



## FHC SERIES 100, 200, & 200T ALUMINUM STOREFRONTS



USE MONOLITHIC  
TEMPERED GLASS

OR



USE INSULATING  
TEMPERED GLASS

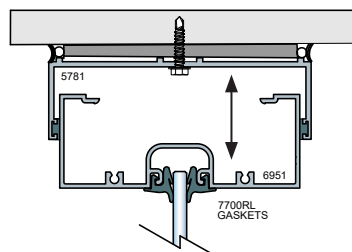
## Introduction

This guide provides intermediate level product installation instructions for the installer with basic aluminum glazing knowledge. FHC recommends a thorough review of this document in conjunction with the shop drawings by all installation personnel prior to starting the project.

## Opening Evaluation

- **Perimeter Structure** The surrounding opening must be self-supported. Storefront framing is not designed to support the building structure. The opening perimeter should be capable of fastener penetration and retention. Evaluate the best type of fasteners for each surface (ex. concrete, wood, etc). Check shop drawings or structural engineering drawings for specified fasteners. Storefront framing must set within the exterior building surface (plane). Any framing that extends beyond the building facade will result in improper perimeter sealing.
- **Square Opening** Check for out-of-square conditions. If the installer attempts to frame an opening that is not square, then every cut becomes a custom cut leading to excessive jobsite labor and a visually poor installation.
- **Plumb Walls** Walls that are not plumb must be compensated for during installation with shims and sealant. A door jamb mounted directly to an out-of-plumb wall will result in an improper door swing, threshold rubbing, etc, and must be corrected during installation.
- **Level Floor** The most important observation during pre-inspection is the floor condition. The floor supports all of the weight of the storefront framing system and directly affects the other opening parameters. An uneven floor surface will require additional time shimming and fastening of the subsill flashing and perimeter sealing.

Fig.1 FHC Part #5781  
Compensation Head Channel

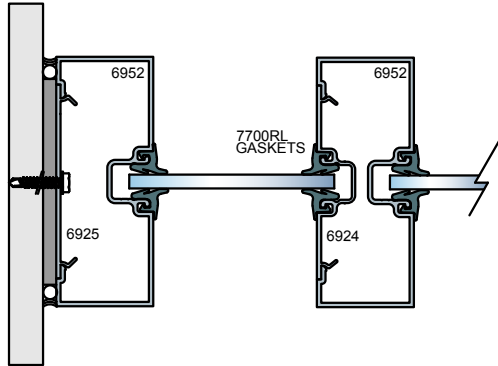


FHC Compensation Channel allows for out-of-square openings that would otherwise be difficult to correct. Designed to attach to the perimeter **head** and vertical **jamb** surfaces, compensation channel hides non-square perimeter sight lines, adds increased connection surfaces, and permits settling, expansion and contraction movements without frame deflections.

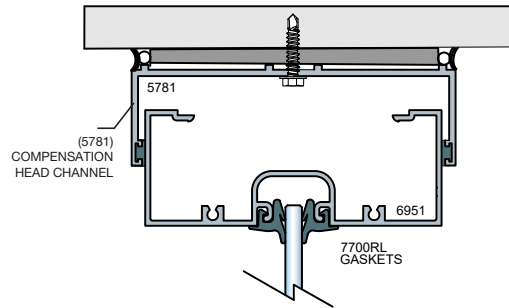
# FHC 100 Series Center-Glazed Storefront

1-3/4" x 4-1/2" Framing for 1/4" Glass

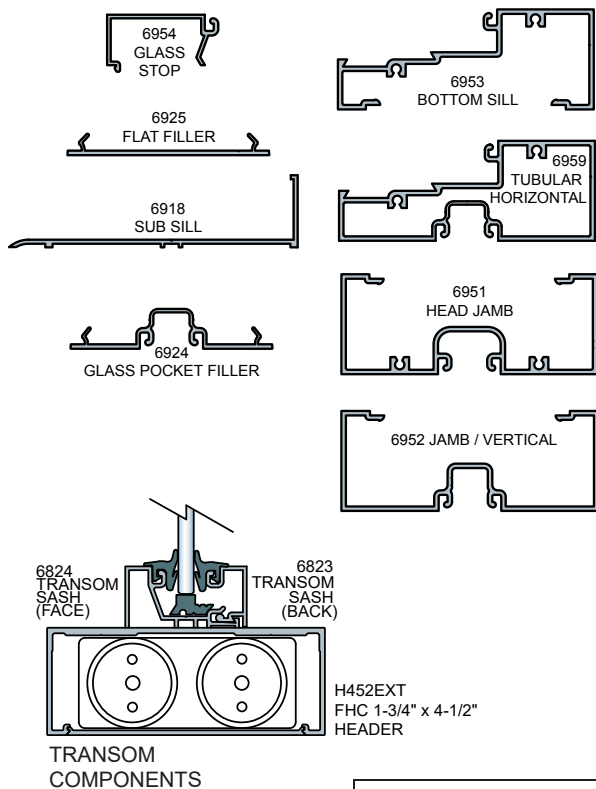
Series 100 Typical Configuration at Wall



Series 100 with Compensation Head Channel



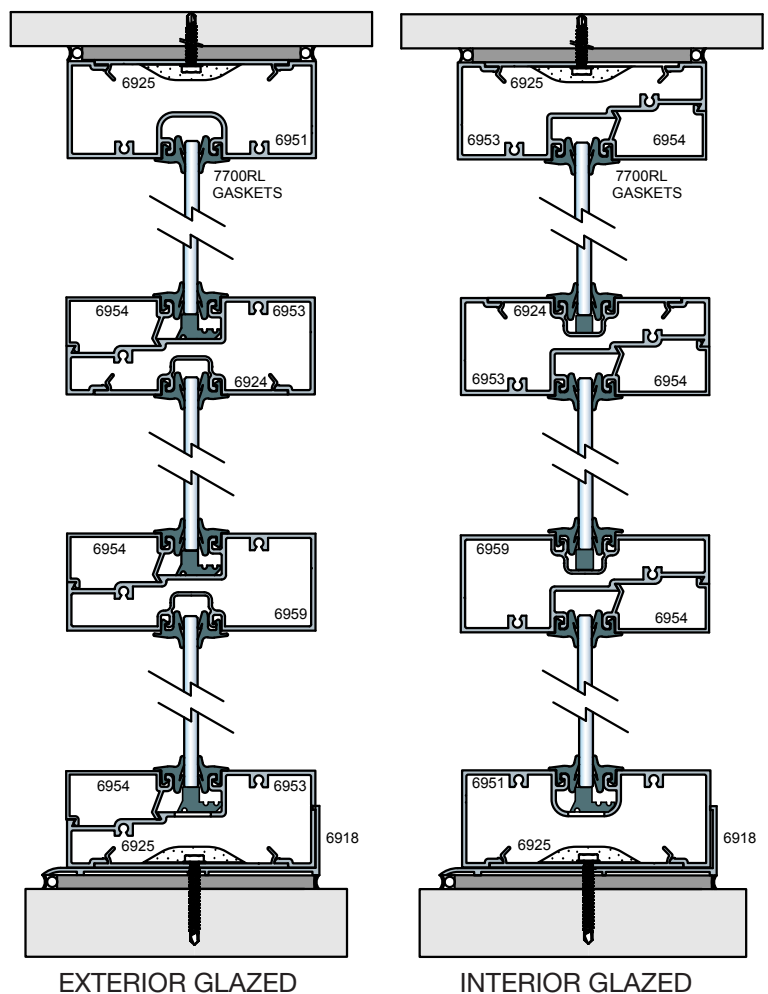
Series 100 Primary Framing Parts



SEE OUR NEW FHC  
DOOR INSTALLATION GUIDE  
FOR ADDITIONAL STOREFRONT  
FRAMING INFORMATION

**NOTE: SEAL ALL  
GASKET ENDS**

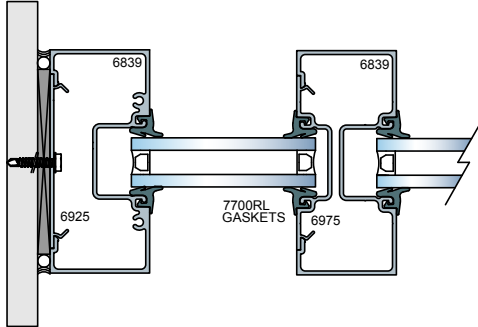
Series 100 Horizontal Member Configurations



