ALT SF 450
Center glazed
storefront system

STOREFRONTS

Series SF450 is a commercial center glazed systems for exterior glazing ground floor applications or interior glazing when used as a low rise window wall system. Framing is mechanically jointed using self-tapping screws into integral splines extruded within the body of the section. Jointing is by butt joints with applied sealant to protect against water egress and to reduce air infiltration.

System features:

- SF450 – sightline 2" × 4-1/2" for 1" glazing infill;
- EPDM glazing gaskets;
- ladder assembly for transportation to job site for quicker installation;
- sill receptor allows for head of structural fasteners in subsill to be sealed prior to installing ladder panels.

SERIES	FACE WIDTH	DEPTH	GLAZING INFILLS	GLAZING METHOD
450	2" (50.8)	4-1/2" (114.3)	1" (25)	Exterior/Interior

I. GENERAL DESCRIPTION

Work Included: furnish all necessary materials, labor, and equipment for the complete installation of aluminum framing as shown on the drawings and specified herein.

Specifier Note: it is suggested that related items such as aluminum entrance doors, glass, and sealants be included whenever possible.

Work Not Included: structural support of the framing system, interior closures, trim.

Performance requirements
Air Infiltration: shall be tested in accordance with ASTM E 283. Infiltration shall not exceed .06 cfm per square foot (.0003 m^3/sm^2) of fixed area when tested at 6.24 psf (300 Pa).

Water Infiltration: shall be tested in accordance with ASTM E 331. No water penetration at test pressure of 12 psf (580 Pa). Structural Performance: shall be tested in accordance with ASTM E 330 and based on: x Maximum deflection of L/175 of the span x Allowable stress with a safety factor of 1.65. The system shall perform to this criteria under a windload of 30 psf (1440 Pa).

Testing Procedures:

ASTM 283, E 331, and E 330 – Laboratory performance testing.

AAMA 503-08 – Newly installed storefronts.

AAMA 511-08 – Installed storefronts after six months.

II. MATERIALS

Fasteners, where exposed, shall be aluminum, stainless steel or zinc plated steel in accordance with ASTM A 164. Perimeter anchors shall be aluminum or steel, providing the steel is properly isolated from the aluminum. Glazing gaskets shall be E.P.D.M. elastomeric extrusions.

Finish
All exposed framing surfaces shall be free of scratches and other serious blemishes. Aluminum extrusions shall be given a caustic etch followed by an anodic oxide treatment to obtain.

Fabrication
The framing system shall provide for flush glazing on all sides with no projecting stops. Vertical and horizontal framing members shall have a nominal face dimension of 4 1/2". Overall depth shall be 2". Entrance framing members shall be compatible with glass framing in appearance. Provide for internal drainage of infiltrated water into an extruded aluminum subsill channel where it is drained to the exterior through weep slots.

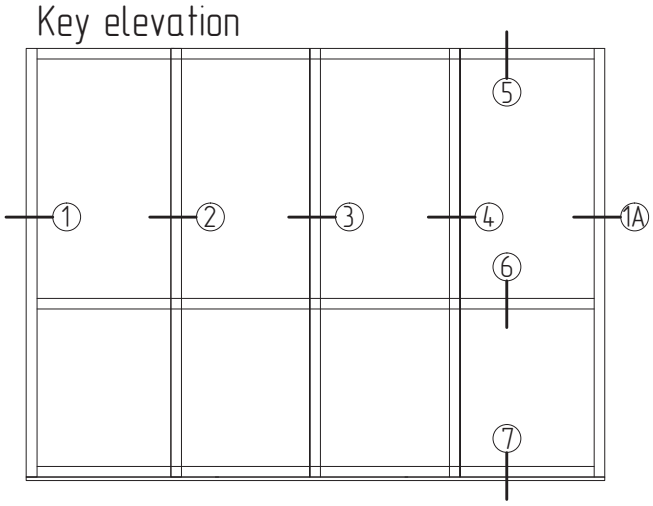
III. INSTALLATION

All glass framing shall be set in correct locations as shown in the details and shall be level, square, plumb, and in alignment with other work in accordance with the manufacturer's installation instructions and approved shop drawings. All joints between framing and the building structure shall be sealed in order to secure a watertight installation.

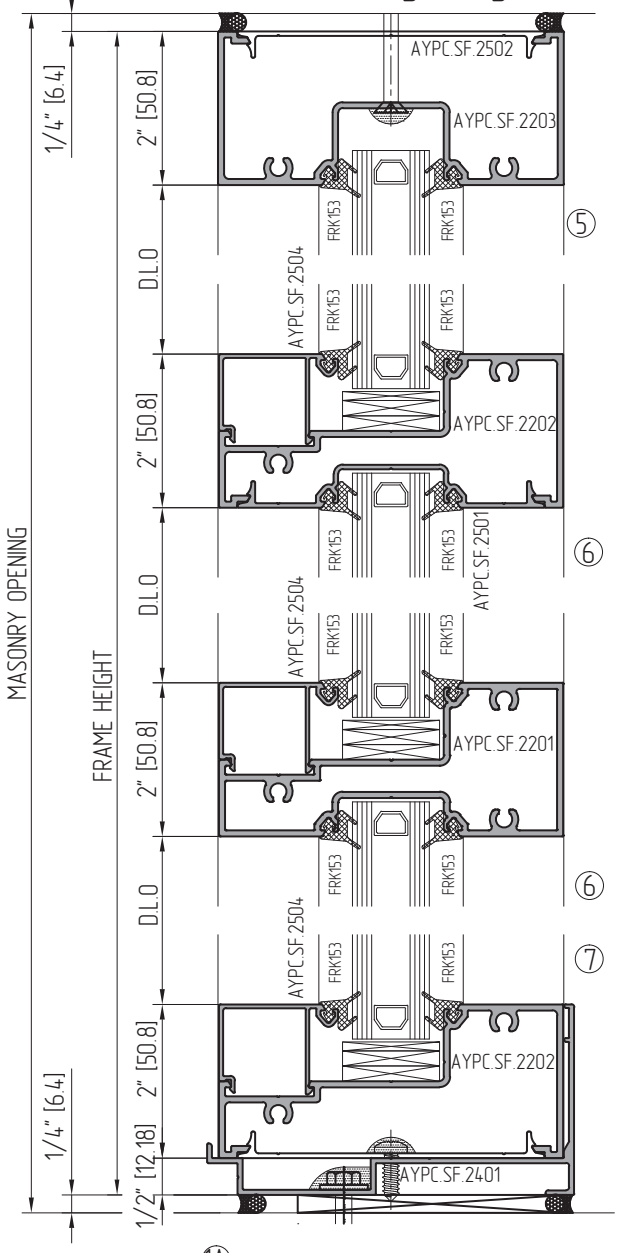
Protection and cleaning
After installation the General Contractor shall adequately protect exposed portions of aluminum surfaces from damage by grinding and polishing compounds, plaster, lime, acid, cement or other contaminants. The General Contractor shall be responsible for final cleaning.

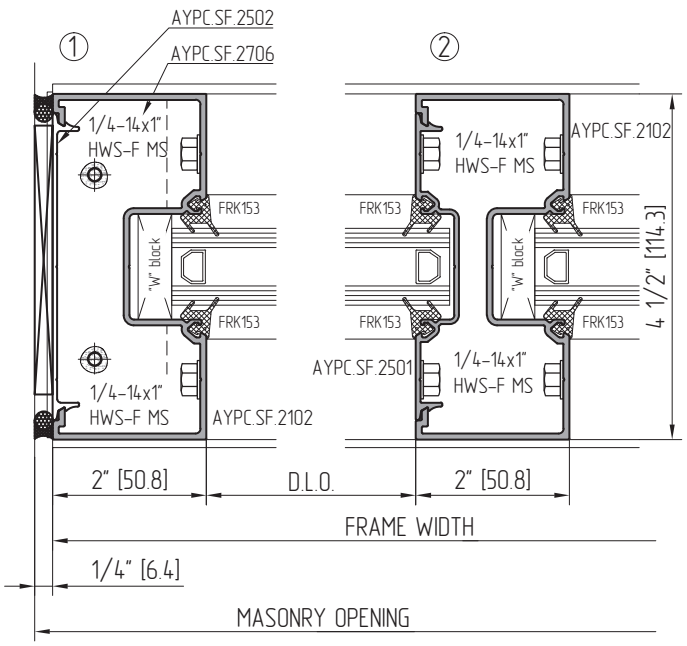
NOT TO SCALE

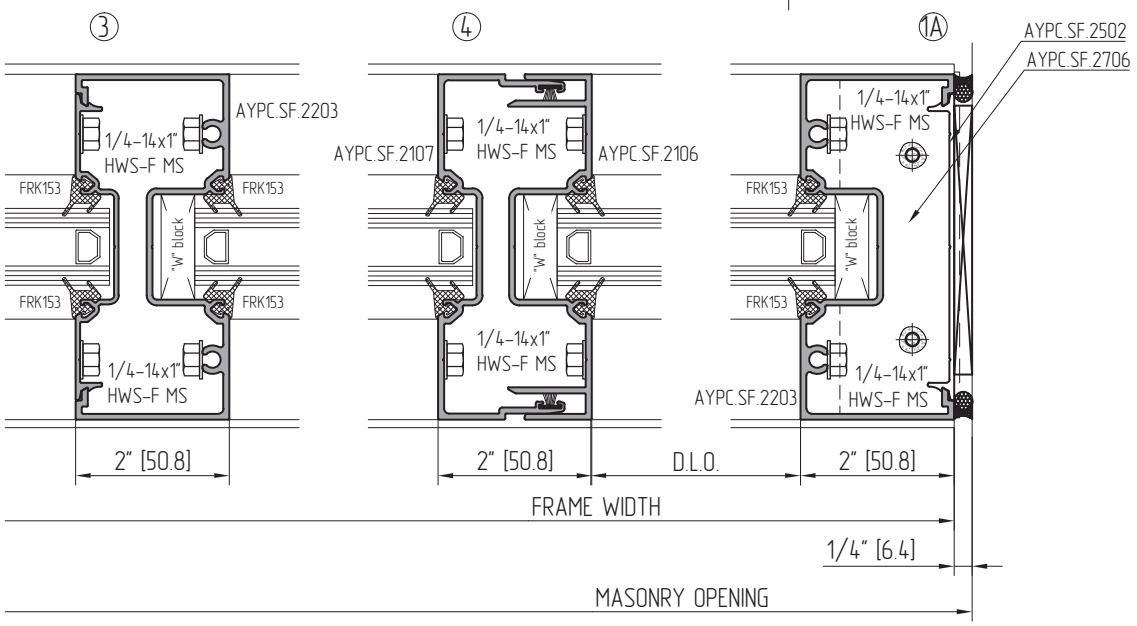
Key elevation



Exterior glazing







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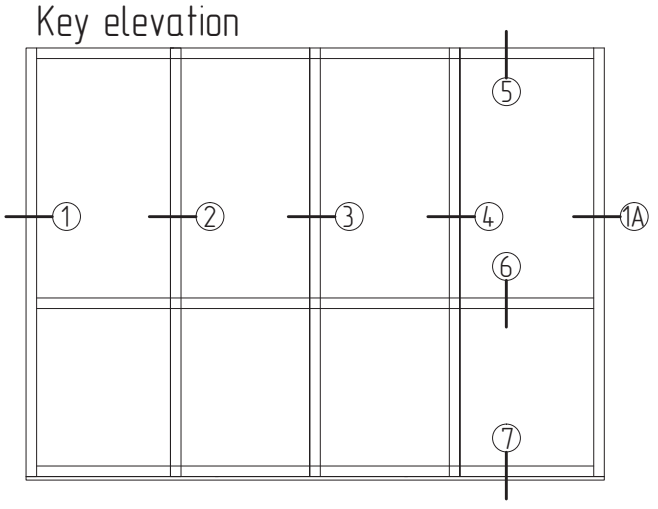

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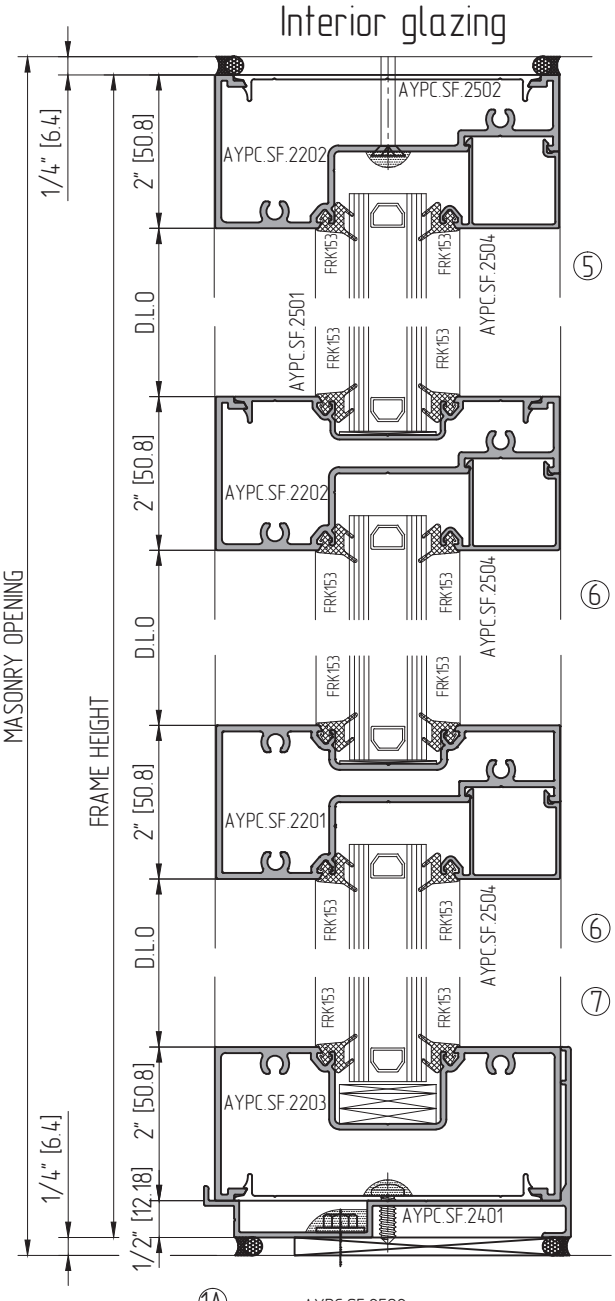

