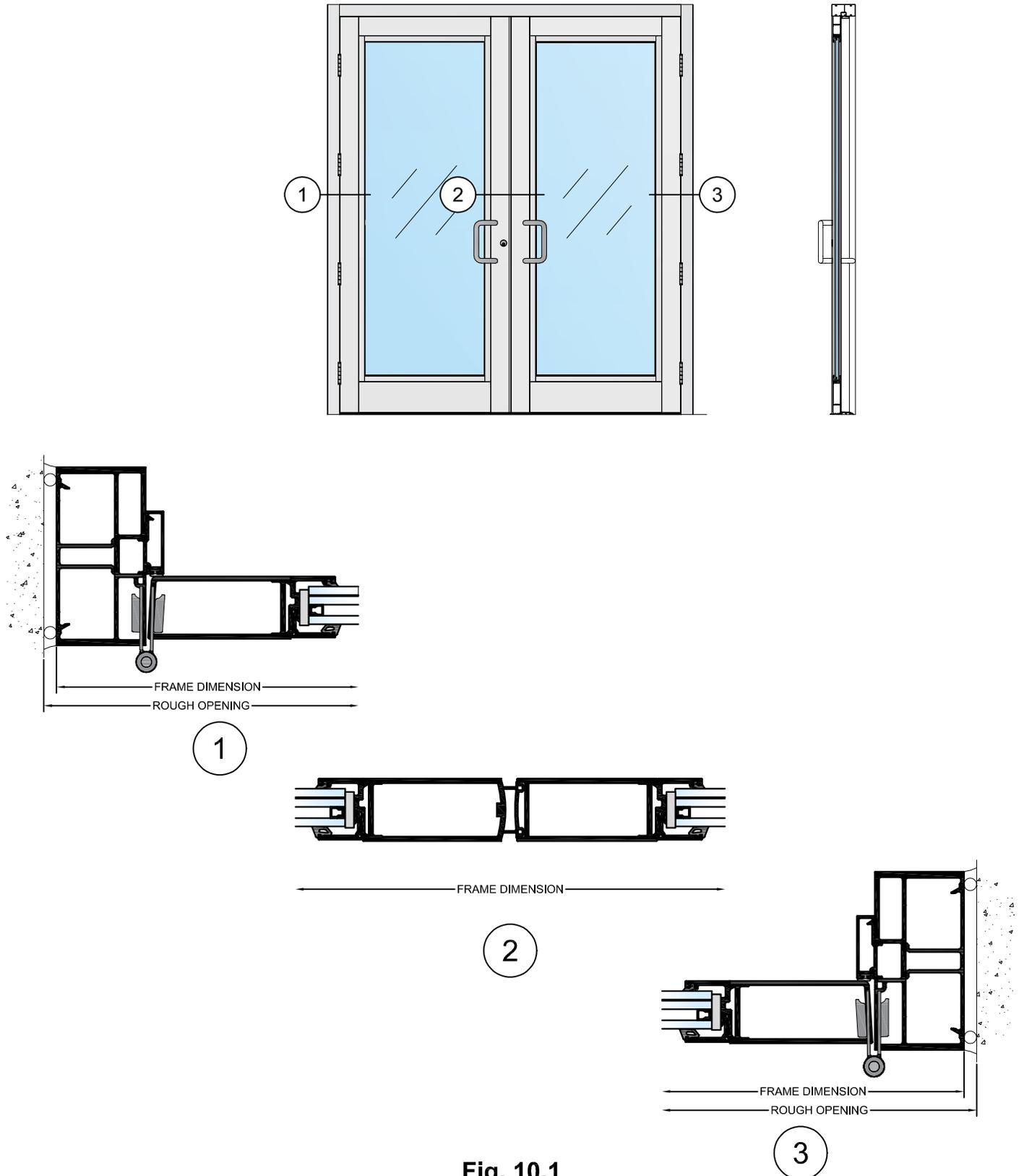
**ACCESSORIES**

SHAPE	DESCRIPTION	PART No.
	<p>#8-32 x 5/16" SS UC FL (Use at E6504 Door Stop)</p>	<p>S131</p>
	<p>#10 x 3/8" Phillips Truss Head End Cap Screw</p>	<p>S293</p>
	<p>#12-24 x 1/2" SS UC FL (Use at E6504 Door Stop)</p>	<p>S070</p>
	<p>#10-24 x 1/2" SS PH (Use at E6507 Inner Door Stop)</p>	<p>S206</p>
	<p>#12-14 x 1-1/2" HWH Self-Drilling, #3 point (Use for Frame Assembly)</p>	<p>S419</p>
	<p>Door Stop Bulb Gasket</p>	<p>P6296</p>
	<p>Bulb Gasket (Use at E3550 Threshold)</p>	<p>P3450</p>

## ACCESSORIES

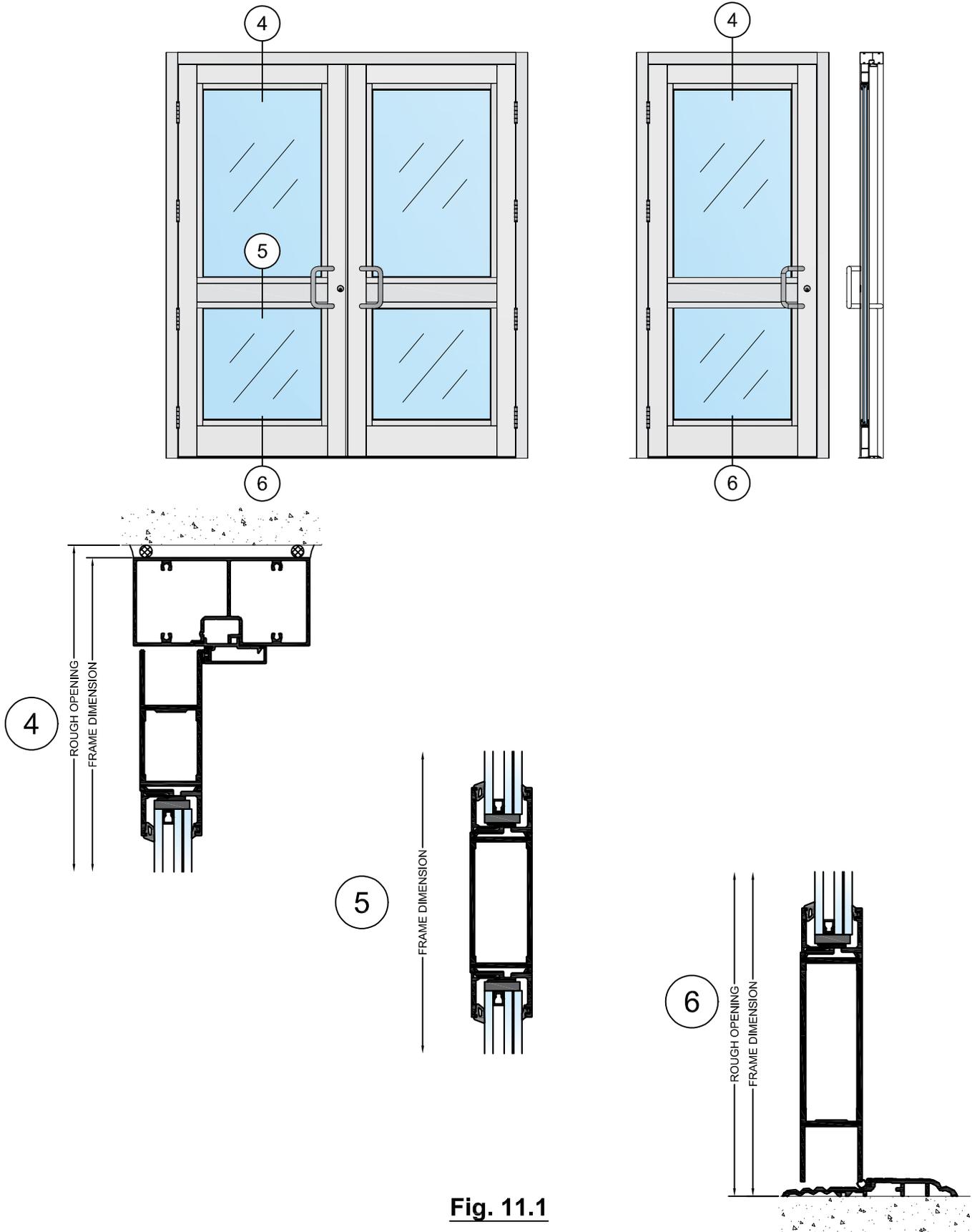
SHAPE	DESCRIPTION	PART No.
	Door Glazing Gasket	P0017
	Door Glazing Wedge - 1/8"	P2901
	Door Glazing Wedge - 7/32"	P2908
	Door Glazing Tape for SSG Application (1/8" x 1/4" Tremco SGT 922)	P6552
	Door Glazing Tape (3M VHB SGT B23F)	Not by Tubelite
	Door Setting Block - EPDM	P1912
	Door Adjustment Blocks (used at head only, in pairs)	P1911