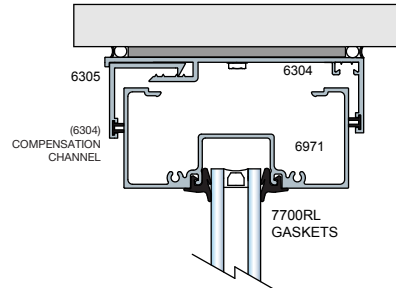
# FHC 200 Series Center-Glazed Storefront

2" x 4-1/2" Framing for 1" Insulated Glass

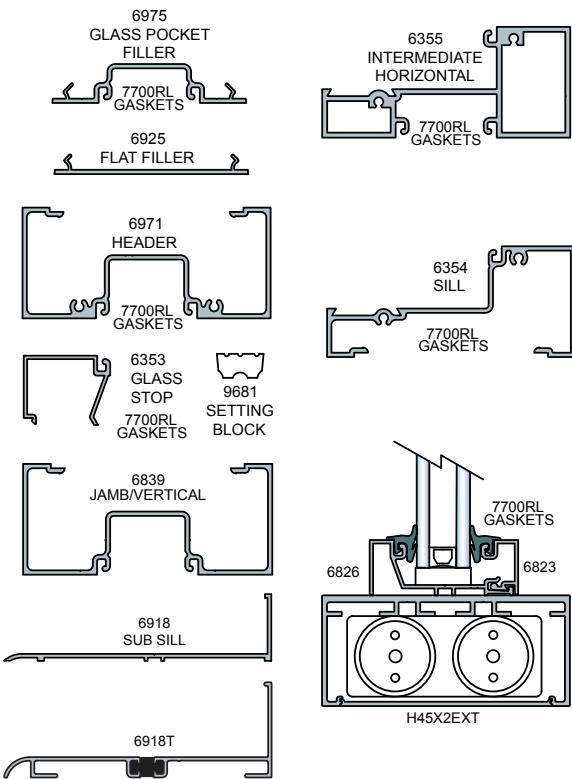
## Series 200 Typical Configuration at Wall



## Series 200 Compensation Channel



## Series 200 Storefront Framing Parts

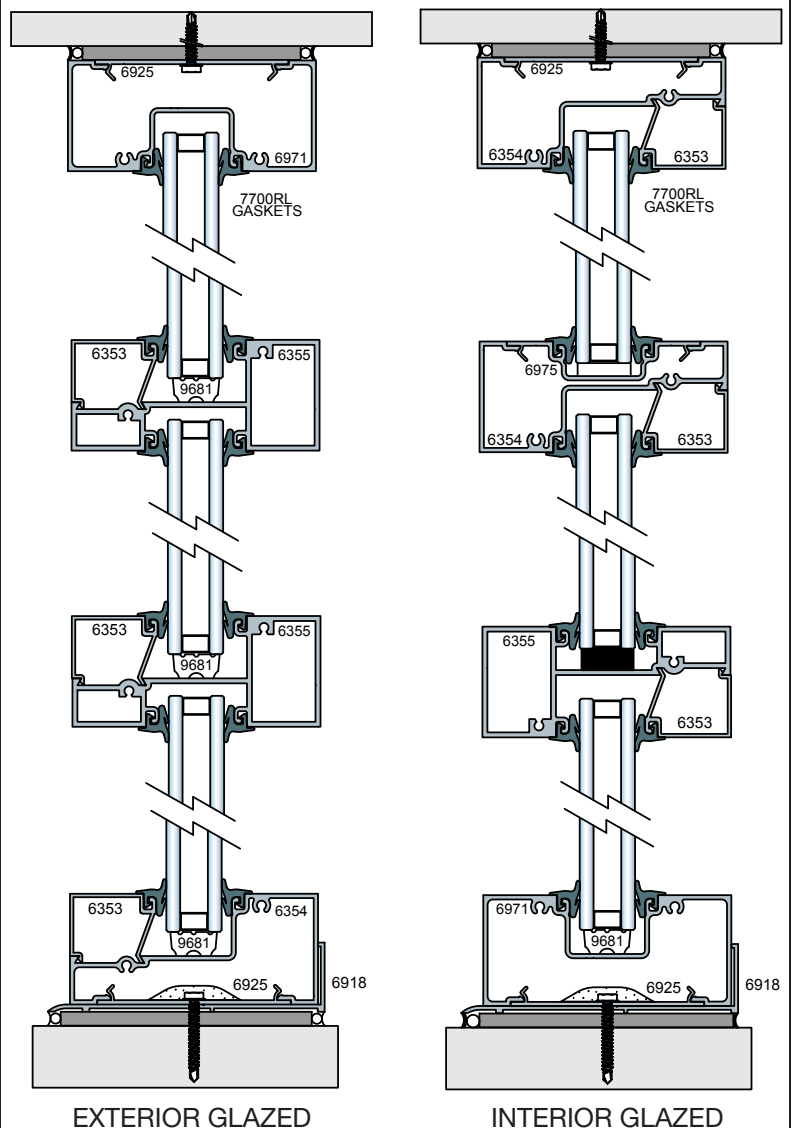


### TRANSOM COMPONENTS

SEE OUR NEW FHC  
DOOR INSTALLATION GUIDE  
FOR ADDITIONAL STOREFRONT  
FRAMING INFORMATION

**NOTE: SEAL ALL  
GASKET ENDS**

## Series 200 Horizontal Members

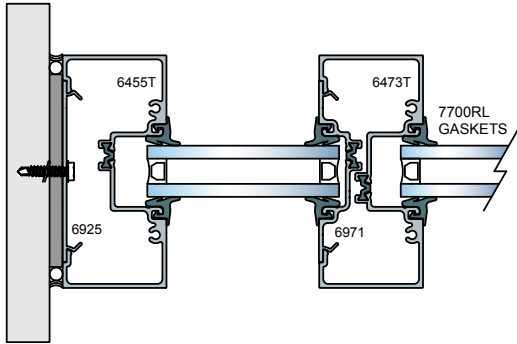




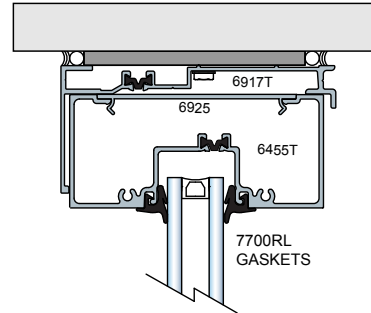
# FHC 200T Series Center-Glazed Storefront

2" x 4-1/2" Thermal Strut Framing for 1" Insulated Glass

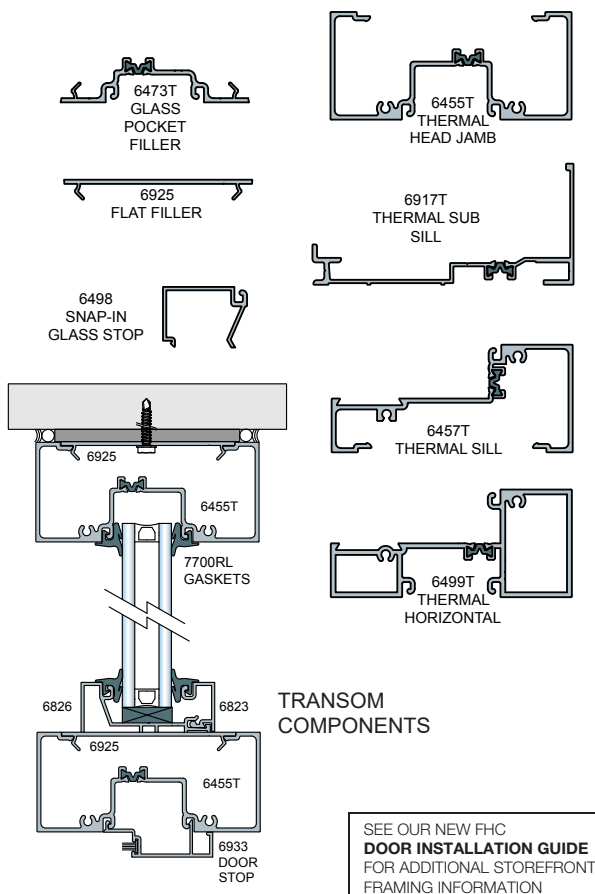
Series 200T Typical Configuration at Wall



Series 200T Compensation Head Channel (Can Receptor)