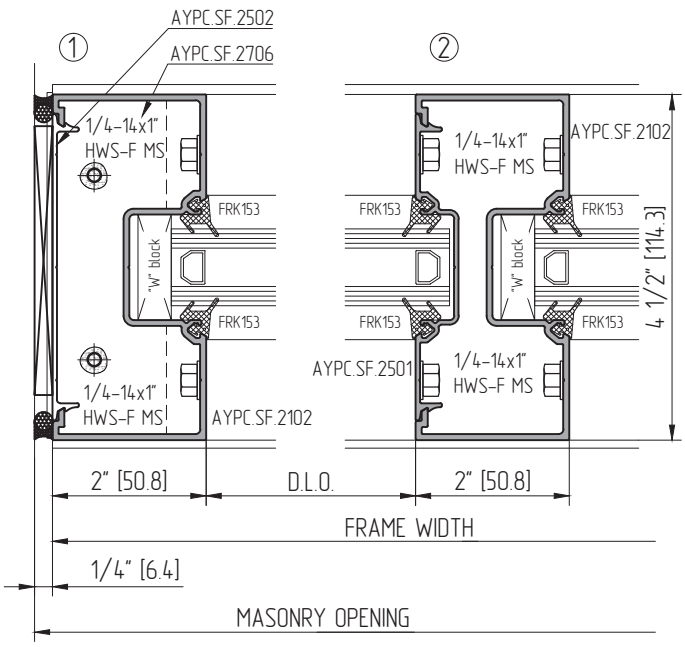

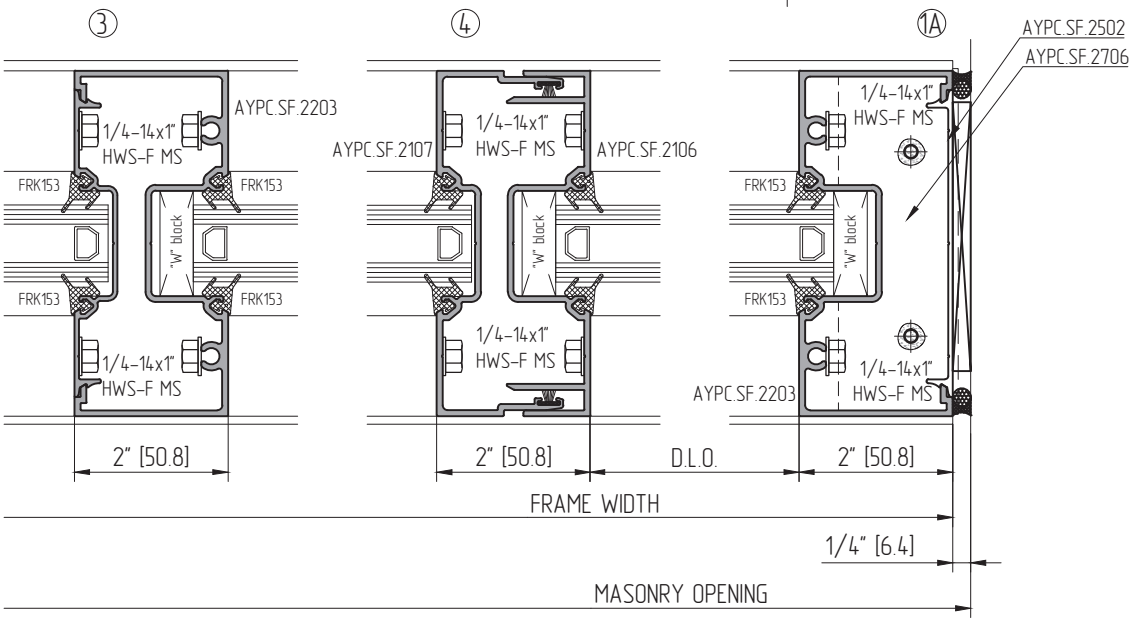

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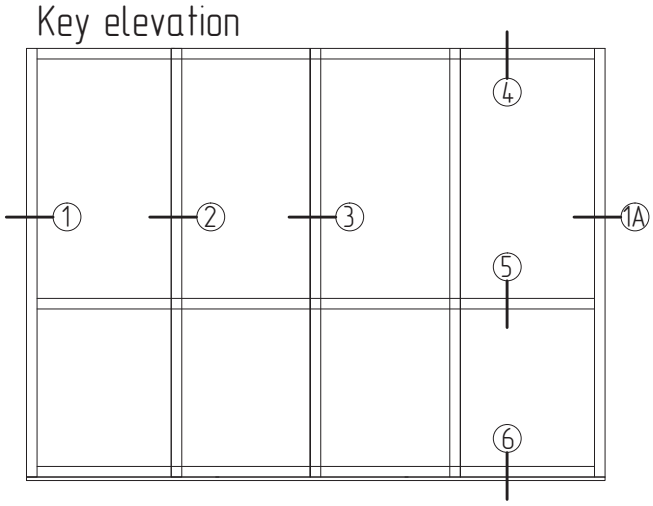

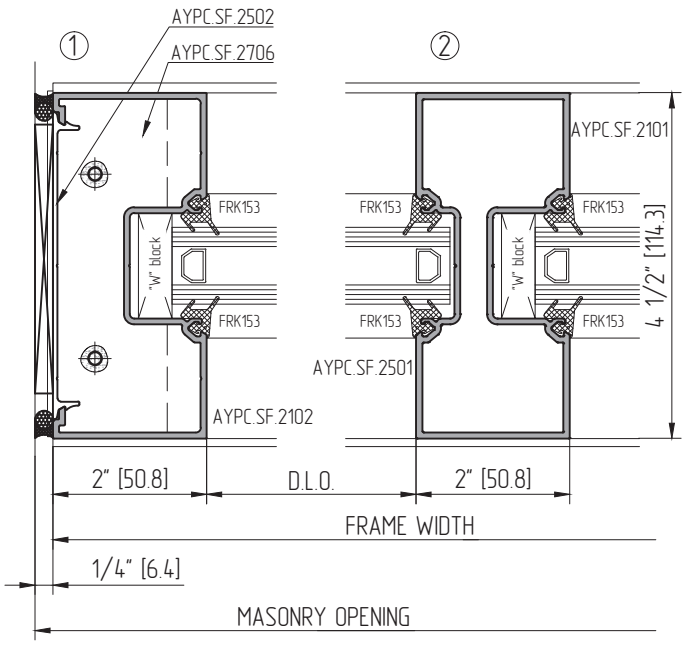

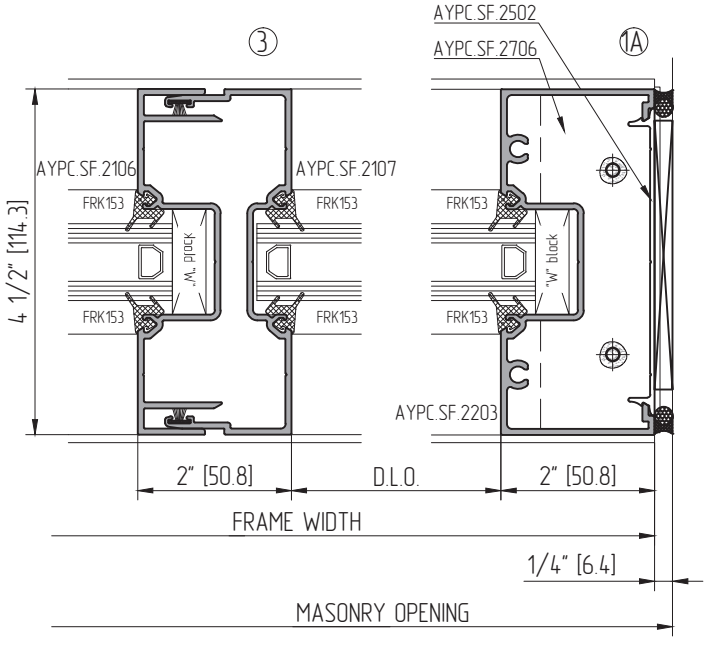

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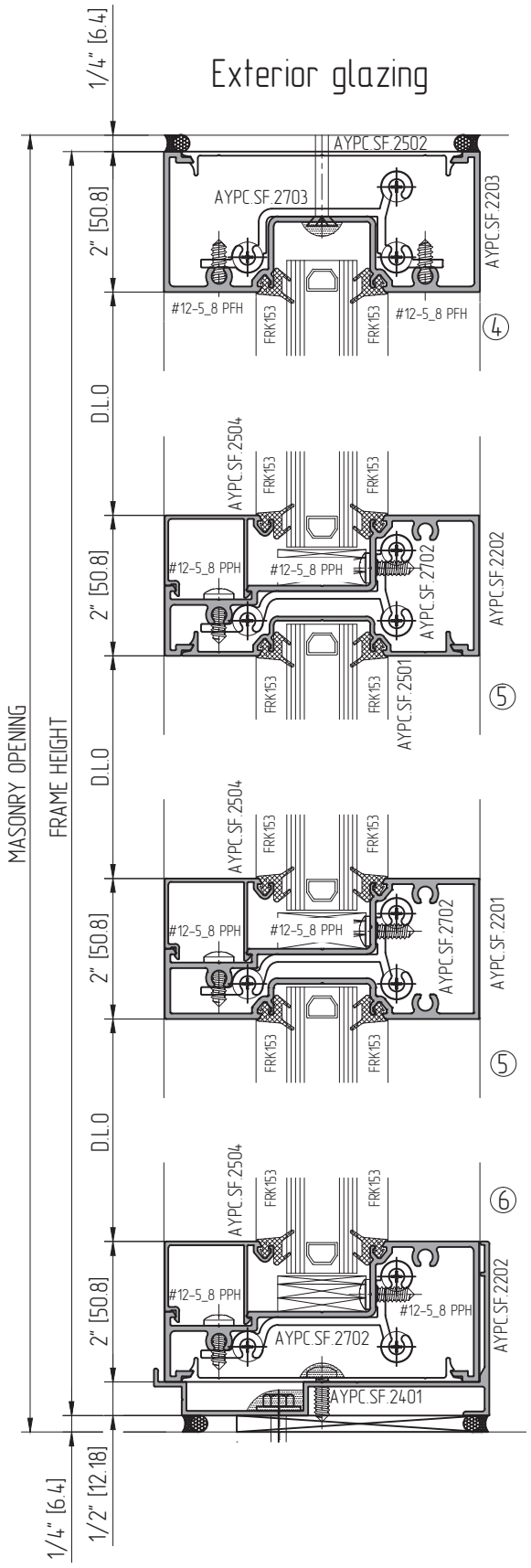

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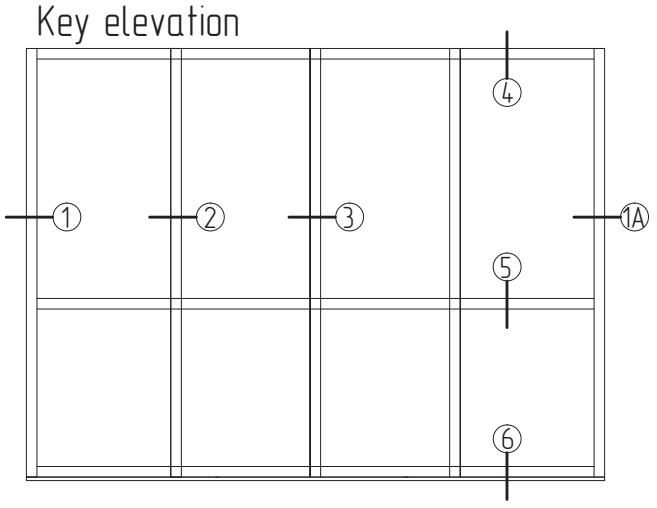

