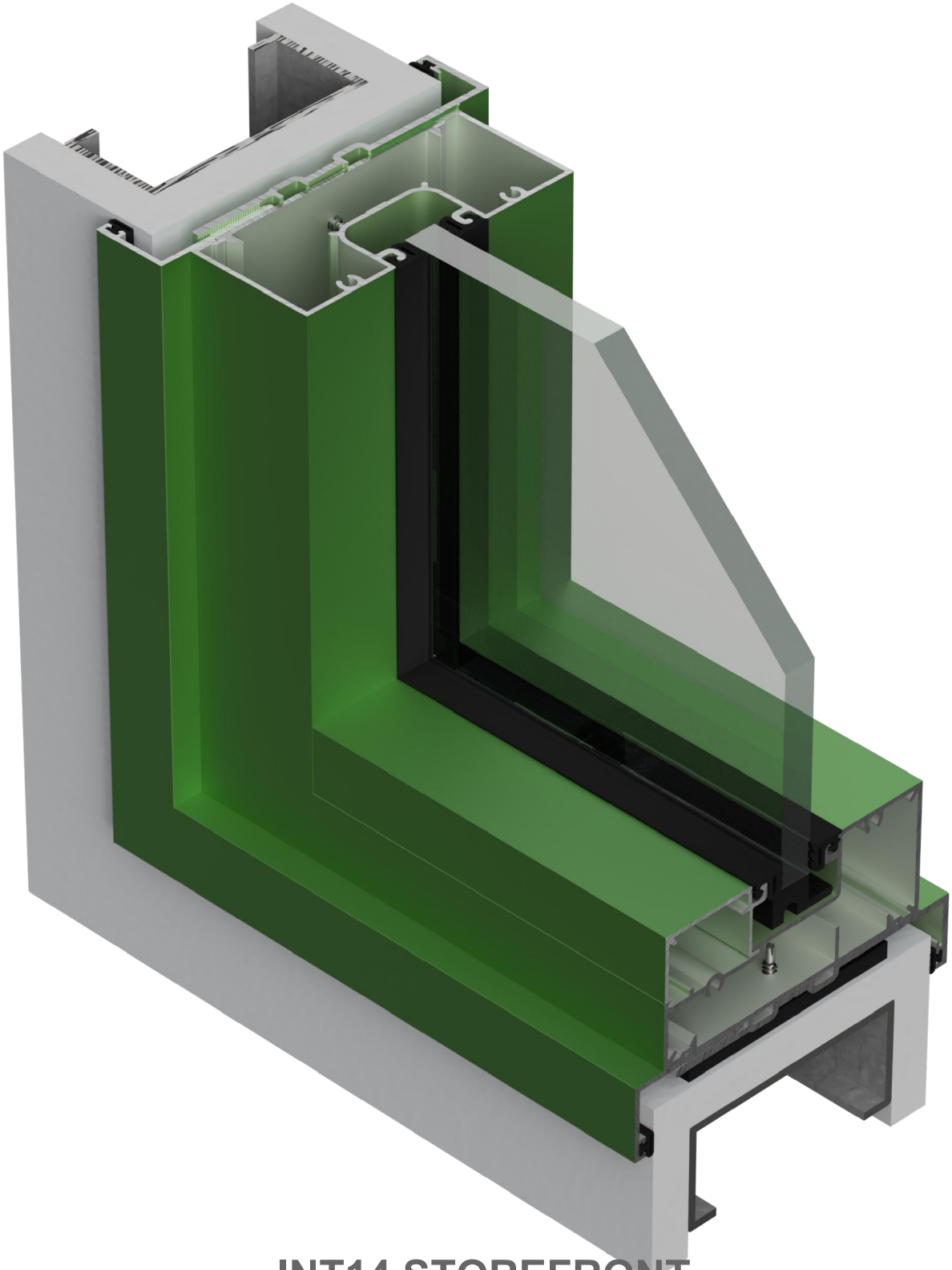
Alumicor™
BUILDING EXCELLENCE

TUBELITE®
DEPENDABLE
LEADERS IN ECO-EFFICIENT STOREFRONT, CURTAINWALL AND ENTRANCE SYSTEMS



INT14 STOREFRONT

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. 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.

4. Coordinate protection of installed work with general contractor and/or other trades.

5. 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.).

6. 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.

7. 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.

8. 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.

9. 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.

10. 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.

11. 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. Joints smaller than 1/2 ” may be subject to failure. Consult the sealant manufacturer for proper sizing of joints.

12. 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.

13. 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.

14. Cleaning of exposed aluminum surfaces should be done per AAMA recommendations.

15. Care must be taken when assembling aluminum framing components. Over tightening any fastener may cause stripping or fastener failure. Tubelite recommends the use of drill motors with clutches engaged 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.

16. Check www.tubeliteinc.com for any installation instruction updates.

CAUTION

Mandatory Installer Requirements for Structural Glazed Applications

The performance and structural integrity of a structural sealant glazed (SSG) framing system is dependent upon proper sealant selection and installation procedures.

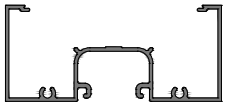
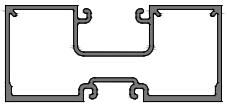
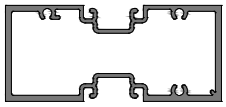
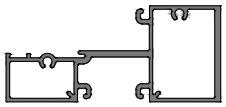
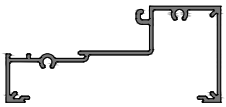
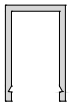
Structural sealant selection and application is the responsibility of the erector, installer and/or glazing contractor and must be approved by the sealant manufacturer with regard to application and compatibility for its intended use. All sealants must be used in strict accordance with the sealant manufacturer's instructions and applied only by trained personnel to surfaces that have been properly prepared.

The structural sealant affixes the glazing infill to the framing system and must not experience adhesive or cohesive failures from structural or environmental project design requirements. The sealant's ability to perform depends on many factors including but not limited to proper sealant selection, surface preparation, infill type, frame finish type, environmental conditions at application and curing, horizontal and vertical system movements, sealant shelf life, cure time, handling, and compatibility of other materials in contact.

Proper adhesion to infill and framing is critical. Structural sealant must be compatible with all materials in contact, including frame finish (paint, anodize, power coating, etc.), glazing materials (gaskets, tapes, sealants, etc.), infill surface (glass, panel, etc.), and cleaning materials. Consult the sealant manufacturer for compatibility assessment, application instructions, and adhesion testing. Special surface preparations such as priming may be required by the sealant manufacturer.

It is the responsibility of the installer to ensure all glazing infills be reviewed and approved by the infill manufacture for use in SSG applications. Infills include but are not limited to glass, metal panels, stone, etc. Design modifications of the infill may be required for use in SSG applications.

TYPICAL FRAMING EXTRUSIONS

SHAPE	DESCRIPTION	PART No.
	Head / Jamb / Mullion	E1471
	Tubular Transom Header / Jamb	E1482
	Tubular Transom Header	E1493
	Tubular Intermediate Horizontal / Sill	E1479
	Open-Back Sill / Horizontal	E1480
	Glazing Stop for E1479 & E1480	E1478
	Deep Glazing Channel, 2" x 1 1/4"	E6717
	Shallow Glazing Channel, 1" x 1 1/4"	E6718

TYPICAL FRAMING EXTRUSIONS

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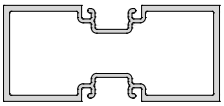
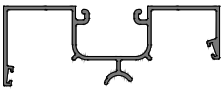
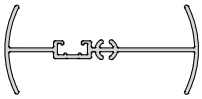
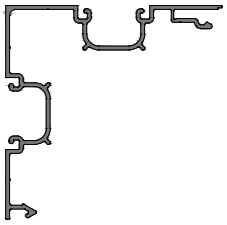
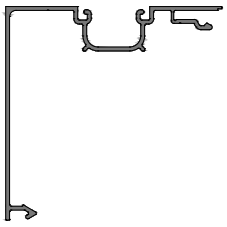
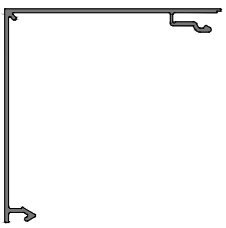
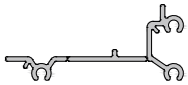
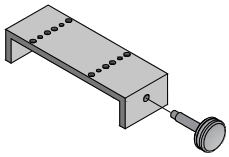
	Tubular Jamb / Mullion	E1491
	Open-Back Mullion Filler	E1472
	Pivot Mullion Receiver	E1481
	Pivot Mullion	E14247
	90° Dual Pocket Corner Mullion	E1473
	90° Single Pocket Corner Mullion	E1476
	90° Corner Cover	E1477