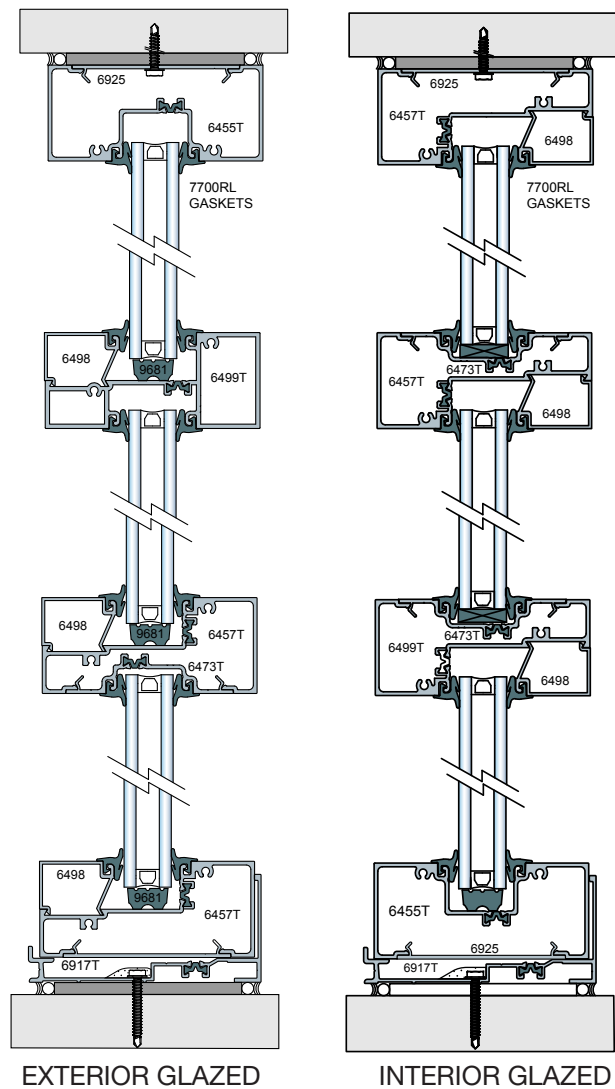


Series 200T Storefront Framing Parts



**NOTE: SEAL ALL GASKET ENDS**

Series 200T Horizontal Members



EXTERIOR GLAZED

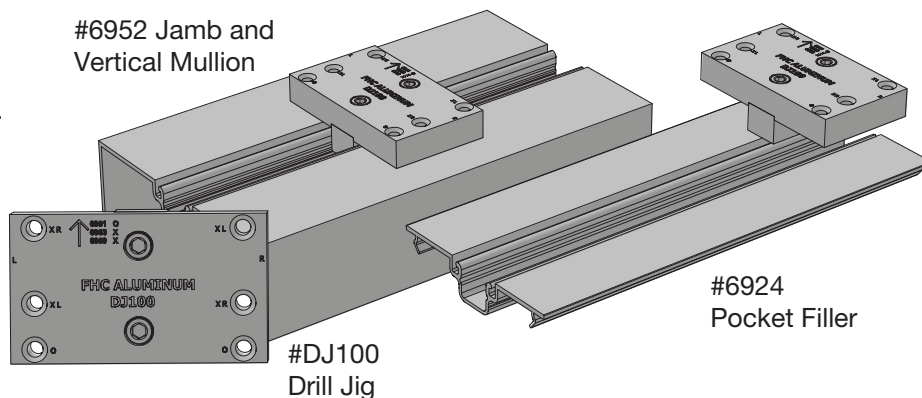
INTERIOR GLAZED

## FHC DJ100 Precision Drill Jigs

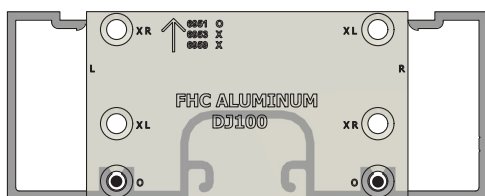
For use with Series 100 Storefront Framing 1-3/4" x 4-1/2"

FHC Precision Drill Jigs are designed to increase screw race construction productivity and reduce field errors. Spot-drill or transfer punch recommended for extended tool life.

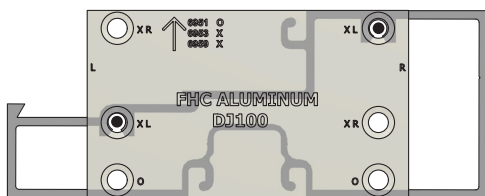
- Position Drill Jig
- Use 3/16" Drill Bits
- Clamp or Firmly Hold in Place
- Lightly Spot-Drill the Pattern
- Remove Drill Jig
- Drill Through-Holes



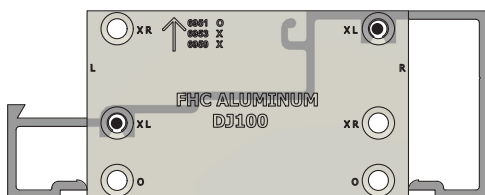
### Series 100 Exterior Glazed



6951 Head or Sill



6959 Tubular Horizontal

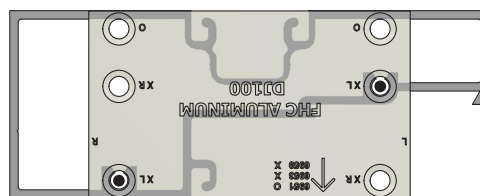


6953 Bottom Sill

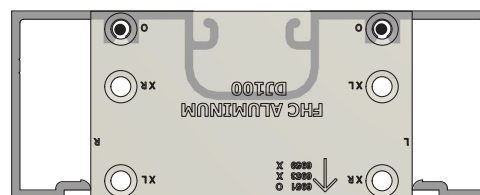
### Series 100 Interior Glazed



6953 Head Jamb



6959 Tubular Horizontal



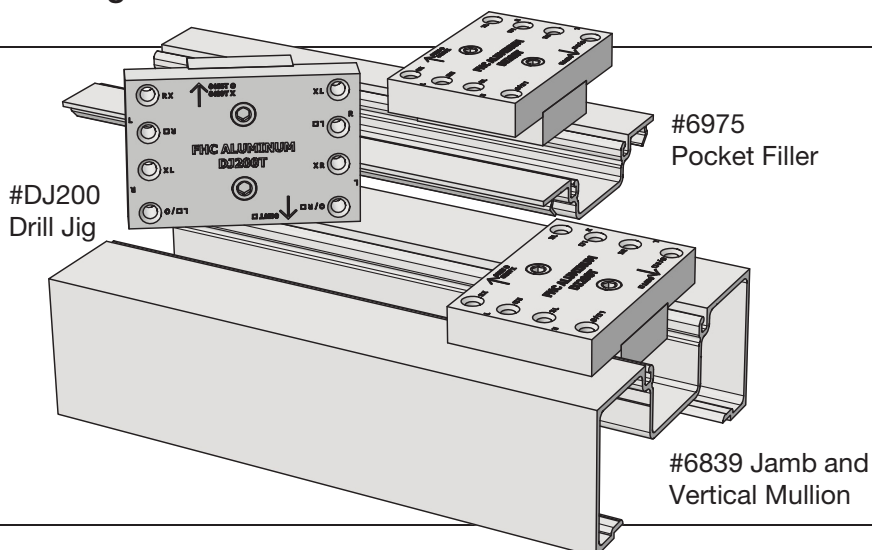
6951 Bottom Sill

## FHC DJ200 Precision Drill Jigs

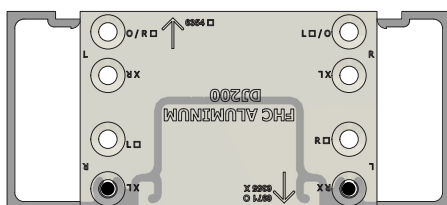
For use with Series 200 Storefront Framing 2" x 4-1/2"

FHC Precision Drill Jigs ensure consistent screw race joinery. Spot-drill or transfer punch recommended for extended tool life.

