Gen II
Security Frames

Installation and Training Manual

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V.04292024

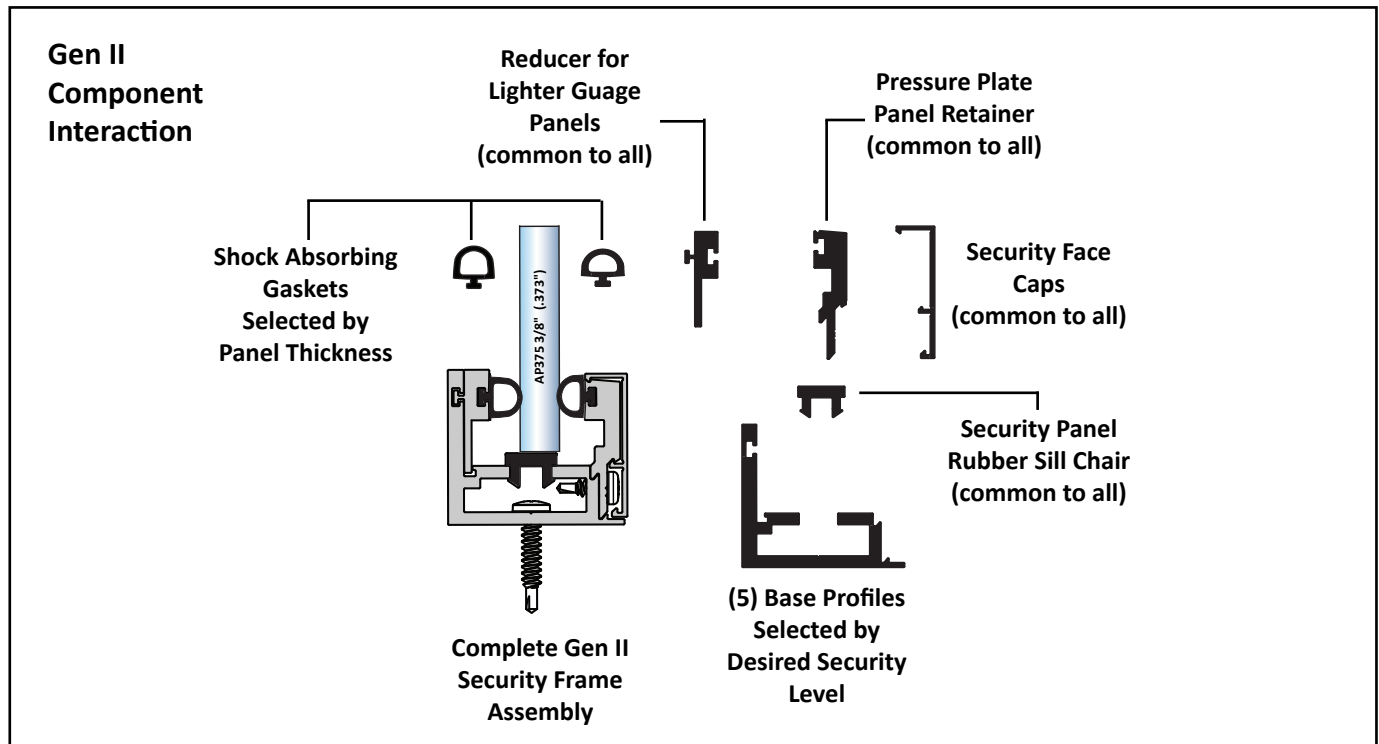**RIOT GLASS**

Table of Contents

Introduction

The ArmorPlast® Gen II Security System is designed for maximum protection over a multitude of door and window applications. The wide range of installation possibilities gives the installer optimized solutions for almost every project. However, product knowledge is key to a successful Gen II installation. Take a moment to study the parts below and become familiar with their function. Then carefully study and understand all of the sections in this guide prior to starting your project. The Gen II system is designed for easy installation and, within a short time, you will reach a professional level of expertise. Welcome to the Riot Glass team!

Gen II Component Interaction

Reducer for Lighter Guage Panels (common to all)

Pressure Plate Panel Retainer (common to all)

Shock Absorbing Gaskets Selected by Panel Thickness

AP375 3/8" (.373")

Security Face Caps (common to all)

Security Panel Rubber Sill Chair (common to all)

Complete Gen II Security Frame Assembly

(5) Base Profiles Selected by Desired Security Level

How to Field Survey

Riot Glass provides fillable jobsite survey forms to be included with your Gen II orders. By using these forms our engineering department can process your orders quickly and efficiently. It is critical to be accurate when filling the form fields. Double check all measurements.

We prefer orders to be accompanied with site photos. You can submit survey sheets and photos to the estimating department on the Dealer Portal at riotglass.com. Refer to the next page for imaging guidelines.

Jobsite Survey

SWINGING DOOR	SLIDING DOOR	ALUMINUM STOREFRONT

Swing Door

Use this form for all hinged doors with a frame. The frame may be steel, aluminum, wood, or composite. It must be 1-3/4" deep with removable glazing stops on both sides. Alternatively, it can be modified by the installer to meet the criteria. If modifications are planned, please note so on the order form.

Sliding Door

This is a multiple page form for aluminum power sliding storefront doors with a frame. It must be 1-3/4" deep* with removable glazing stops on both sides. Photos and door manufacturer information is especially important when ordering.

Aluminum Storefront and Curtain Wall

Mapping of the jobsite with detailed photos is critical when submitting this form. Carefully follow the questions on the form and note or include photos of unusual obstacles like protruding masonry, irregular wall terminations, unframed corners, etc.

Log on to the Dealer Portal for official Riot Glass fillable/printable forms to be used for jobsite surveys.

* If doors are thinner or thicker, the AP2 Door Conversion may still work, but aesthetics may be compromised. Be sure to clear this with your client.

Survey Imaging Guidelines

Measuring

Correct measurements are critical for a successful installation. A straight-on photograph of the tape measure <u>behind</u> the storefront frame, whenever possible, will give a more accurate reading and dimension verification by our engineers.

Avoid angle shots. Frame the photos directly on the tape measure.
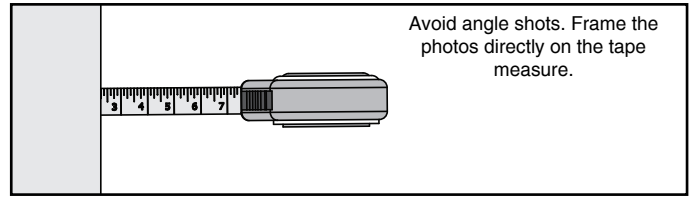
Photography

Submit multiple wide-angle views of the site. Try to capture a complete bank of windows and doors per exterior face. Wide views help us understand the placement and orientation of the job and identify possible obstacles preventing the proper installation of the Riot Glass system.

Close-up photographs of the handle and lock areas from a variety of angles are recommended.
At least one close-up photo of the handle and lock-gap and one full-length of the door(s) should be included.

MINIMUM ONE FULLVIEW   MINIMUM ONE CLOSE-UP
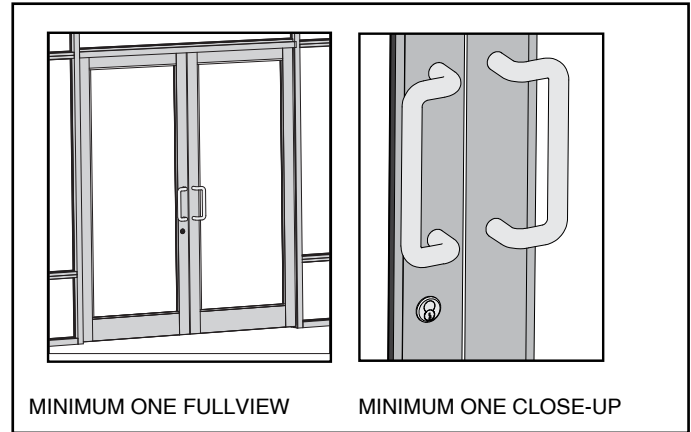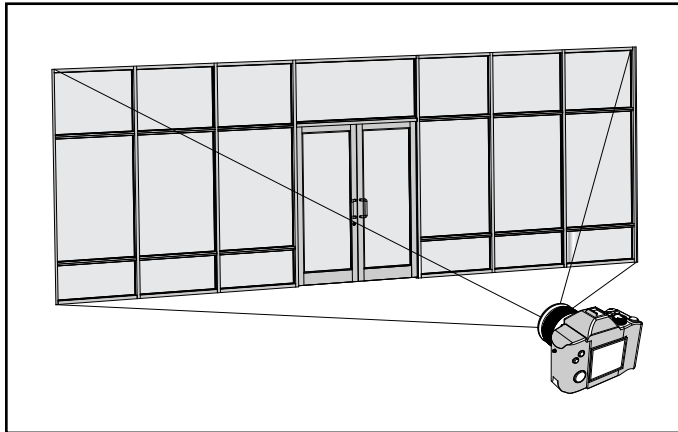
- ● Photographs should be straight-on. Avoid taking photos from angles adding distortion.
- ● Take survey pictures during normal daylight hours or use a flash.
- ● Provide at least (2) pictures of the overall exterior storefront.
- ● Minimum (1) close-up photo of the handle and lock sections on the door(s).
- ● Minimum (1) Full-View of the Door(s)

Map the Jobsite

Window mapping must follow the flow chart as shown. Consistant mapping standards eliminate mistakes and make omissions easy to spot.

1	4	7	10		13
2	5	8	11	12	14
3	6	9			15

Log on to the Dealer Portal for official Riot Glass fillable/printable forms to be used for jobsite surveys.

Selecting the Right Base Component

1: Select the type of installation required from row ←A→ (ex: over glaze. door conversion, etc)

2: Note the compatibe Base extrusions recommended below in row ←B→

3: Select from the available security panels that fit the recommend Base. ←C→

Verify that the protection level and available sheet sizes meet the job requirements.

Over glaze/Back glaze — In front or behind existing storefront		←A→	Door Conversion or back-glaze	←A→	Storefront / Ballistic Conversion — Replaces existing storefront glazing	
Standard-Duty Storefront	**Heavy-Duty Storefront**		**Heavy-Duty Door**		**Heavy-Duty Storefront**	**Extra-Heavy Duty Storefront**
1-9/16" **1** 1-5/16" AP2-SF-STD	1-9/16" **2** 1-3/4" AP2-SF-HD	←B→	1-9/16" **3** 1-3/4" AP2-DC	←B→	1-11/16" **4** 2-3/8" AP2-SF-WC	1-11/16" **5** 2-3/8" AP2-HG
AP25 AP375 AP375-BR	AP375 AP375-BR AP75-BR AP100-BR AP375 1" IGU RG1-LS RG2-LS	←C→	AP375 AP375-BR AP75-BR AP100-BR AP375 1" IGU RG1-LS RG2-LS	←C→	AP375 AP375-BR AP75-BR AP100-BR AP375 1" IGU RG1-LS RG2-LS	AP125-BR-LV6 RG3-LS RG4-LS RG5-LS RG6-LS RG7-LS
Forced Entry & Light Ballistic	**Up to Level 3 Ballistic**		**Up to Level 3 Ballistic**		**Up to Level 3 Ballistic**	**Up to Level 7 Ballistic**

RG Series All RG Series are UL modified as Low-Spall (LS) products.

- RG1-LS
- RG2-LS
- RG3-LS
- RG4-LS
- RG5-LS
- RG6-LS
- RG7-LS

AP SERIES

- AP25
- AP375
- AP375-BR
- AP50-BR
- AP75-BR-LV1
- AP100-BR-LV2
- AP100-BR-LV3
- AP125-BR-LV6

AP IGUs

- AP25 1" IGU
- AP25 3/4" IGU
- AP375 1" IGU
- AP375-BR 1" IGU

Preparing the Existing Support Framework

Follow the steps below with the selected base profile number from the previous page.

BASES 1-2-3-4-5

STEP 2: Carefully Inspect the Conditions

Evaluate the condition of the supporting storefront framework. Identify damage that might not allow Gen II to be securely attached.
• Broken or twisted storefront mullions
• Protruding masonry
• Out-of-Square conditions
• Sufficient frame depth for the selected base

BASES 1-2

STEP 2A: Storefront Preparation for Over Glazed Installation

Bases 1 and 2 are part of the Gen II over glazed system that are mounted in front of, or behind, an existing storefront.
• Water and air infiltration is handled by the existing storefront structure design. Therefore, it is important to verify the integrity of the original structure and repair the storefront as necessary before installation.
• Clean the storefront glass thoroughly prior to installing Gen II.
• Clean all aluminum surfaces with denatured alcohol before installing Gen II.
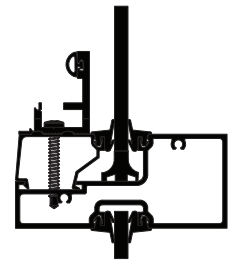
BASES 4-5

STEP 2B: Storefront Preparation for Conversion Installation

Bases 4 and 5 are designed to be part of the Gen II Conversion System in which the existing storefront glass is removed. Base 4 is suitable for conversions and storefronts with 1/4" glass pockets. Base 5 is used for existing 1" glass pockets.
• Storefront conversions require the removal of the gaskets and glass panels.
• Once the glass has been removed, replace the glass stops applying a light bead of sealant at the snap edges. Remove excess when finished.
• Clean all aluminum surfaces with denatured alcohol.
• Verify that water diverters are installed at the ends of each intermediate horizontal mullions. (See page 14)
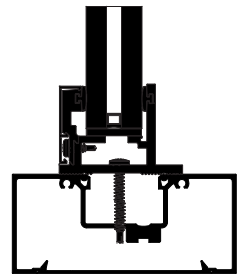
BASE 3

STEP 2C: Door Preparation for Conversion Installation

Base number 3 is designed to be used on aluminum framed entrance doors but can be used on storefront and curtain wall per step 2B.
• In order to use the Gen II Door Conversion System the door must have removable glass stops on both sides, both vertical and horizontal.
• With the door half-way open for easy access to both sides, place a wedge between the bottom edge and the floor to support the door and hold it in place. It is important to take the load off of the hinges.
• Remove the glass and setting blocks from the frame.
• Remove exterior push bars and pulls that impede the DLO.
• Since the security panel is going to be installed from the outside, interior handles or panic hardware can remian in place.