TYPICAL FRAMING EXTRUSIONS

SHAPE	DESCRIPTION	PART No.
	Open-Back Flat Filler	P1745
	Drywall Trim	E45201
	Drywall Trim Stop	E45200
	Glazing Pocket Infill, use with 1" Pockets	E6727
	Glazing Pocket Infill, use with 11/16" Pockets	E4011
	Door Stop - Inset, 1/2" X 1 3/32"	E4531
	Door Stop - Outset, 1/2" X 1 3/4"	E4557
	Door Stop - Inset, 1/2" X 1 3/4"	E4559
	Head Shear Clip	P1499
	Sill / Intermediate Horizontal Shear Clip, (requires modification for tubular horizontal)	P1484
	Drill Fixture for 4-1/2" Depth System (P1682 Thumb Screw included)	P1482

TYPICAL FRAMING EXTRUSIONS

SHAPE	DESCRIPTION	PART No.
	Setting Block, use with 1/2" glazing or thicker	P4092
	Setting Block, use with Glazing Channels	P1452
	Setting Block, use with 7/16" Glazing or Thinner	P4071
	Setting Block, use at Transom with 1/2" Glazing or Thicker	P1450
	Setting Block, use at Transom with 7/16" Glazing or thinner	P1451
	Standard Glazing Gasket	P2538
	Gasket for 1/2" Glazing	P2728
	Glazing Gasket, use with Glazing Channels for 3/8" Glazing	P2004
	Gasket, use with 1/4" & 5/16" Glazing	P6744
	Gasket, use with 5/16", 3/8", and 7/16" Glazing	P2428
	Gasket, use with 9/16", 5/8", and 11/16" Glazing	P487
	Gasket, use with 11/16", and 3/4" Glazing	P4500

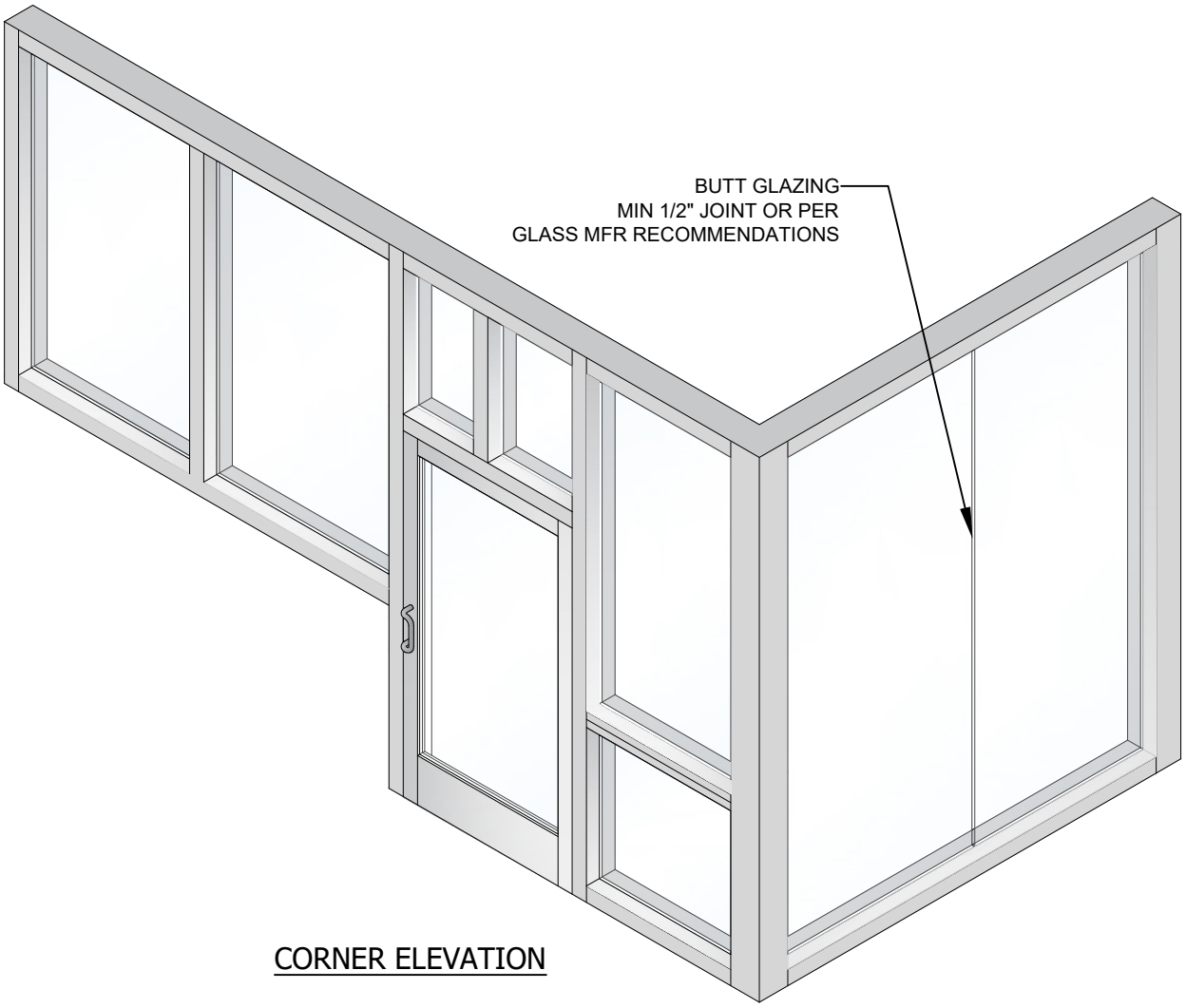
TYPICAL FRAMING EXTRUSIONS

SHAPE	DESCRIPTION	PART No.
	Assembly Fastener - #12-24 X 1" Type 23 Hex Head Washer	S204
	Shear Clip Fastener - #10-24 X 1 3/4" Type F Ph Pan Head, Thread-Cutting Screw	S009
	Drywall Trim attachment Fastener - #10-16X .625, Ph Pan Head Screw	S445
	Horizontal to Shear Clip Fastener - #08 X 3/8" TYPE A Ph Pan Head, Self Tapping Screw	S196
	Door Frame Attachment Fastener - #10-16 X 1 1/2" Hex Washer TEK Self-Drilling Screw	S424
	Head to Shear Clip Attachment Fastener - #10 X 5/8" Type B Ph Flat Head, Self-Tapping	S192

ELEVATION TYPES

TYPES OF STOREFRONT INSTALLATION

The INT14 Series Interior Storefront system can be constructed for either finished or unfinished drywall openings. Frames can have drywall trim attached prior to erecting the frame for ease of installation.



CORNER ELEVATION

10' Tall Frame *with* Corner
8' Tall Frame *without* Corner

Fig. 1

QUICK REFERENCE SHEET

STEP 1

- Confirm opening is square
- Ensure surfaces are free of contaminants
- Check anchor size and locations against installation instructions and approved shop drawings
- Confirm glazing fitment (thickness up to 3/4", glass bite of 3/8", etc.)
- Cut gaskets with an additional 1/16" - 1/8" longer per foot to account for shrinkage
- Avoid stretching of the gaskets when cutting
- Install gaskets starting from each end and working towards the center

GLASS SIZE CALCULATION

Typical Framing:
Glass Width = D.L.O. + 3/4"
Glass Height = D.L.O. + 3/4"

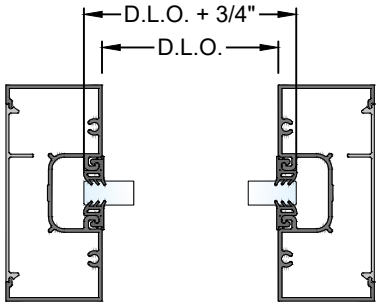


Fig. 1

Channel Framing:
Top Channel = D.L.O. + 3/4"
Bottom Channel = D.L.O. + 5/16"

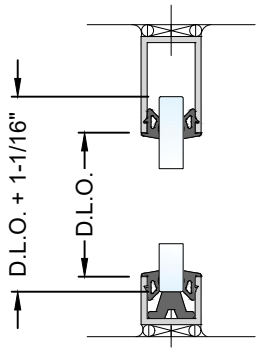
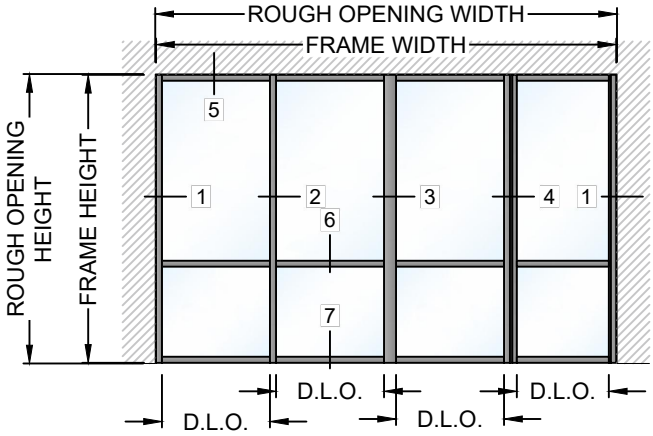
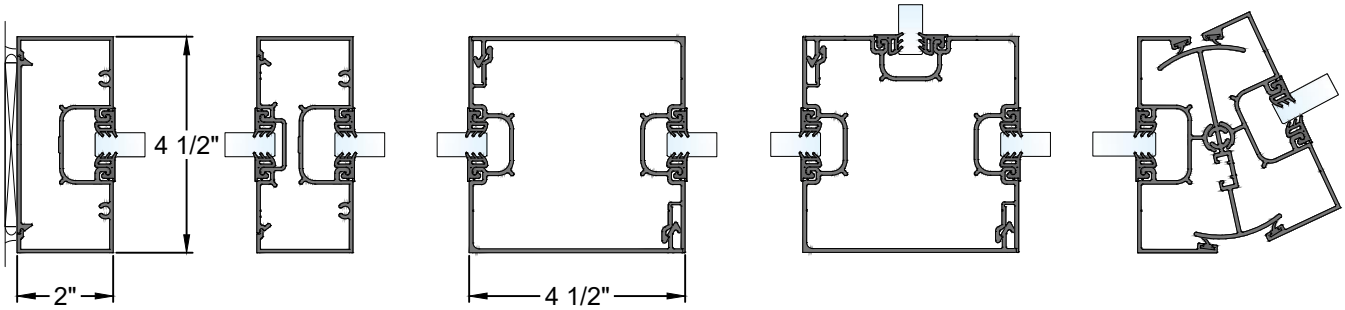