**ELEVATION DETAILS**



**Fig. 10.1**

## ELEVATION DETAILS



**Fig. 11.1**

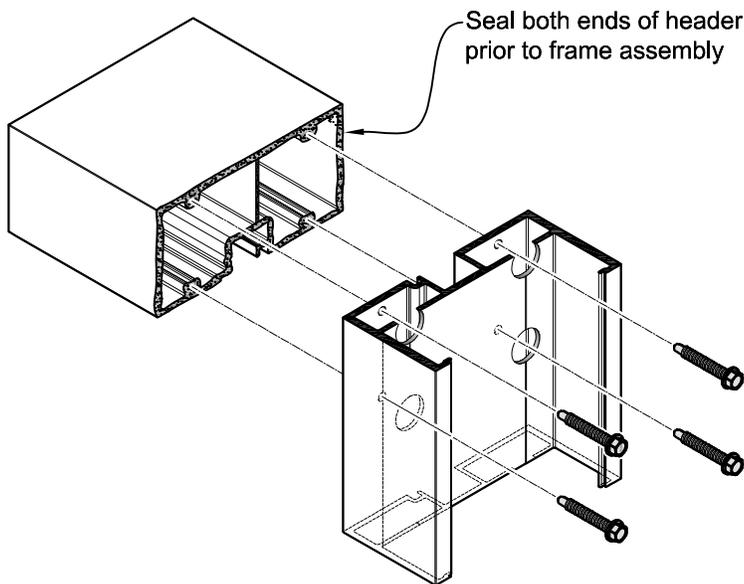
## DOOR and FRAME INSTALLATION

### Step 1: Preparation

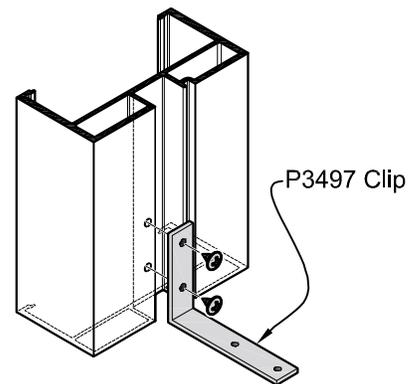
- A. Doors are shipped assembled from factory. Door frames are fabricated and shipped KD.

### Step 2: Frame Assembly

- A. Apply sealant to the ends of the door header and transom head members.
- B. Attach the door header to the door jambs with (4) **S419** #12-14 x 1-1/2" HWH frame assembly screws. Attach the **P3497** threshold clips to the door jambs with (2) **S293** #10 x 3/8" PH Truss Head cap screws. **SEE Fig. 12.1 & Fig. 12.2**