EXTERIOR   INTERIOR
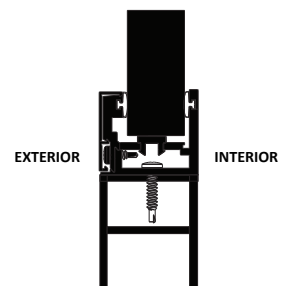
Corner Joinery Selection

In order to measure existing framework for cutting, the type of corner joinery must be determined. The list below specifies the most efficient corner systems for the various base extrusions and their applications. NOTE: Some base profiles appear more than once in the list below indicating their compatability with either corner type.

BUTT-JOINED CORNERS
Doors and Storefronts

HORIZONTAL BASE RAIL
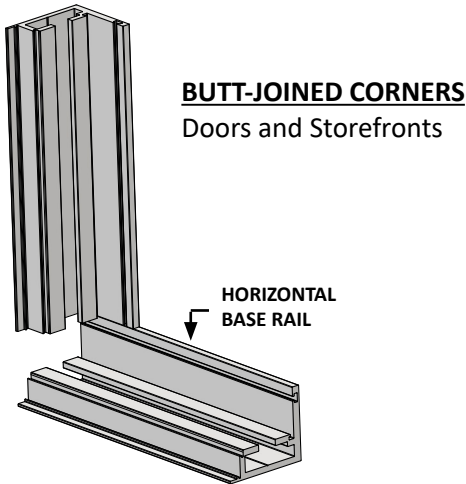
BASE 1-2-3

The top and bottom horizontal base rails run from side-to-side in all cases. In other words, they run the full DLO (Day Light Opening). The challenge to a butt joint is acheiving a proper seal at the ends. Butt-joined corners are optional in storefront installations but should always be use for door conversions. Figures 4 and 5 on the following pages provide important sealing details for butt-joined corners.

MITERED CORNERS
Storefronts

BASES 1-2-3-4-5

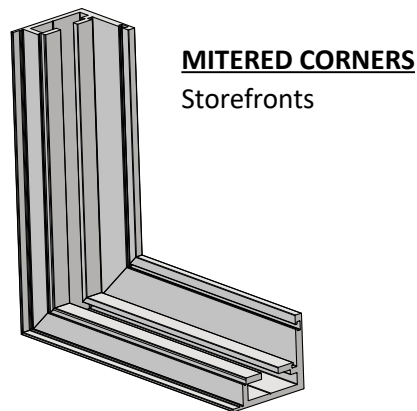Some clients may prefer the look of mitered corners. Mitered corners require precision cutting and they have an overall better appearance from both sides of the storefront. This method of installing requires more precise cutting but results in a much stronger corner connection. Mitered corners are easier to seal due to the two mating surfaces. Some cutting tips:

1. Use a sharp blade with the saw calibrated to 45°.
2. Cut all miters before setting the saw back to 90°
3. Slightly overcut all lengths for tighter corners.

MITERED CORNERS WITH CLIPS
Punched Openings
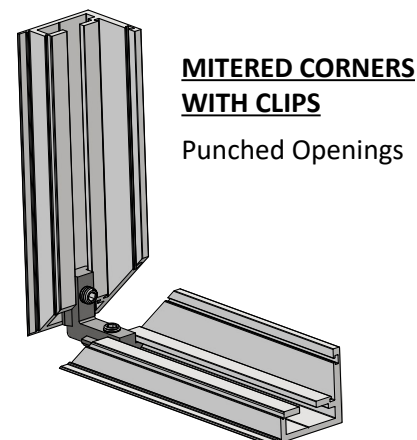
BASES 1-2-3-4-5

Mitered corners with clips are best suited for masonry and concrete openings. Base frames are cut and assembled prior to inserting into the window opening.
- Requires shimming and sealants.
- Installs like a traditional block-frame window.
- Prefabricated frame is inserted into the existing framework.

BASES 1-2

Installing Over Glazed Butt-Joined Systems

As shown in **(Fig. 1)** the top and bottom Gen II horizontal members run the full width DLO of the existing opening.
1. Measure and cut the top and bottom horizontals separately to fit the intended opening width as tight as possible.
2. Place horizontals in position without sealant. Parts should be cut to stay in place on their own.
3. Measure for vertical members. Measure left and right vertical openings seperately between horizontals.
4. Dry-fit in place. **(Fig. 2)**
5. Verify tight corners and minimal gaps.
6. Remove and proceed to next section.

HORIZONTAL
MEMBER

VERTICAL
MEMBER

FIGURE 1
Horizontal members always run through.

FIGURE 2
Vertical members are cut to fit between horizontals
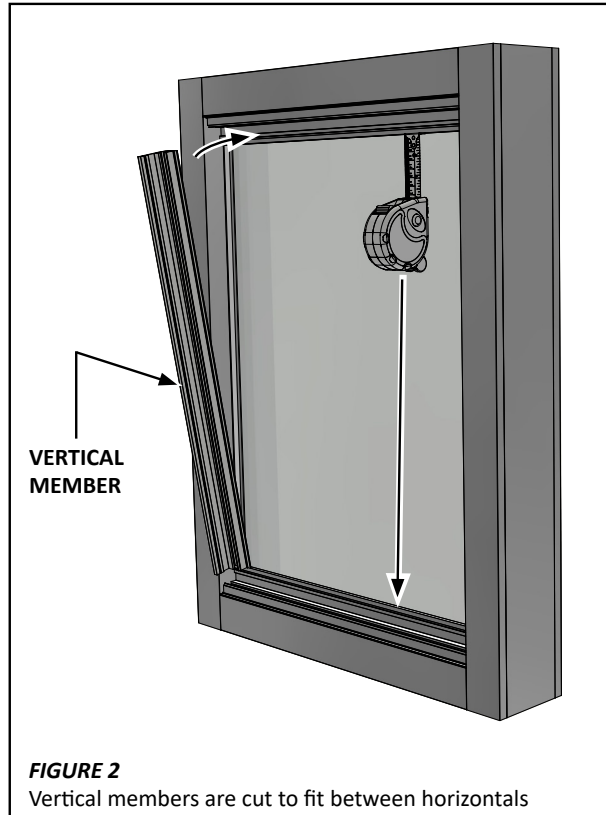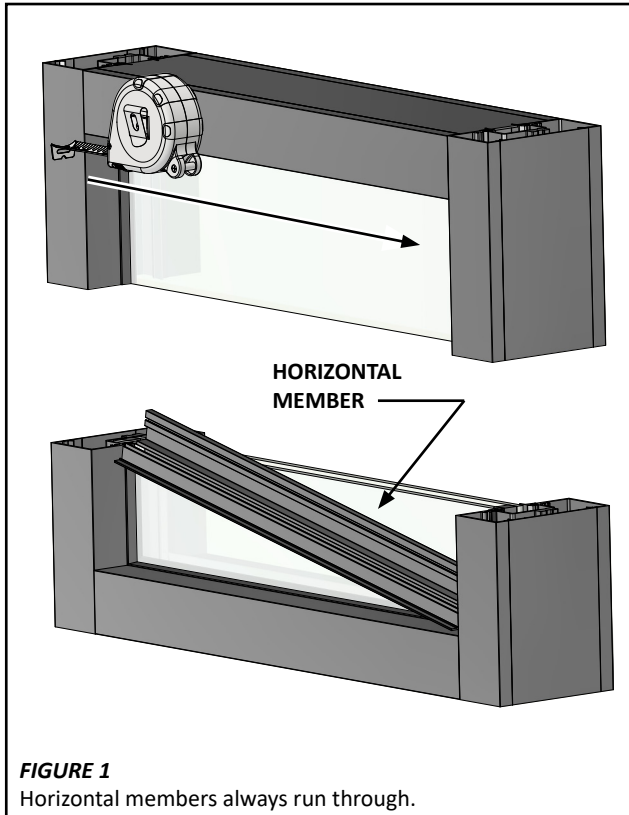
Key Installation Points

- Trim factory extrusion ends square before using.
- Dry-fit all cut parts before sealing and fastening.
- Spot drill and pilot all fastener holes.
- Remove debris from base collector pan before installing.
- All butt-joined horizontals run-through.
- All bottom horizontals should be sealed to hold water.

- Install gaskets before attaching components.
- Cut all gaskets long and compress into place.
- Properly seat Gen II Pressure Plates.
- ArmorPlast® can be scratched even with protective film.
- Extended sun exposure may make film removal difficult.
- Keep all aluminum away from fresh cement/mortar.

BASES 1-2

Installing Over Glazed Butt-joined Systems

Additional holes required

Once the (4) base extrusions are cut to length and have been dry-fitted to the opening, remove and inspect each component. The Gen II system requires a fastener be located at 1/4" and 1" from each end for maximum protection. Drill required holes if necessary. Remove all aluminum debris before applying sealant. **(Fig. 3)**

Fastener Holes Over Glazed Base Members

3/16" Installer Added Holes Each End

1"

3/16" Factory Holes

6"

1/4"

REQUIRED FOR ALL (4) MEMBERS
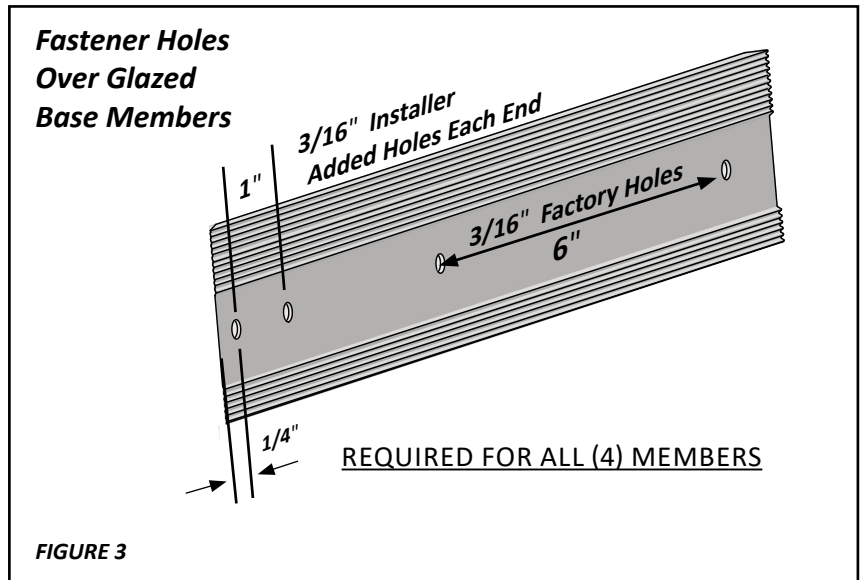
FIGURE 3

Installing Base Members

(Fig. 4) illustrates a butt-joint over glaze installation. Note the indicated sealant areas.

1. Apply a thick sealant bead to each storefront frame component.

2. Apply sealant to all contact ends.

3. Insert the specified gaskets.

3. Install base components with approved fasteners before the sealant begins to cure.

4. Remove excess sealant if necessary.

Butt-Joined Over Glaze Base Install

Heavy bead of sealant under all base components

Vertical base component

Seal all fastener heads after tightening

Install gaskets before attaching bases

Seal base ends to storefront vertical

Moisture collection pan

Heavy sealant bead under all base components

FIGURE 4

BASES 3

Installing Conversions with Butt-joined Corners

FIGURE 5

FIGURE 6

Before installing the (4) base members, additional fasteners holes must be added. Drill 3/16" holes, 1/4" and 1" from each end in the bottom of all (4) Gen II cut members.

Drill (2) new 3/8" weep holes 2"-3" from each end in the bottom base **(only).** Do not drill through fastener holes. Conversion weep holes drain down into glass pocket.