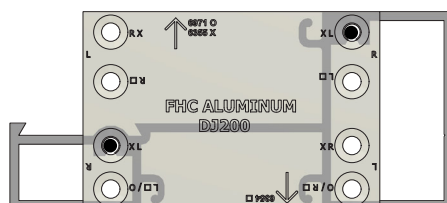
- Position Drill Jig
- Use 3/16" Drill Bits
- Clamp or Firmly Hold in Place
- Lightly Spot-Drill the Pattern
- Remove Drill Jig
- Drill Through-Holes



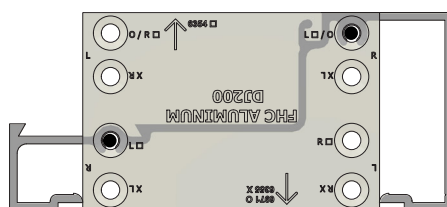
### Series 200 Exterior Glazed



6971 Head or Sill

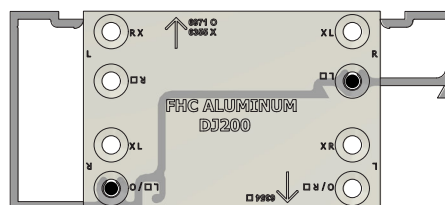


6355 Tubular Horizontal

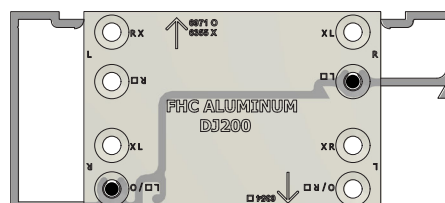


6354 Bottom Sill

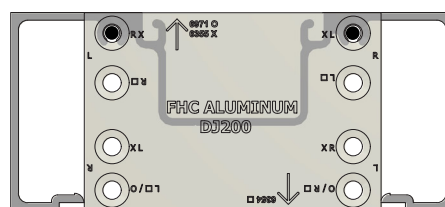
### Series 200 Interior Glazed



6354 Head Jamb



6355 Tubular Horizontal



6971 Bottom Sill

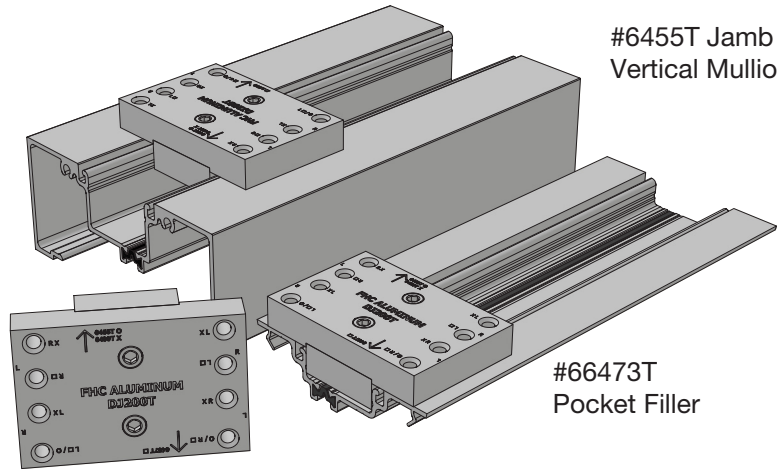
# FHC DJ200T Precision Drill Jigs

For use with Series 200T Thermal Storefront Framing 2" x 4-1/2"

FHC Precision Drill Jigs are made of C61 hardened steel for maximum tool life. Spot drilling or transfer punching the pattern is recommended.

- Position Drill Jig
- Use 3/16" Drill Bits
- Clamp or Firmly Hold in Place
- Lightly Spot-Drill the Pattern
- Remove Drill Jig
- Complete the Drilling Process

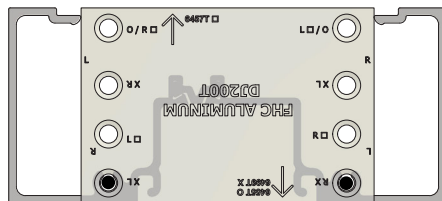
#DJ200T  
Drill Jig



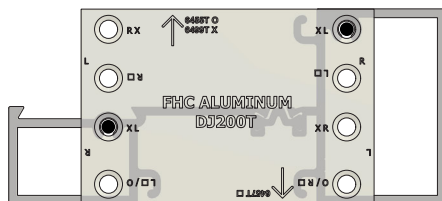
#6455T Jamb and  
Vertical Mullion

#66473T  
Pocket Filler

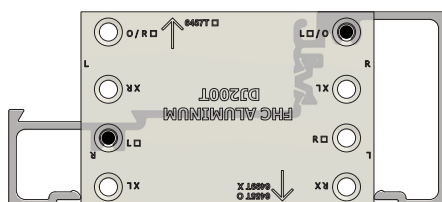
## Series 200T Exterior Glazed



6455T Head or Sill

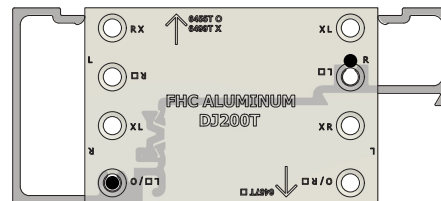


6499T Tubular Horizontal

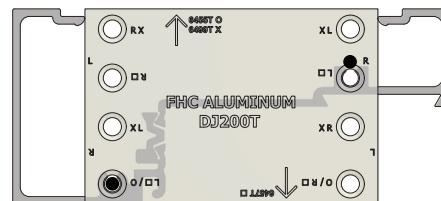


6457T Bottom Sill

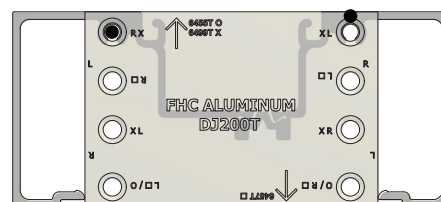
## Series 200T Interior Glazed



6457T Head Jamb



6457T Tubular Horizontal



6455T Bottom Sill

# Subsills and End Dams

For use with Series 100, 200, and 200T Storefront Systems

## End Dam Installation

The storefront subsill flashing is the collection basin for the entire system's moisture accumulated at all levels above. The majority of interior water damage occurs at the end dams due to improper sealing.

Moisture accumulated in the horizontal mullions is channeled out each end to the vertical mullions and down to the subsill. Similar to a gutter downspout. Therefore, field installations must include fabrication and sealing steps to control the water flow out and away from the building.

The FHC #9942 Sill Flashing End Dams are extruded aluminum profiles specifically designed to be used with the all FHC Subsill Flashings. **(Figure 5)**

**(Figure 6)** and **(Figure 7)** illustrate the attachment method using a #6 sheet metal screw. One screw per end dam is sufficient and maintains a minimum number of penetrations of the subsill. Sealant will ensure that the end dams remain fixed to the subsills. **(Figure 9)**

Weep holes must be placed in all #6917T High-Performance Subsills **(Figure 8)** to allow water to exit the system. Usually (2) weep holes between each vertical mullion will be sufficient. #6918 and #6918T Subsills do not require weep holes due to the lack of frontal risers. **(Figure 6)**

**(Figure 9)** shows the correct way to seal the end dams. Notice that sealant is applied up and over the subsill risers and covering all penetrating fastener heads. Tool the sealant to force the material into the voids.

#9942 End Dam

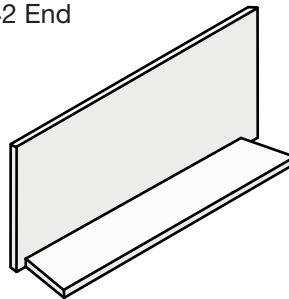


FIG.5



Sill Flashing End Dams  
for use with 6918, 6918T,  
and 6917T Subsills.

#6918 Sill (#6918T not shown)