Fig. 2

FINISHED OPENING DETAILS





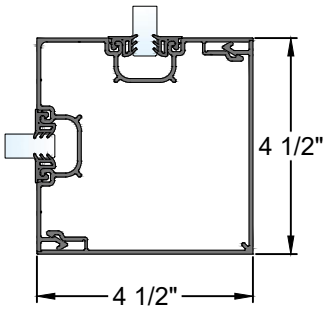
1 Wall Jamb

2 Two-Piece Mullion

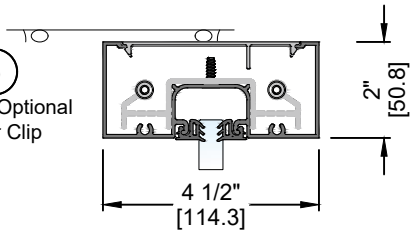
3 Wide Two-Piece Mullion

3A Wide Two-Piece Three-Way Mullion

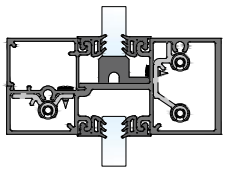
4 Split Pivot Mullion



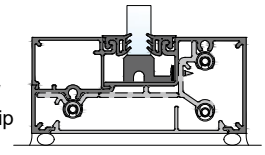
3B Two-Piece Corner Mullion



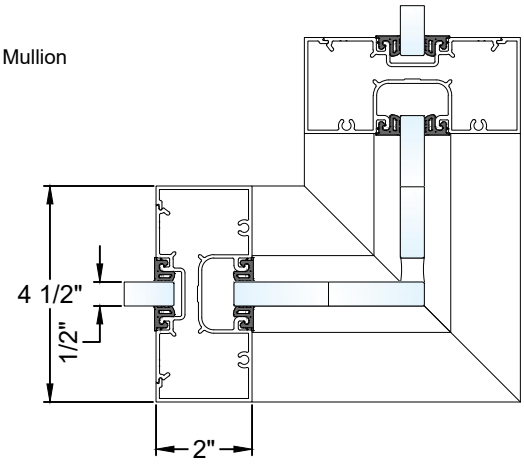
5 Head w/ Optional Shear Clip



6 Intermediate Horizontal w/ Optional Shear Clip

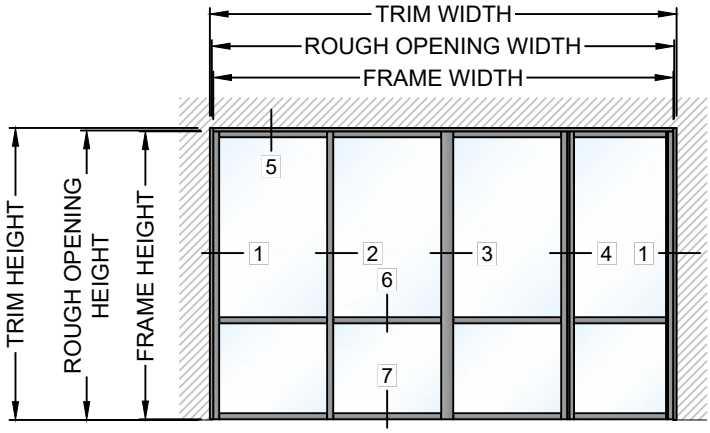


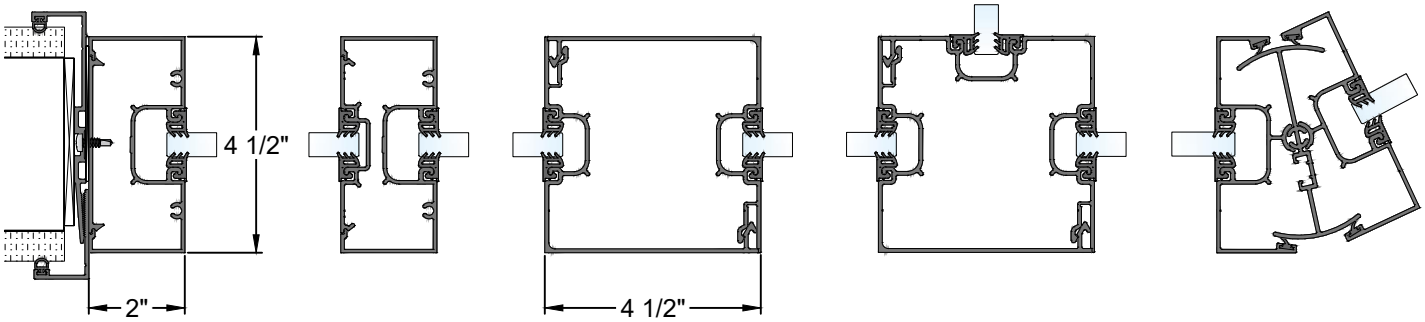
7 Sill Horizontal w/ Optional Shear Clip



1A Two-Mullion Corner

DRYWALL TRIM DETAILS





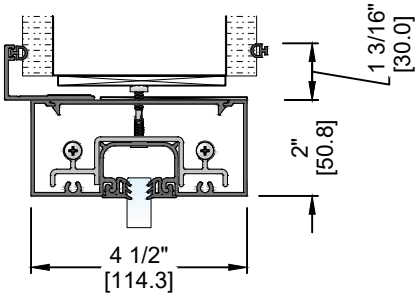
1 Jamb with Trim

2 Two-Piece Mullion

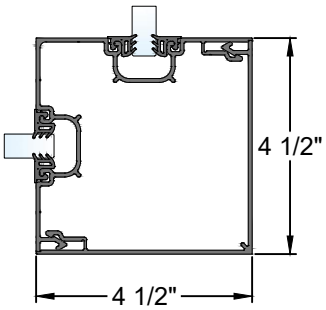
3 Two-Piece Wide Mullion

3A Wide Two-Piece Three-Way Mullion

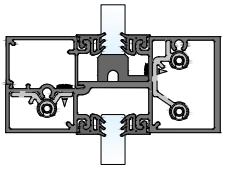
4 Split Pivot Mullion



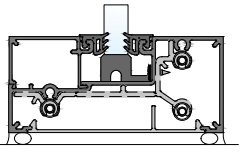
5 Head w/ Optional Shear Clip



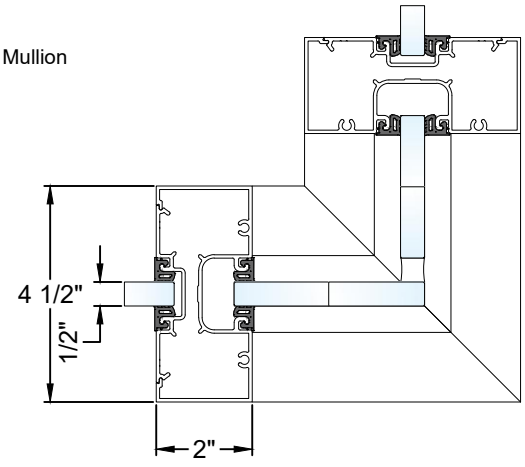
3B Two-Piece Corner Mullion



6 Intermediate Horizontal w/ Optional Shear Clip

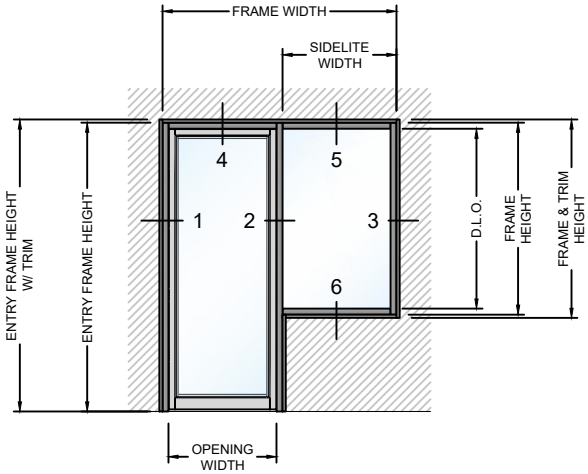


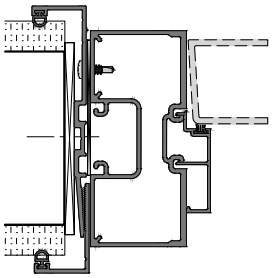
7 Sill Horizontal w/ Optional Shear Clip