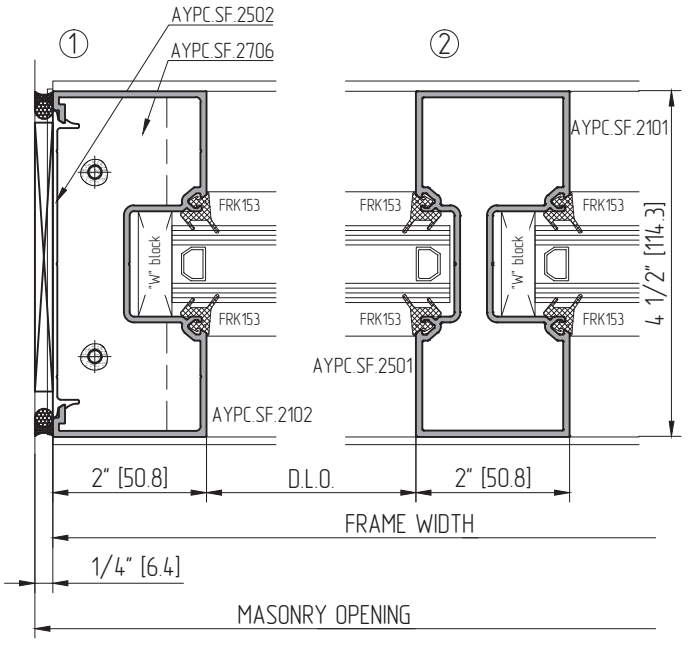

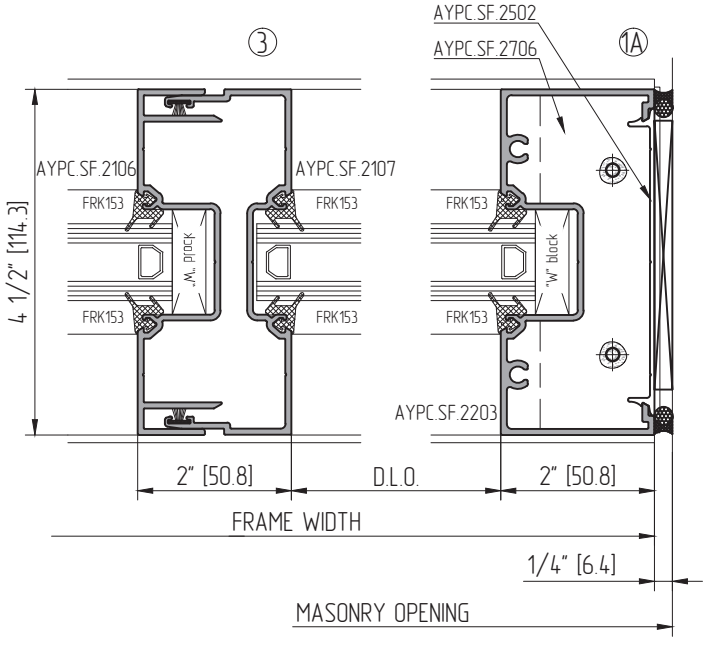

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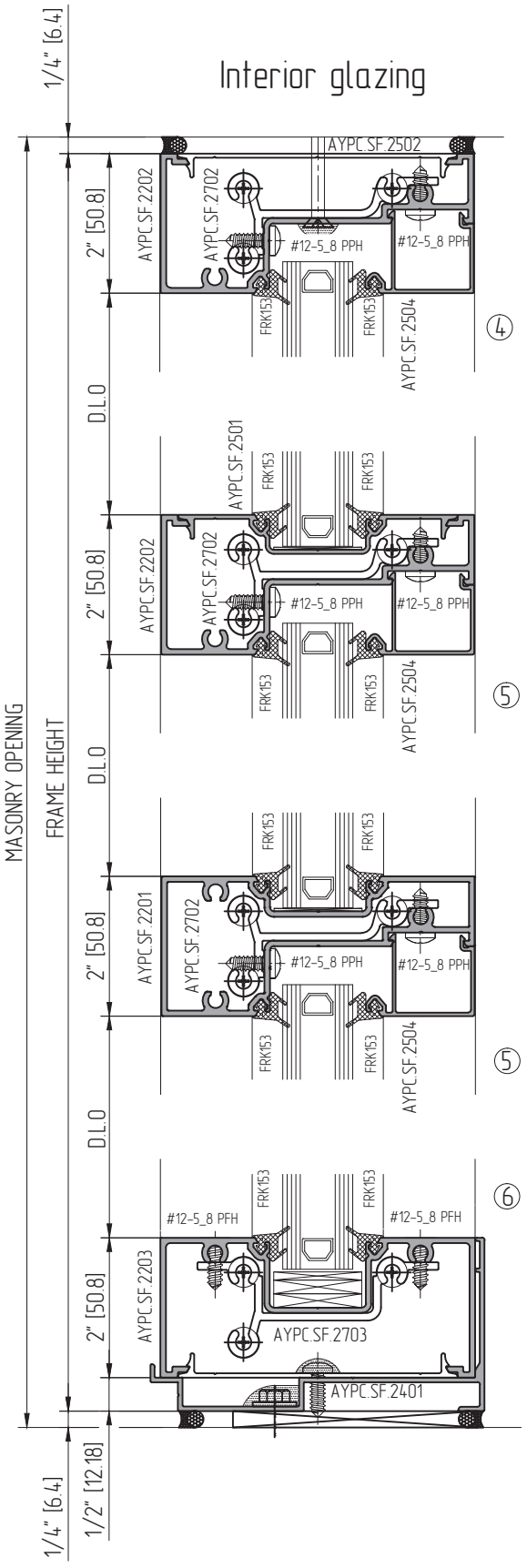

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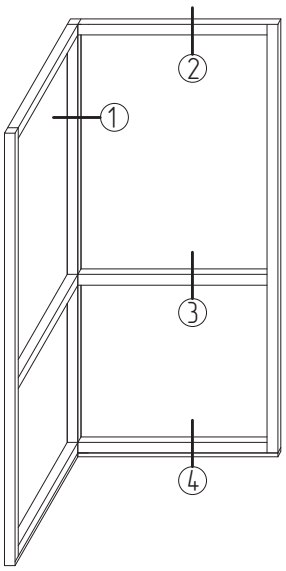

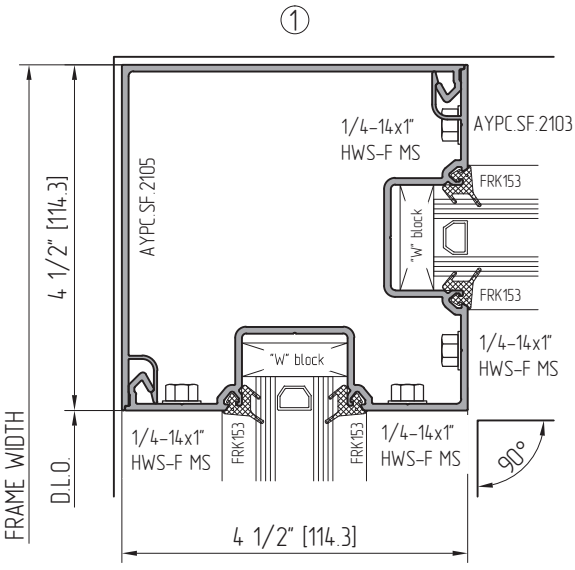

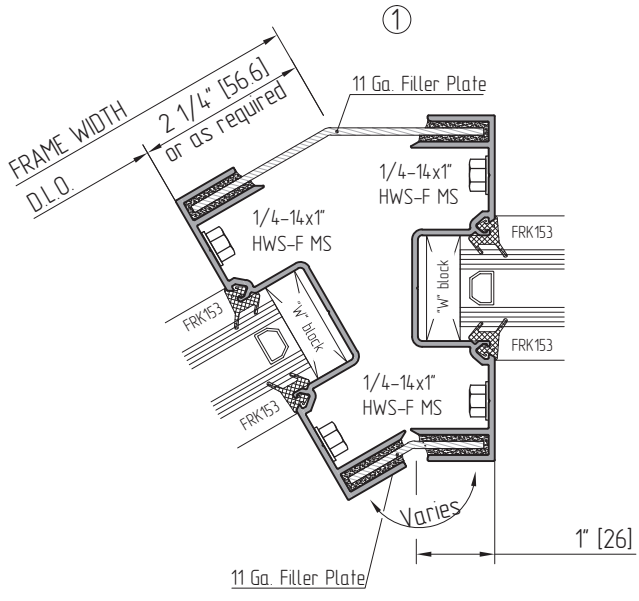

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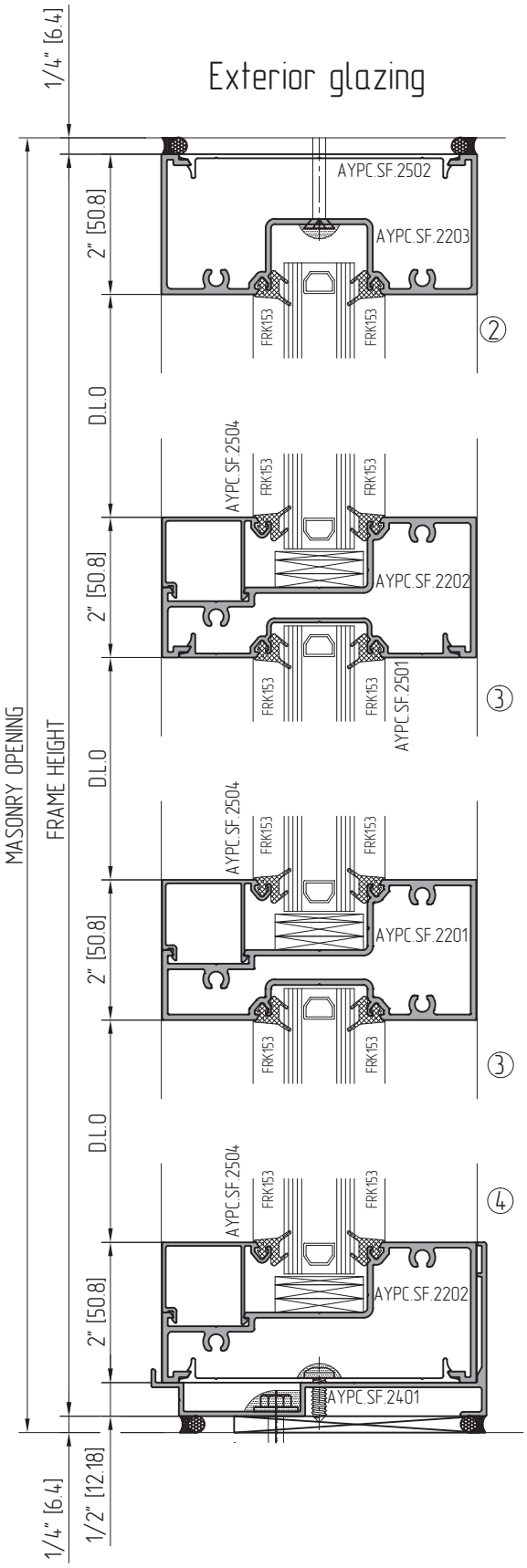

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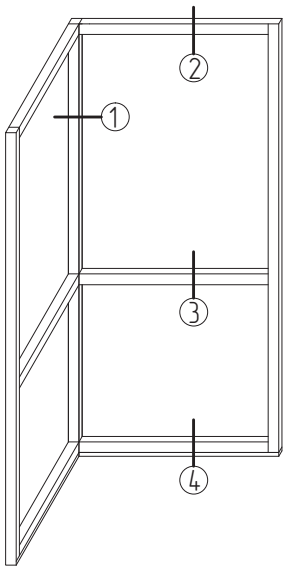

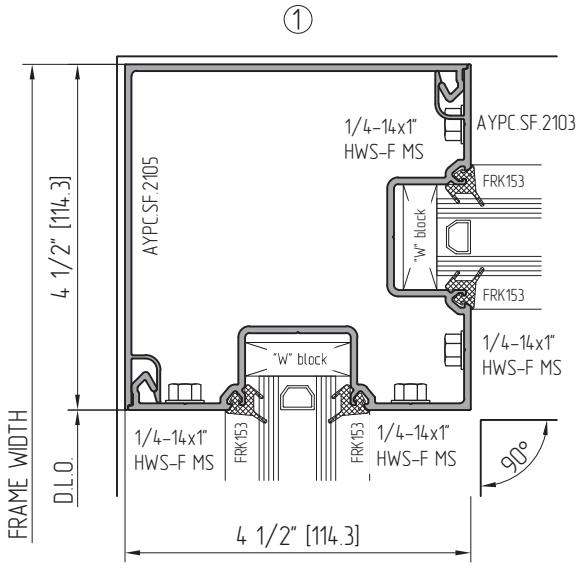

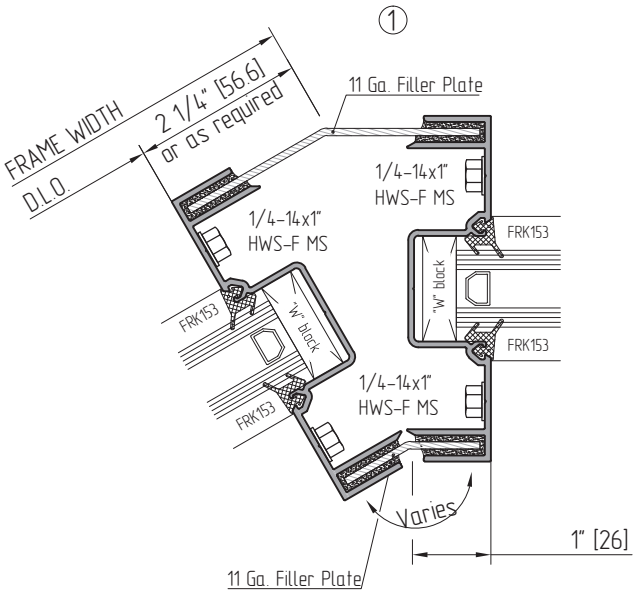

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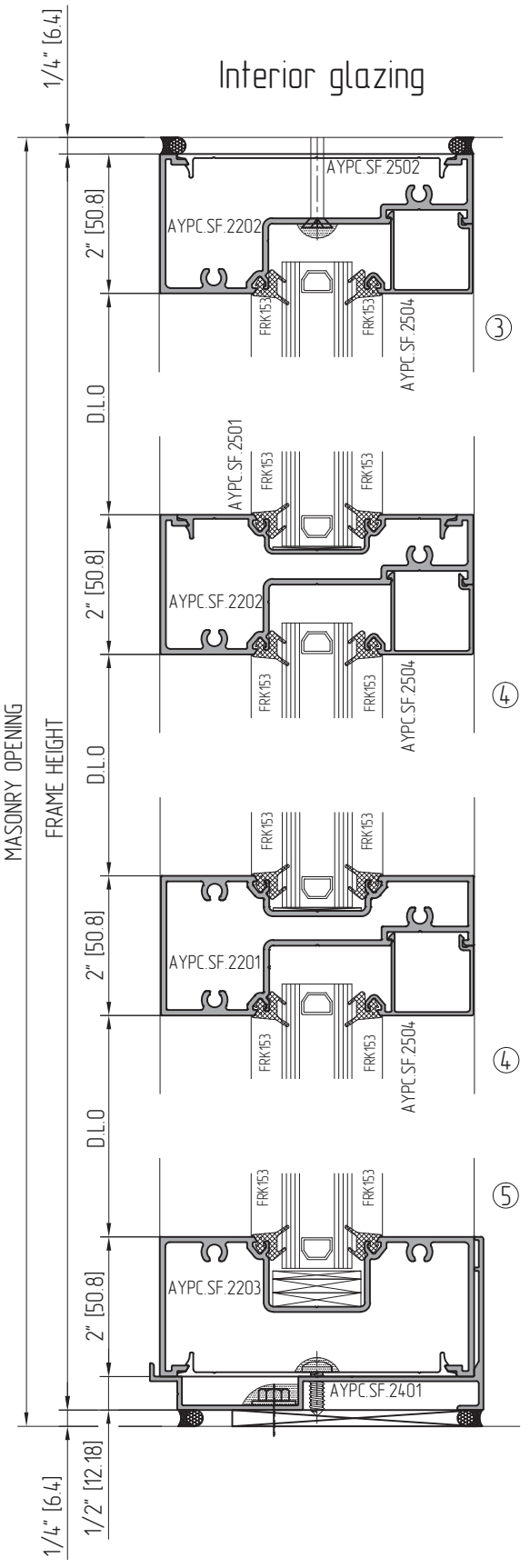

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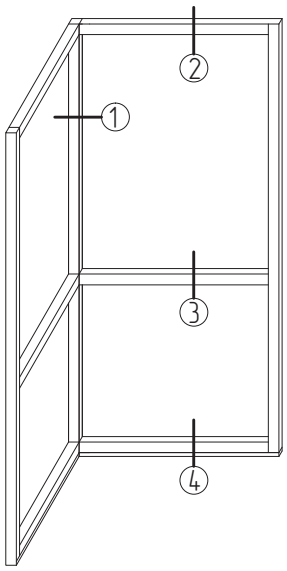