**Fig. 12.1**  
**NON-TRANSOM HEAD**

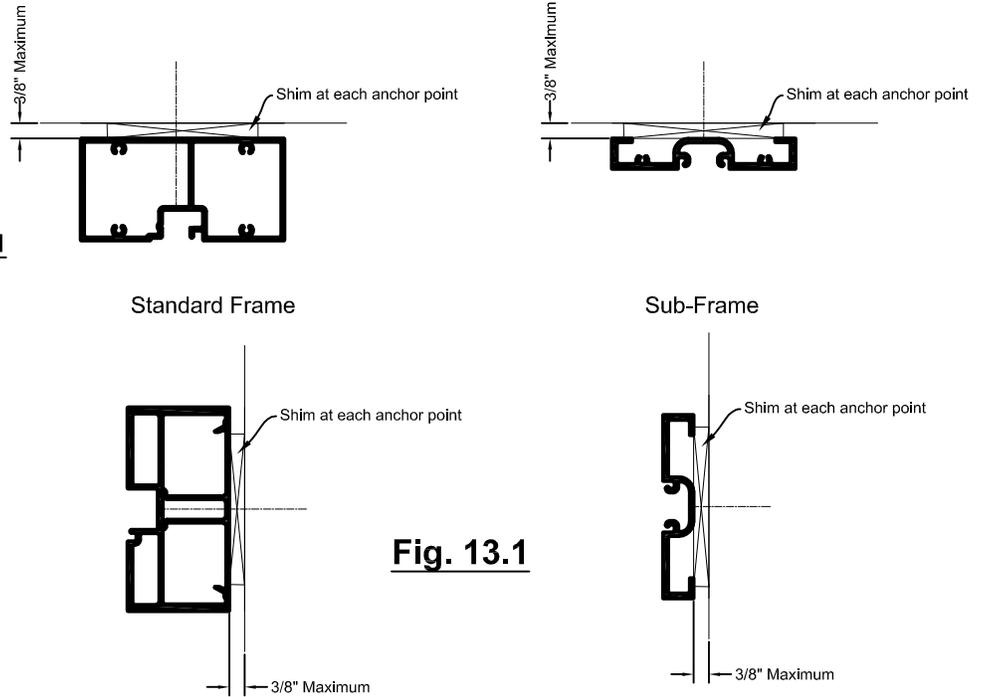


**Fig. 12.2**  
**THRESHOLD**

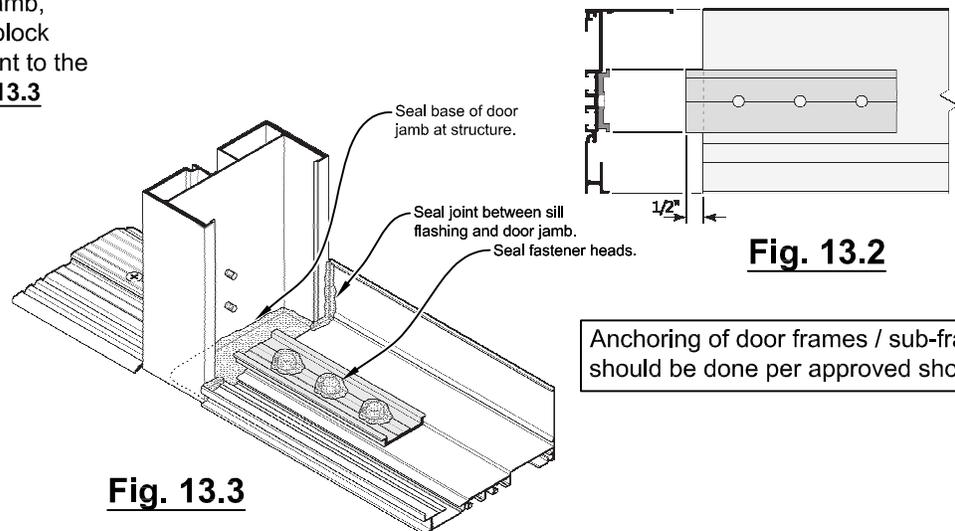
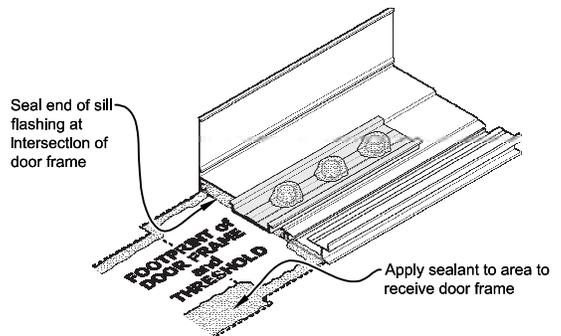
**DOOR and FRAME INSTALLATION**

**Step 3: Door Frame Installation**

- A. Shim head and jambs at anchor points and attach to structure. Anchor size and locations as per approved shop drawings. Seal at fastener heads. **SEE FIG. 13.1**



- B. Prior to installing door frame, run a bead of silicone on finished floor where threshold will be placed. **SEE Fig. 13.2**
- C. Set assembled door frame into opening. Door frames must be installed plumb, square, and level. For frames having sidelites, seal termination of sill flashing and door jamb, then install P3426 sill block into sill flashing adjacent to the door frame. **SEE Fig. 13.3**

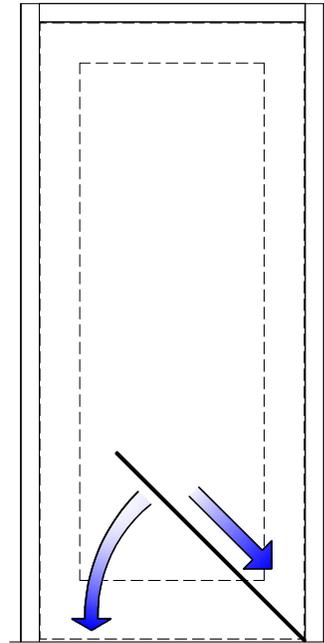


Anchoring of door frames / sub-frames should be done per approved shop drawings

**DOOR and FRAME INSTALLATION**

**Step 3: Door Frame Installation** (Continued)

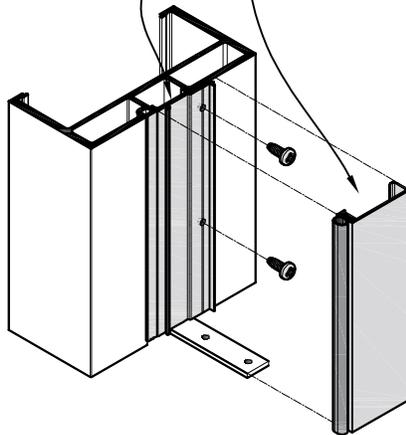
- D. Anchor frames per page 13 instructions prior to attaching the door stops.
- E. Attach inner door stop to jambs with S206 #10-24 PH screws 2" from each and 12" O.C. The inner door stop should be held back 1/8" from the bottom of the frame. **SEE Fig. 14.2**
- F. Snap outer door stops E6505 onto inner door stops. Like the inner door stop, the outer door stop should be held back 1/8" from the bottom of the door frame and sealed. **SEE Fig. 14.2**
- G. Install threshold by inserting one end and rotating down as shown in **Fig. 14.1**
- H. Attach the threshold to the door jamb clips with (2) S070 screws provided. Shim threshold as required to level. Attach threshold to substrate with screws show in approved shop drawings. Seal ends of threshold to door frame. **SEE Fig. 14.3**



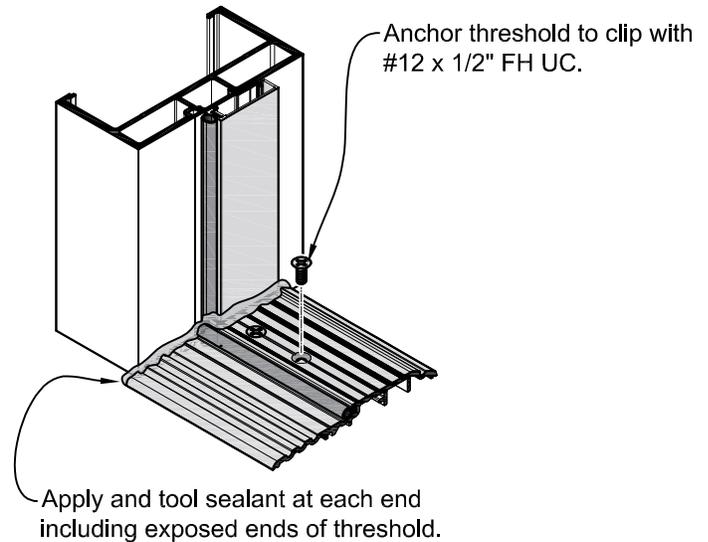
Insert one end of threshold then rotate down until resting on finished floor

**Fig. 14.1**

Attach inner door stop then the outer door stop.



**Fig. 14.2**  
**DOOR STOP**  
**INSTALLATION**

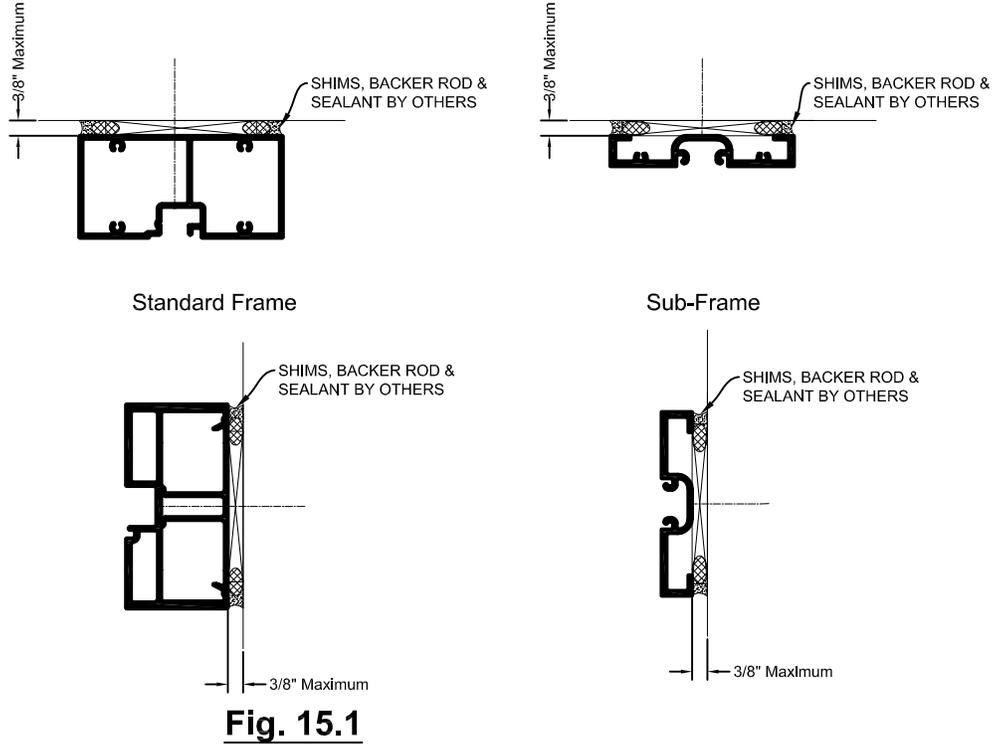


**Fig. 14.3**  
**THRESHOLD**  
**INSTALLATION**

**DOOR and FRAME INSTALLATION**

**Step 4: Seal Perimeter**

- A. Once the frame is anchored to the structure apply exterior perimeter seal at head and jambs. At interior apply perimeter seal as head and jambs. **SEE FIG. 15.1**