Install Base Members

When preparing the conversion installation, glass and gaskets are removed from the existing storefront frame.
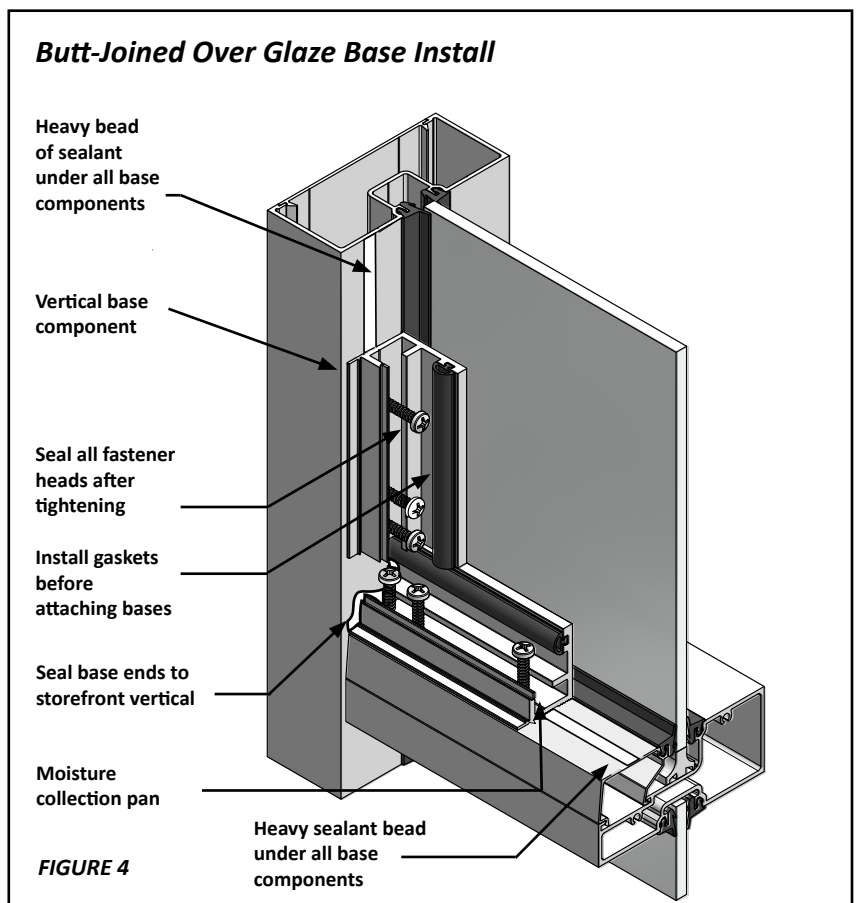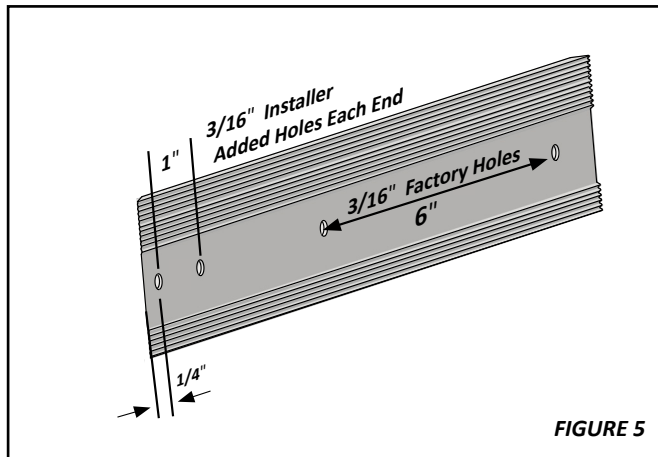
Starting with the bottom horizontal base member, apply a bead of sealant on either side of glass pocket as shown in **(Fig.8).**

Place the bottom horizontal Gen II member into the wet sealant and move into position. Install fasteners. Fasteners should be long enough to penetrate the glass pocket webbing for a secure connection. **(Fig. 7)**

Minimum (3) thread penetration

FIGURE 7

Butt-Joined Conversion Base Install

Two beads of sealant under base components all around

Vertical base component

Install gaskets before attaching bases

Seal base ends to storefront vertical

Seal all fastener heads after tightening

Glass pocket webbing

FIGURE 8

BASES 1-2-3-4-5

Important Notes Regarding Mitered Corners

Optional mitered corners must be cut at precisely 45° to avoid misalignment and gaps between the other mating base components. If the opening is out-of-square the parts may require shims during installation in order to maintain miters without gaps.

At this point the installer's main concern is to achieve precise mitered cuts of the correct length.

Parallel parts must be equal in length. Example: When measuring the (2) vertical base members on opposite sides, use the shortest corner-to-corner dimension as the cut length for both.

Dry-fit all cut parts before installing. Fit should be snug but parts should be removable when inside of frame.

If any special trimming is required it should be done at this time. All parts should be labeled before removing.

Fabricating Base Verticals

(A)   (B)

EXISTING STOREFRONT FRAMING

When mitering all base components:
- **Corners must be 45°**
- **Use the shortest dimension (A) or (B)**
- **Both base members must be the same length.**

FIGURE 9

Mitering Base Members

45°

45°

FIGURE 10

Over Glazed Base Members

FIGURE 11
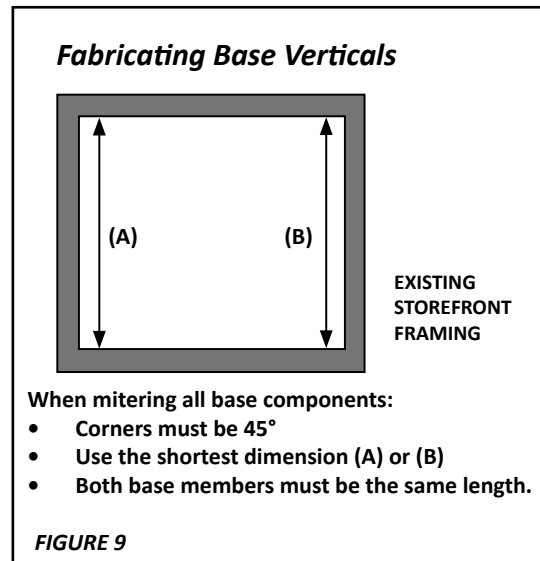
Sealing

Carefully follow the sealing practices shown in this manual. All mating surfaces should be sealed including the gasket ends. All fasteners heads should also be sealed. Once the mitered corners are joined the installer should inject sealant into the two bottom inside corners. Water entering the mosture collection pan in the base profile should be forced to exit only through the 3/8" weep holes. A water test is recommended after the sealant cures.

BASES 1-2

Installing Over Glazed Systems with Mitered Corners
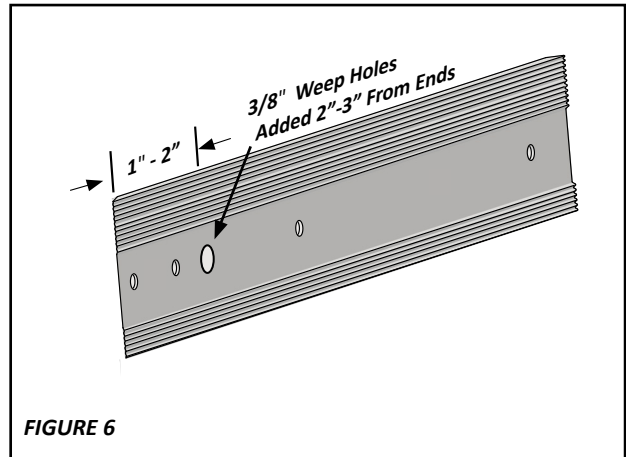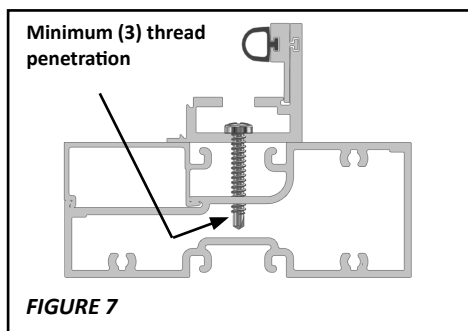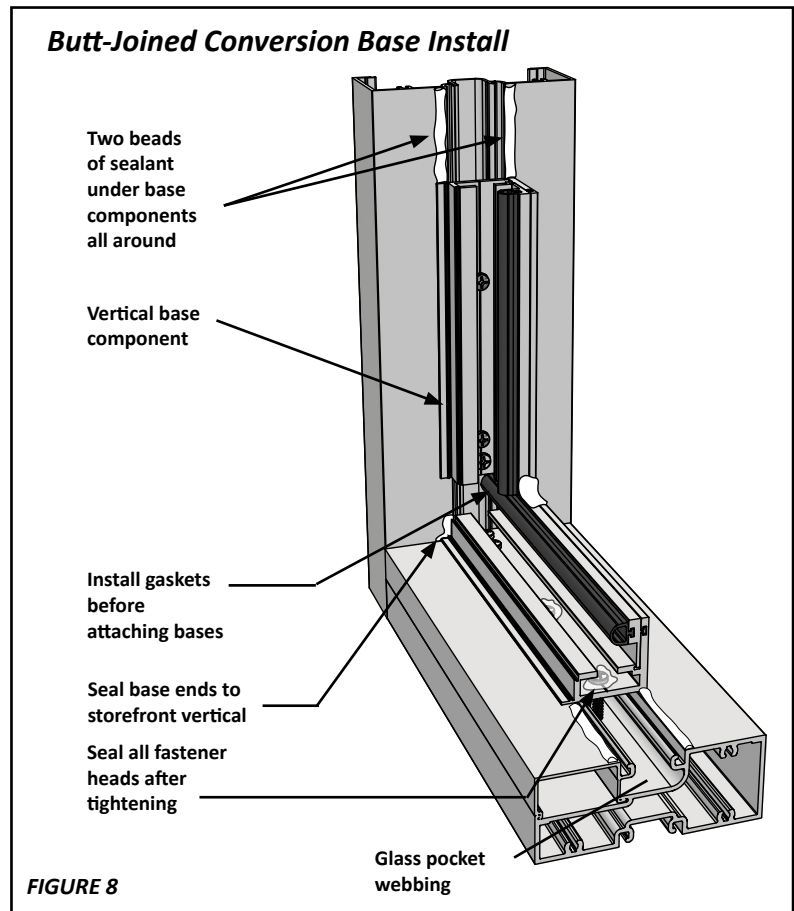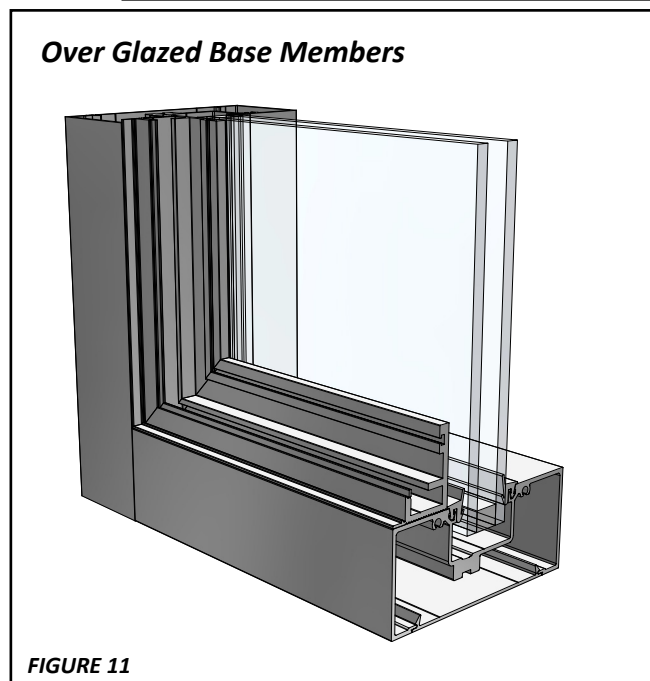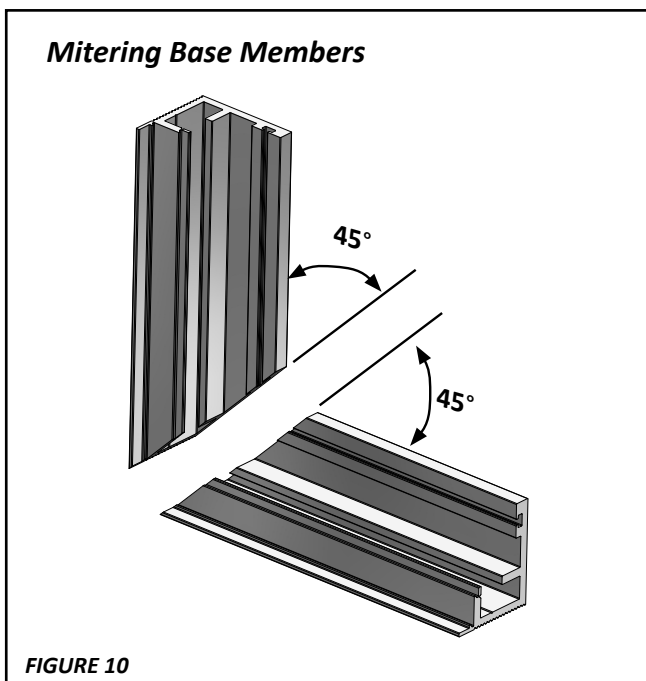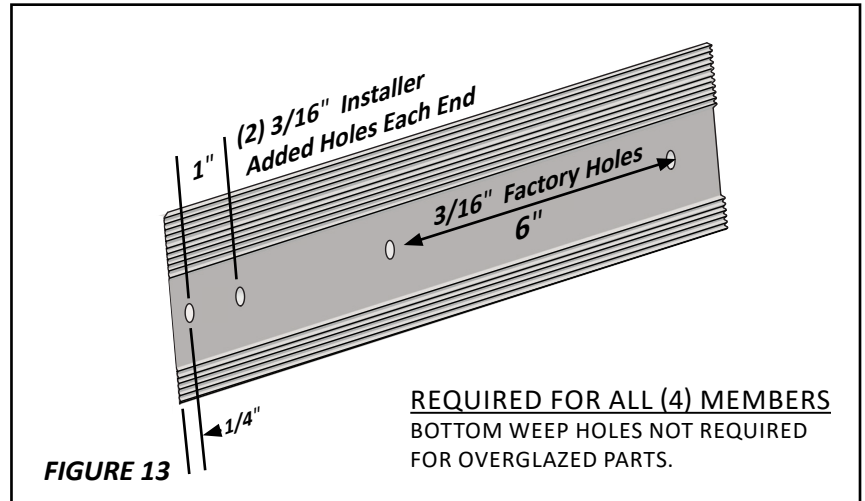
Additional Holes Required

Before installing the (4) mitered base members, additional fasteners holes must be added. Drill 3/16" holes, 1/4" and 1" from each end in the bottom of all (4) Gen II cut members from last step. **(Fig.13)**

Once the holes have been added, the base members are ready to install.

(2) 3/16" Installer Added Holes Each End

1"

3/16" Factory Holes
6"

1/4"

FIGURE 13

<u>REQUIRED FOR ALL (4) MEMBERS</u>
BOTTOM WEEP HOLES NOT REQUIRED FOR OVERGLAZED PARTS.

Install Base Members

Following the dry fitting and the final drilling of the base components, apply (1) heavy bead of sealant to the existing storefront frame as shown in **(Figure 14)**. Insert the (4) base extrusions in position while the sealant is wet.
Install fasteners.

Fasteners should be long enough to penetrate the glass pocket webbing for a secure connection.