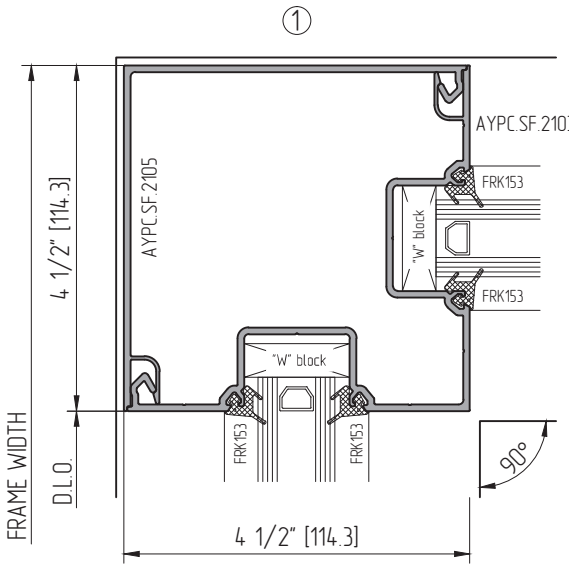

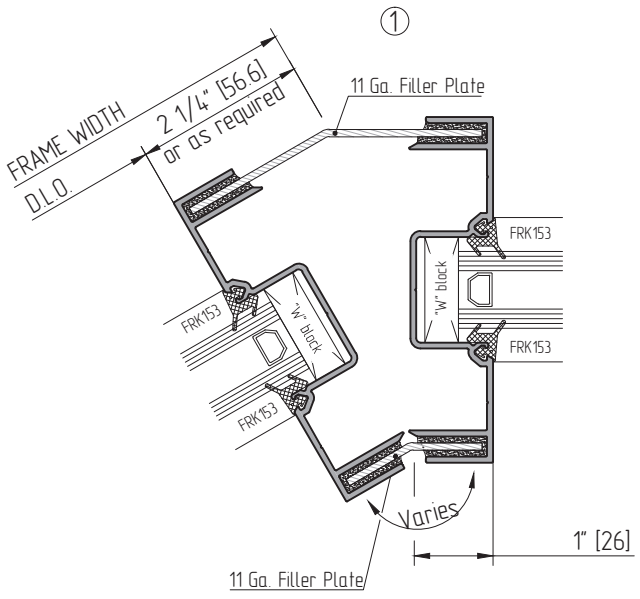

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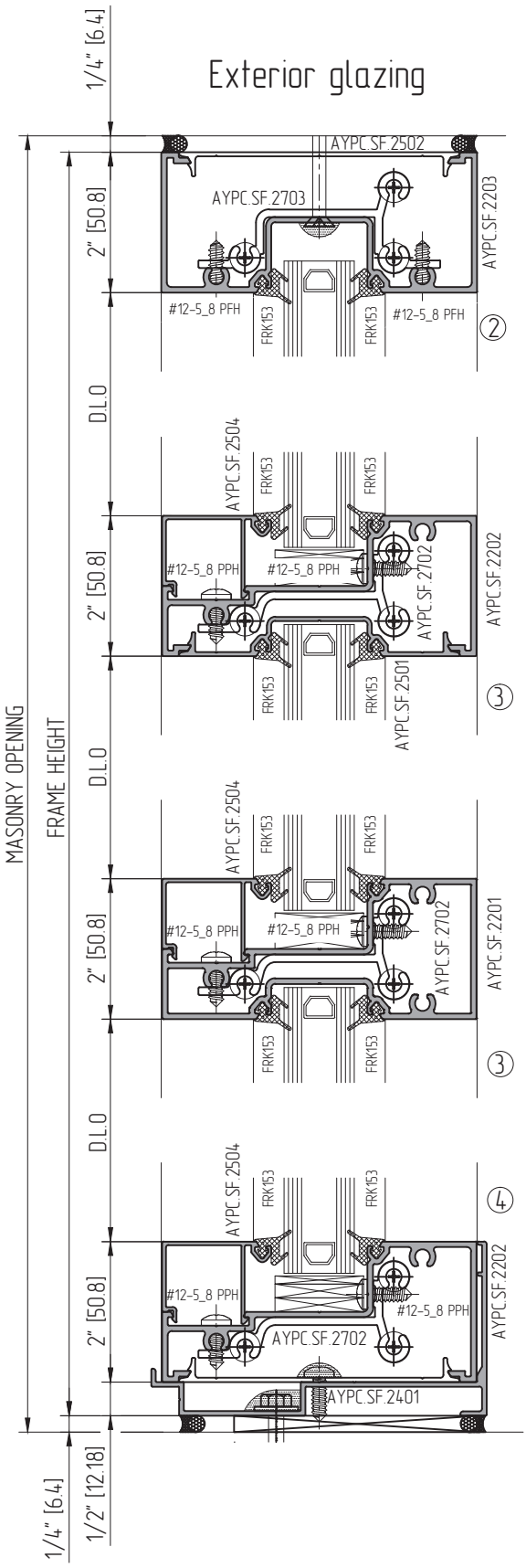

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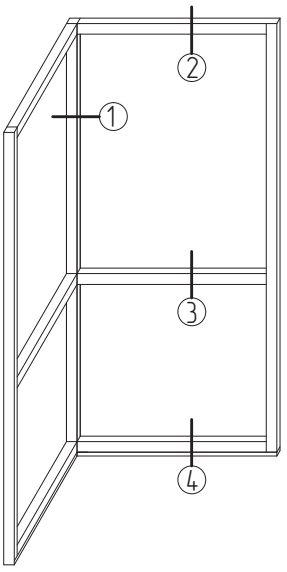

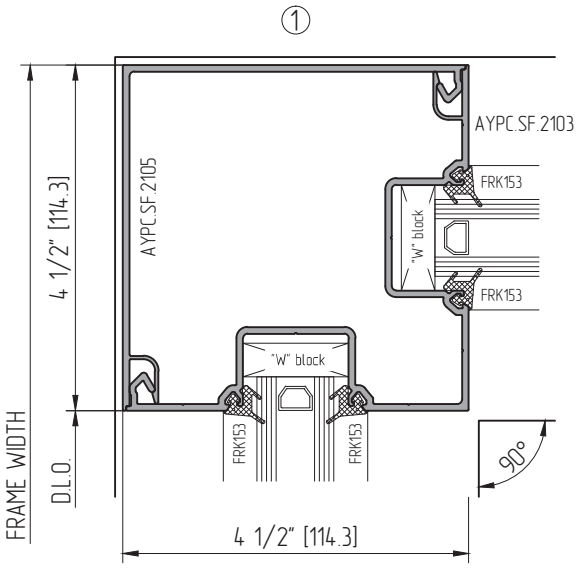

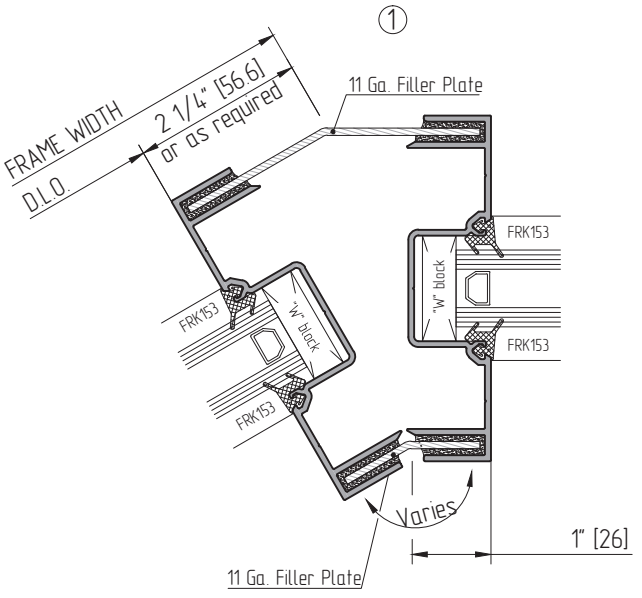

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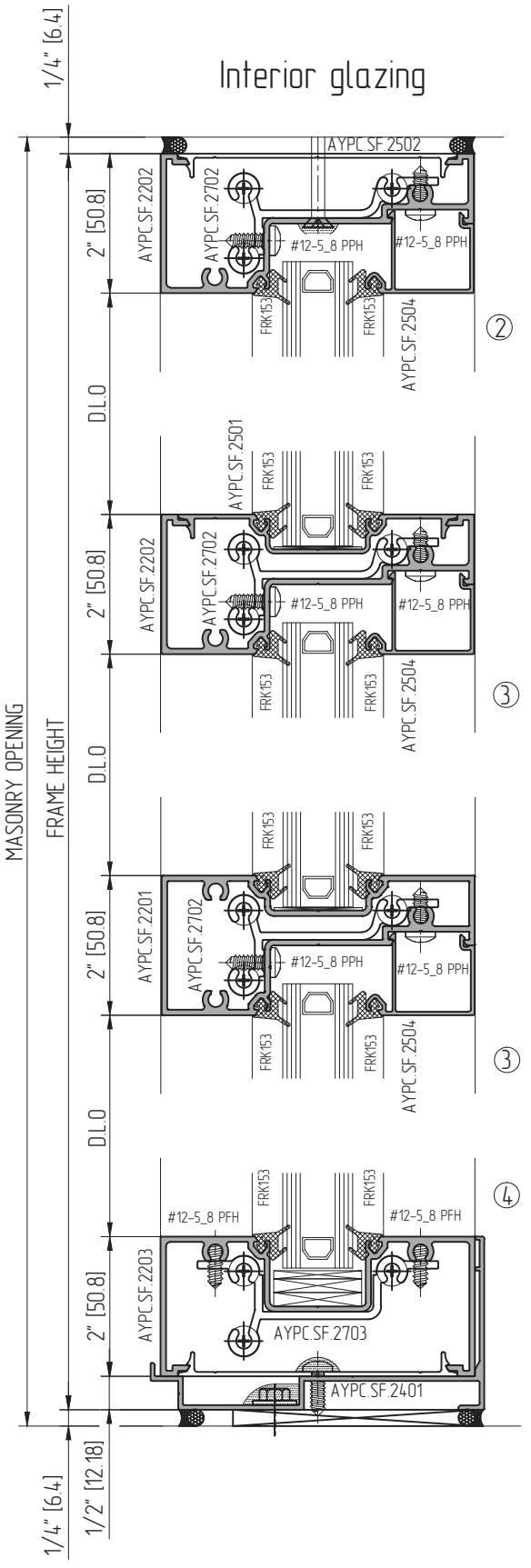

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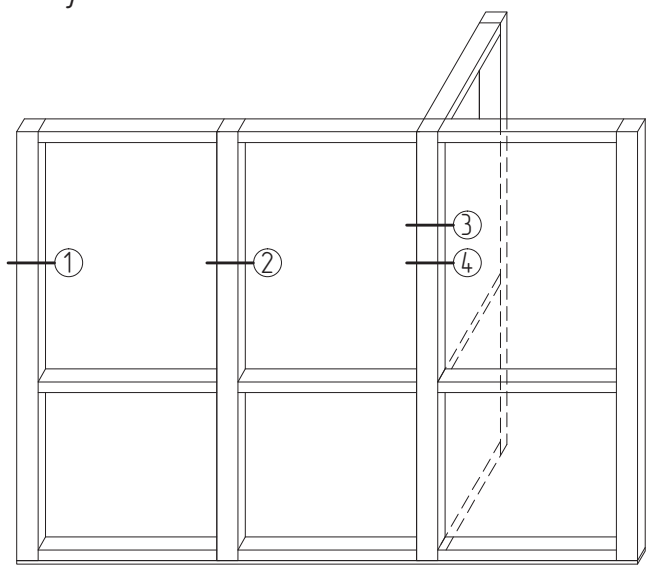

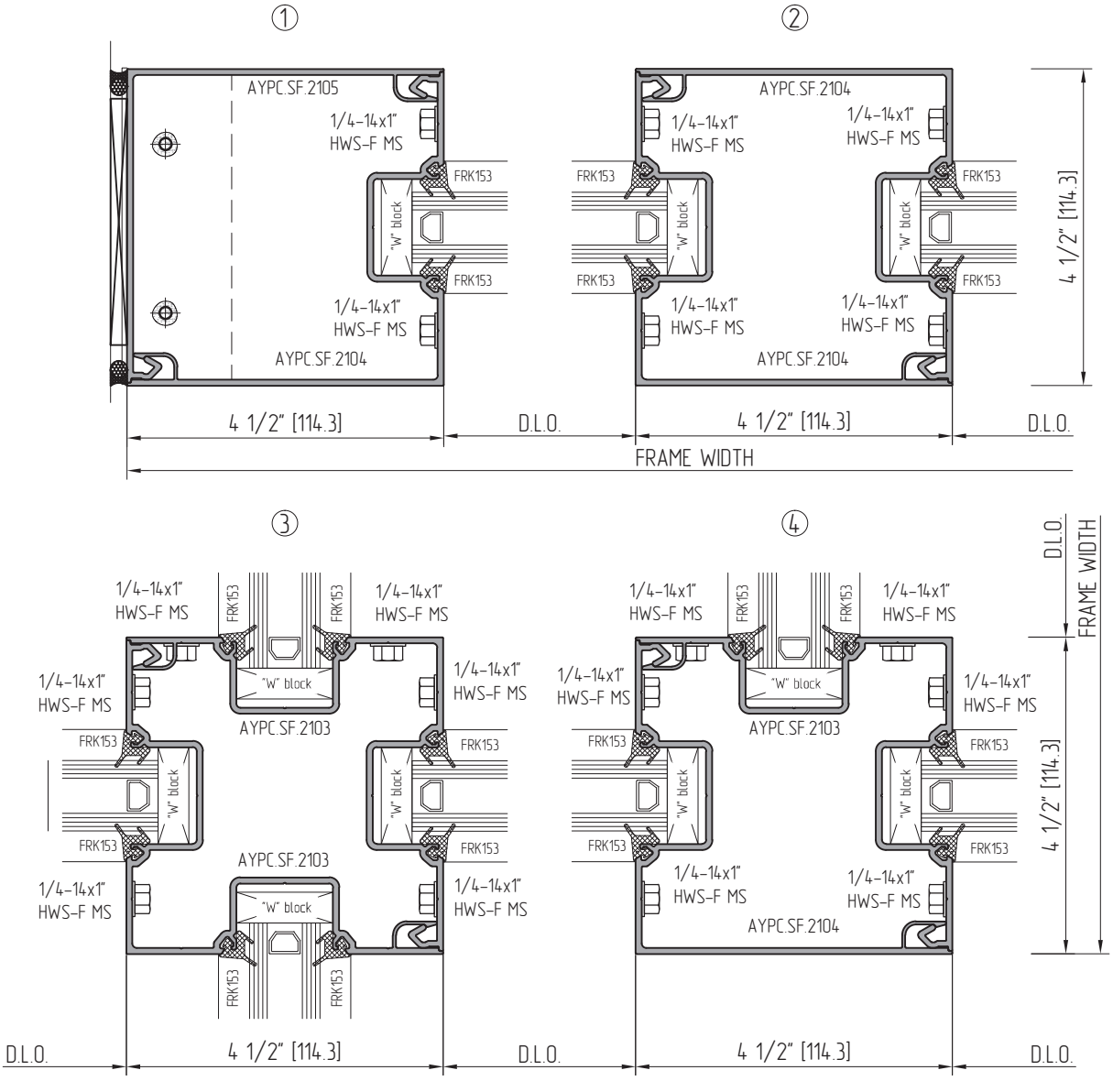

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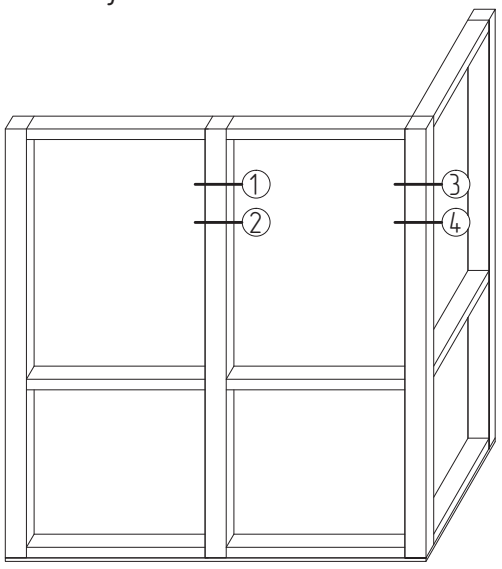