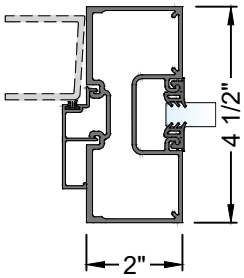
1A Two-Mullion Corner

ENTRANCE with DRYWALL TRIM

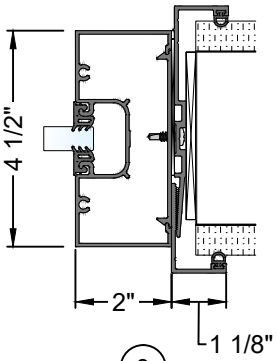




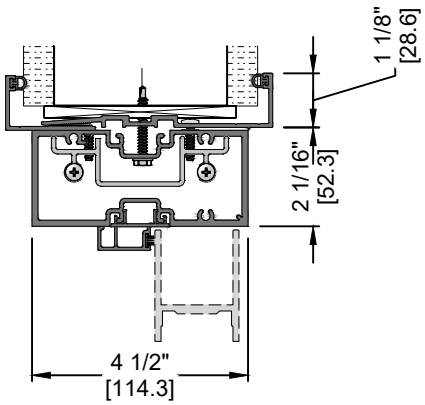
1
Door Jamb w/ Trim



2
Door Jamb at Sidelite



3
Perimeter Jamb w/ Trim



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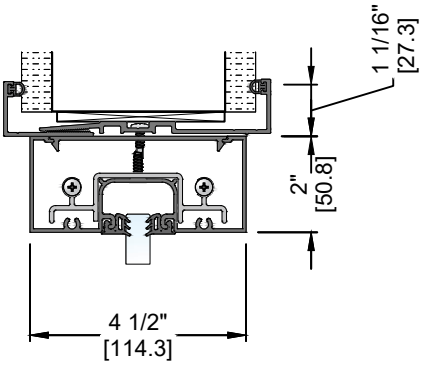

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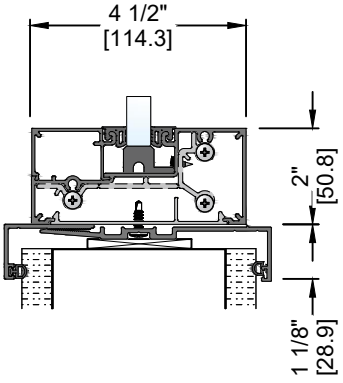
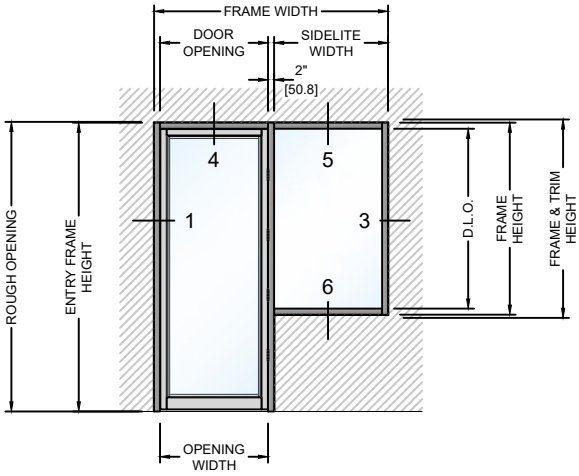
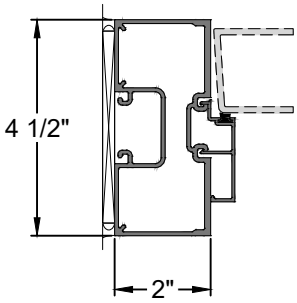


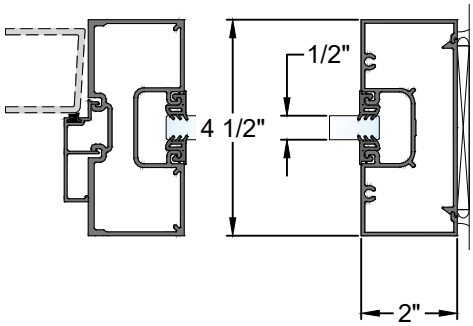
6

ENTRANCE w/o TRIM





1 IG Jamb



1 IG Jamb

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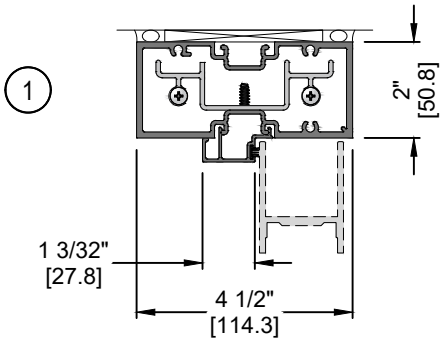
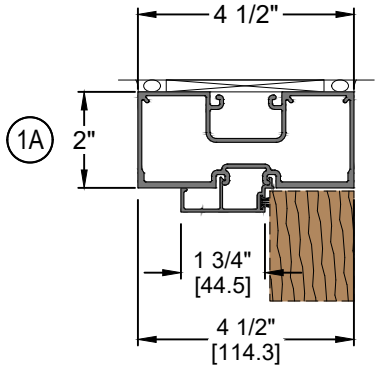
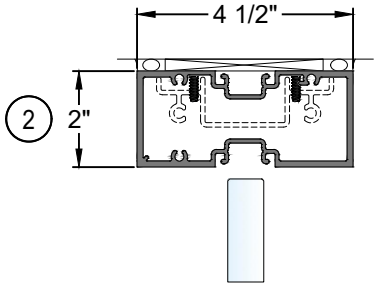






Determine Frame Size

Frame Width

A. Confirm the opening is square and plumb.
B. Measure diagonally from the corners of the opening(Rough Opening). See **Fig. 1**.
C. Measure the width of the opening (Rough Opening) at the top, middle and bottom. Select the smallest of these dimensions and subtract the left and right caulk joint width per approved shop drawing (1/4" minimum caulk joint at jambs). See **Fig. 2**.

Frame Height

D. Measure the height of the opening (Rough Opening) at several points along the entire width of the opening. Select the smallest of these dimensions and subtract 1/2" to allow a minimum of 1/4" at the head for shim and caulking. The door frames should sit flat to the substrate. The substrate should be modified as needed to achieve a level platform for the entrance. See **Fig. 3**.

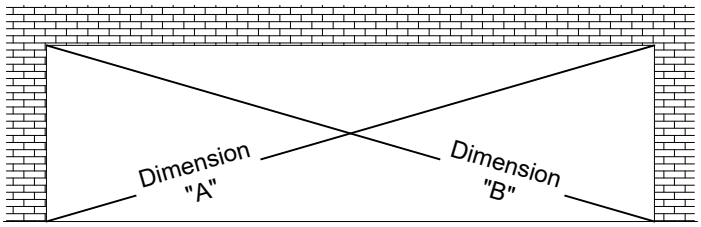


Fig. 1

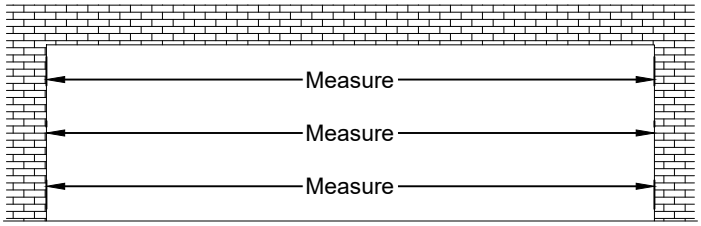


Fig. 2

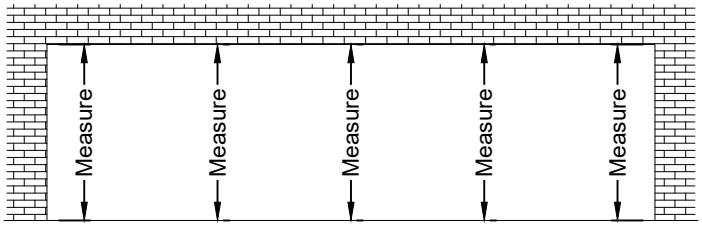


Fig. 3

NOTE: If the floor at the entrance is not level, it will effect the performance of the door.