Glass Stop

FIGURE 12

Over Glazed Mitered Base Install

Seal all fastener heads after tightening

Install gaskets before attaching bases

Seal mitered corners and gasket ends during installation

Bottom base component is sealed to hold water

Moisture collection pan

FIGURE 14

BASES 4-5

Installing Storefront Conversion Systems with Mitered Corners

1"
(2) 3/16" Installer Added Holes Each End
3/16" Factory Holes
6"
1/4"

FIGURE 15a

Bottom weep holes conversion only

3/8" Weep Holes Added 2"- 3" From Ends
1" - 2"

FIGURE 15b

Before installing the (4) base members, additional fasteners holes must be added. Drill (2) 3/16" holes, 1/4" and 1" from each end in all (4) Gen II cut members from last step. Add sealant as shown.
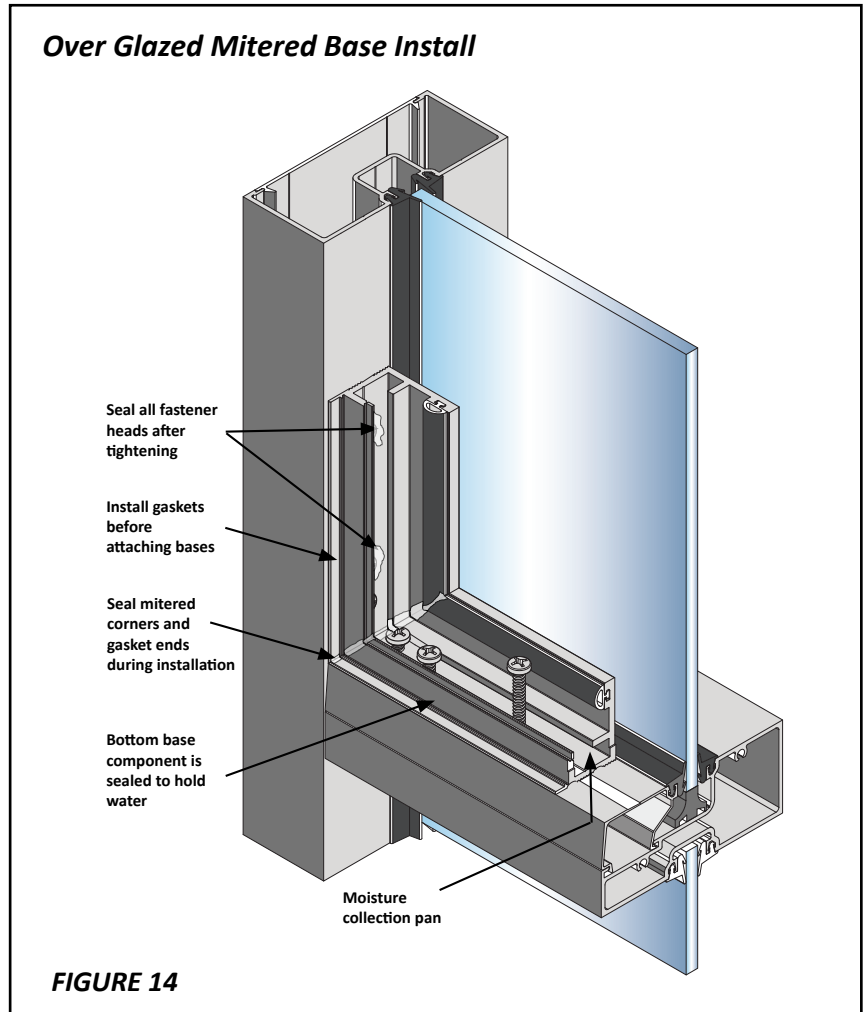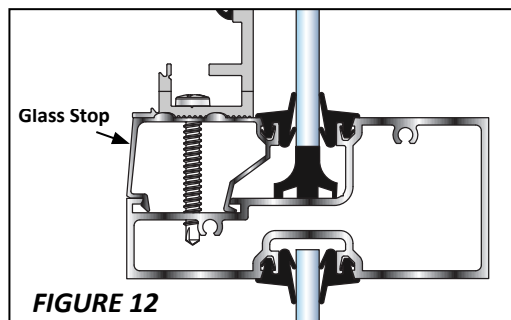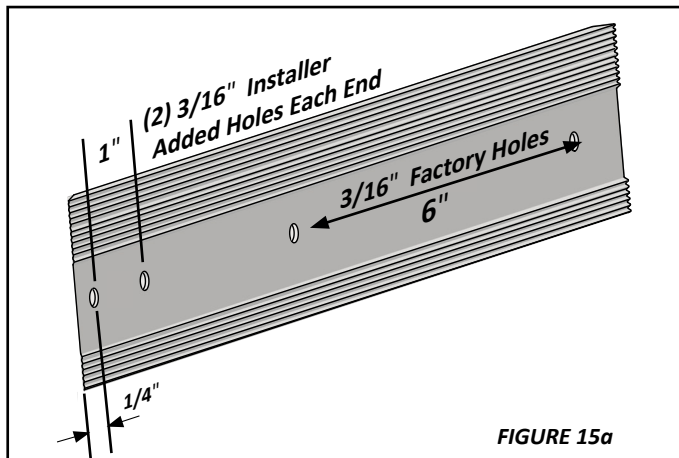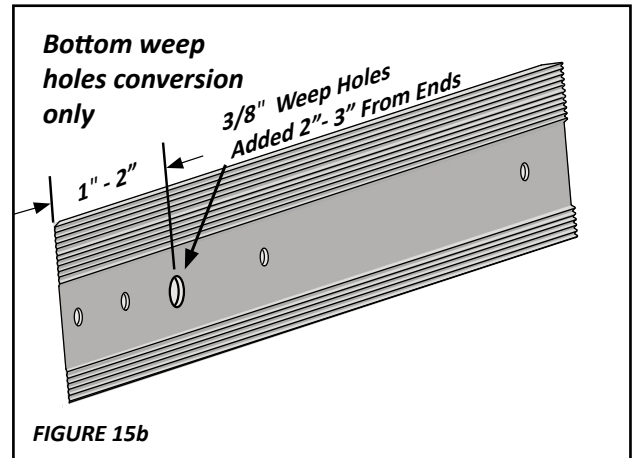
Drill additional 3/8" weep holes 2"-3" from each end in the bottom base (only). Only added to conversion bases.

Install Base Members

When preparing the conversion installation, glass and gaskets are removed.

Place sealant beads on each side of glass poscket. **(Fig.17)** Place the bottom horizontal Gen II member into the wet selant and move into position. Install fasteners. Fasteners should be long enough to penetrare the glass pocket webbing for a secure connection. Verify that base placement maintains weep hole alignment with glass pocket.
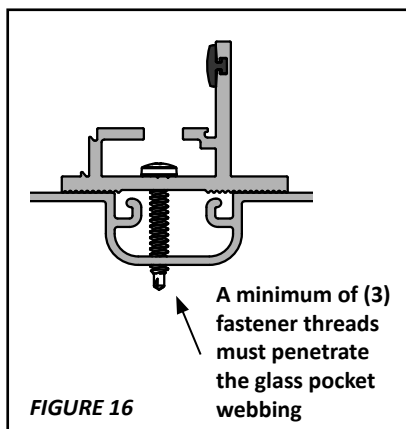

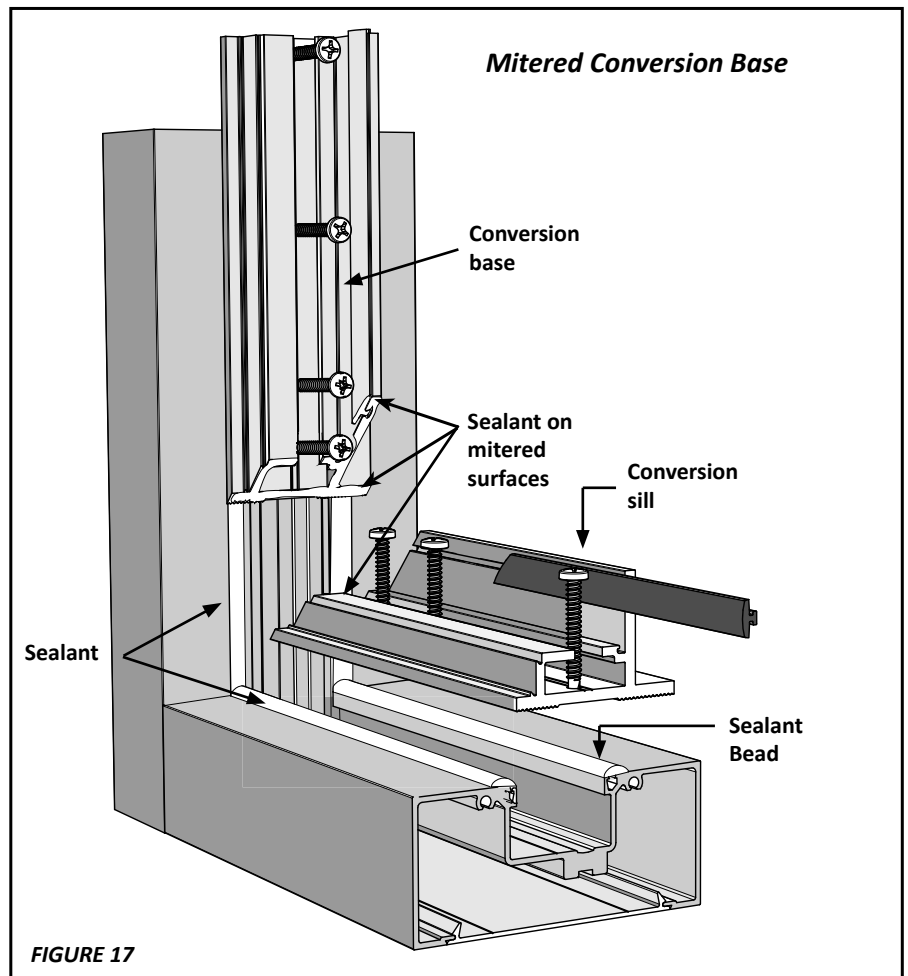*Mitered Conversion Base*

Conversion base

Sealant on mitered surfaces

Conversion sill

Sealant

Sealant Bead

FIGURE 17

A minimum of (3) fastener threads must penetrate the glass pocket webbing

FIGURE 16

BASES 1-2

Gen II Considerations

Water Test Option for Over Glaze Systems

If the system is to be installed in a high moisture enviroment, it is recommended that a water tests be performed. All sealants should be cured before performing test. For rapid testing use a fast curing sealant like DOWSIL™ 3553 Fast Cure Silicone Sealant. **(Figure 18)** Remove water when test has been completed. Test is performed prior to drilling front weep holes and ends have been sealed to vertical members. Test mitered and butt-joined systems.
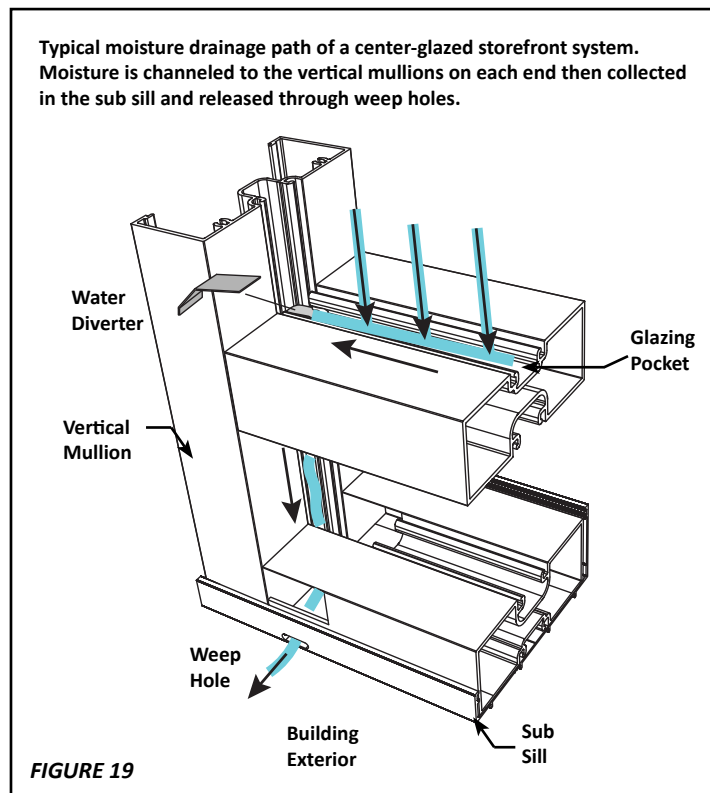

FIGURE 18
Water Test

Sealed Fastener Head
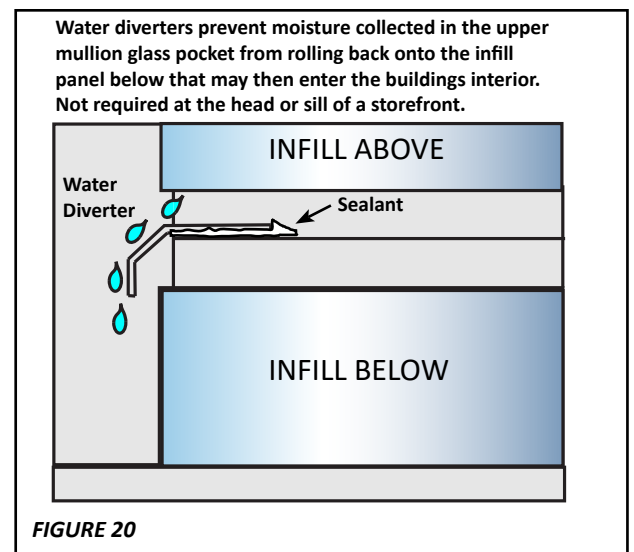
Water Collection Area
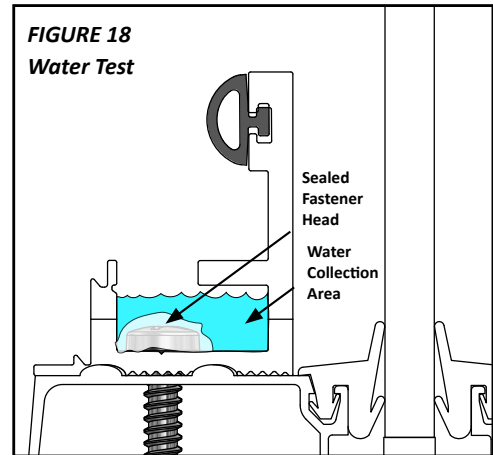
BASES 1-2-3-4-5

Gen II Requirements:

The Gen II Conversion design requires a sound and functioning storefront structure. Verify it is square and plumb. Make sure that the subsill at the ground level has clear weep holes. The Gen II conversion system depends on a functioning water exit pathway found in properly installed storefronts.