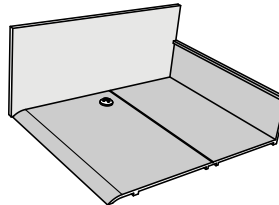


FIG.6 Non-thermal and  
Thermal Subsill Flashing

#6917T Sill

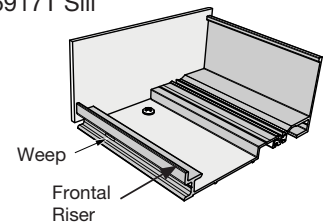


FIG.7 High Performance  
Thermal Subsill Flashing

#6917T Sill

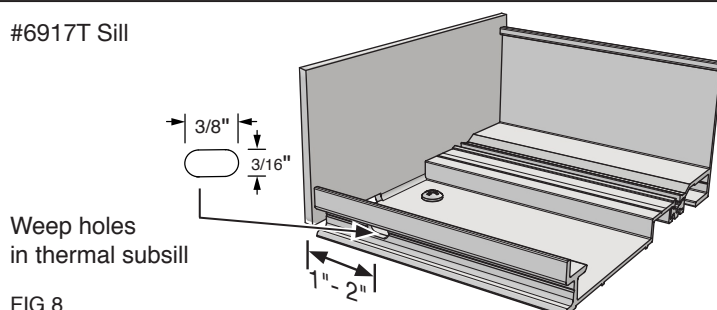


FIG.8

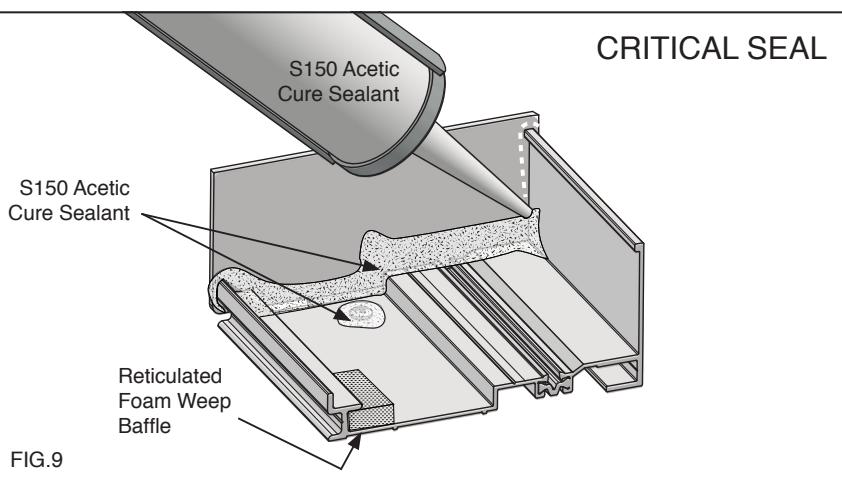
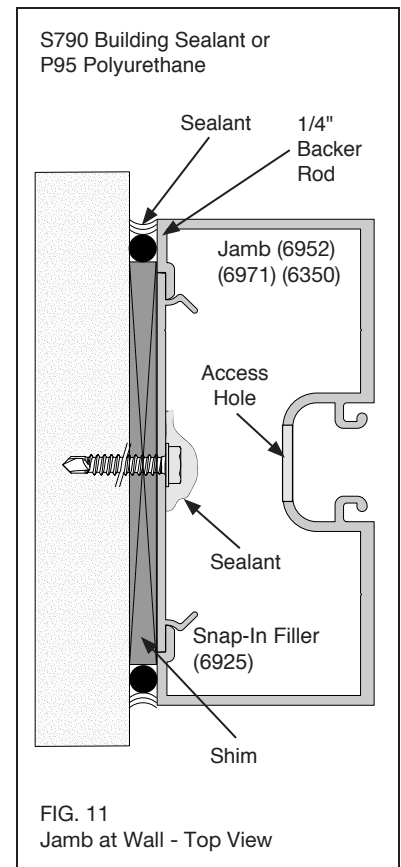
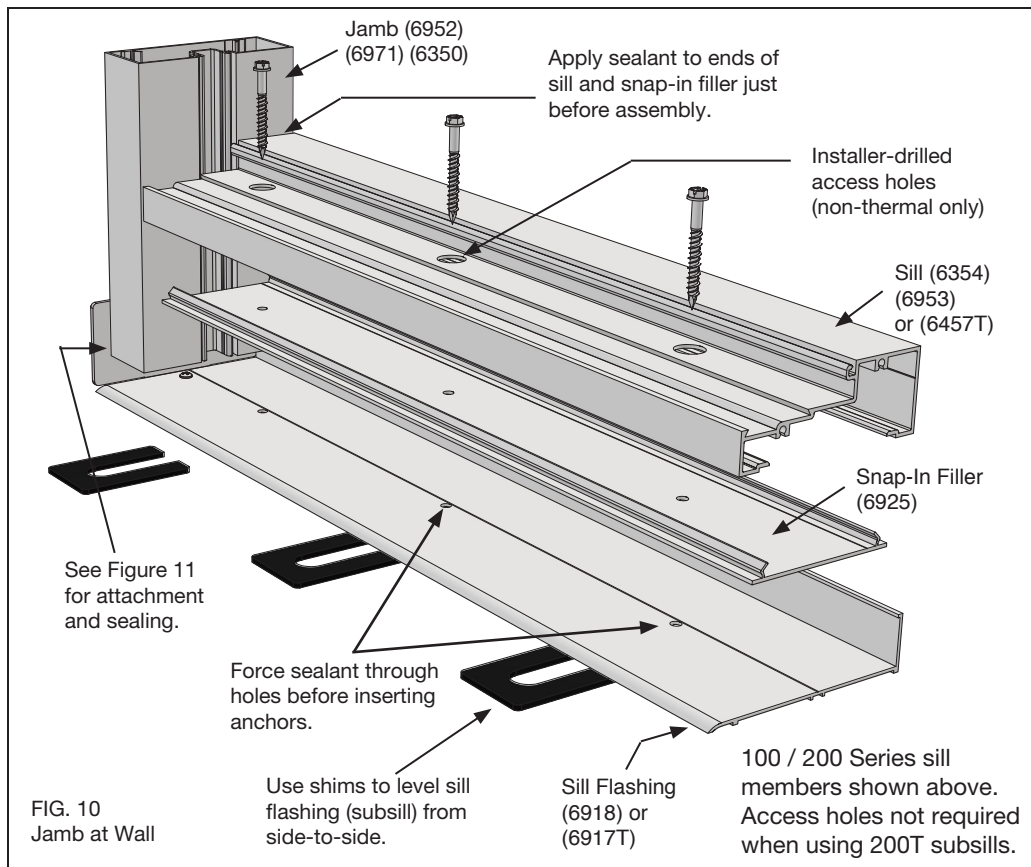


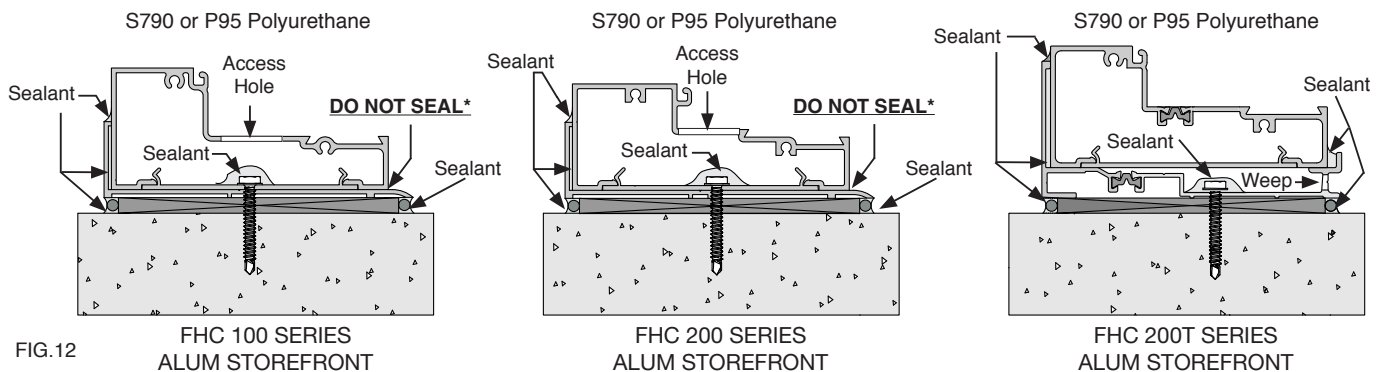
FIG.9

# Subsill Installation at Wall Jamb

## Series 100, 200, and 200T Storefront Systems



### CRITICAL SEALING POINTS



#### \* DO NOT SEAL

Do not seal between the horizontal sill and the sill flashing (subsill) at the exterior edge of the 100 and 200 Series. This is to allow for water migration to the exterior without drilling weep holes.

Guidelines presented are for general installation procedures only. For actual job conditions, see the details on the shop drawings. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design engineer.

**CRITICAL NOTE:** AVOID DIRECT CONTACT OF ALUMINUM WITH UNCURED MASONRY, CONCRETE, CEMENT AND OTHER INCOMPATIBLE MATERIALS WITH A HEAVY COAT OF ZINC CHROMATE, BITUMINOUS PAINT, OR OTHER NEUTRAL BARRIERS.