**Step 5: Door Installation**

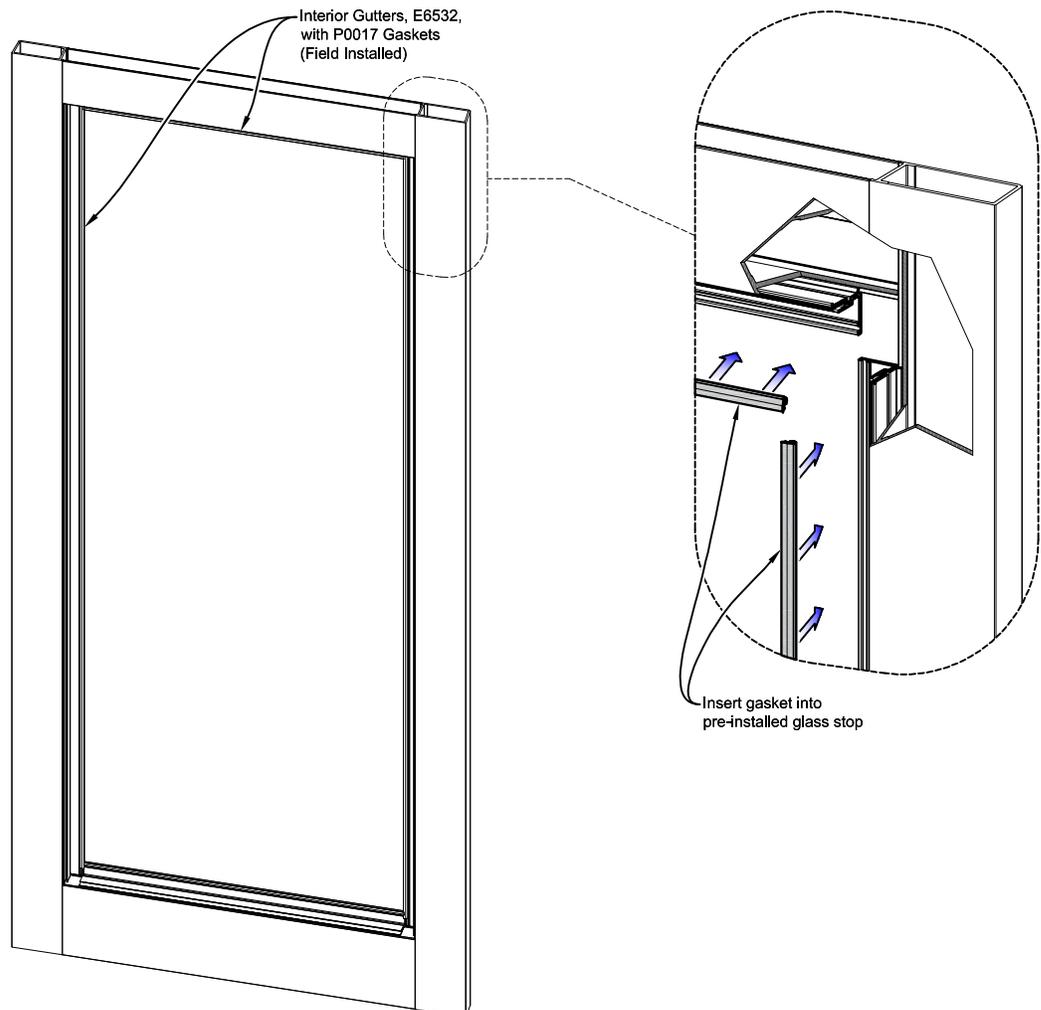
- A. Refer to Tubelite's "Door and Frame Installation Instructions" for installing the door into the frame

## DOOR GLAZING

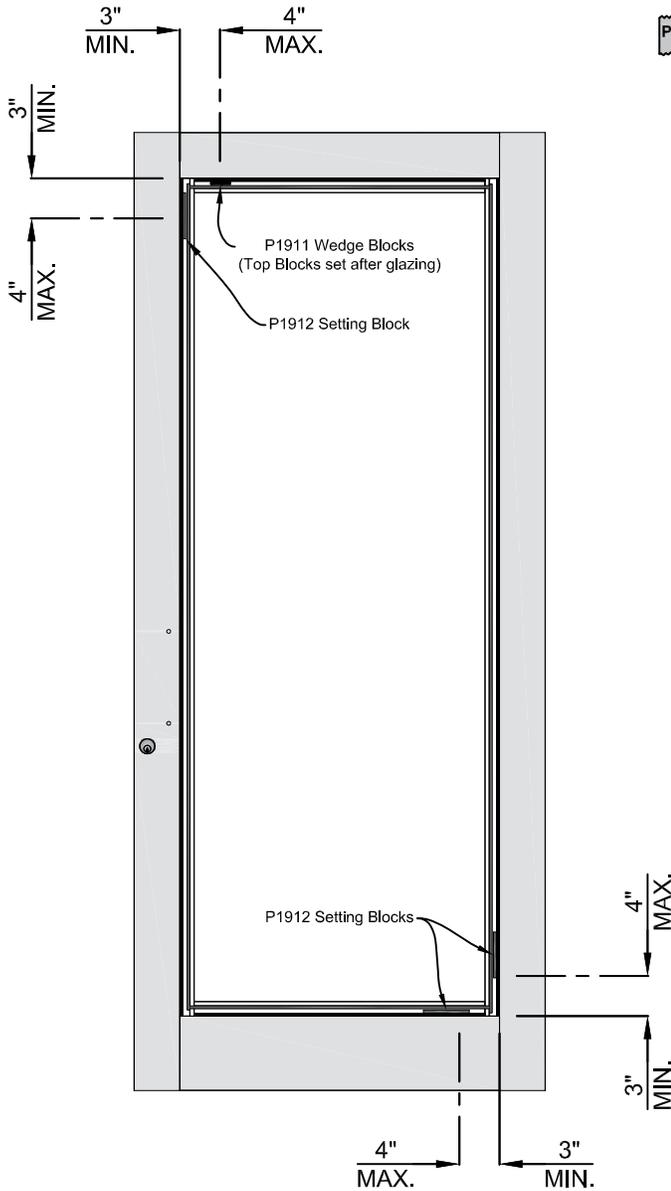
### Step 6: Dry Glazing

- A. Interior glazing gutter (E6532) is pre-installed into the door by Tubelite
- B. Install interior gasket (P0017) into the receiver on glazing gutter. **SEE Fig. 16.1**
- C. Trim glazing gasket leaving 1/8" excess at each end
- D. After hanging the door, place self-adhesive setting blocks (P1912) in three locations on the interior glazing gutter (E6532). **SEE Fig. 17.1**
- E. Install glass into the door
- F. Square up door as desired
- G. Install vertical glass stops first by sliding the leg of E6523 or E6533 into the glazing gutter. **SEE Fig. 17.2**
- H. Starting at one end of the glass stop, push in toward the glass, making sure to align the snap fit detail.
- I. Use a wood block and mallet to complete the glass stop insertion
- J. Install glass stop at the bottom rail using the same method
- K. Place two wedge blocks (P1911) at the top corner as shown in **SEE Fig. 17.1**. If together properly the wedge blocks will interlock and form two flat surfaces.
- L. With the wedge blocks in place, push together until they press tightly against the underside of the glazing gutter and the top of the glass holding the door square.
- M. Install top rail glass stop
- N. Insert glazing wedge (P2901 or P2908) into the glass stop making sure not to stretch it during installation.
- O. To square up the door in the future, remove the top rail glass stop and repeat steps L through N