Gen II conversions not only provide increased levels of security but enable up to 1-1/2" glass units to be installed in storefront frames previously intended for standard 1/4" glass.

Typical moisture drainage path of a center-glazed storefront system. Moisture is channeled to the vertical mullions on each end then collected in the sub sill and released through weep holes.

Water Diverter

Vertical Mullion

Glazing Pocket

Weep Hole

Building Exterior

Sub Sill

FIGURE 19

(Fig.19) Illustrates the water flow for a storefront system. The Gen II system is designed to utilize the existing storefront drain paths in order to prevent water infiltration to the building's interior.
Look for water diverters. Replace if missing.
(Fig.20)

Water diverters prevent moisture collected in the upper mullion glass pocket from rolling back onto the infill panel below that may then enter the buildings interior. Not required at the head or sill of a storefront.

INFILL ABOVE

Water Diverter

Sealant

INFILL BELOW

FIGURE 20

ArmorPlast
Gen II

BASE 3

Installing Aluminum-Framed Door Conversions

The AP2-DC Door Conversion base profile is installed inside the door's stiles and rails. Use butt-joinery which allows flexibility for door frame adjustments. Do not miter Door Conversions.

AP2-DC Door Conversion system compatable door requirements:
- Minimum thickness - 1-3/4"
- Removable glass stops inside and outside.

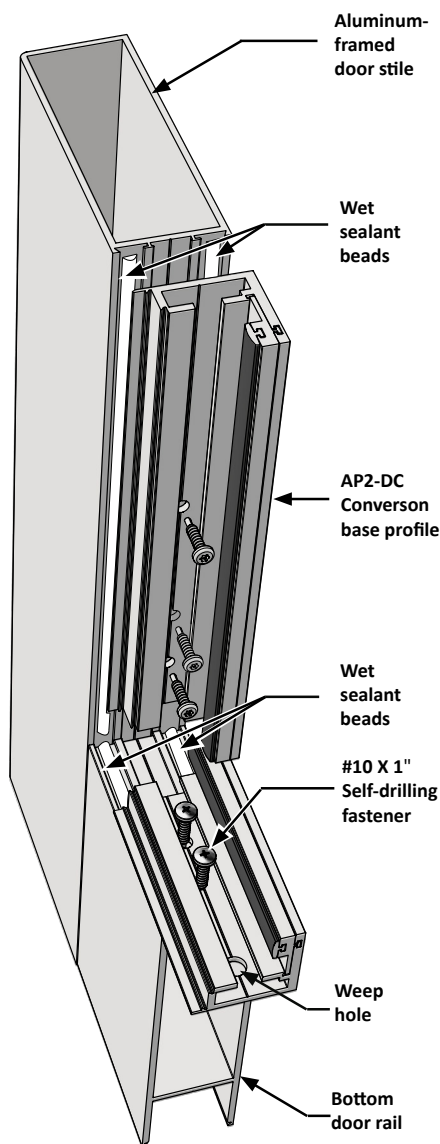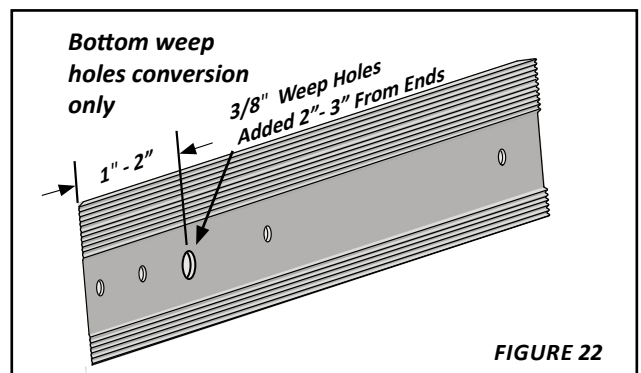### Typical Butt-Joint Door Conversion

Aluminum-framed door stile

Wet sealant beads

AP2-DC Converson base profile

Wet sealant beads

#10 X 1" Self-drilling fastener

Weep hole

Bottom door rail

FIGURE 21

Bottom weep holes conversion only

3/8" Weep Holes Added 2"- 3" From Ends

1" - 2"

FIGURE 22

FIGURE 23

AP2-DC Conversion bottom base profile.

Sealant beads must be built up in height to form a good seal as the base extrusion is installed.

Wet sealant beads

Flow of moisture in an aluminum framed door

AP2-DC Conversion bottom base profile

Seal the ends of the bottom base extrusion during assembly

Weep hole

FIGURE 24

IMPORTANT NOTE: Always start with the bottom horizontal member on all door conversions.

RIOT GLASS

BASE 3-4-5

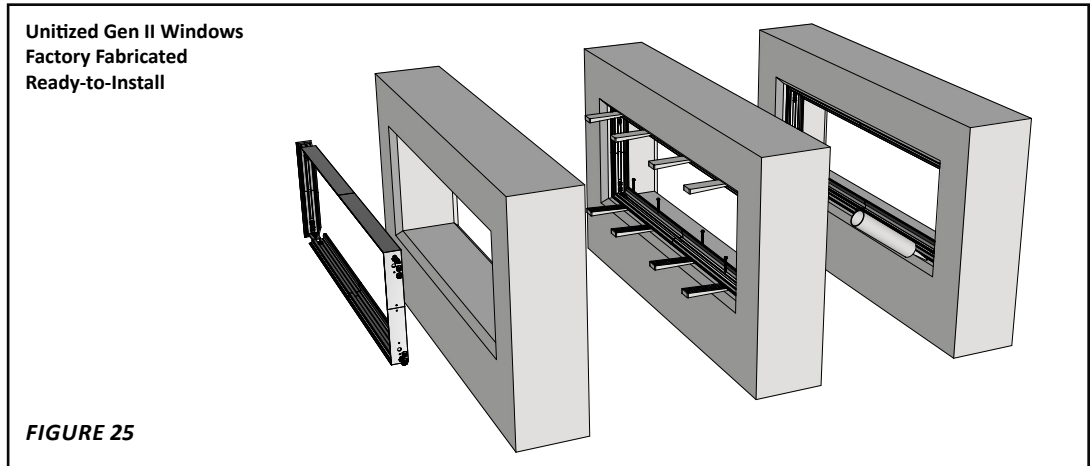## Unitized Gen II Security Windows

For Finished Openings: Masonry, Concrete, Plaster, and Wood-Framed

Gen II Corner Clips provide the installer a fast and accurate way to assemble and install mitered corner security windows.

Non-storefront installations such as punched masonry, concete, and cladded openings are best suited for the Gen II Unitized Windows. The system is built similar to a standard fully assembled block-frame window.
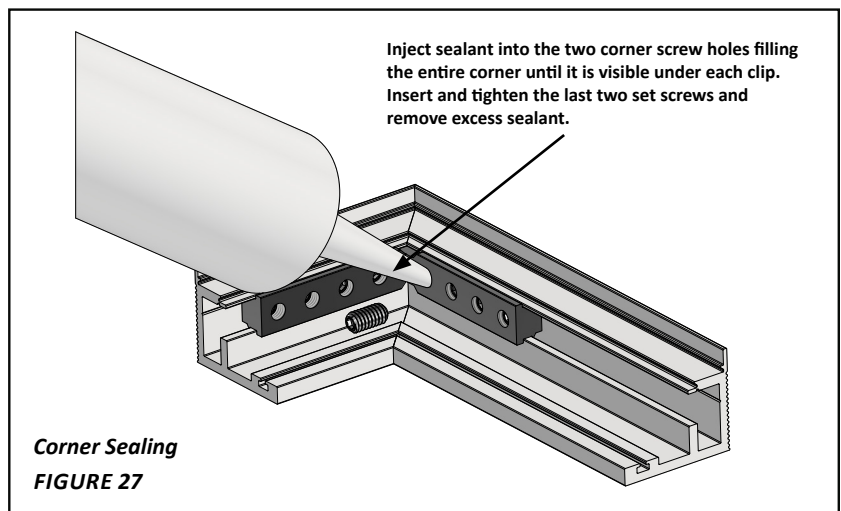
Unitized Gen II Windows Factory Fabricated Ready-to-Install

FIGURE 25

Gen II Unitized Security Windows are made-to-order at your shop. For optimal results, carefully follow the procedures in this guide.

Gen II corner clip installed

Gen II Corner Clip

FIGURE 26
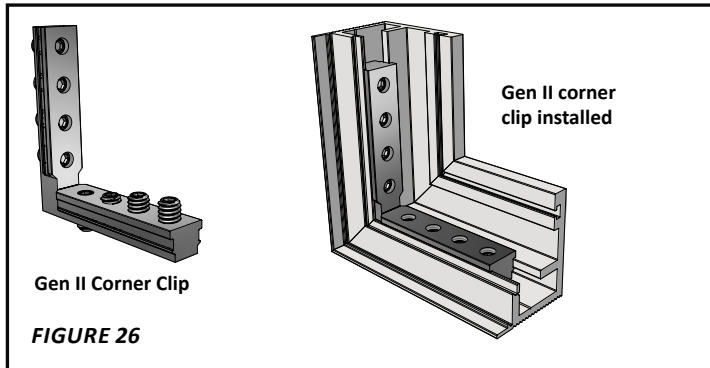
The greatest advantage of Corner Clip joinery is the ability to preassemble single window units built for specific openings. If a job has numerous openings similar in size, the use of perimeter shims will make up for minor dimentional differences, thereby warranting the production of identical shop fabricated units. Batch-delivered to the jobsite, installation can proceed immediately into prepared openings with considerable time savings over the indivual stick-build method.

Critical Corner Sealing

When using the corner clip method for building prefabricated box-framed windows, finished units should be completely sealed internally, leaving only the perimeter gap sealing to be completed at the job site.
As shown in **(Fig. 27)** proper corner sealing is done during the base frame assembly.
Coat the mating surfaces of the mitered ends and assemble each corner with the corner clips. Generously fill the corner channels with sealant by injecting it through the (2) corner screw holes.
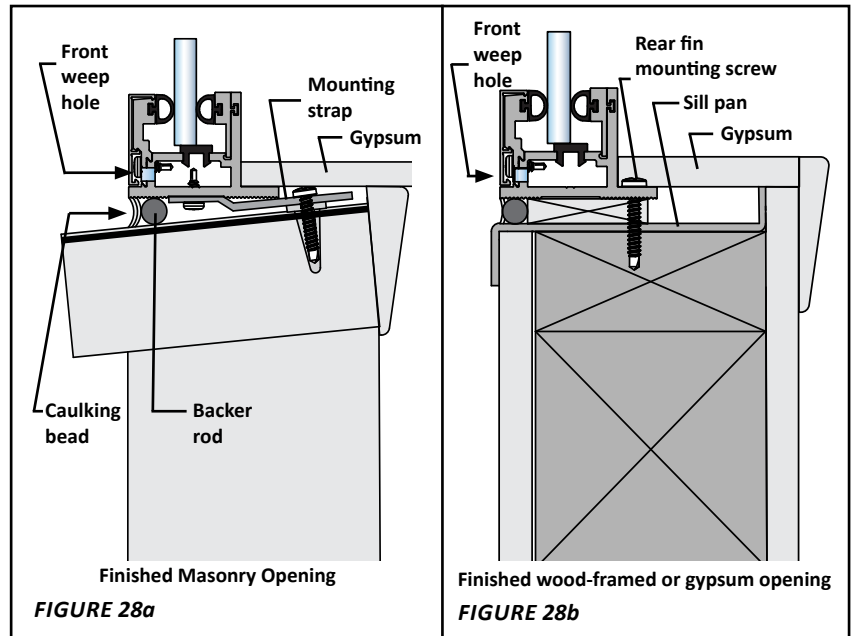Remove excess sealant with a dry cloth.

Inject sealant into the two corner screw holes filling the entire corner until it is visible under each clip. Insert and tighten the last two set screws and remove excess sealant.

Corner Sealing
FIGURE 27

BASE 4

Anchoring Corner-Clip Gen II Security

Mounting to Finished Openings: Masonry, Concrete, Plaster, and Wood-Framed

Unlike storefront installations that provide water drainage pathways, punched openings are just holes in a building's walls. The installer must connect the water control layer of the wall to the water control layer of the window. Window openings that have exposure to the elements should be finished with waterproof flashing to direct moisture away from the building. **(Fig. 28a** and **28b)** illustrates (2) mounting examples of a factory assembled, block-frame, Gen II Security Window. A sill pan is recommended for openings susceptible to water infiltration to the building.**(Fig. 28b)**

Front weep hole · Mounting strap · Gypsum · Caulking bead · Backer rod

Finished Masonry Opening
FIGURE 28a

Front weep hole · Rear fin mounting screw · Sill pan · Gypsum

Finished wood-framed or gypsum opening
FIGURE 28b

NOTE: Gen II is not an egress product. Check local codes before installing in residential dwellings.