FRAME UNIT FABRICATION

Cut Materials to Size

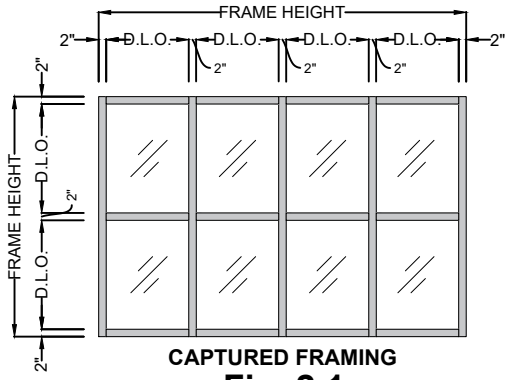


Fig. 2.1

Framing Members:	Cut Size:
Verticals w/o Trim	= Rough Opening - 1/2"
Verticals w/ Trim at Head	= Rough Opening - 3/4"
Vertical w/ Trim at Head & Sill	= Rough Opening - 1"
Head, Int. Horizontal & Sill	= D.L.O.
Glazing Stop	= D.L.O. - 1/16"
Door Jambs	= Rough Opening - 1/4"
Drywall Trim Members:	
Vertical Trim with Head Only	= Rough Opening Height + 11/16"
Vertical Trim with Head and Sill	= Rough Opening Height + 1-1/8"
Horizontal Trim	= Rough Opening Width + 1-1/4"
Vertical Trim Stop	= Rough Opening Height + 1-1/4"
Horizontal Trim Stop	= Rough Opening Width - 1"

Accessories	
Glazing Gasket	= D.L.O. + 1/16" per ln/ft
Drywall Trim Gasket	= Trim Length

FRAME UNIT FABRICATION

STEP 1

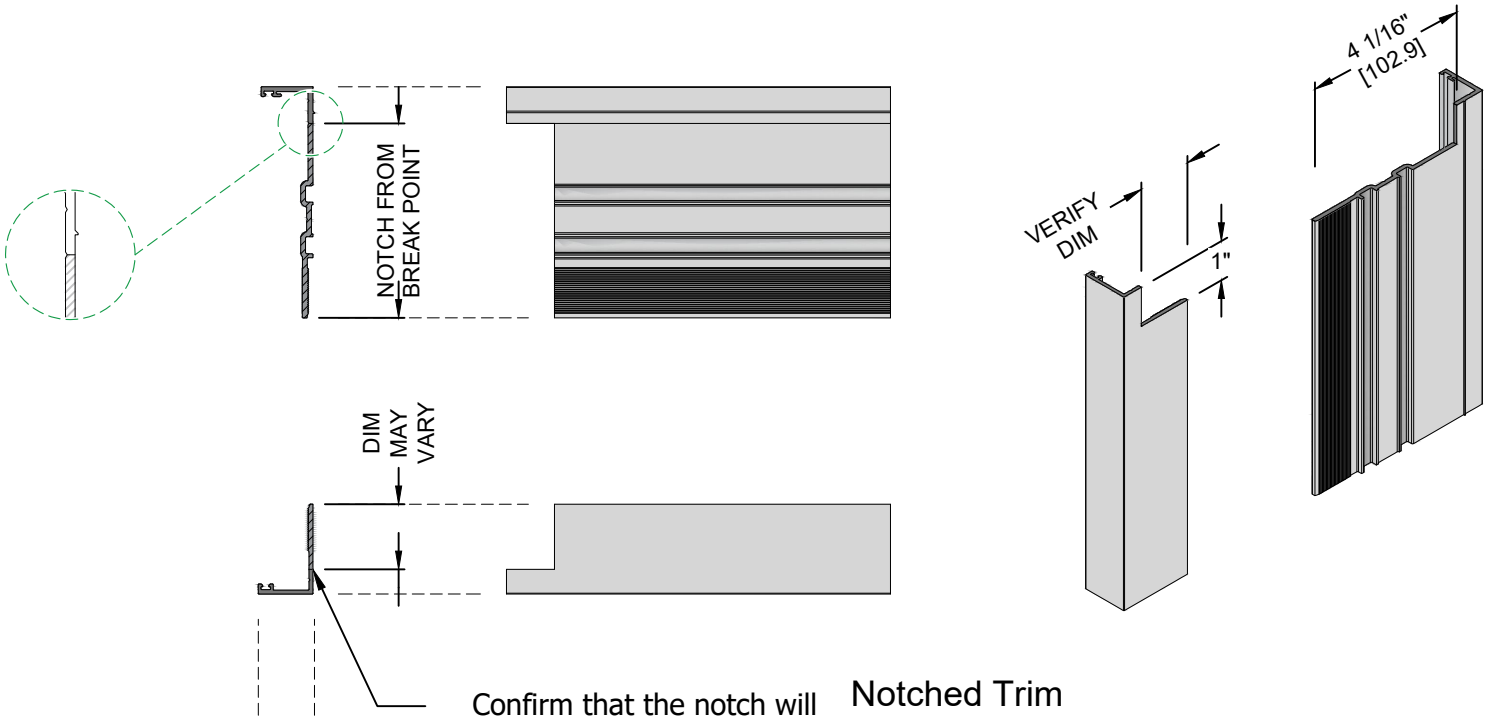
Drywall Trim Fabrication:

A. From the top of the vertical trim and trim stop, notch down approximately 1" from the break point(V-groove) away from the return leg.

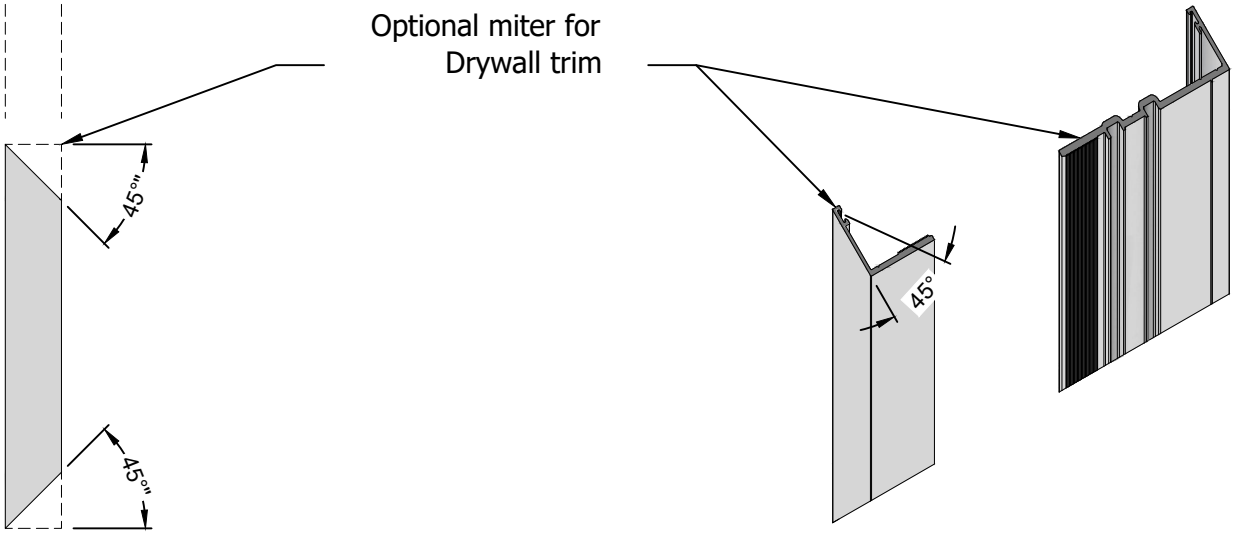
B. **Note**: The trim stop notch should be confirmed with field conditions to ensure the notch will be covered by the jamb. See **Fig. 1**.

C. Optionally, the trim pieces can be mitered at a 45° angle at the ends. See **Fig. 2**.

D. Install the gaskets into the trim prior to installing onto the frame.



Notched Trim
Fig. 1



Mitered Trim
Fig. 2

FRAME UNIT FABRICATION

STEP 2

Vertical Mullion Fabrication:

A. Layout and arrange vertical mullions in order of installation to drill/punch the required holes.
B. Drill Ø0.218 diameter holes for screw spline attachment.
C. When using shear clips drill Ø0.190 diameter holes.

Note: Shear clips only required at door jambs and corners.