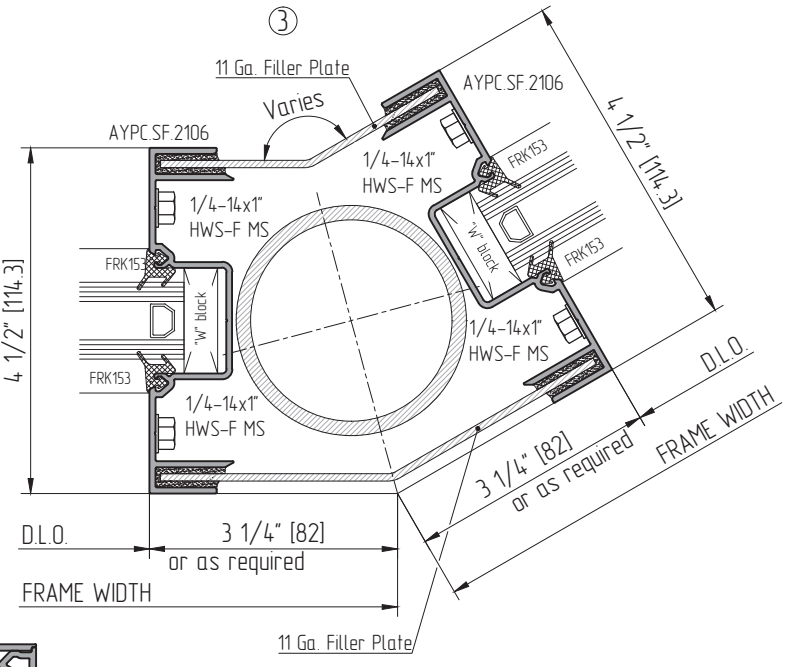

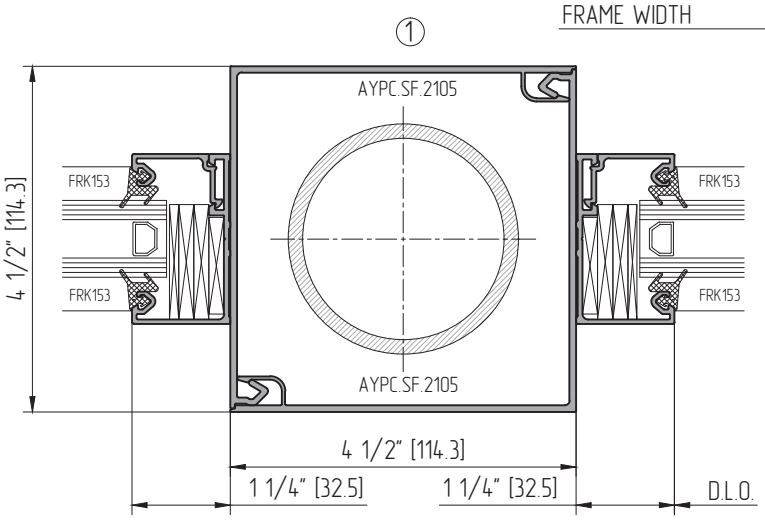

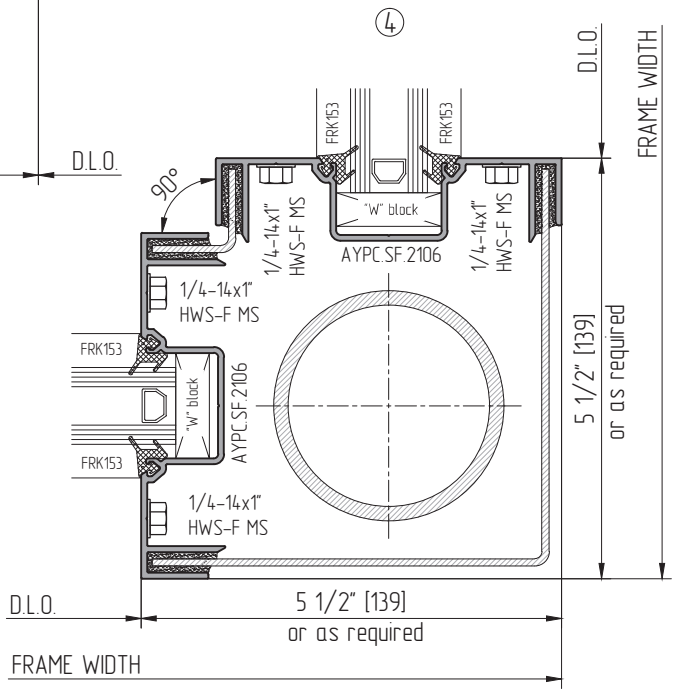

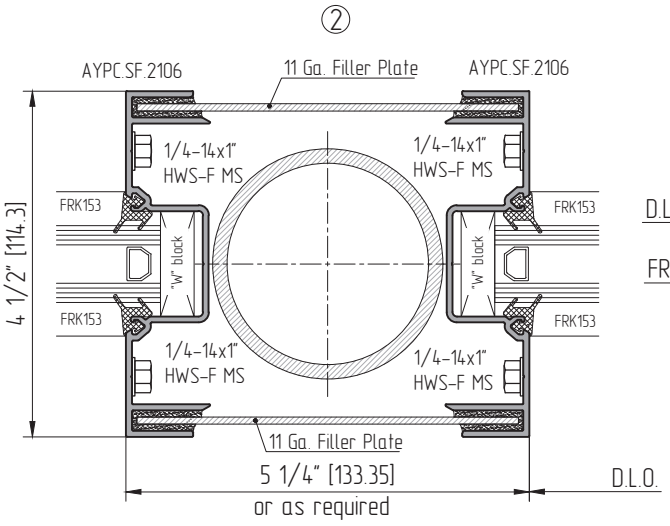

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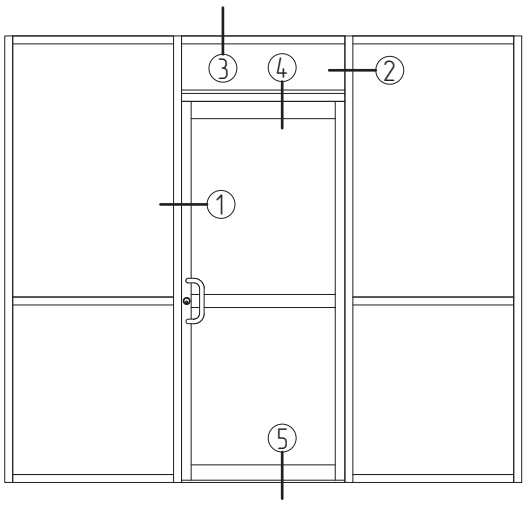
DOOR FRAME SECTIONS (1" IGU). STOREFRONT SF450



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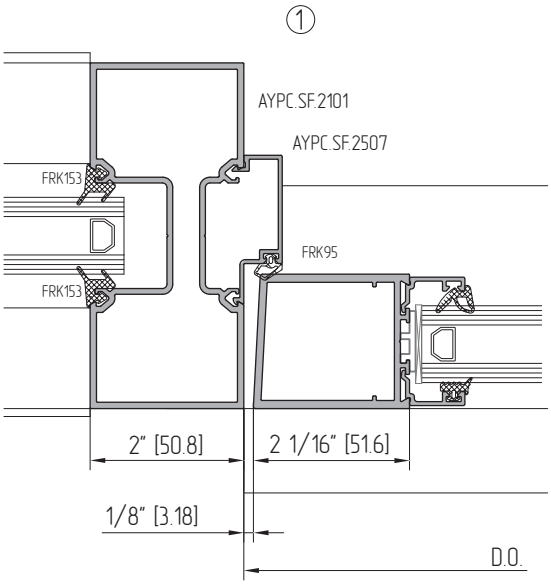

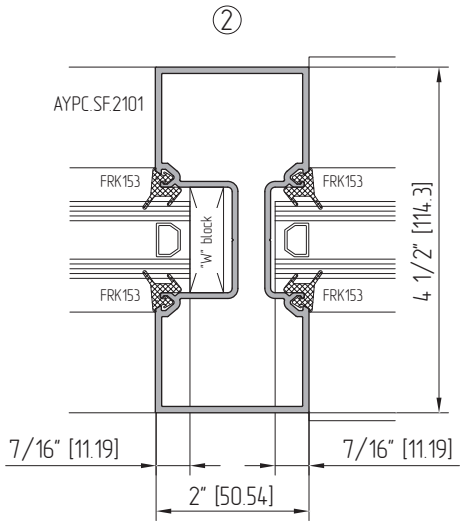

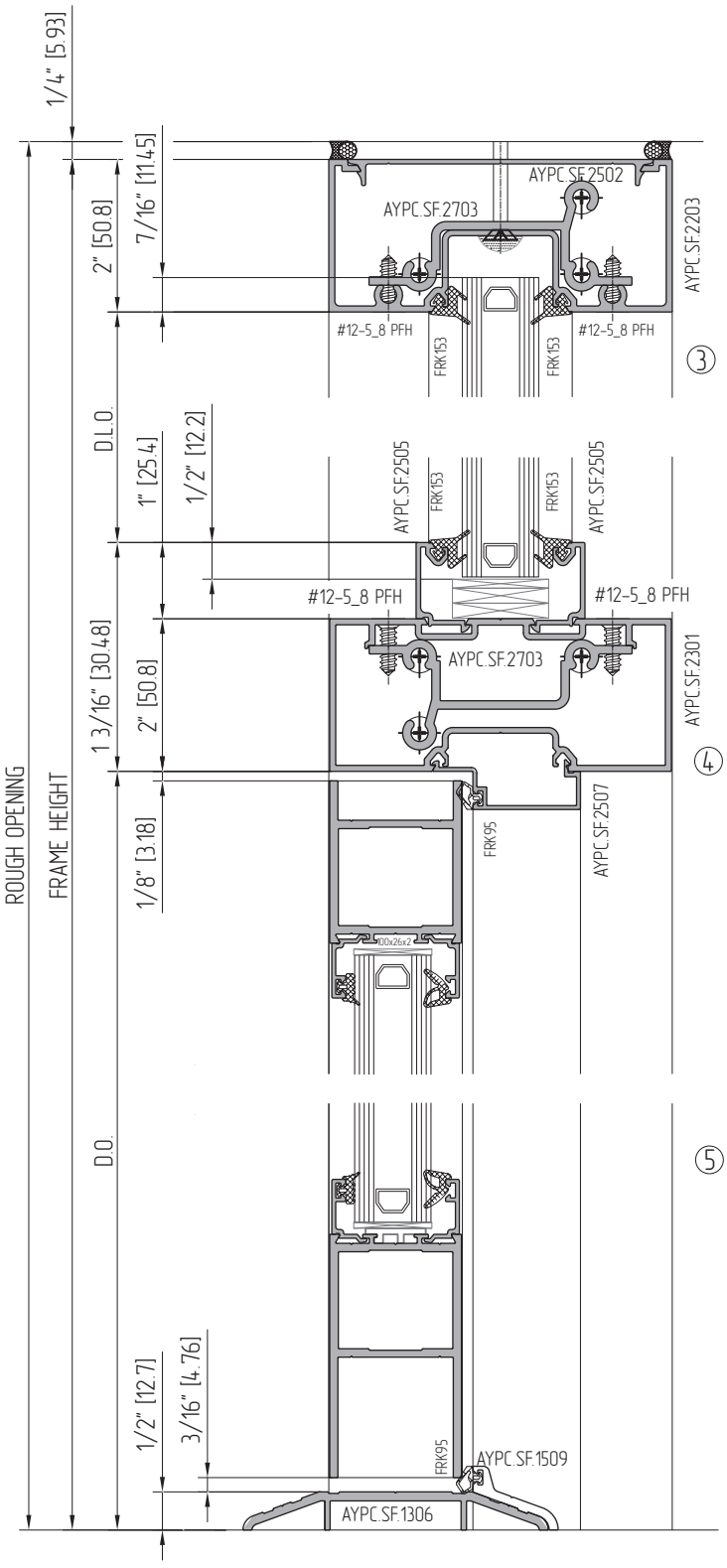

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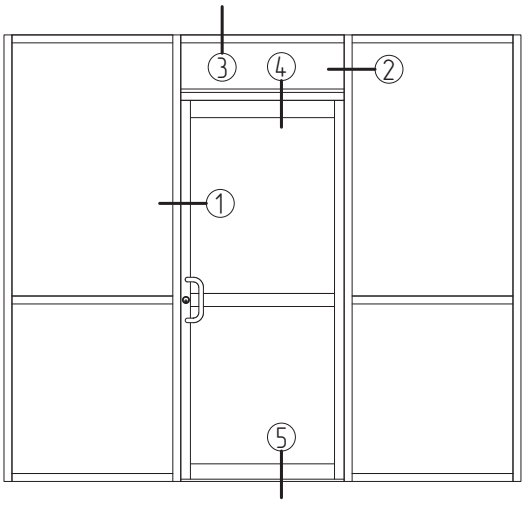
DOOR FRAME SECTIONS (1" IGU). STOREFRONT SF450