Interior finish trim frame

3/8" backer rod with perimeter sealant

FIGURE 29

FIGURE 30
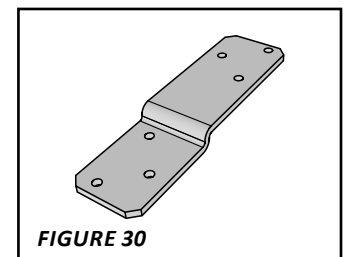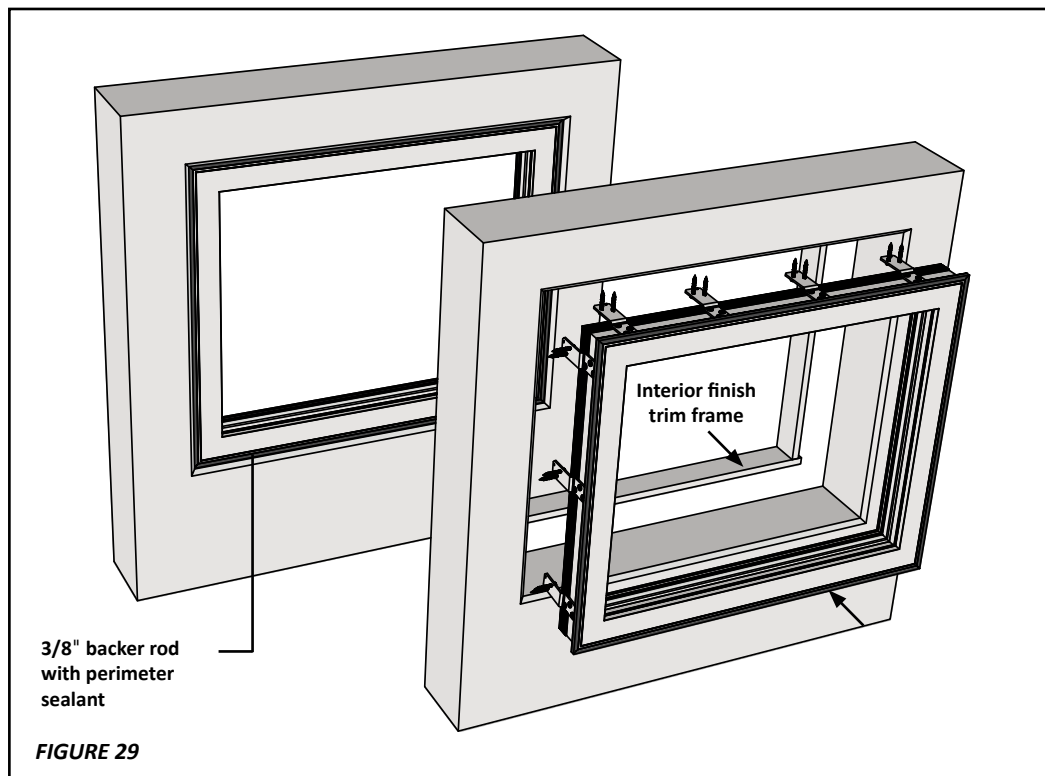
Simpson HRS6 1-3/8" X 6"

Builder's 12 guage galvanized connecting straps are shown in **(Fig.30)**. For more flexibility during installation, only use (1) fastener at the window frame connection allowing the straps to pivot. Windows are centered in the opening with shims. Fill exterior perimeter gap with sealant and tool smooth.

BASE 4

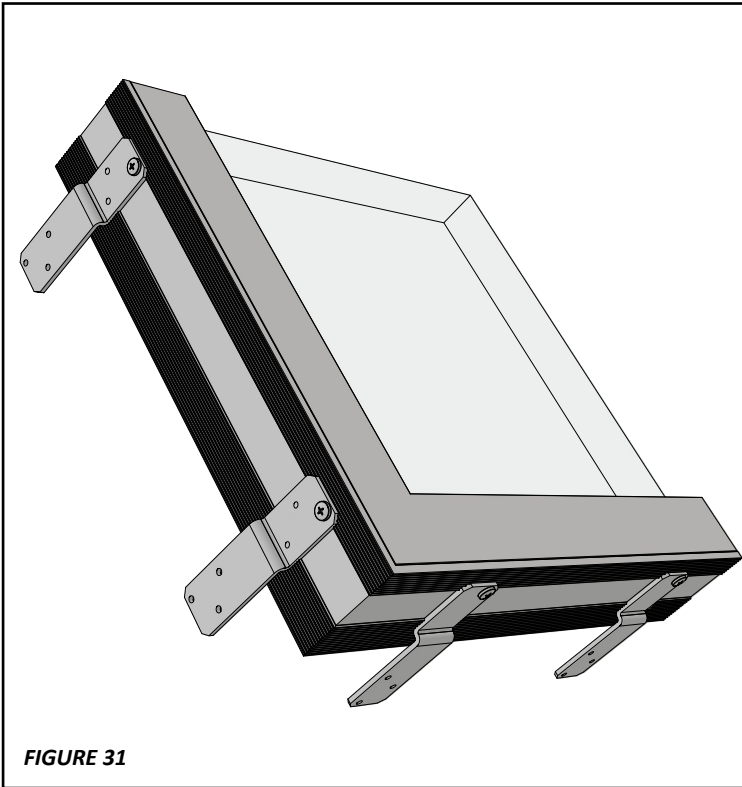## Gen II Corner Clip Method
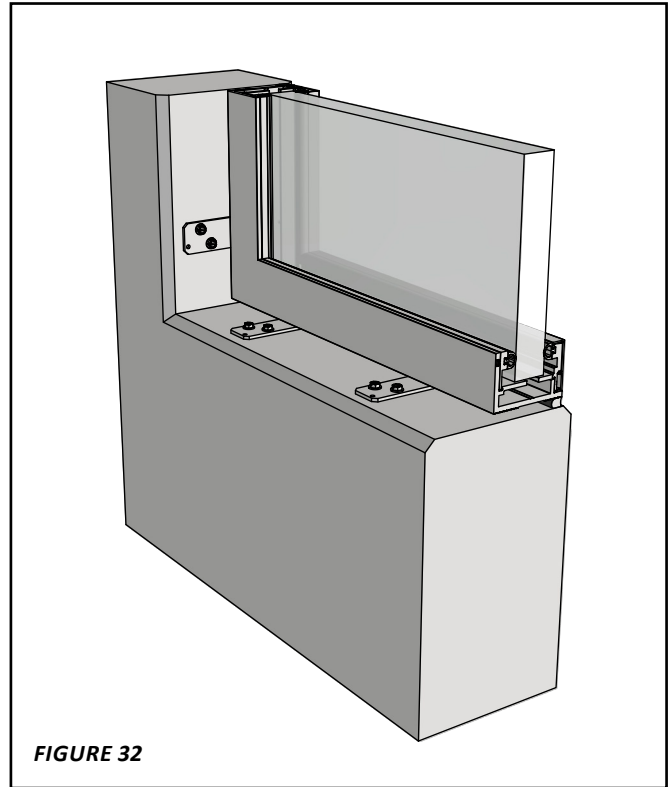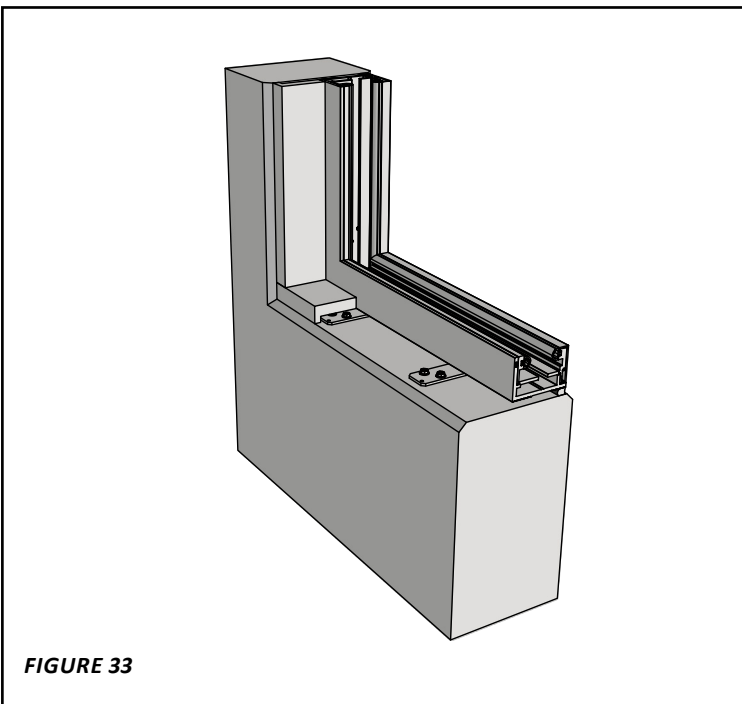### Mounting Strap Views

FIGURE 31

FIGURE 32

FIGURE 33

When a Gen II window is pre-assembled, the installer no longer has access to the glass pockets to drive perimeter fasteners. However, mounting straps can be attached to the unit allowing fasteners to be inserted behind the window. **(Fig. 31)** illustrates the use of galvanized clips. The clips can be bent slightly in order properly position the window in the opening. When maximum adjustability is desired during installation, attach each clip to the window frame using one center fastener per strap. This will allow more movement for positioning purposes. Shims should be used to hold the window in the desired position. **(Fig. 32)** shows the attachment to the window sill. **(Fig. 33)** uses an inside trim strip to hide the fastener. (Supplied by Installer)

Security Panel Size Calculation

STEP 1:
Identify your system.

STEP 2:
Use the "cut panel" colums to calculate the finished infills.

Example:
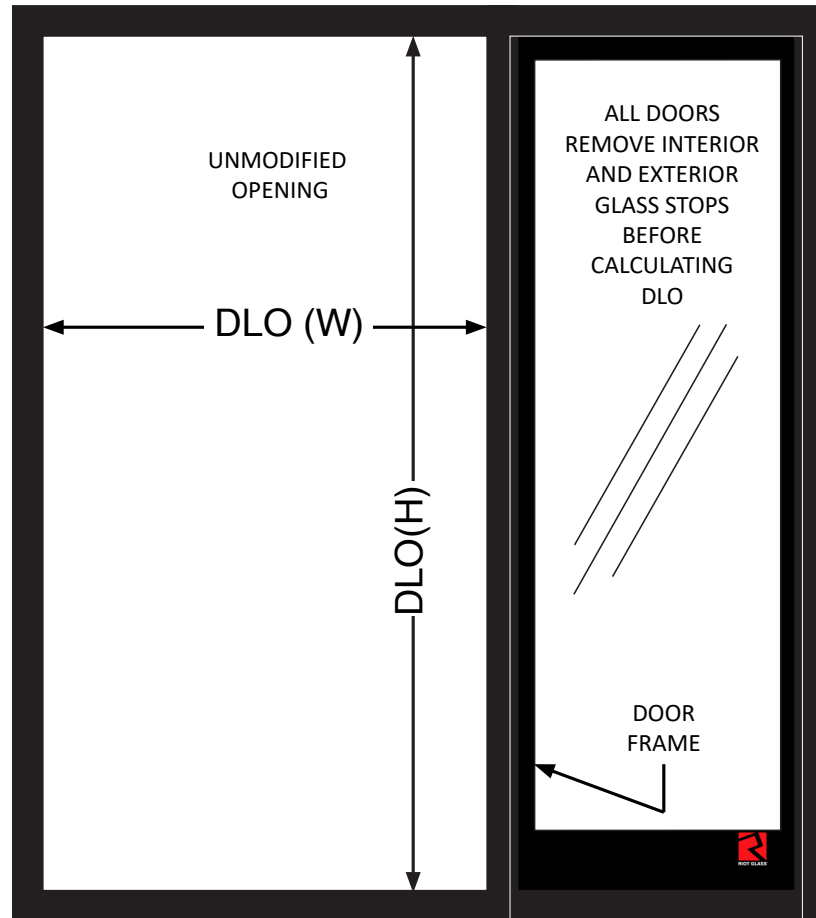**To calculate a security panel's height for a** **BASE 1** **system, when the storefront DLO (H) is 96":**

(96") - (1-5/8") = 94-3/8"

DLO for storefront is measured from facing aluminum surfaces without gaskets.

DLO for aluminum-framed doors is measured from facing aluminum surfaces with glass stops removed.
Gen II is not compatible with doors having fixed stops that cannot be removed.

Material may be cut in the shop prior to jobsite installation. Tolerance should be held to +1/16"/-1/16". Infill material expansion and contraction is considered in all calculations.