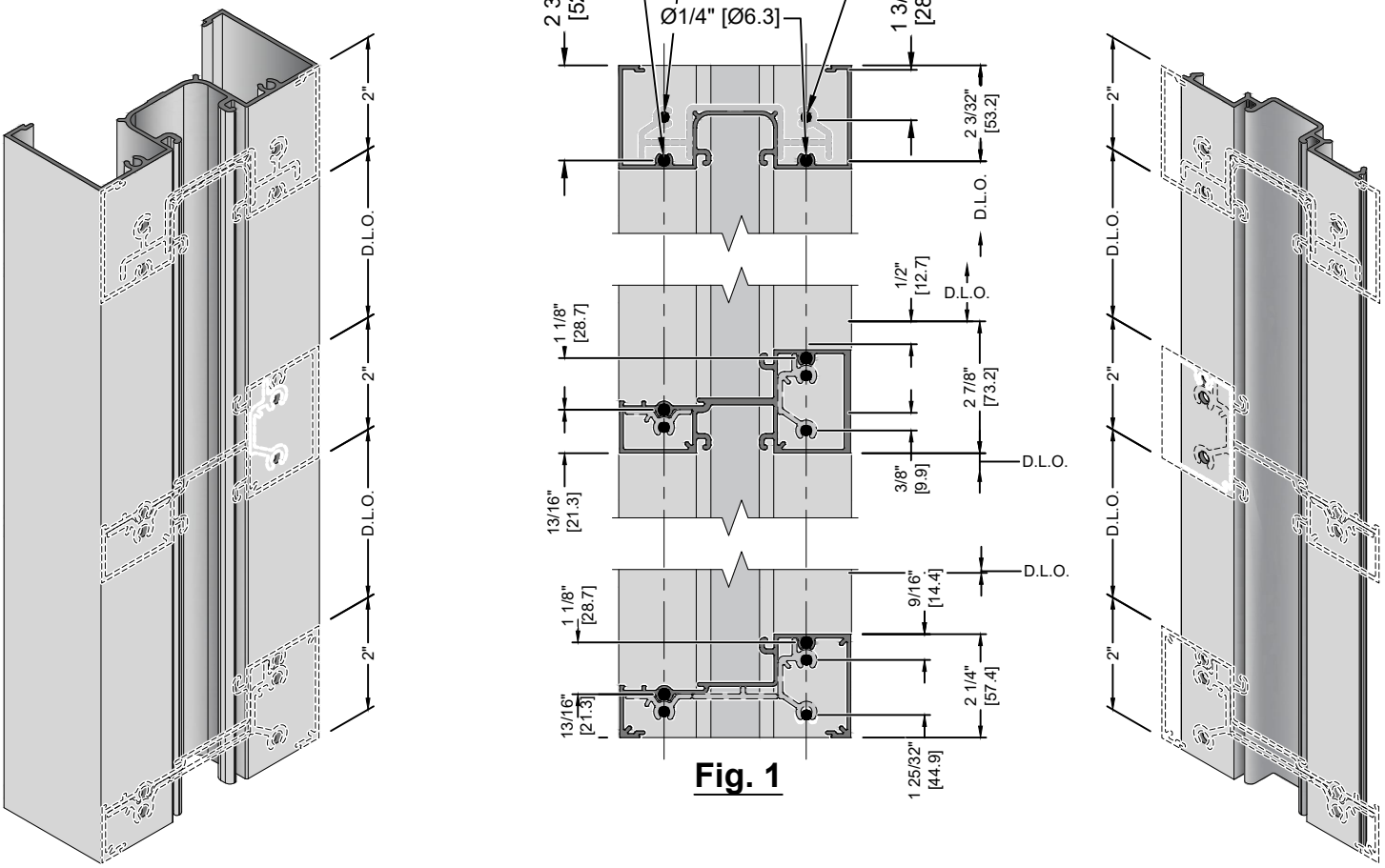


Fig. 1

FRAME ASSEMBLY

STEP 3

Screw Spline Assembly

A. Use S204 fasteners to attach the horizontal members to the verticals. See **Fig. 1**.
B. Ensure frame members are tightly joined.