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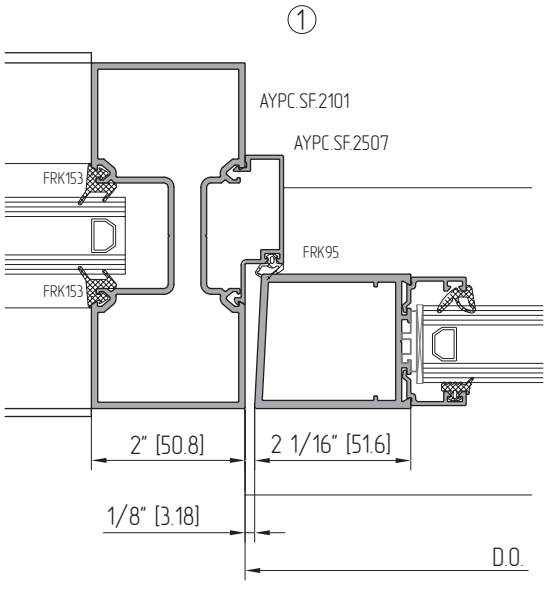
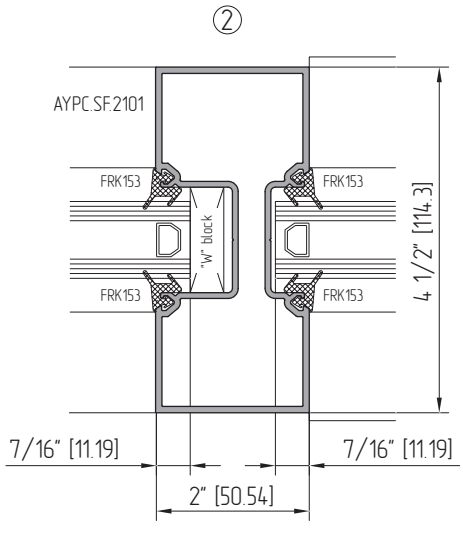
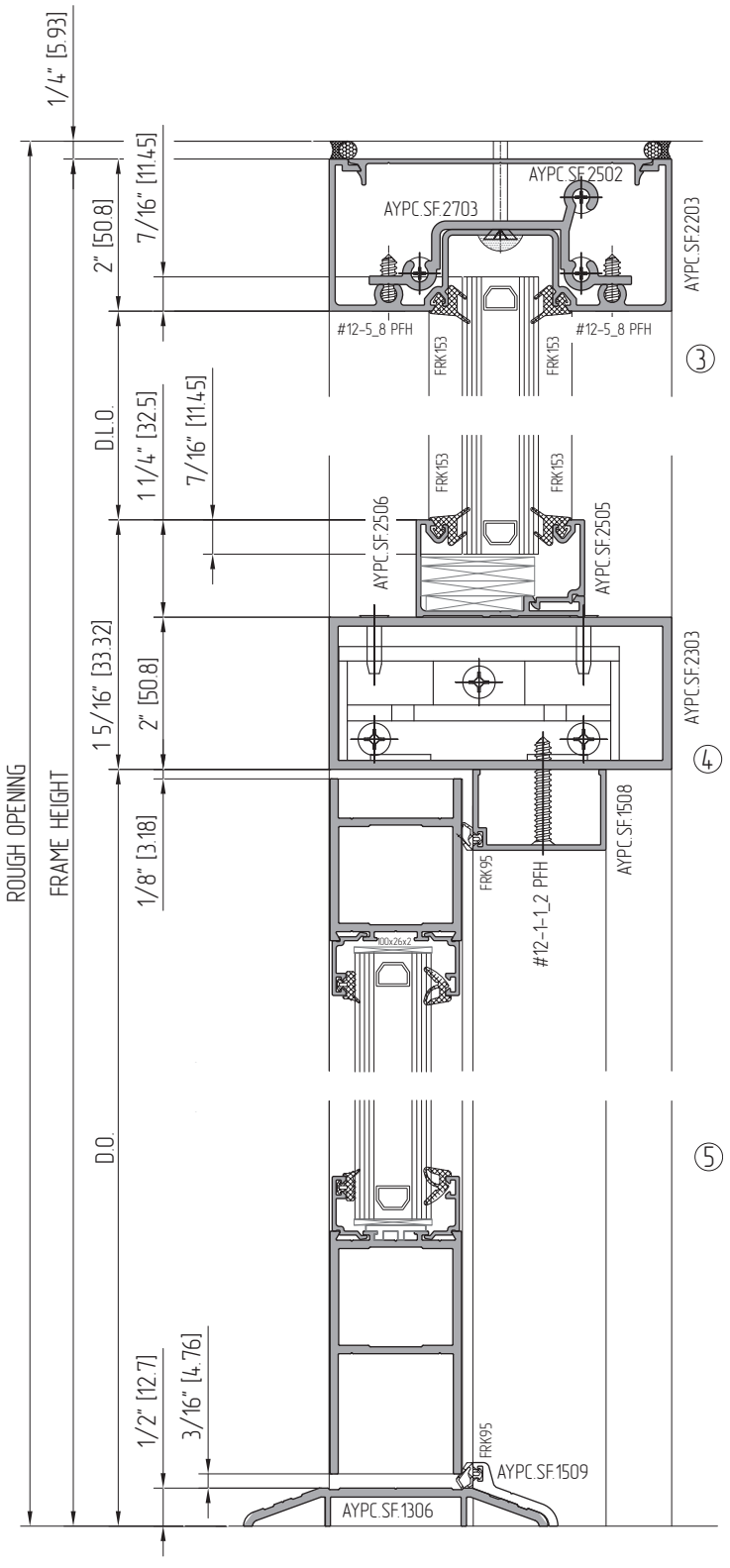
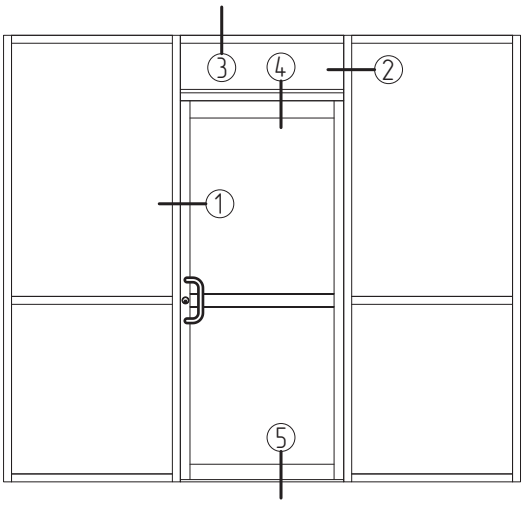






DOOR FRAME SECTIONS (1" IGU). STOREFRONT SF450



CENTER HUNG DOORS

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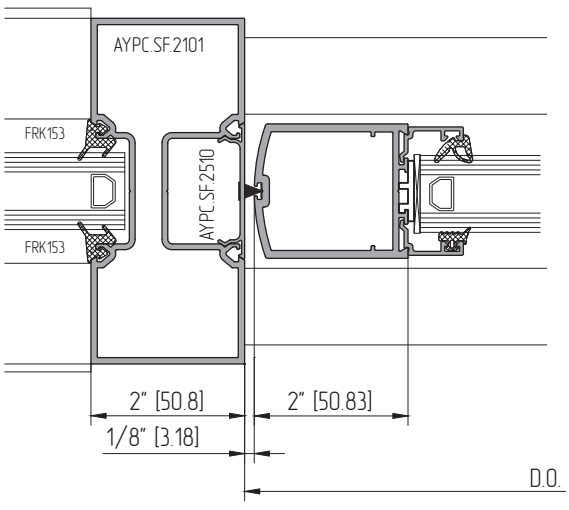

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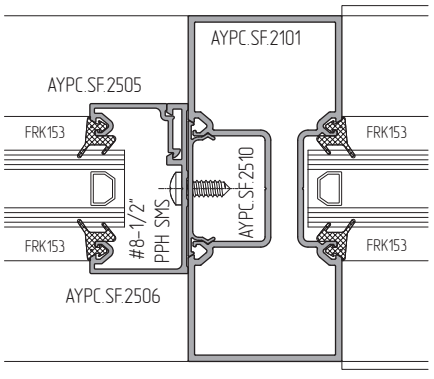
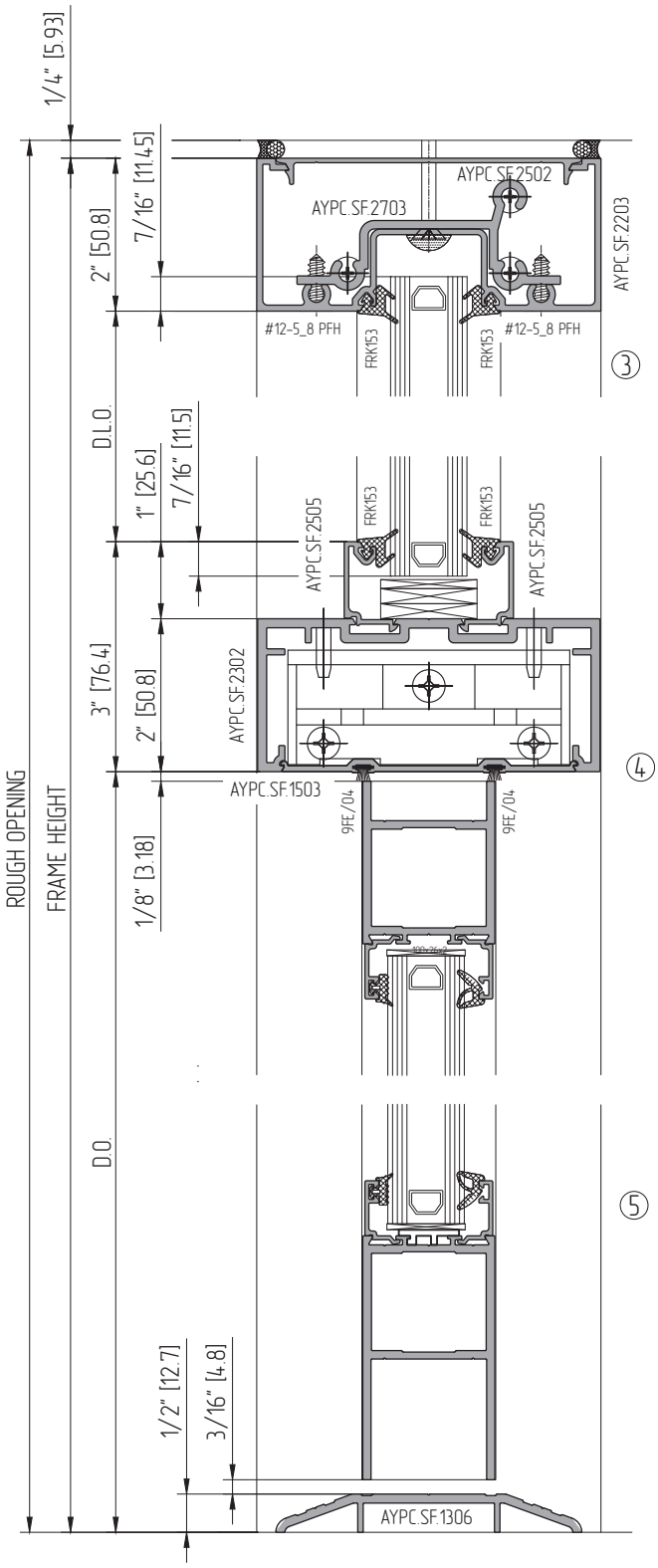
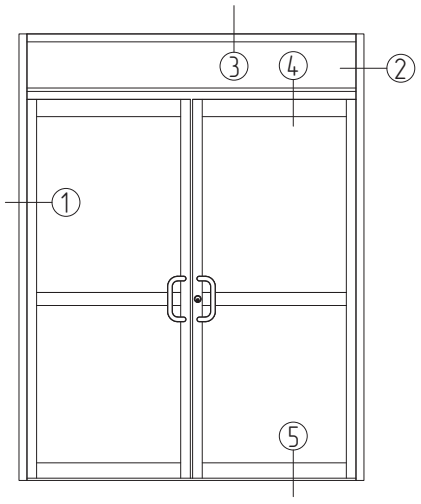