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FRAMELESS HARDWARE COMPANY



## Door Frame Installation (Optional)

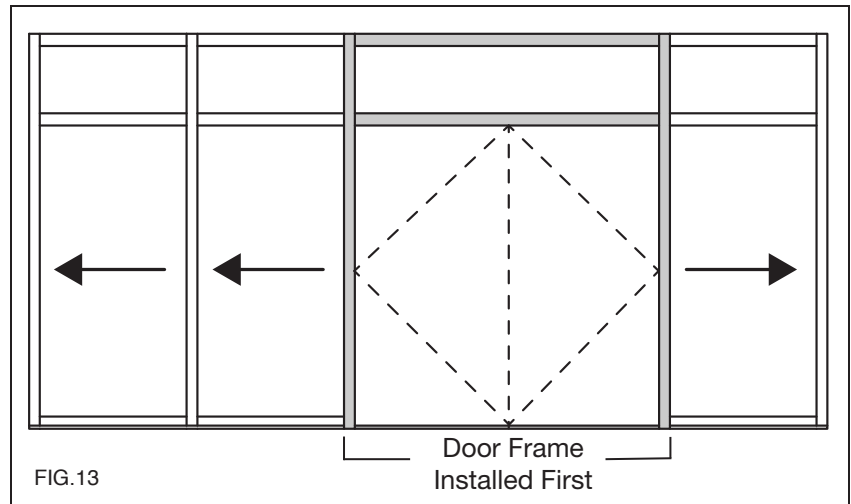
### Series 100, 200, and 200T Storefront Systems

If your installation includes one or more entrance doors, they must be installed **FIRST**. Locate the door position(s) by referring to your FHC shop drawings. Door frames must be square, level, and plumb in order to operate properly.

**Storefront Door Rough Opening: Width = Width of Door Frame + 1/4" Height = Height of Door Frame + 1/4"**

### IMPORTANT POINTS:

- Door frames must be installed first.
- Door Jambs do not set on sill flashing.
- Door jambs run through to floor and head.
- Storefront framing is installed from the door frame out. **(Figure 13)**
- End Dams are not required at door frames.
- Sill flashing is installed tight against door jambs. **(Figure 14)**



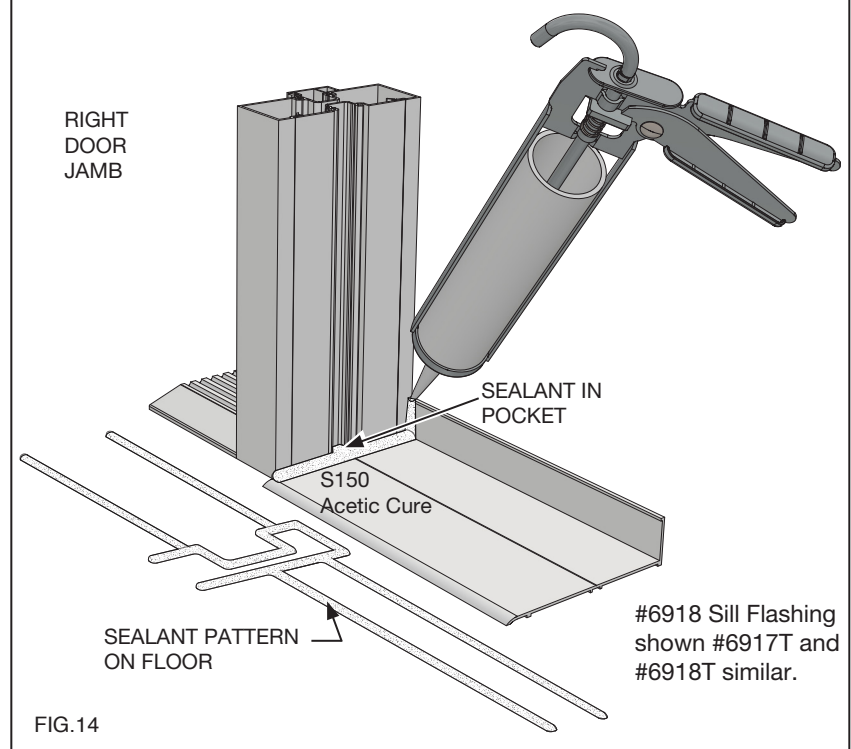
### SILL FLASHING TO DOOR FRAME

Apply a bead of sealant to the ends of the sill flashing that butt up against the door jambs. Tool the sealant to force the material into the joint. **(Figure 14)**

The door jamb will act as an end dam for the sill flashing. So, it is important to seal both components water tight. Run a bead of sealant from front to back of the sill along the door jamb. Fill the glass pocket with an abundant amount of sealant. Again, tool the second layer of sealant to force it into the voids

### Sealing Sill Flashing

### CRITICAL SEAL



Now Available!

ALUMINUM FRAMED  
STOREFRONT  
ENTRANCE DOORS

Installation Guide



## Subsill Splicing

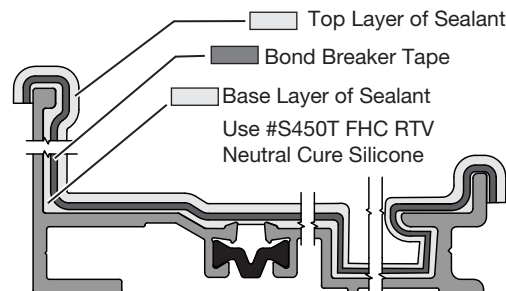
Aluminum sill flashings (subsills) require splicing when:

- Storefront span exceeds subsill material length.
- Opposing expansion of sill flashing may occur due to installation between fixed obstacles like doors or walls.
- Excess thermal expansion of sub sill could cause buckling due to extreme temperature changes.

Fasten the Subsill to the floor as illustrated (**Figure 12**) starting at the door frame or wall jamb. Determine the direction of expansion and fix or pin the point with a round anchor hole. The remaining anchor penetrations should be slotted to allow lateral movement away from the pinned anchor. (**Figure 15**)

A subsill splice requires a 1/4" - 1/2" gap between sill flashings filled with sealant. Use 1/2" gap for long runs and installations in areas of extreme temperature changes that could cause buckling or deflection of the sill flashing. Locate slotted anchor holes in the sill flashing approximately 2" on each side of the splice. Fill all anchor holes with sealant before inserting anchors. Install specified anchors with washers. Seal all anchor heads after tightening.

### Splicing Sill Flashing Opposing Expansion Directions



**IMPORTANT:** Splice joints should be located a minimum of 6" from vertical frame members.

FHC #6917T Thermal Subsill shown. Other FHC sill flashings use similar splicing methods.

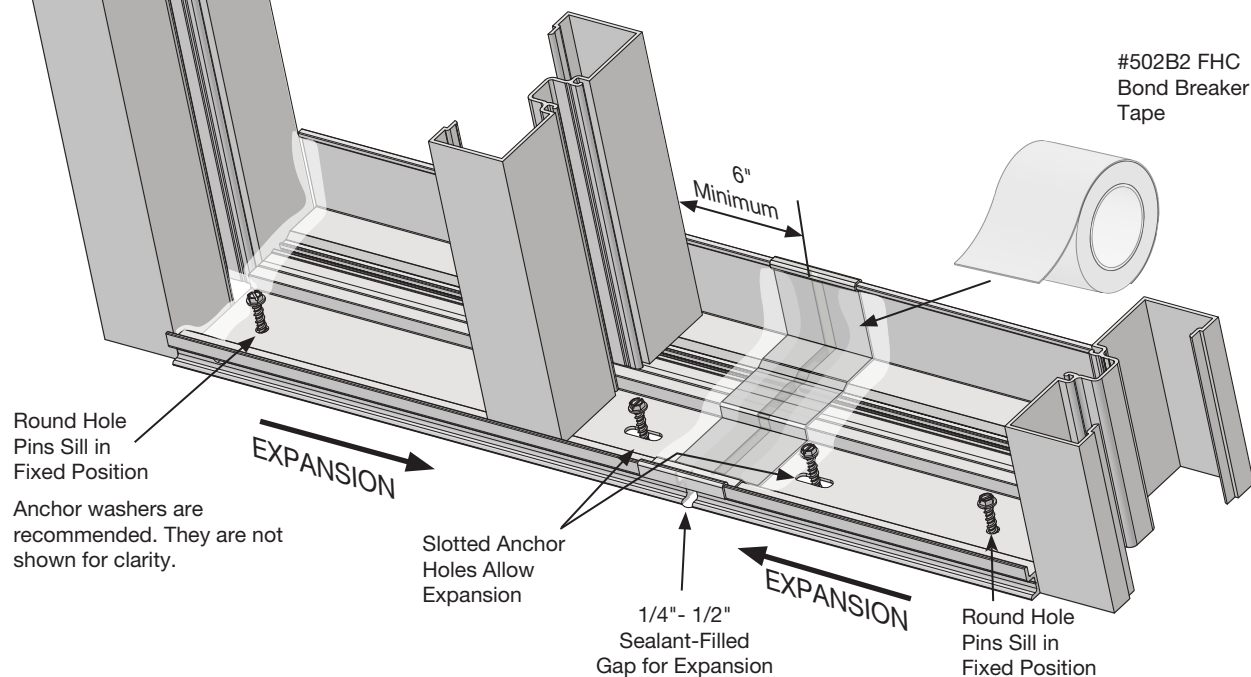


FIG. 15

# FHC Storefront Sectional Assembly Method

## Storefront Frame Assembly

Refer to configuration details from pages 3-5. The drawings will assist you in selecting the correct profiles and their orientation in the ladder assembly. Specific cut lengths will be called out in your FHC shop drawings.