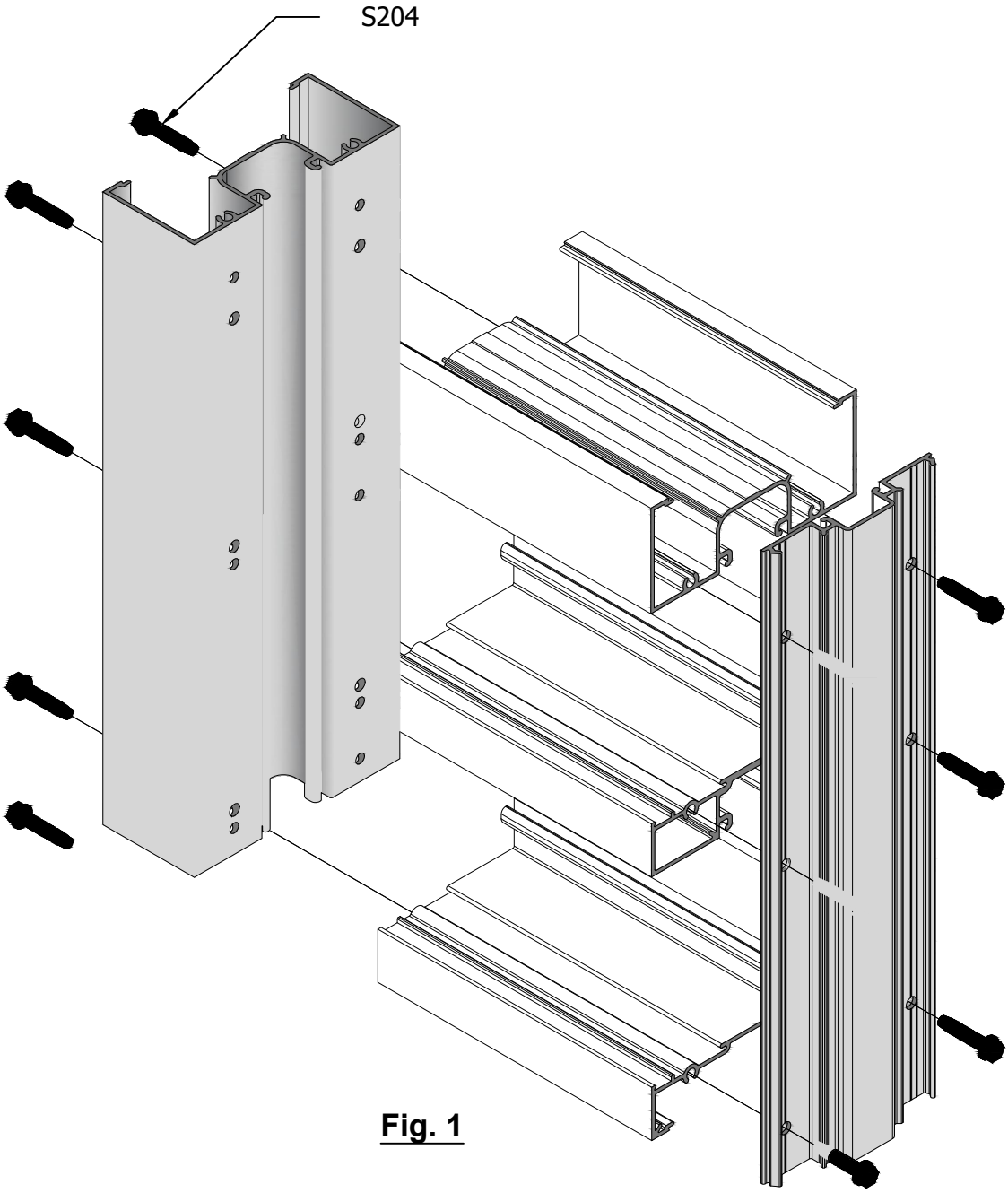


Fig. 1

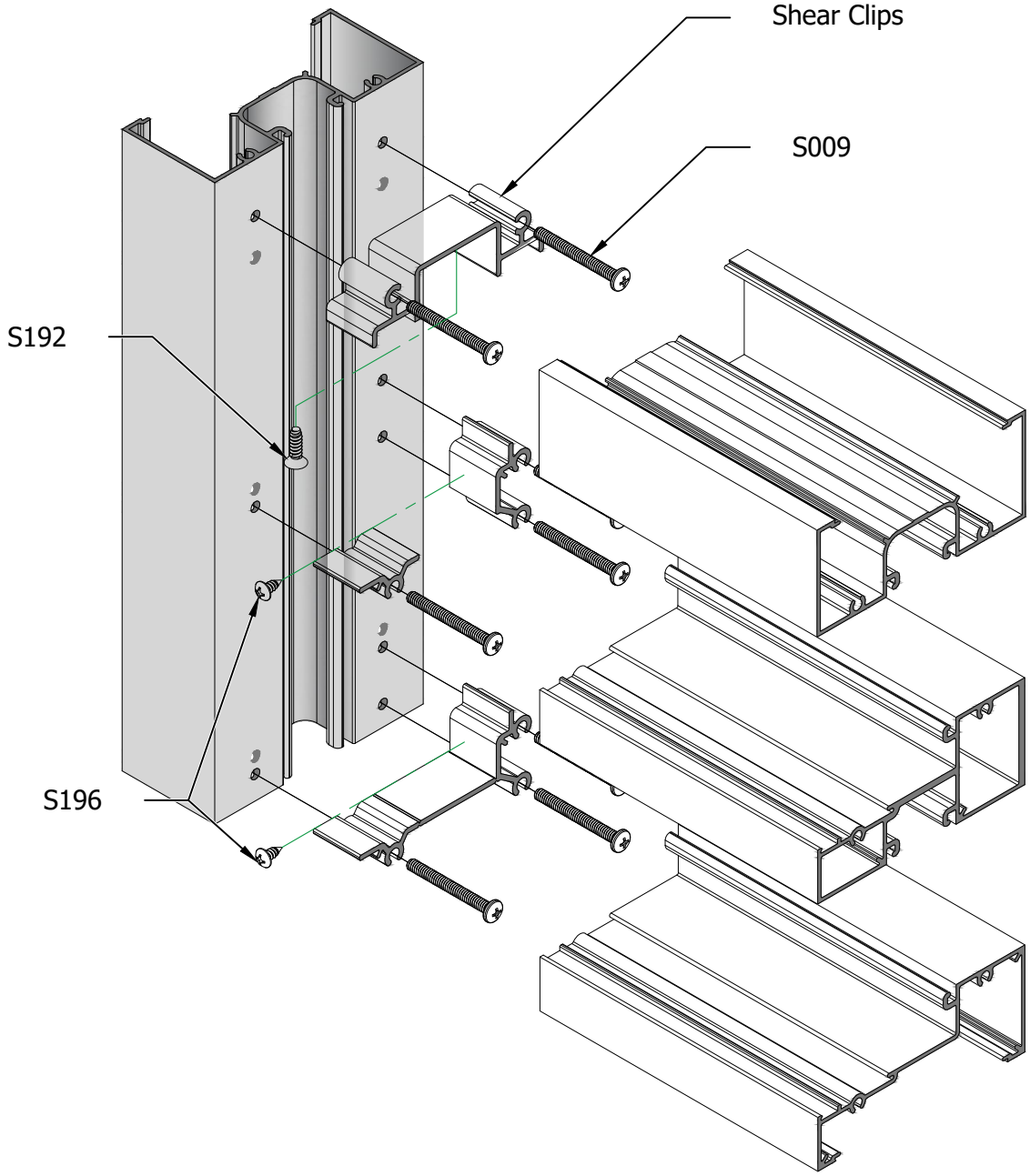
FRAME ASSEMBLY

STEP 4

Shear Clip Assembly

Note: Shear Clips are ***only*** required at ***door jambs*** and ***corners.***

A. Use S009 fasteners to attach the shear clips to the vertical members. See **Fig. 1**.
B. Slide the horizontal members over the shear clip and tightly clamp it to the vertical member.
C. Drill through the horizontal and the shear clip prior to installing the fastener.
D. Attach the horizontal members to the shear clips using the fastener supplied with the shear clip.
E. Ensure frame members are tightly joined.

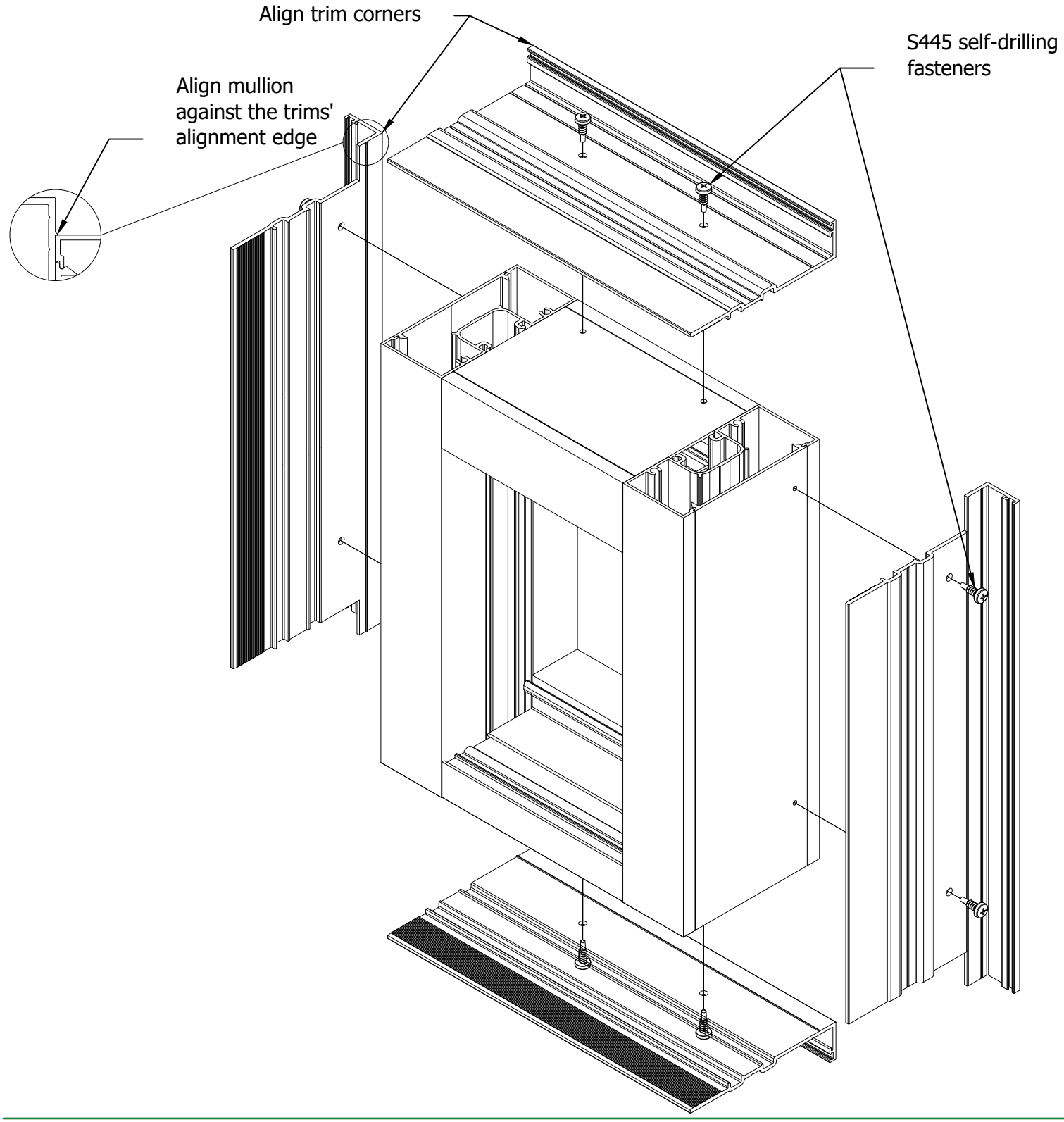


FRAME ASSEMBLY

STEP 5

Drywall Trim Attachment

A. Attach the drywall trim to the frame using the trims built-in step to align it with the mullions edge. Fasten the trim using the S445 self-drilling screws.
B. The vertical and horizontal trim should align at the corners.

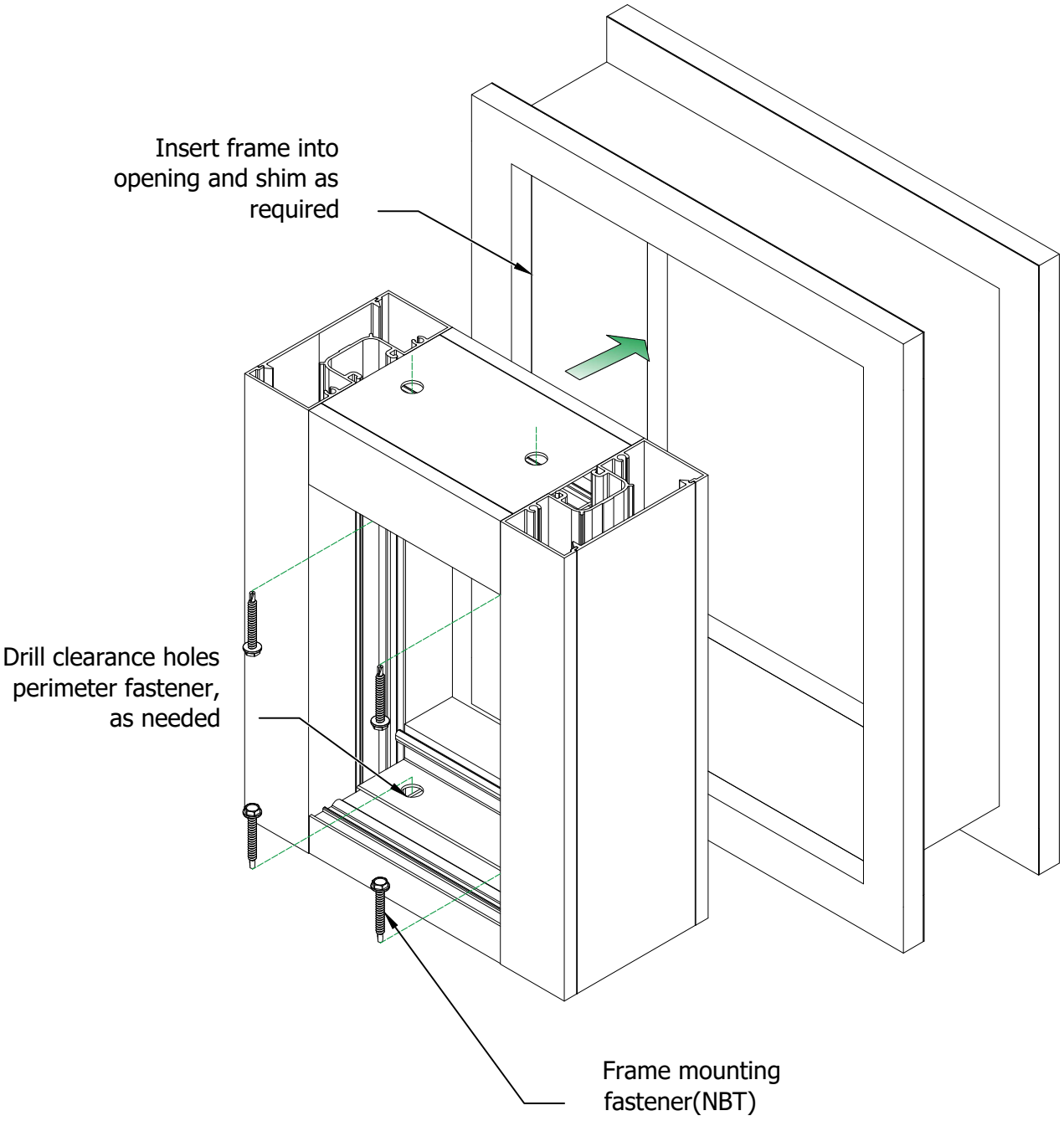


FRAME INSTALLATION

STEP 5

Finished Drywall Frame Installation

A. Insert the assembled frame into the opening and shim as required to ensure frame is plumb and level.
B. Fasten the frame to the substrate.