NOT TO SCALE

DOOR FRAME SECTIONS (1" IGU). DOOR WITH TRANSOM. SF450



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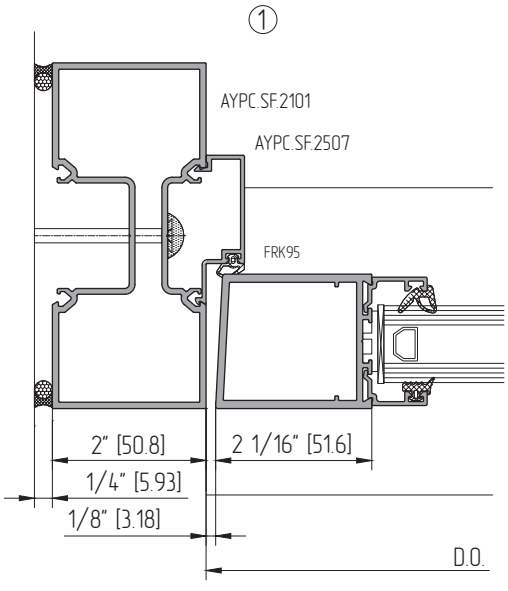
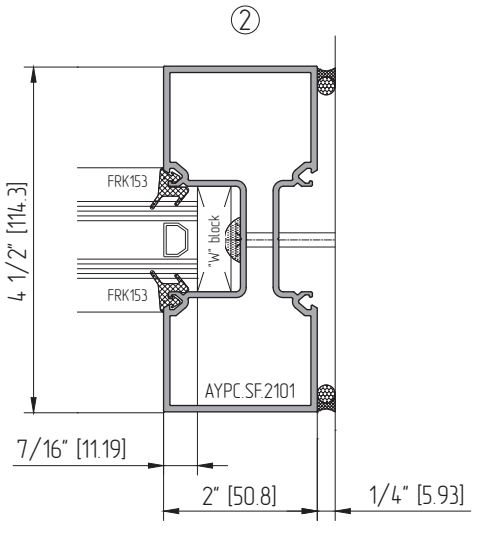
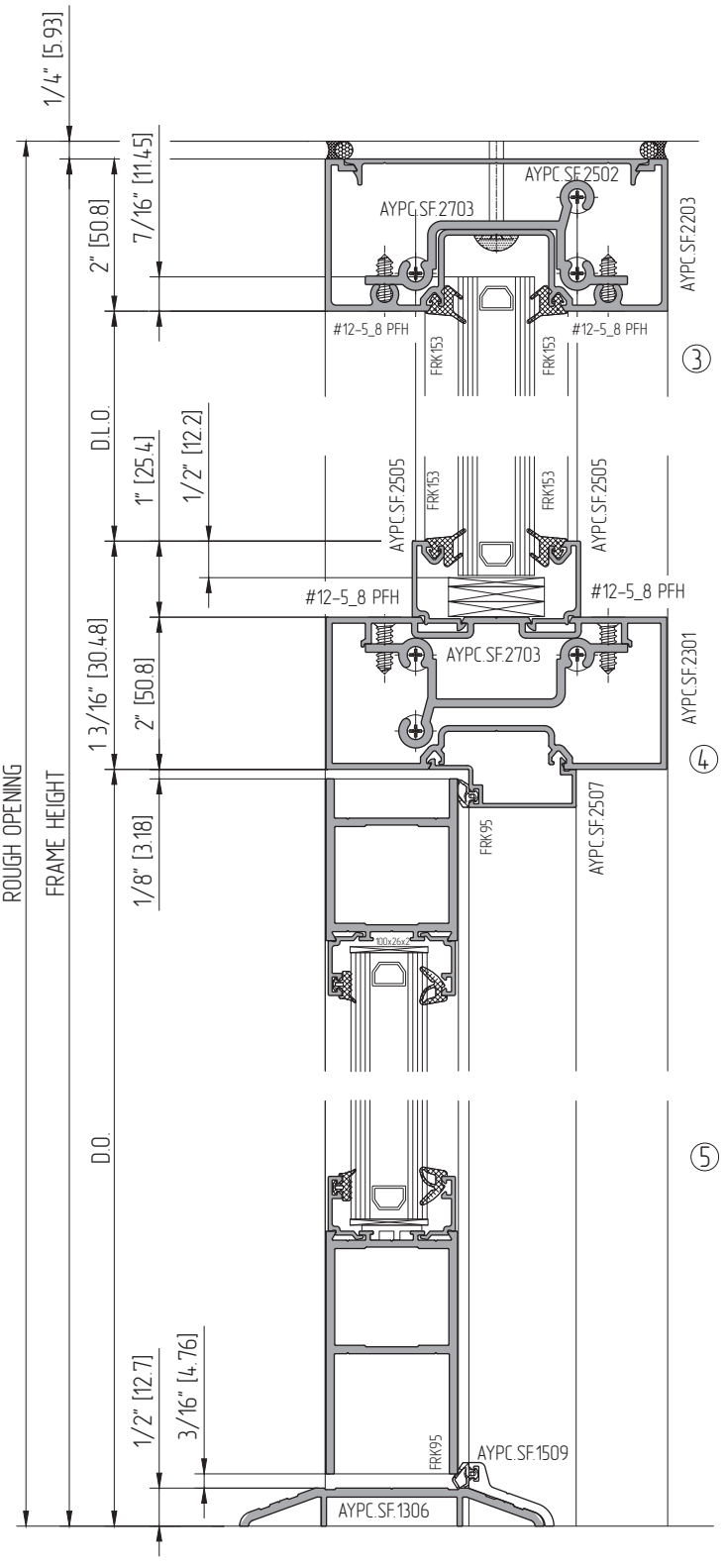
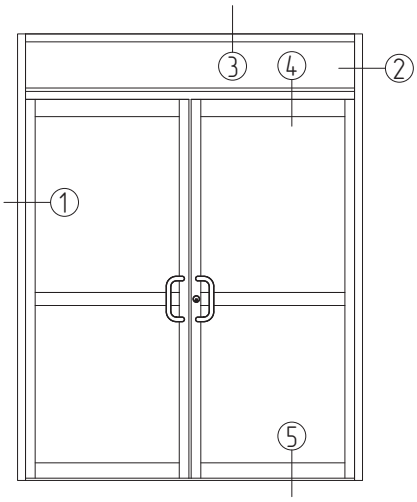




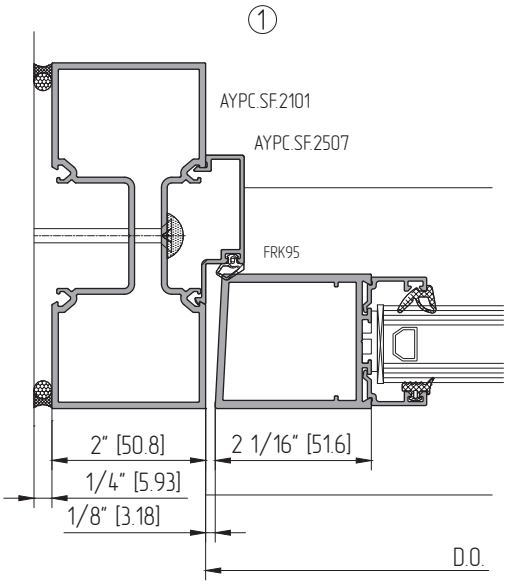


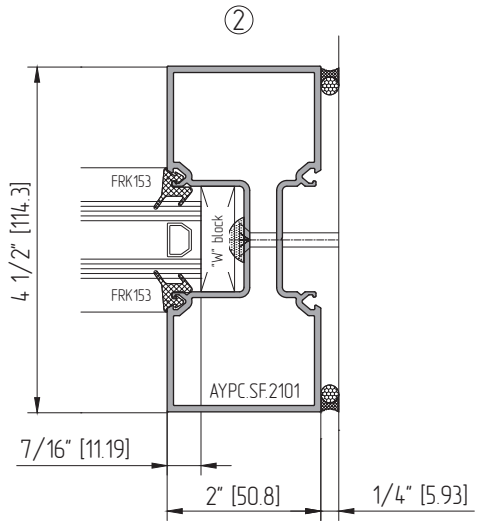
NOT TO SCALE

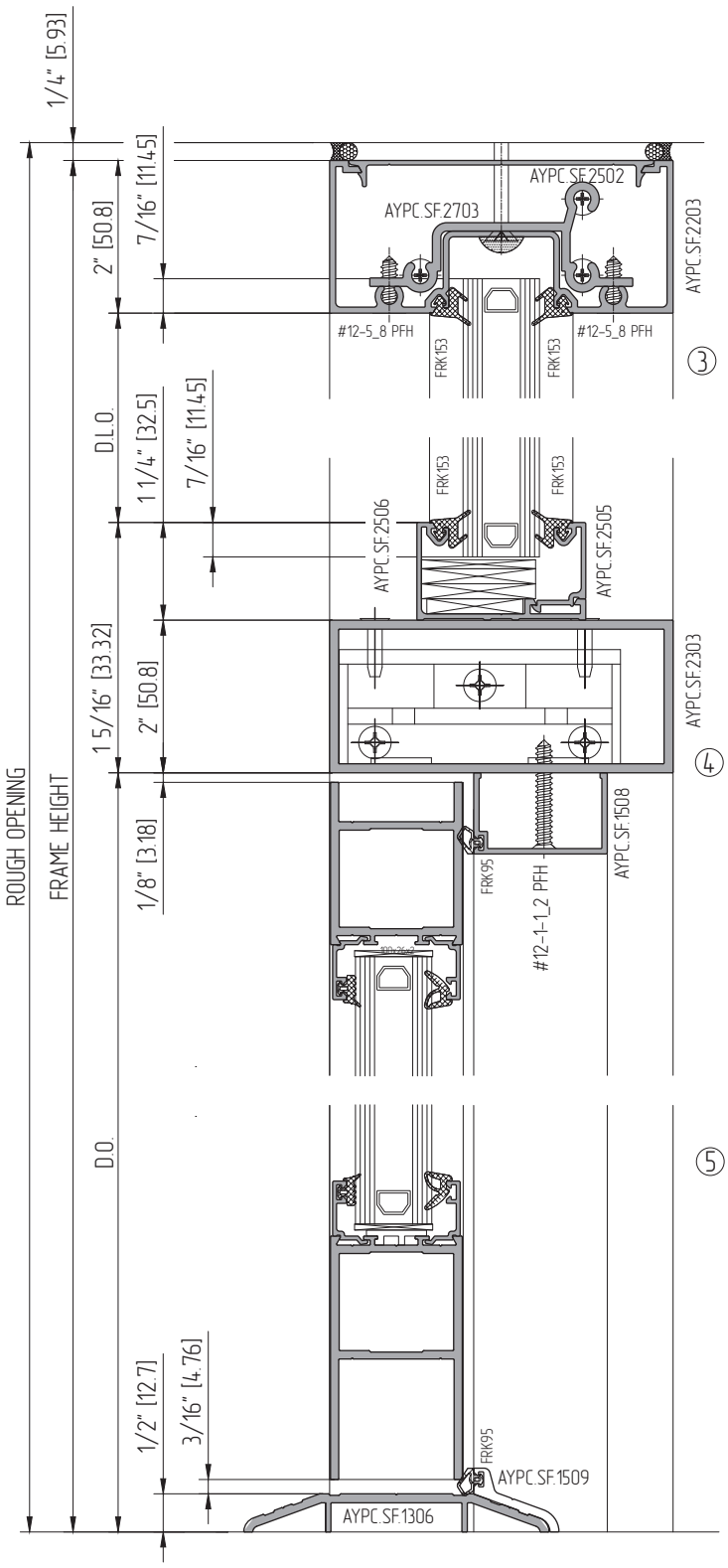
DOOR FRAME SECTIONS (1" IGU). DOOR WITH TRANSOM. SF450



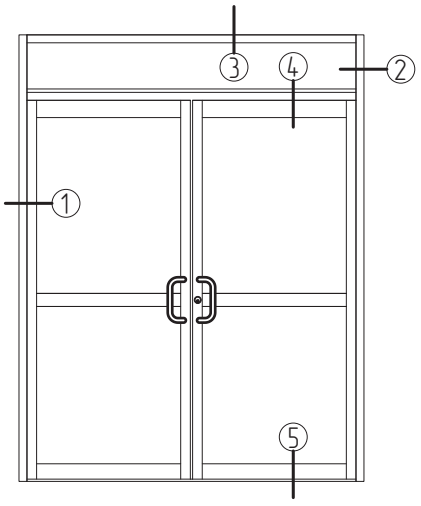
OFFSET HUNG DOORS



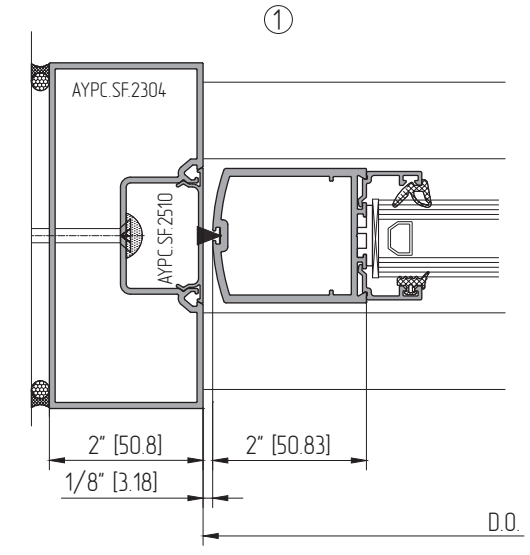


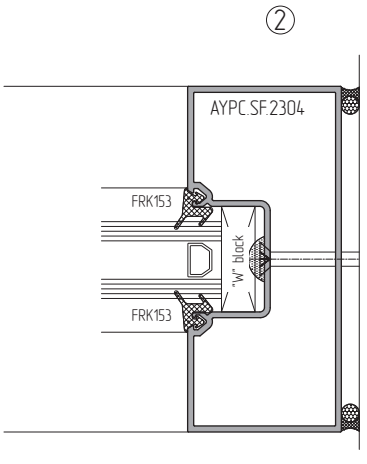


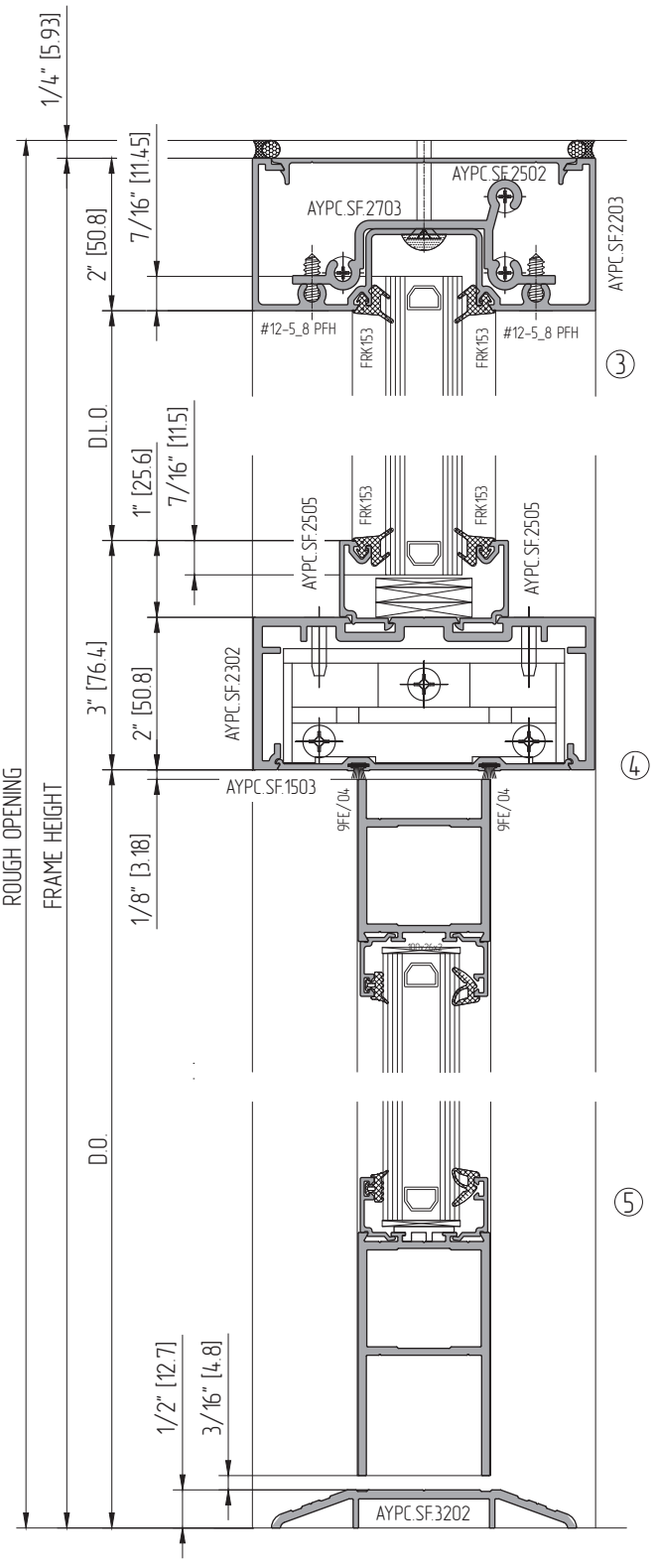
DOOR FRAME SECTIONS (1" IGU). DOOR WITH TRANSOM. SF450