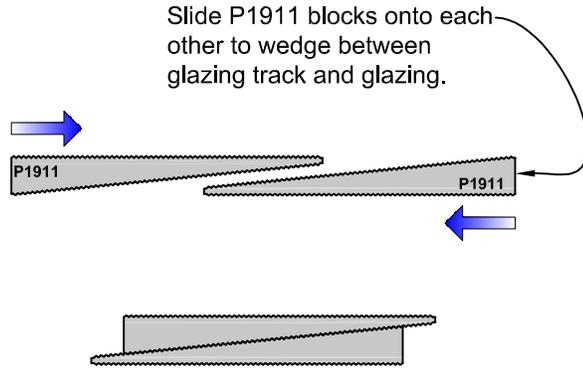
**Fig. 16.1**



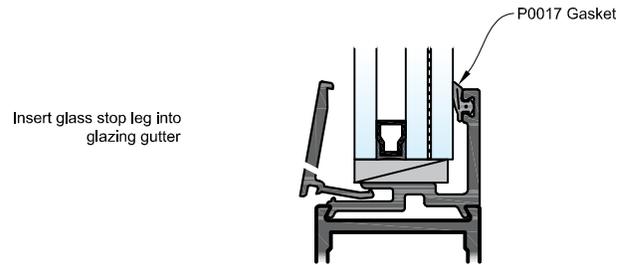
## DOOR GLAZING



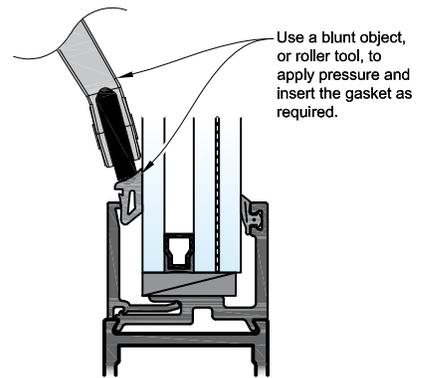
**Fig. 17.1**



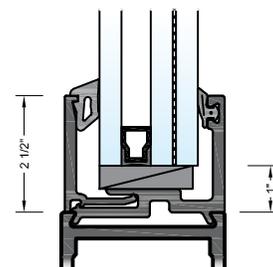
**Fig. 17.1**



**Fig. 17.2**

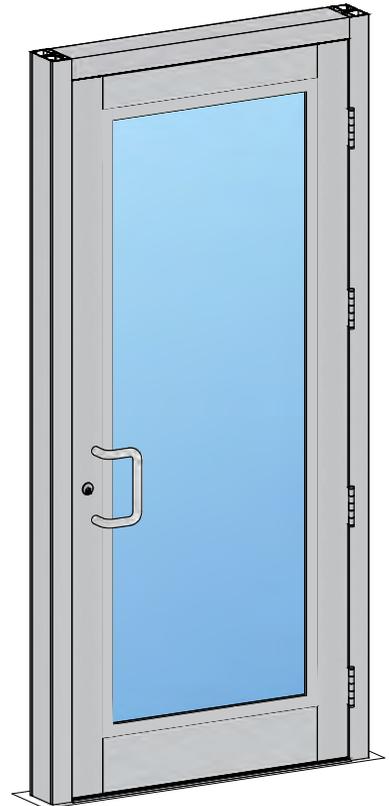
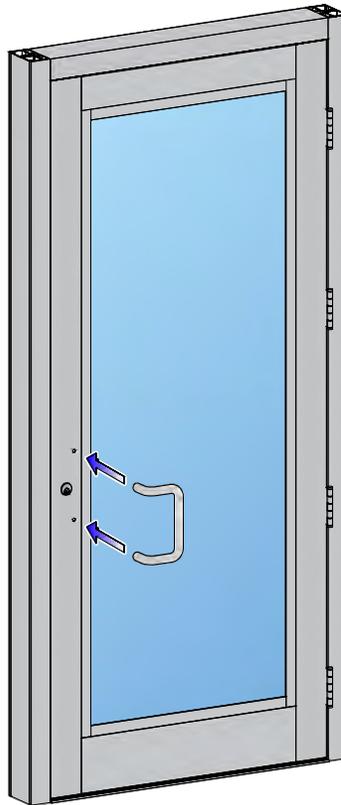
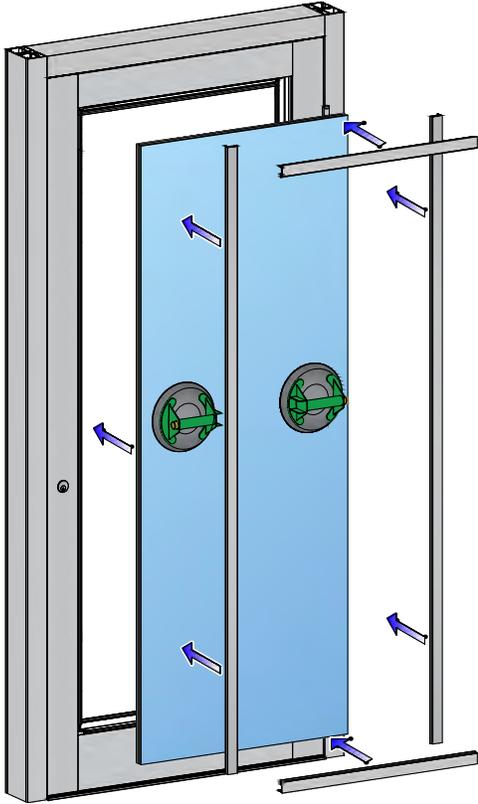