Once parts are cut to size use the drill jig details from pages 6-8 to spot drill the fastener holes in the vertical mullions.

Complete the drilling and assemble the sections using FHC #9427 #10 X 1" pan head sheet metal screws.

Add sealant to each end of the horizontal mullions as they are assembled. **(Figure 16)**

Building each section with a pocket filler and vertical jamb allows the assemblies to be snapped together.

**(Figure 17)** illustrates one method for snapping each section together using c-clamps. Use wood or plastic blocks to protect the aluminum surfaces from the clamp faces.

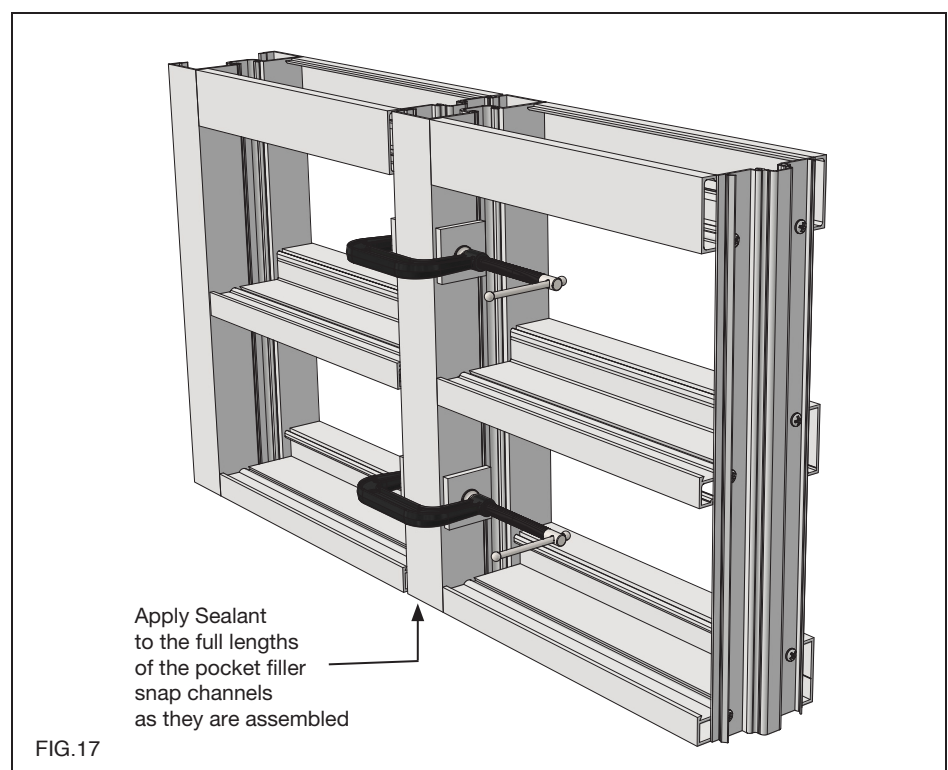
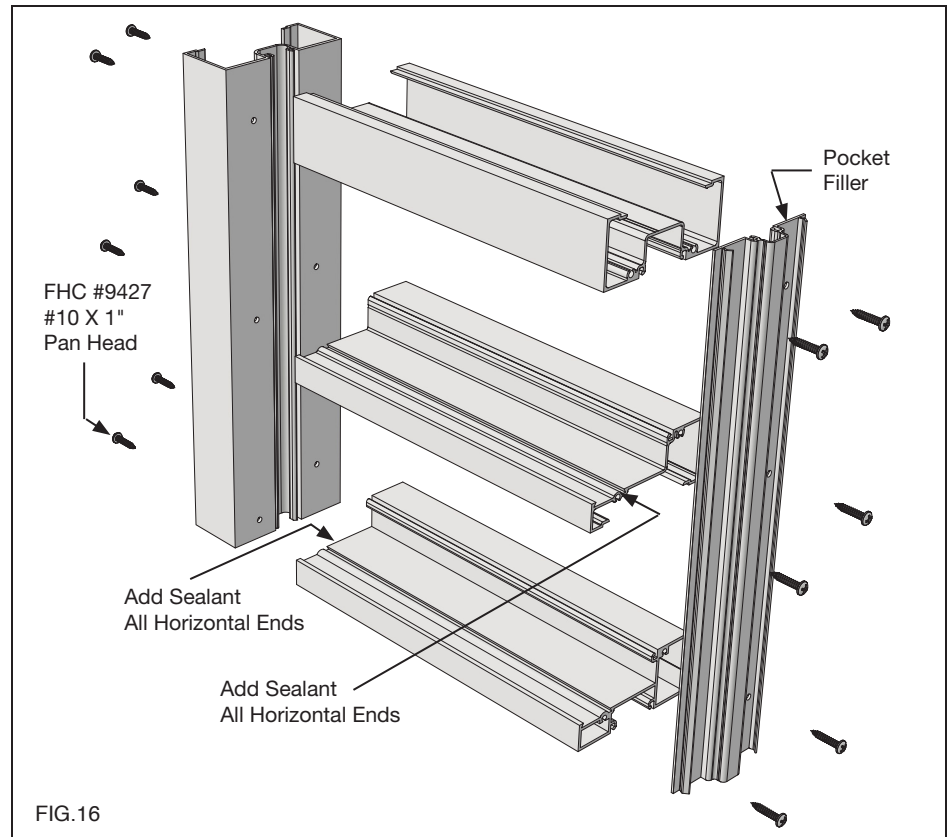
Avoid using a hammer. It can leave dents. The clamp method works well allowing control over the pressure and the area that the pressure is applied. Large sections may require more clamps.

### Sealant:

- Apply FHC S450 neutral cure sealant to all mullion ends during assembly.
- Apply sealant to all pocket filler snap channels during assembly.
- Remove excess sealant.

### Fasteners:

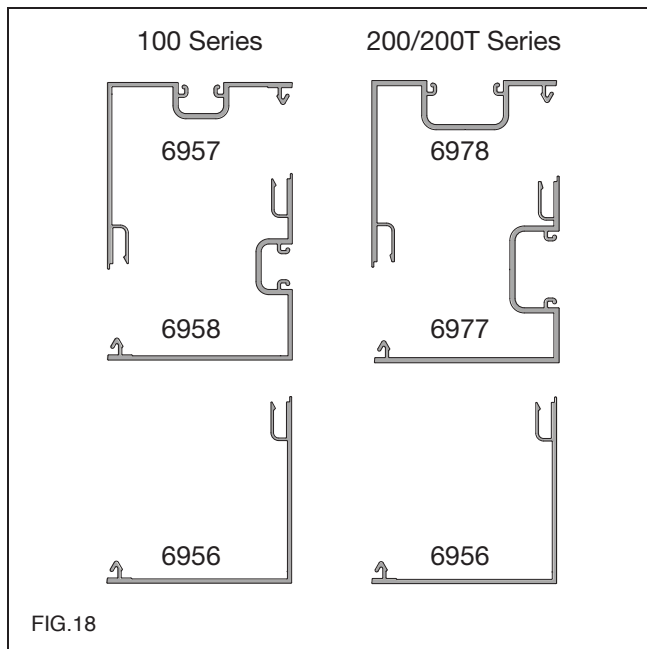
- Use FHC#9427 #10 X 1" pan-head fasteners.
- Use FHC#TW535 wax lube on all fasteners.



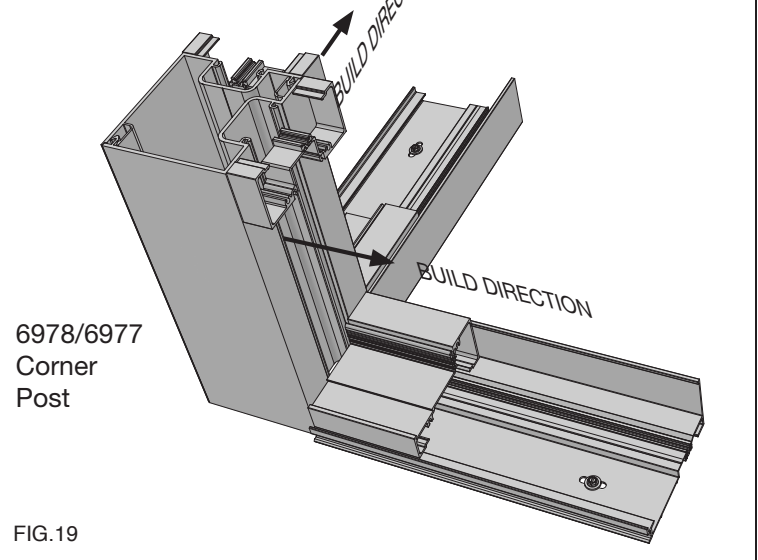
## FHC Storefront Corner Framing

FHC corner jambs are designed for all series 100, 200, and 200T Framing Systems. Corner posts allow the storefront designers to incorporate inside and outside free-standing corners.