UNMODIFIED OPENING

DLO (W)

DLO(H)

ALL DOORS REMOVE INTERIOR AND EXTERIOR GLASS STOPS BEFORE CALCULATING DLO

DOOR FRAME

SECURITY PANEL CUT-SIZE TABLE		
SYSTEM TYPE	CUT PANEL HEIGHT	CUT PANEL WIDTH
BASE 1 AP2-STD -SF	DLO(H) - (1-5/8")	DLO(W) - (1-1/2")
BASE 2 AP2-HD-SF	DLO(H) - (1-5/8")	DLO(W) - (1-1/2")
BASE 4 AP2-SF-HD	DLO(H) - (1-7/8")	DLO(W) - (1-3/4")
BASE 5 AP2-SF-HG	DLO(H) - (1-7/8")	DLO(W) - (1-3/4")
BASE 3 AP2-DC	DLO(H) - (1-5/8")	DLO(W) - (1-1/2")

BASE 1-2-3-4-5

Installing Security Infill Panel

Setting Blocks

(2) APBGST2 Setting Blocks will be used for all monolithic and laminated security panels. They should be cut to 4" in length and placed into the Gen II web slot at quarter points. **(Fig.34)** and **(Fig.35)**

Two flat APBG125SB setting blocks are required for all IG panels providing wider support and preventing movement of the butyl components, also cut to 4" lengths and placed at quarter points per window bay. **(Fig.35)**
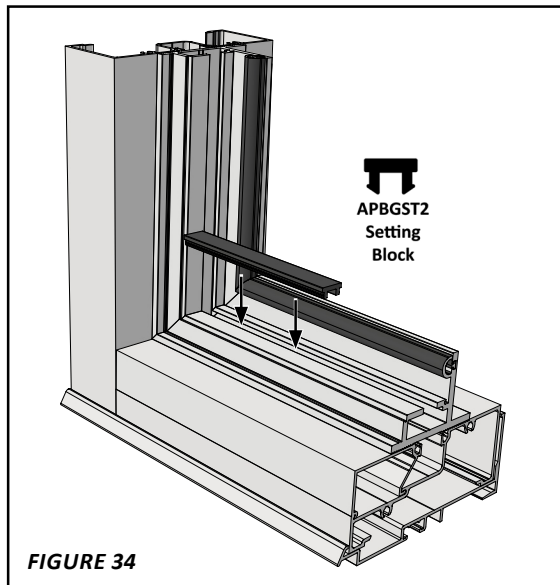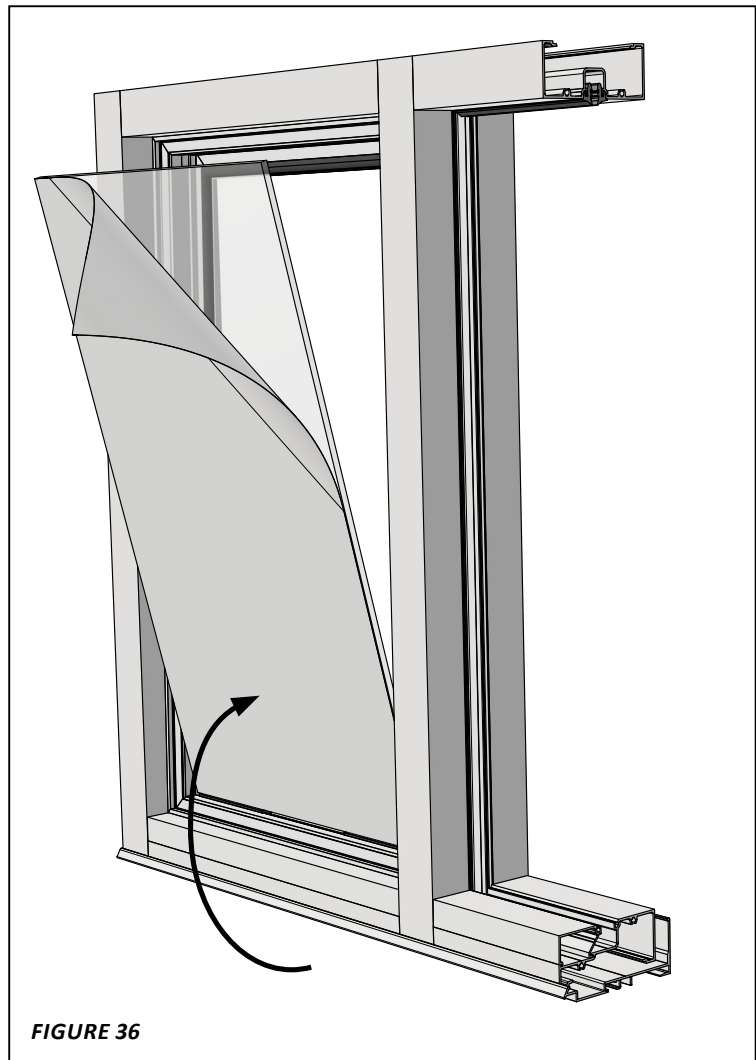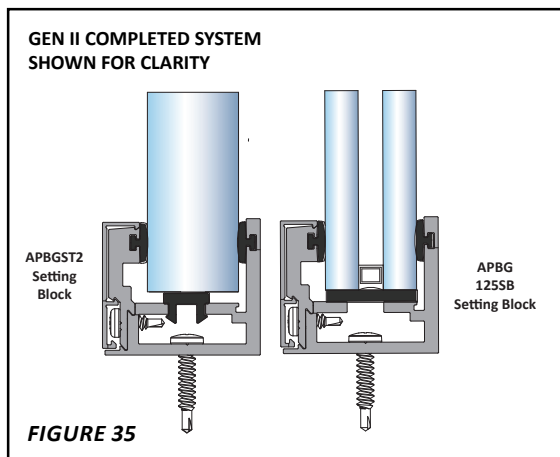

FIGURE 34

GEN II COMPLETED SYSTEM SHOWN FOR CLARITY

APBGST2 Setting Block

APBG 125SB Setting Block

FIGURE 35

FIGURE 36

Panel Installation

Remove the inside protective layer and insert the Security Infill panel **(Fig. 36)**. For large panels use glazing suction cups on the side with the protective film. While holding the panel in place, pull the film back 1"- 2" around the perimeter to prevent entrapment under the pressure plates in the next step. Center the panel side-to-side and stand up against the internal gaskets.

Polycarbonate Protection

Take precautions to protect the surface from sharp tools and abrasive items until completely installed.

Remove the protective film on each infill after it is installed. Prolonged exposure to sunlight changes the film properties and makes it very difficult to remove.
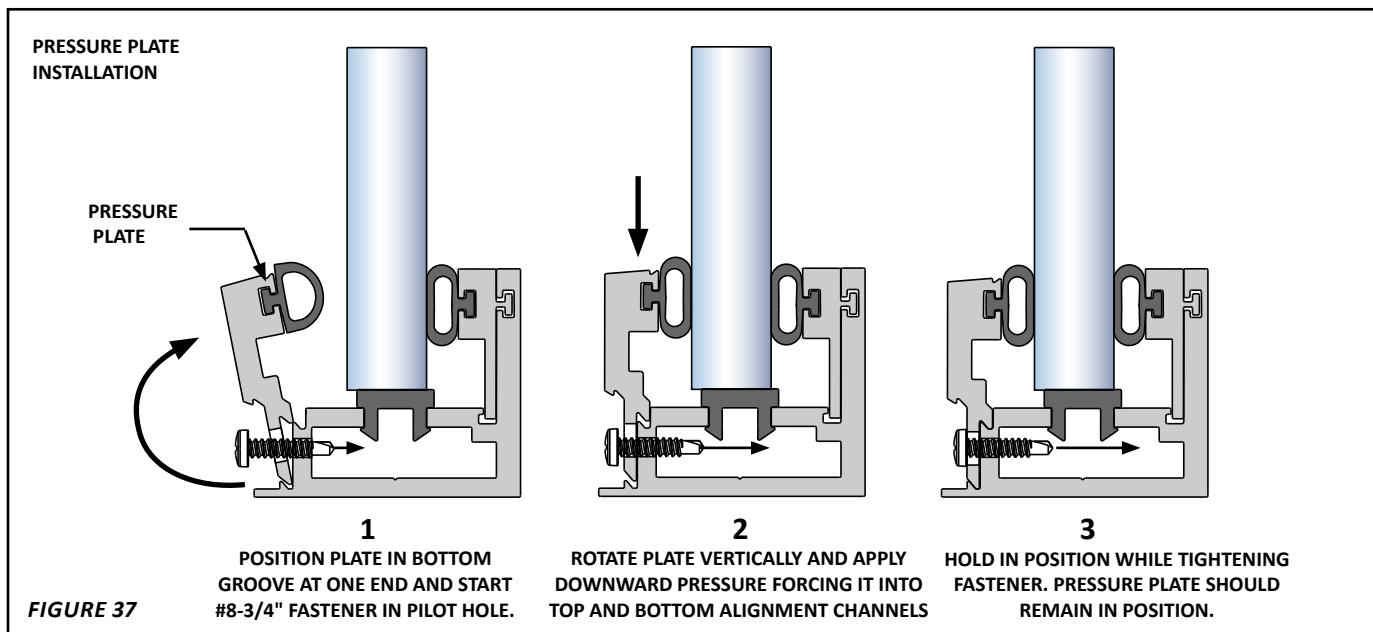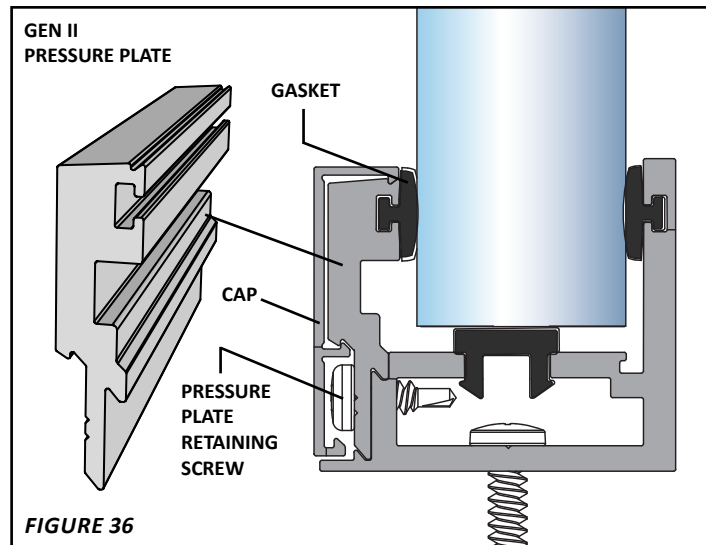
BASE 1-2-3-4-5

Pressure Plates - All Installation Types

Gen II Pressure Plates

The Gen II pressure plate component is designed to securely clamp the infill panels in place while providing a gasket seal to resist water infiltration. Should the security panel need replacement, the pressure plate and cover cap can be be removed.

All pressure plates should be cut to the same dimensions and shape of its mating base component. Example: A conversion base cut to 24" with mitered corners will require a matching pressure plate and also a matching face cap equal in length and corner type.

GEN II PRESSURE PLATE
GASKET
CAP
PRESSURE PLATE RETAINING SCREW

FIGURE 36

PRESSURE PLATE INSTALLATION

PRESSURE PLATE

1
POSITION PLATE IN BOTTOM GROOVE AT ONE END AND START #8-3/4" FASTENER IN PILOT HOLE.

2
ROTATE PLATE VERTICALLY AND APPLY DOWNWARD PRESSURE FORCING IT INTO TOP AND BOTTOM ALIGNMENT CHANNELS

3
HOLD IN POSITION WHILE TIGHTENING FASTENER. PRESSURE PLATE SHOULD REMAIN IN POSITION.

FIGURE 37

Gen II Pressure Plate Installation

1. **START AT ONE END FIRST.** Position pressure plate's bottom tongue into the bottom base alignment groove. Partially start the self drill fastener in pilot hole as shown. **(Fig.37)** Leave it loose and repeat at the other end of the pressure plate making sure the tongue is in the groove before starting fastener.
2. Swing pressure plate up and over the alignment rail and apply a firm downward pressure by hand or with a block of wood. Firm downward pressure will insure that the pressure plate is full seated.
3. Tighten fastener 100% to hold plate in position.
4. Repeat process at other end while visually verifying parallel site lines and fully seating the tongue in the alignment groove.
5. While applying similar directional pressure, insert and tighten the remaining intermediate fasteners as you work from the center out.

BASE 1-2-3-4-5

Pressure Plate Installation for Butt-Joined Corners

Butt-joint installations require the vertical pressure plates installed between the top and bottom pressure plates. A gap is required between the adjacent pressure plates in order to allow the caps to snap in place. **(Fig.38)**

The gap is built into the design and is simple to achieve by following two very important steps:

1. Always cut the pressure plate to the same length as the corresponding base to which it will be attached.

2. The cut ends of a base component and the cut ends of a pressure plate must remain flush in order to achieve the correct gap for the snap-in cap covers.
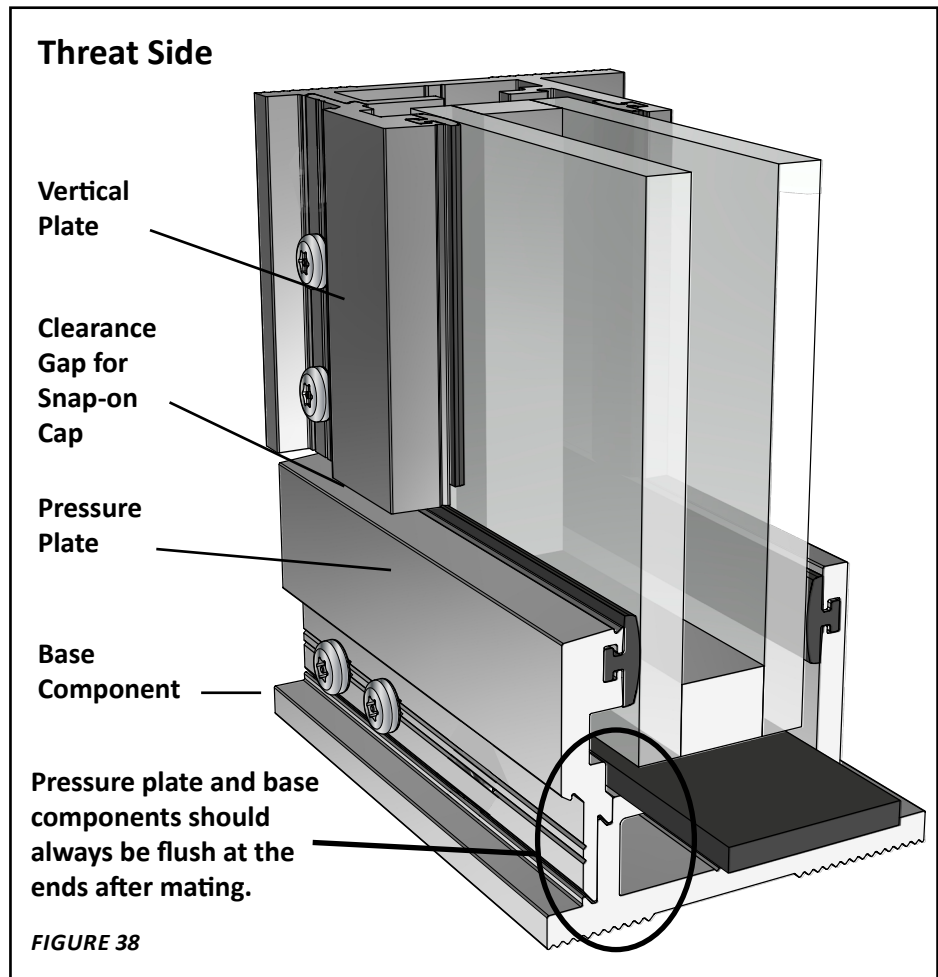

Threat Side

Vertical Plate

Clearance Gap for Snap-on Cap

Pressure Plate

Base Component

Pressure plate and base components should always be flush at the ends after mating.