**Fig. 17.3**



**Fig. 17.4**

**DOOR GLAZING**

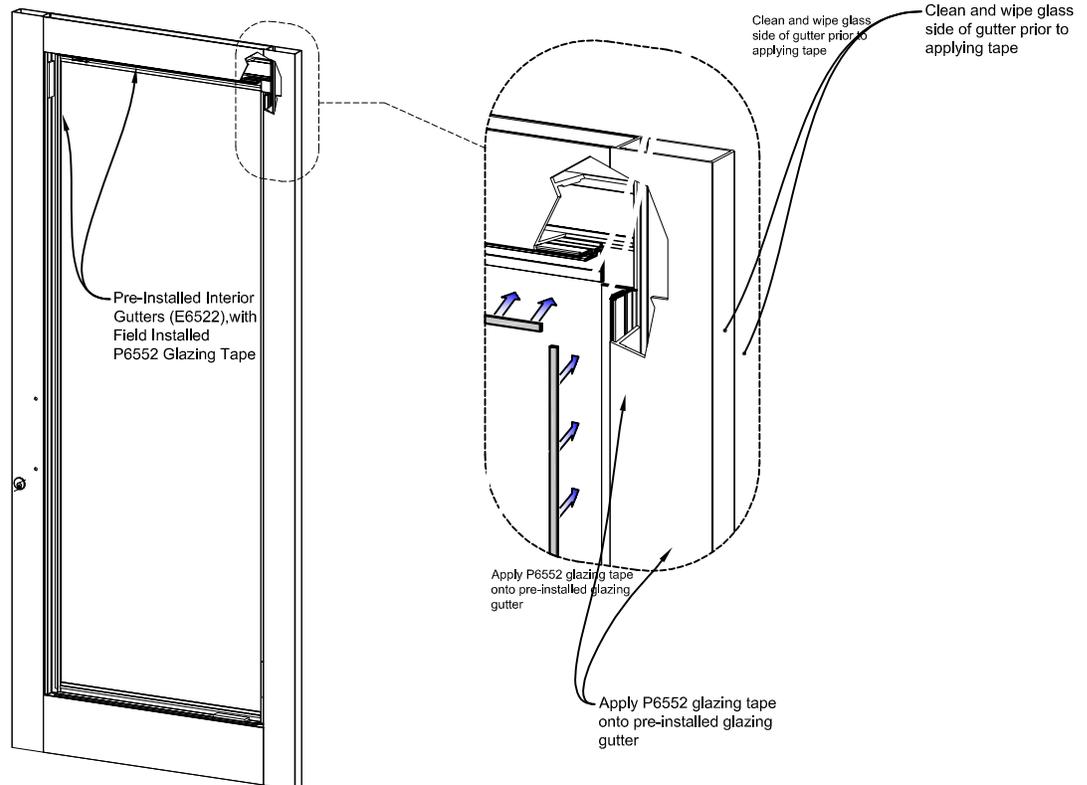


## DOOR GLAZING

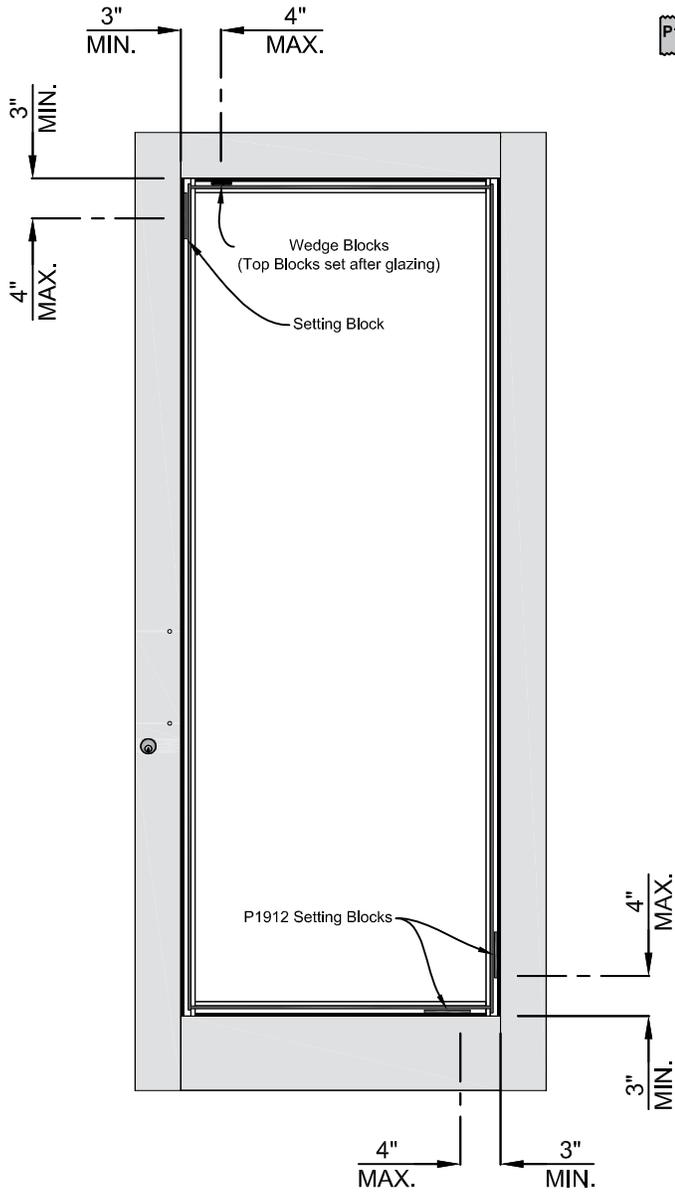
### Step 7: Wet Glazing

- A. Interior glazing gutter (E6522) is pre-installed into the door by Tubelite
- B. Clean the glazing gutter surface that will be contacted by the tape using an approved cleaner and the two-cloth method
- C. Apply glazing tape (P6552) to the interior gutter using the I.D. groove to locate the tape. **SEE Fig. 19.1**
- D. Leave tape backer on but pull up corners leaving tabs accessible so the backer can be removed after glass is set in place
- E. After hanging the door, place self-adhesive setting blocks (P1912) in three locations on the interior glazing gutter (E6522). **SEE Fig. 20.1**
- F. Install glass into the door
- G. Place two wedge blocks (P1911) at the top corner as shown in Fig. 20.1. If together properly the wedge blocks will interlock and form two flat surfaces
- H. With the wedge blocks in place, push together until they press tightly against the underside of the glazing gutter and the top of the glass holding the door square
- I. Square up door as desired
- J. Install vertical glass stops first by sliding the leg of E6523 or E6533 into the glazing gutter. **SEE Fig. 20.2**
- K. Starting at one end of the glass stop, push in toward the glass, making sure to align the snap fit detail
- L. Use a wood block and mallet to complete the glass stop insertion
- M. Install glass stop at the bottom rail using the same method
- N. Install top rail glass stop
- O. Remove tape backer by pulling on the corner tabs taking care not to tear the backer
- P. Insert glazing wedge (P2901 or P2908) into the glass stop making sure not to stretch it during installation
- Q. Apply a low adhesion masking tape to surface of glass stop and glass
- R. From the bottom to the top, apply DOW 995 structural silicone into the cavity between the glazing tape and glass. Make sure entire void is filled with no air bubbles or voids in the silicone
- S. Using a beveled non-marring instrument, tool the silicone immediately after application
- T. Remove masking tape from the glass stop and glass before silicone skins over