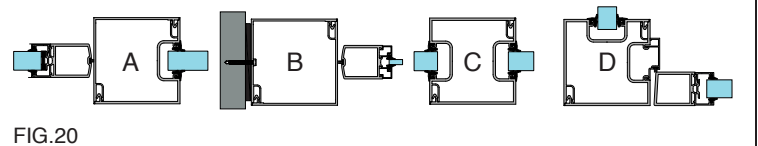
- Use drill jig to locate fastener holes. **(Pages 6-8)**
- Storefront framing is built from the corner posts outward. **(Figure 19)**
- Corner Post run through just like door frames.
- Corner framing does not sit in sill flashing.
- FHC corner framing may also be mounted to walls as a build-out for door jambs. **(Figure 20-B)**



**Corner Post with 200T Storefront Framing**



**Corner Post Applications**

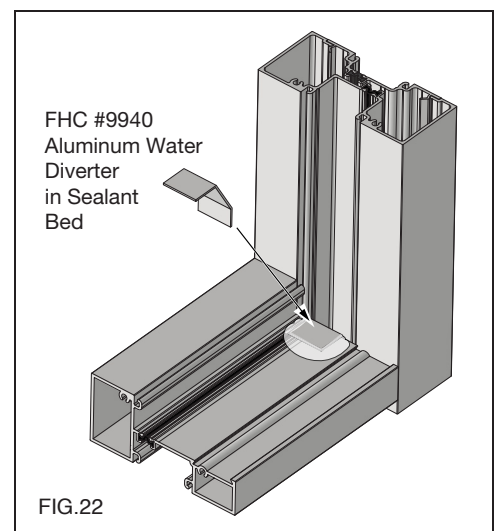
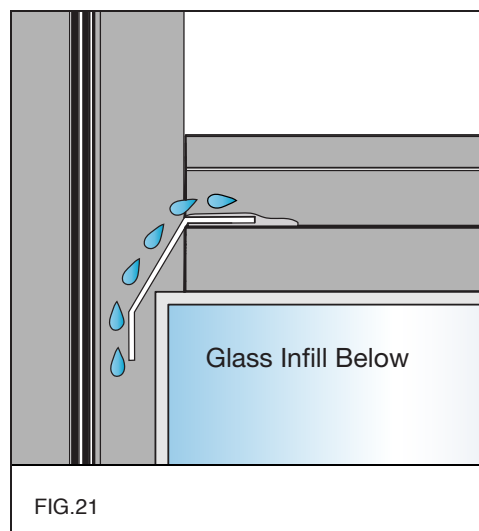


## Water Diverter Installation

FHC #9940 Water Diverters channel moisture away from subsequent glass panels below preventing water infiltration to the interior of the building. **(Figure 21)**

Apply a layer of sealant to the upper glass channel and set the diverter as illustrated in **(Figure 22)**. Allow sealant to cure before setting glass.

Diverters should be placed at the ends of all intermediate horizontal mullions.





# FHC Storefront Glazing

## Gasket Installation

Proper gasket installation is critical to the performance of the FHC Aluminum Storefront System. Use FHC S450 RTV sealant for all gasket and aluminum sealing.

Interior gaskets are installed first when installing glass from the exterior. Vertical gaskets, notched to run long, will give the best drainage performance. **(Figure 24)**

## SEAL ALL GASKET ENDS

Cut 7700RL gaskets for the horizontal intermediate mullions adding 1" additional. The extra length will maintain tight corners if the gaskets shrink over time. Insert gasket ends first and work toward the middle. **(Figure 23)**

Add 1" - 2" of S450 RTV sealant to the gasket reglet corners. **(Figure 24)**

Insert the vertical and horizontal gaskets into the wet sealant and sealing each butt joint end. **(Figure 25)**

## Glass Installation (Figure 25)

1. Start with the vertical insertion by lifting the glass panel to clear the sill, then work the edge into the deep vertical pocket. Swing the glass inward.
2. Align the glass with the shallow pocket of the other mullion and center in the opening.
3. Lift the glass into the head member's glass pocket and hold in place.
4. Insert (2) #9681 chair blocks at quarter points (or #9682 for 1/4" glass).

Install the remaining glass stops and gaskets using the same procedure as above.

## Completion

This concludes the FHC Storefront Framing install. For further product assistance contact our knowledgeable Technical Support Team at the numbers below or visit our website [fhc-usa.com](http://fhc-usa.com) for complete part information.

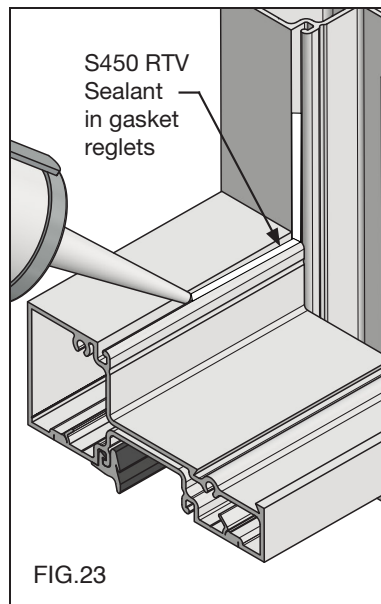


FIG.23

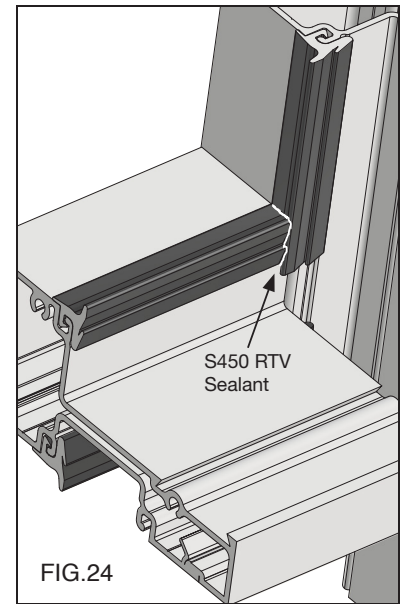


FIG.24

## Glass Panel Insertion

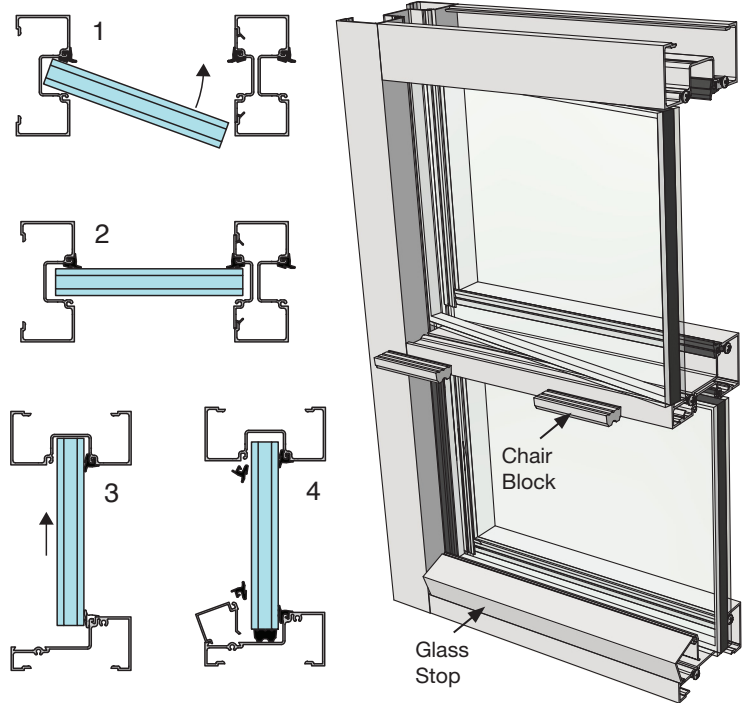


FIG.25

## Glass Sizes

100 Series	1/4" (6.4) Glass	Daylight Opening +5/8" (15.9)
200 & 200T Series	1" (25) I.G. Glass	Daylight Opening +7/8" (22.2)