FIGURE 38

When a vertical base is mated perpendicular to a horizontal base and the pressure plates are properly attached, a gap results on the threat side to accommodate the snap-on cap. The back leg of every base component has an additional height compensation. **(Fig.39)**
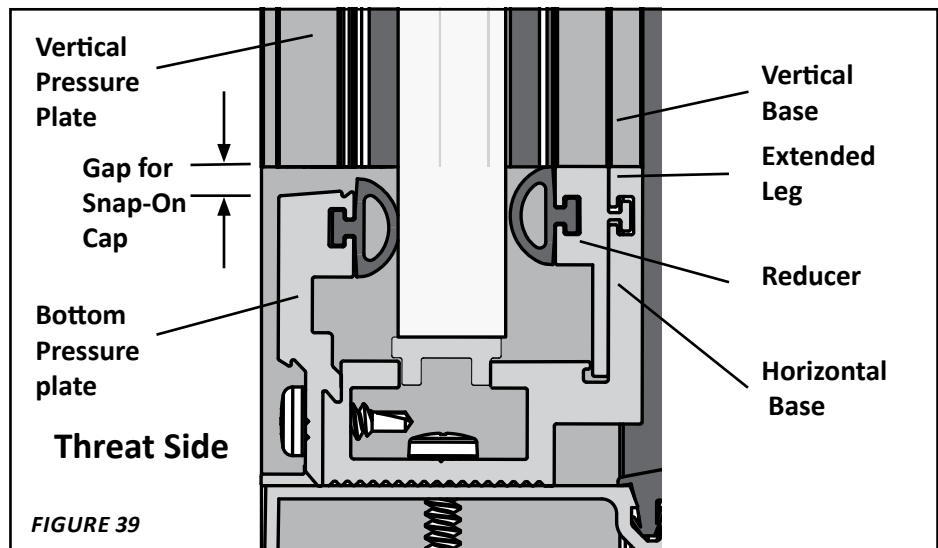

Vertical Pressure Plate

Gap for Snap-On Cap

Bottom Pressure plate

Threat Side

Vertical Base

Extended Leg

Reducer

Horizontal Base

FIGURE 39

BASE 1-2

Pressure Plate Installation for Mitered Corners

Gen II Pressure Plates

(Fig. 40) illustrates properly installed pressure plates with mitered corners, over glazed on a standard storefront.

Fasteners

Pressure plate fasteners are #8 X 3/4" self-drilling zinc-plated steel with tamper-proof Torx head with pin. Fastener holes are factory pre-drilled at 6". In the field, add holes 1/4" and 1" from each end for optimal strength.
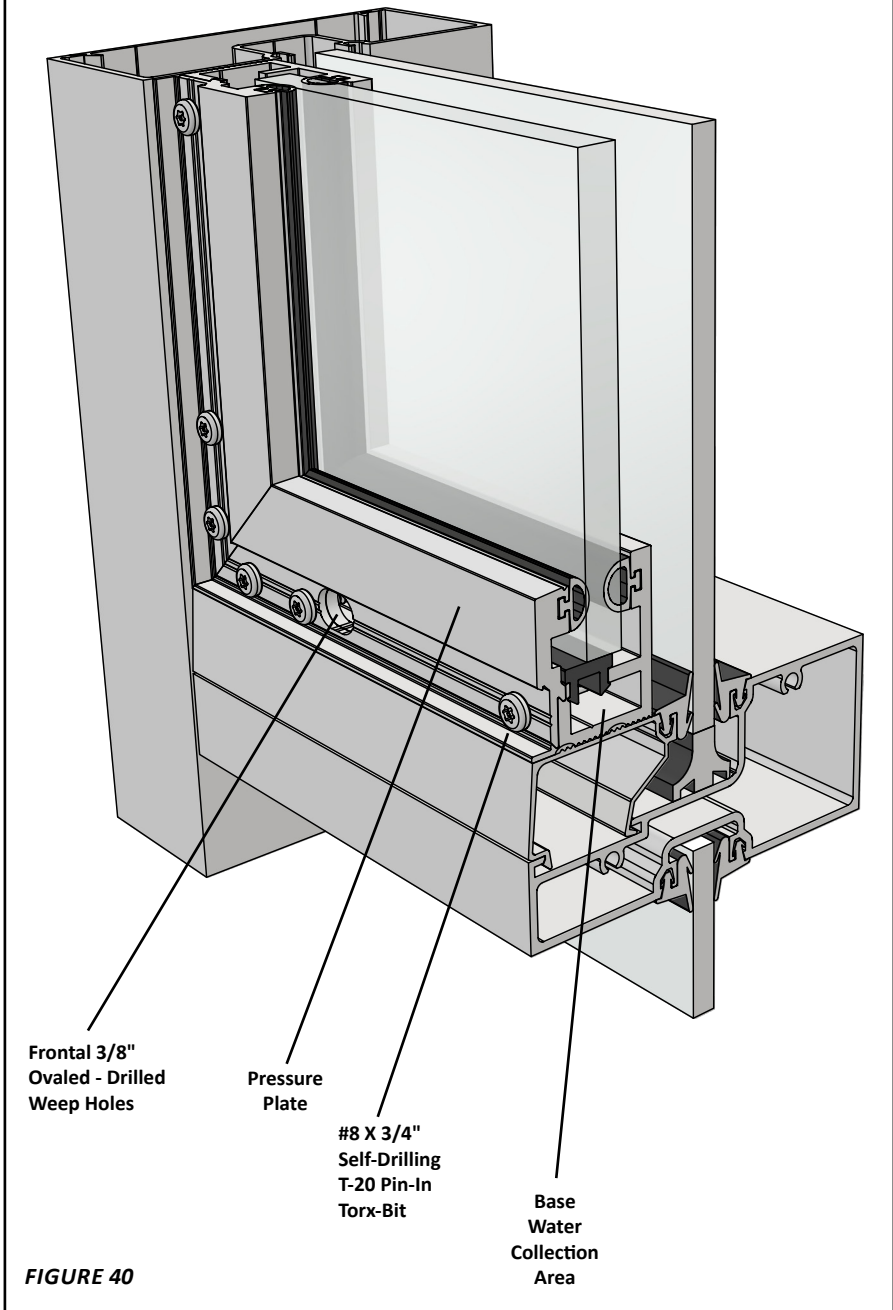
BASE 1-2

Drilled Weep Holes

3/8" oval weep holes are drilled 2"-4" from each end and (2-4) per bay. Storefront bays wider than 36" require 3-4 evenly distributed weep holes.
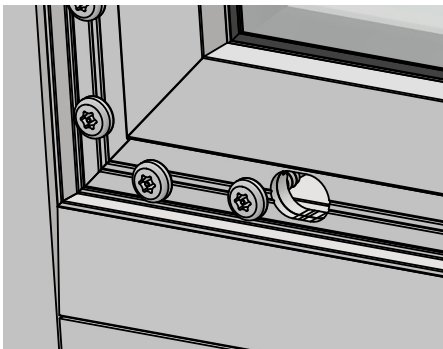
Frontal weep holes should pass through the pressure plate and base extrusion to allow drainage from the Base water collection pan. Weep holes are not required in the face cap due to the gap designed into the profile.
NOTE: Frontal weep holes are required on all over glaze installations, whereas bottom weep holes are required for all conversion base components. A slight oval shape will prevent surface tension plugging. Rock the drill back-and-fourth to achieve an oval.

GEN II
Over glazed window with mitered corners
Installation similar for all mitered Gen II systems.

Frontal 3/8"
Ovaled - Drilled
Weep Holes

Pressure
Plate

#8 X 3/4"
Self-Drilling
T-20 Pin-In
Torx-Bit

Base
Water
Collection
Area

FIGURE 40

BASE 1-2-3-4-5

Installing Face Caps - All InstallationTypes

Gen II Face Cap
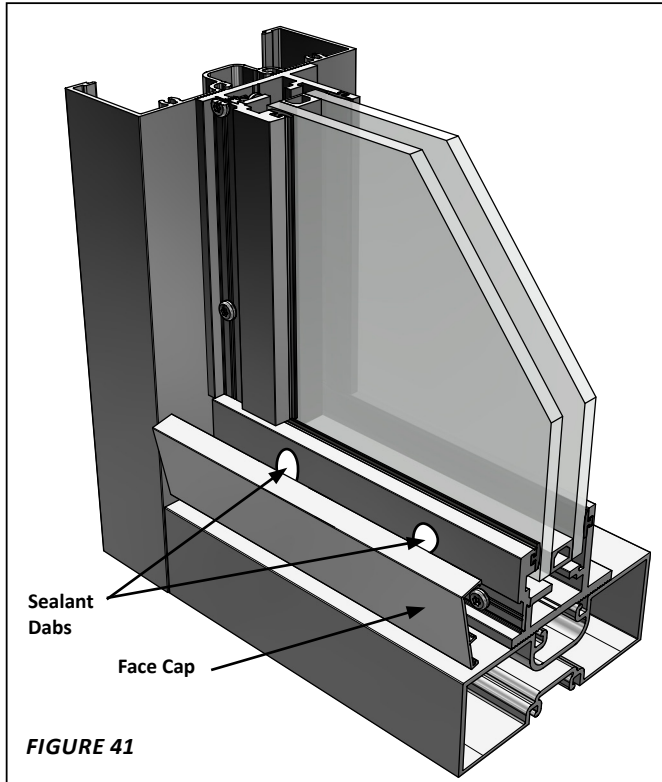

Sealant Dabs

Face Cap

FIGURE 41

To install the Gen II face caps, start with 2-3 dabs of sealant to the pressure bar. **(Fig.41)**

Hook the top of the cap as shown. **(Fig. 42)**

Spin the bottom of the cap down and press into place. Listen for the snap.

The snap is critical for proper engagement of the cap to the pressure bar. Use a rubber mallet and a long block of wood to ensure the cap is seated.
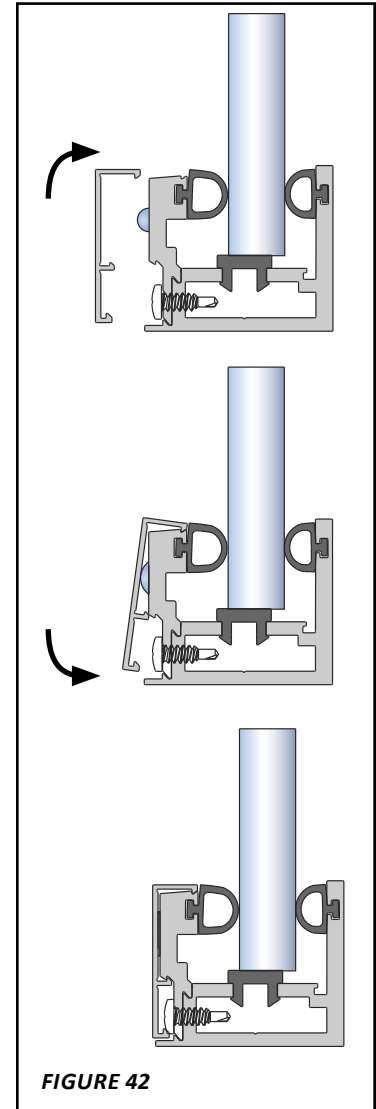

FIGURE 42

The Gen II Face Cap snaps on easily but is very difficult to remove. It effectively conceals the pressure plate fasteners and is the first line of defense against forced entry attempts by intruders.

On butt-joined corners, always install the Face Caps on the horizontal run-through pressure bars first.

(Fig.41) depicts the bottom horizontal pressure bar as running through, side-to-side. The vertical caps rest on top of the horizontal caps. Therefore, vertical caps should be installed after the horizontals.
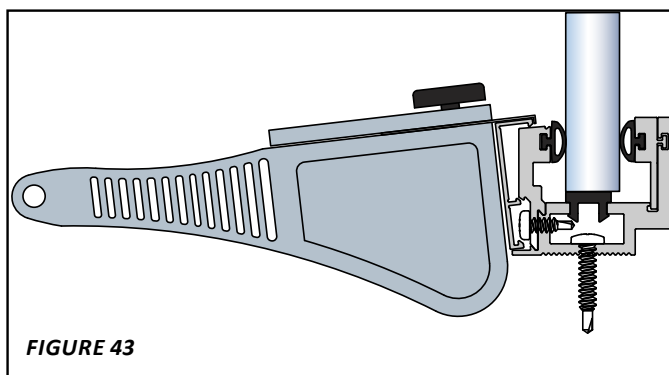

FIGURE 43

The Face Cap Removal Tool, Part Number #FCR1 by CR Laurence is very effective in removing Gen II Face Caps. Usually, removal results in damage to the caps. The tool can reduce the risk of damage when used properly.
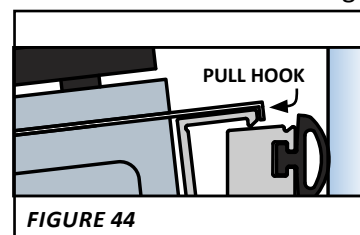

PULL HOOK

FIGURE 44

Sanding or grinding the pull hook length may be required to allow the tool to properly grab and extract the cap without catching the top of the pressure bar.

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RIOT GLASS