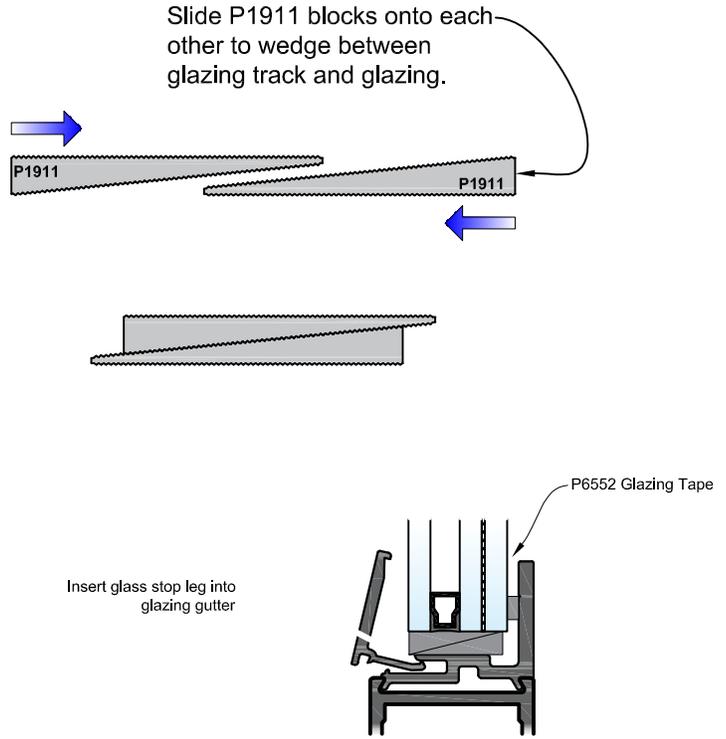
**Fig. 19.1**



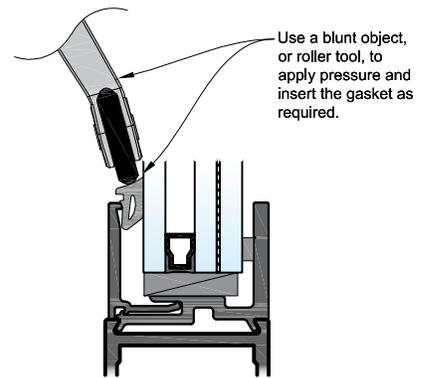
**DOOR GLAZING**



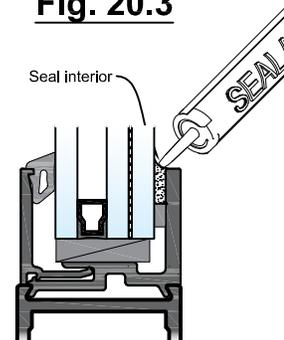
**Fig. 20.1**



**Fig. 20.2**

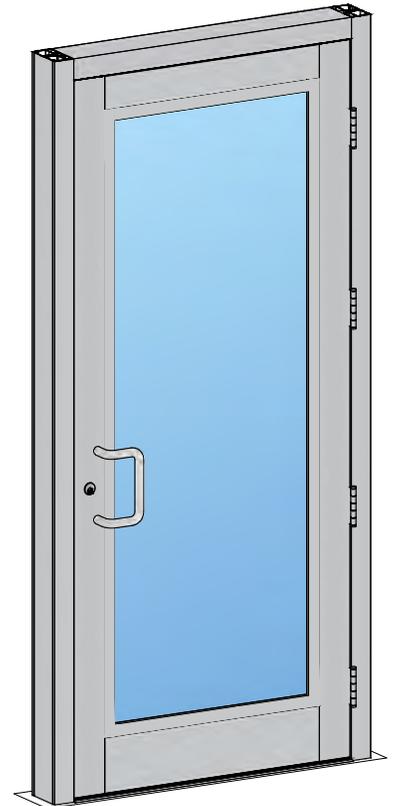
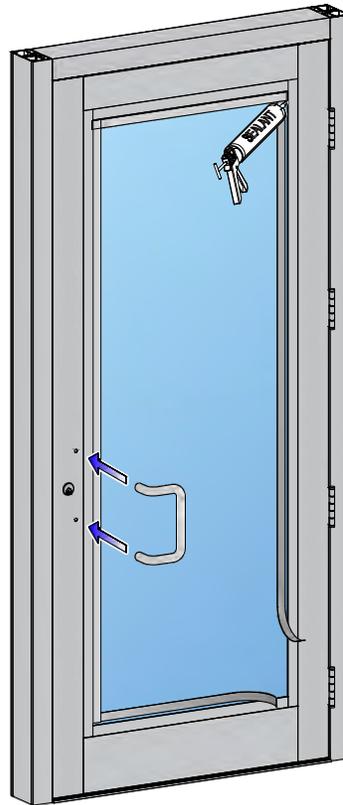
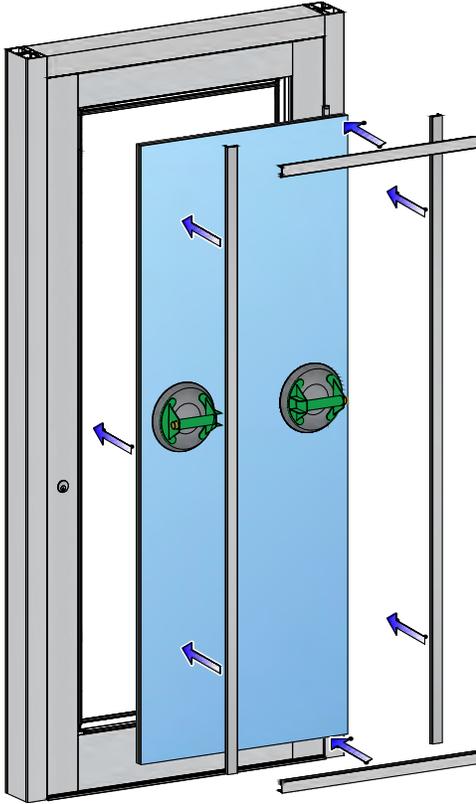