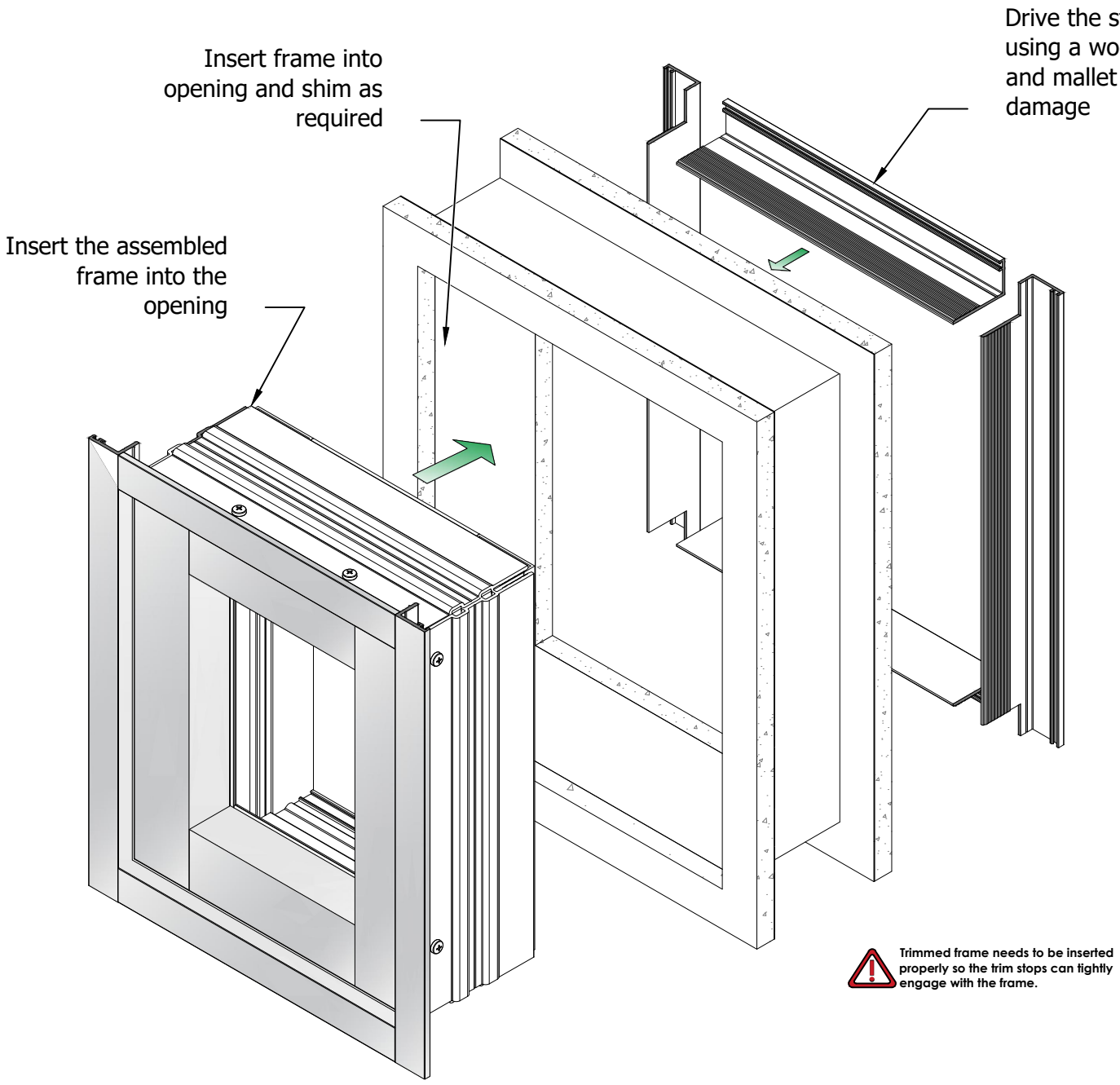


FRAME INSTALLATION

STEP 6

Pre-Finished Drywall Frame Installation

A. Insert the assembled frame into the opening and snap the trim stops into place from the opposite side.
B. Before snapping in the trim stops, use shims to level the frame and prevent movement while snapping in the trim.
C. Starting with the vertical pieces, use a mallet and a wood block to drive the trim stops and securely snap them into place.
D. The frame should sit tight within the opening with the gaskets compressed against the drywall.

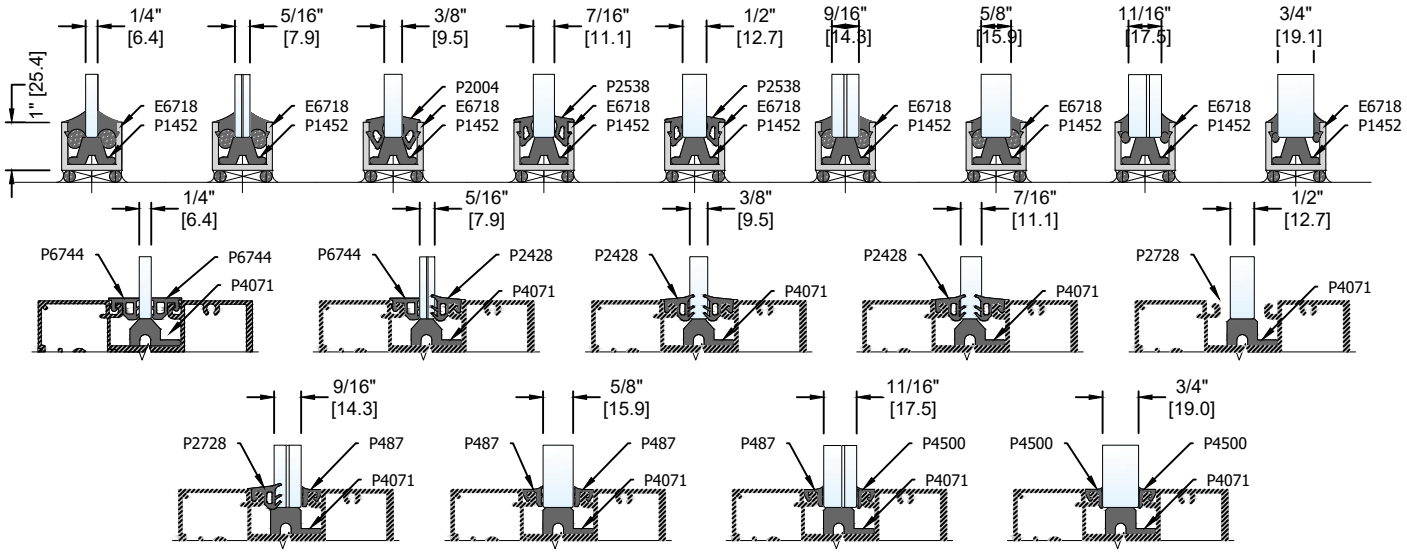


STEP 1

GASKET CONFIGURATION:

- **Use the below gasket key to confirm the gasket required per glazing thickness.**

GLAZING KEY									
GLAZING THICKNESS	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"
CHANNEL GASKET COMBINATION	Sealant	Sealant	P2004	P2538	P2538	Sealant	Sealant	Sealant	Sealant
	Sealant	Sealant	P2004	P2538	P2538	Sealant	Sealant	Sealant	Sealant
SETTING BLOCK	P1452								
STOREFRONT GASKET COMBINATION	P6744	P6744	P2428	P2428	P2728	P2728	P487	P487	P4500
	P6744	P2428	P2428	P2428	P2728	P487	P487	P4500	P4500
SETTING BLOCK	P4071				P4092				
TRANSOM SETTING BLOCK	P1451				P1450				



GLAZING

Storefront Glazing

A. Clear the storefront glazing pockets of debris prior to starting.
B. Determine if there are shallow and deep vertical glazing pockets.
C. With the the glass, or glazing material, in hand pivot the vertical glass edge towards the deepest pocket side first, then carefully insert into the frames pocket and swing the opposite end towards the frame parallel with the frame and center in the opening and place the setting blocks at quarter points, or as required.
D. Apply the glazing stop.
E. Insert the required roll-in gasket. Reference the glazing guide on page 11.