**Fig. 20.3**



**Fig. 20.4**

## DOOR GLAZING

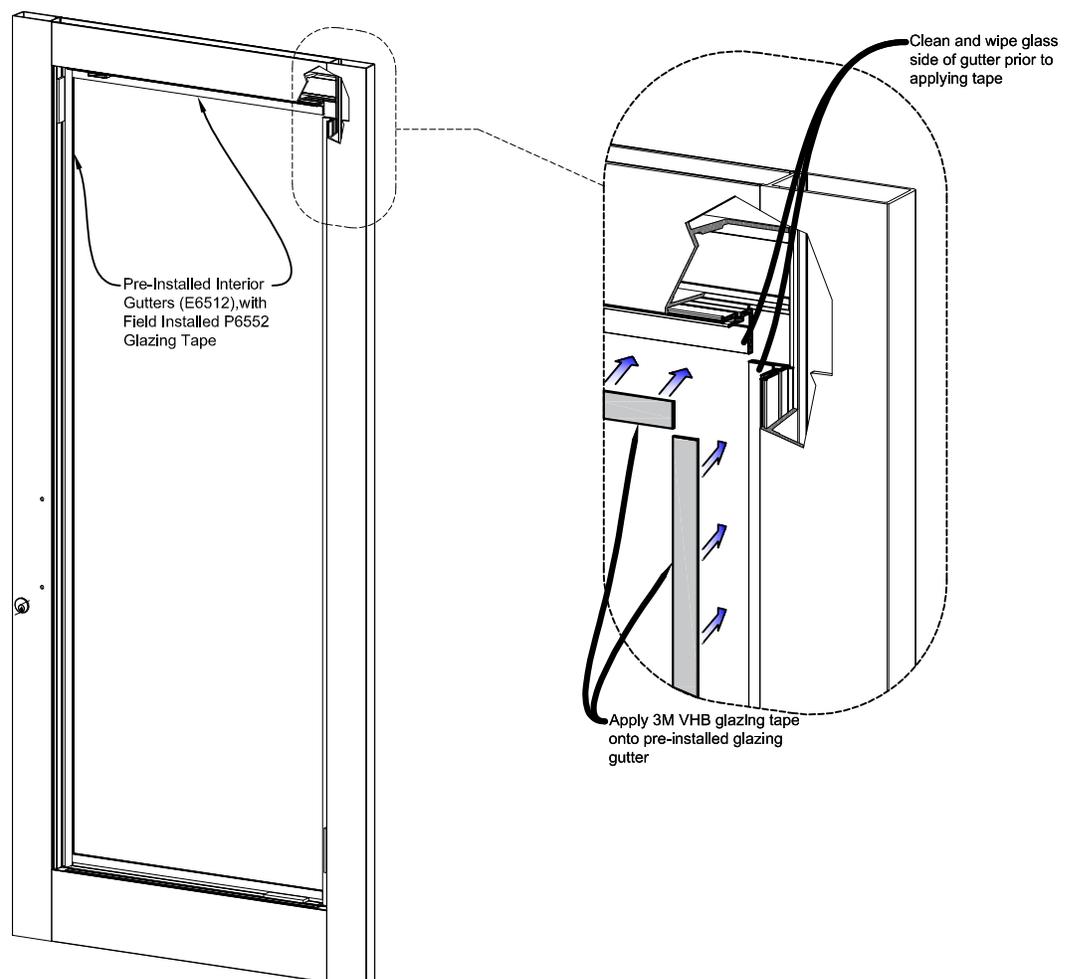


## DOOR GLAZING

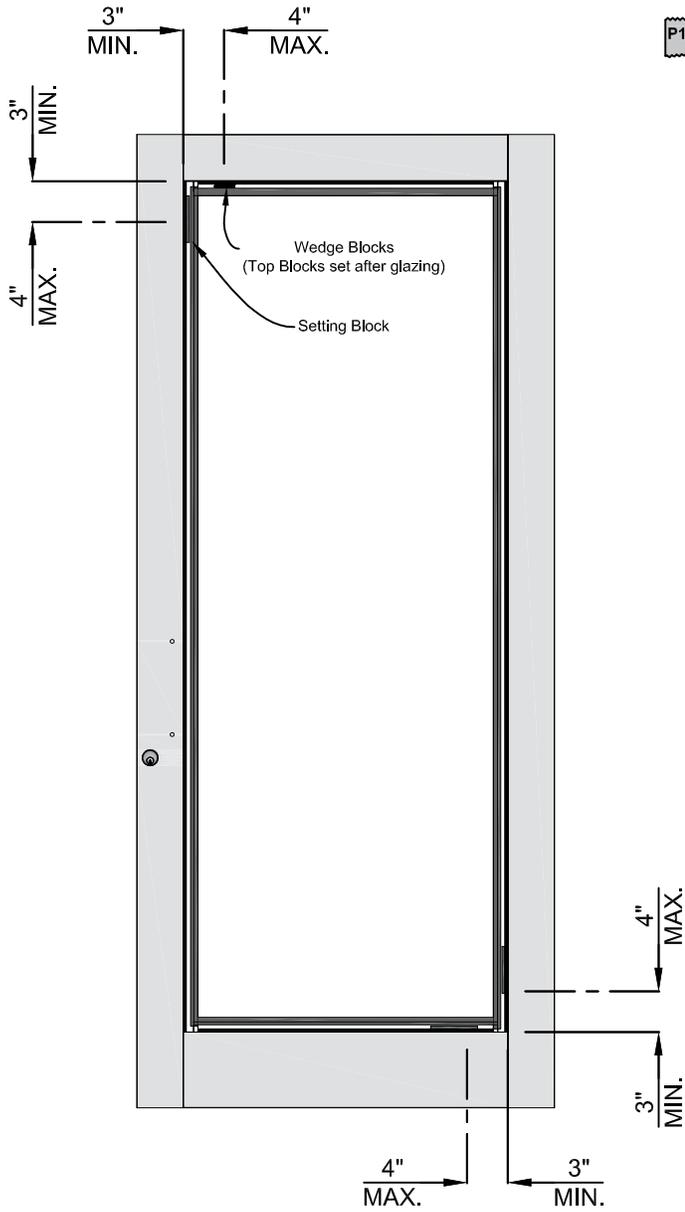
### Step 6: Tape Glazing

- A. Interior glazing gutter (E6512) is pre-installed into the door by Tubelite
- B. Prepare the surfaces that will contact the tape per 3M's instructions to ensure proper bond
- C. Apply 3M VHB tape (not by Tubelite) to the interior gutter aligning with the top edge of the gutter. **SEE Fig. 22.1**
- D. Leave tape backer on but pull up corners leaving ends accessible so the backer can be removed after glass is set in place.
- E. After hanging the door, place self-adhesive setting blocks (P1912) in three locations on the interior glazing gutter (E6512). **SEE Fig. 23.1**
- F. Install glass into the door
- G. Square up door as desired
- H. Place two wedge blocks (P1911) at the top corner as shown in **SEE Fig. 23.1**. If together properly the wedge blocks will interlock and form two flat surfaces.
- I. With the wedge blocks in place, push together until they press tightly against the underside of the glazing gutter and the top of the glass holding the door square.
- J. Remove tape backer by pulling on the ends taking care not to tear the backer
- K. Apply proper pressure to the glass per 3M's instructions, making sure to get complete wet out of the tape onto the glass.
- L. Install vertical glass stops first by sliding the leg of E6523 or E6533 into the glazing gutter. **SEE Fig. 23.2**
- M. Starting at one end of the glass stop, push in toward the glass, making sure to align the snap fit detail.
- N. Use a wood block and mallet to complete the glass stop insertion
- O. Install glass stop at the bottom rail using the same method
- P. Install top rail glass stop
- Q. Insert glazing wedge (P2901 or P2908) into the glass stop making sure not to stretch it during installation.

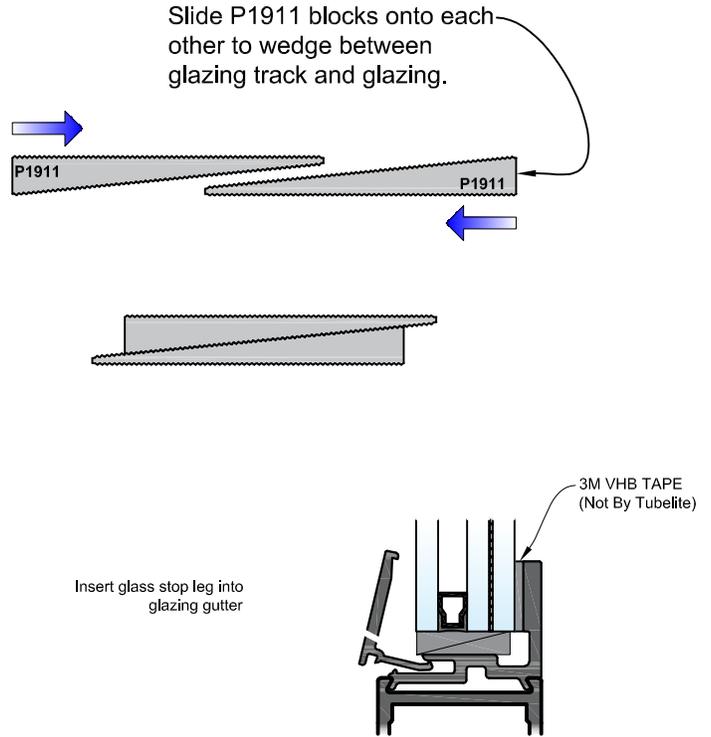
**Fig. 22.1**



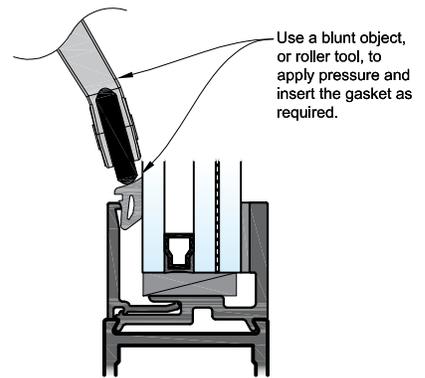
## DOOR GLAZING



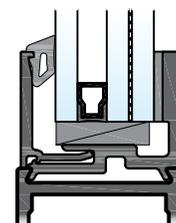
**Fig. 23.1**



**Fig. 23.2**



**Fig. 23.3**



**Fig. 23.4**

**DOOR GLAZING**