CENTER HUNG DOORS

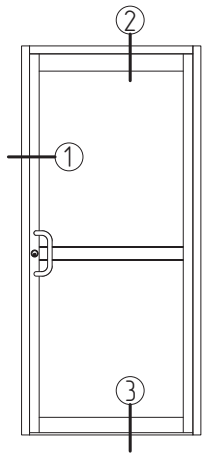




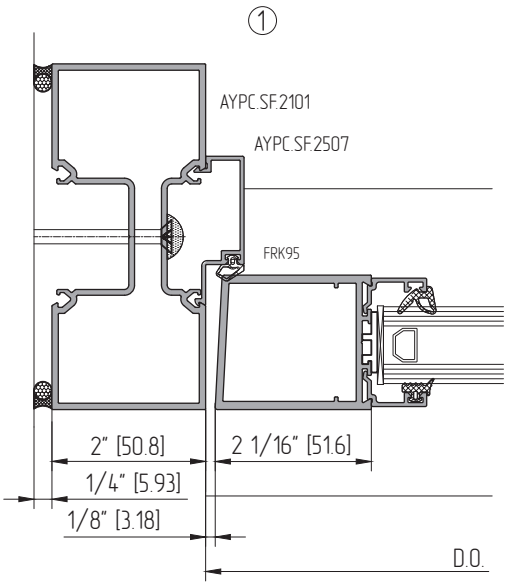


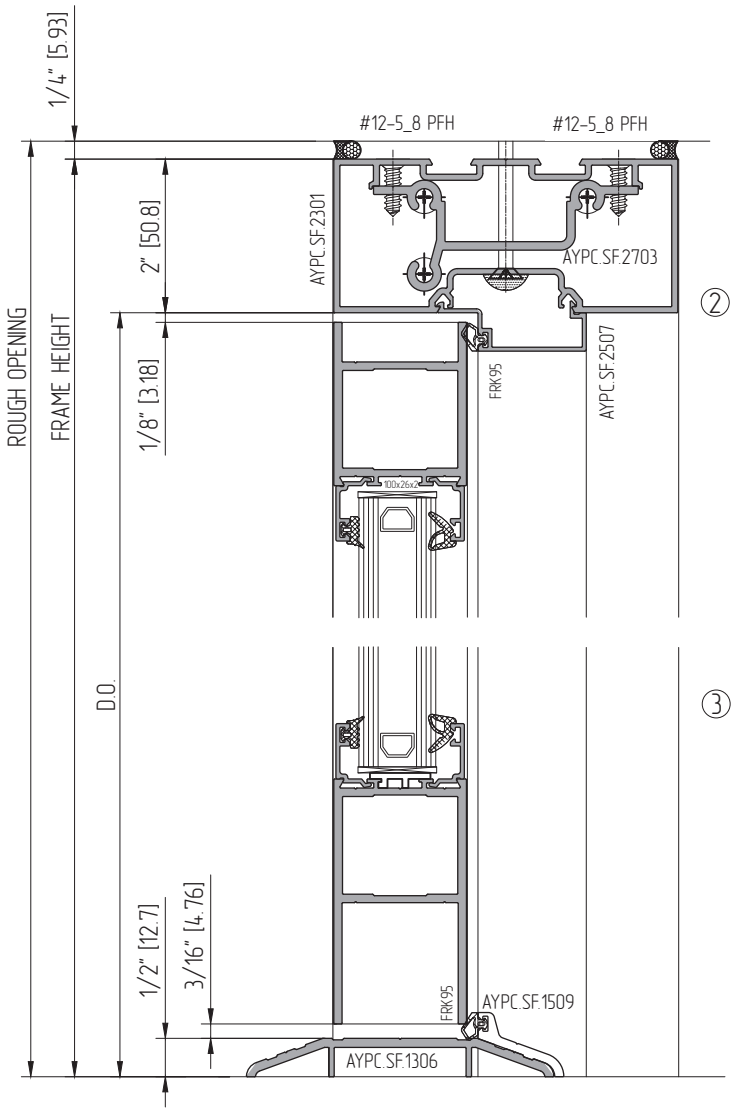
NOT TO SCALE

DOOR FRAME SECTIONS (1" IGU). SF 450



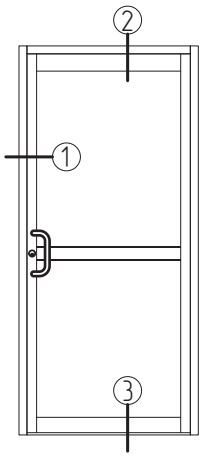
OFFSET HUNG DOORS



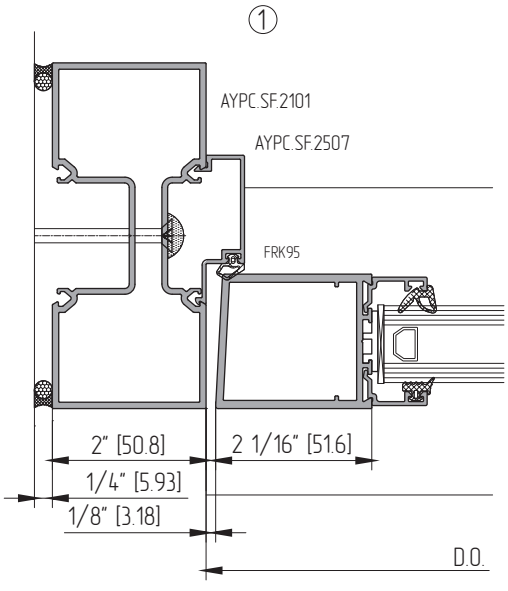


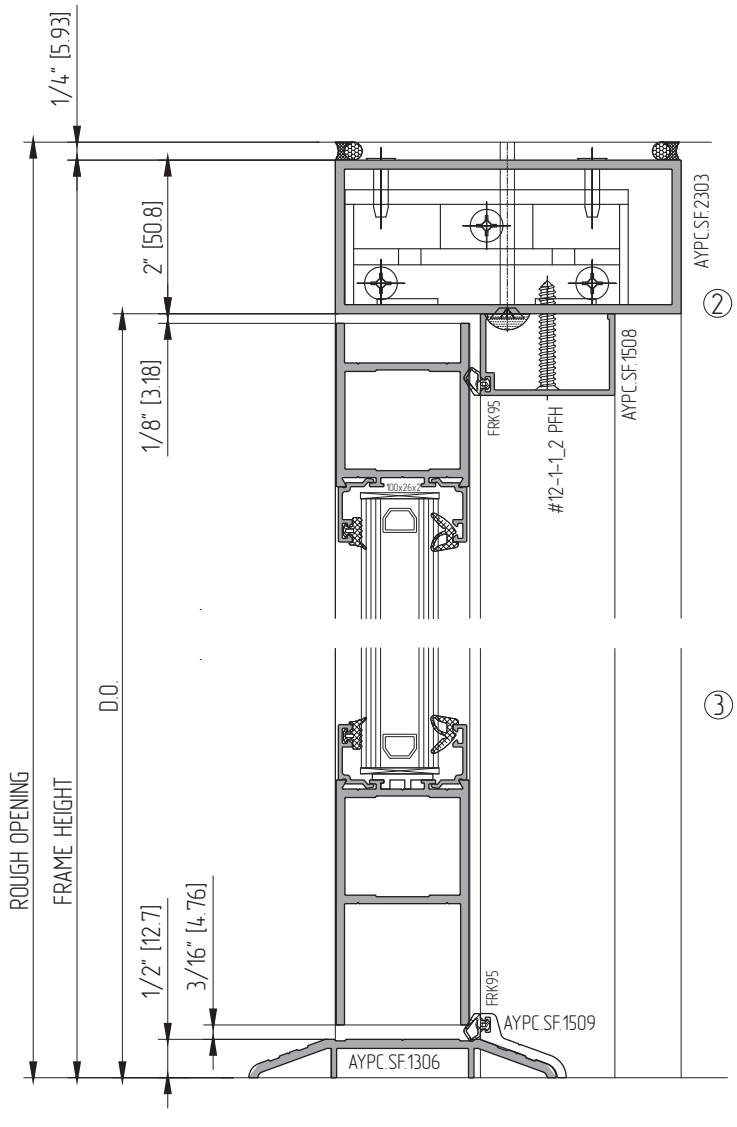
NOT TO SCALE

DOOR FRAME SECTIONS (1" IGU). SF 450

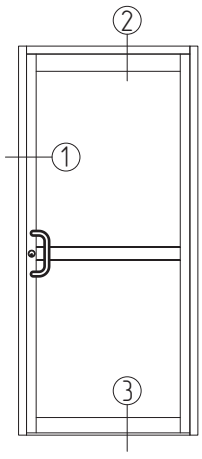


OFFSET HUNG DOORS

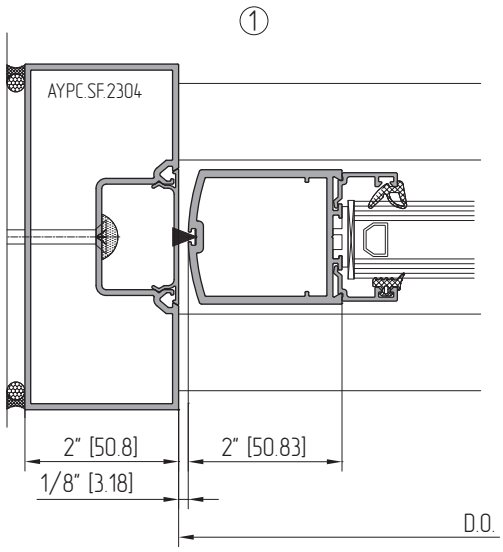


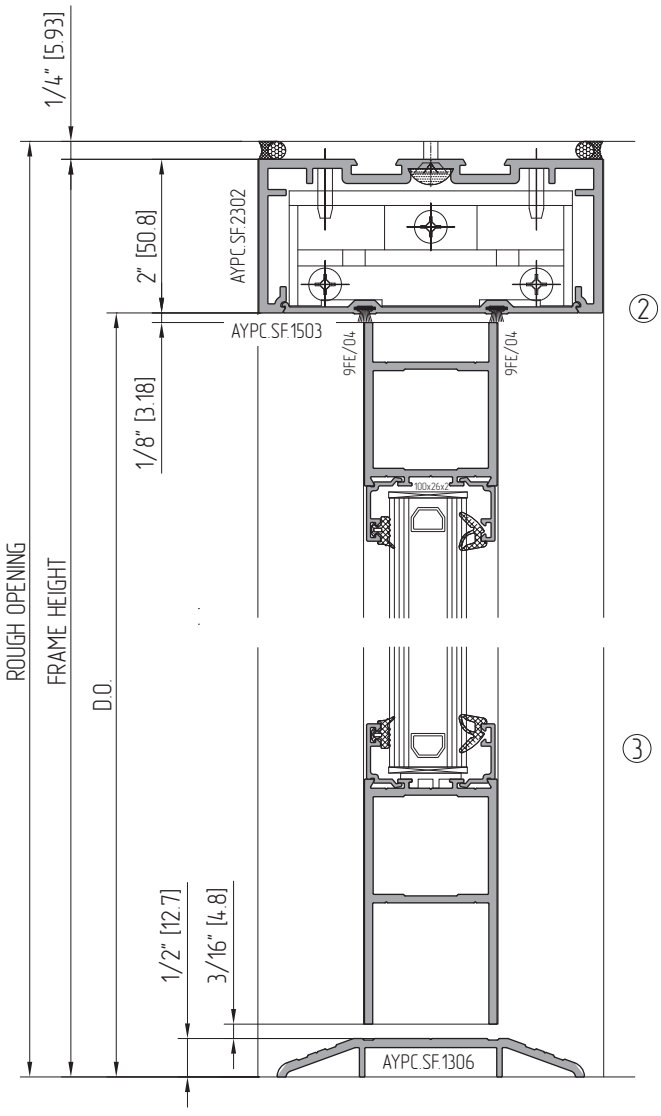


DOOR FRAME SECTIONS (1" IGU). SF 450

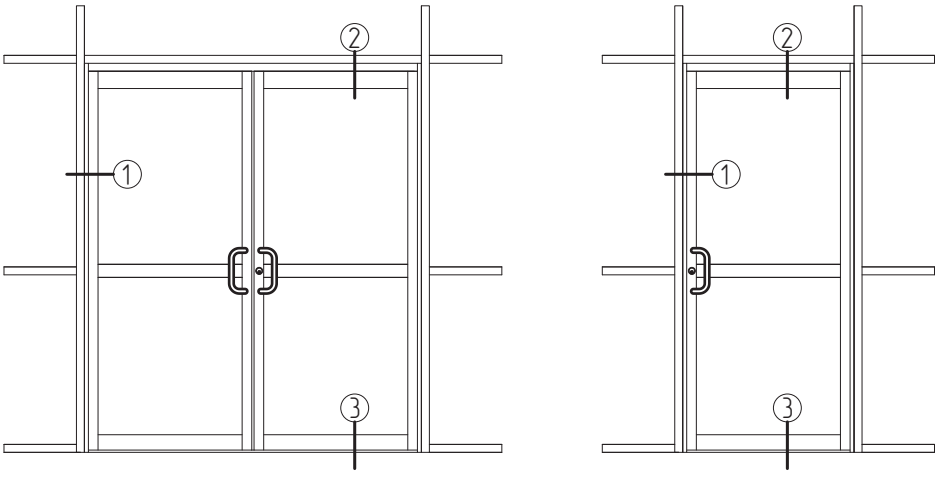


CENTER HUNG DOORS

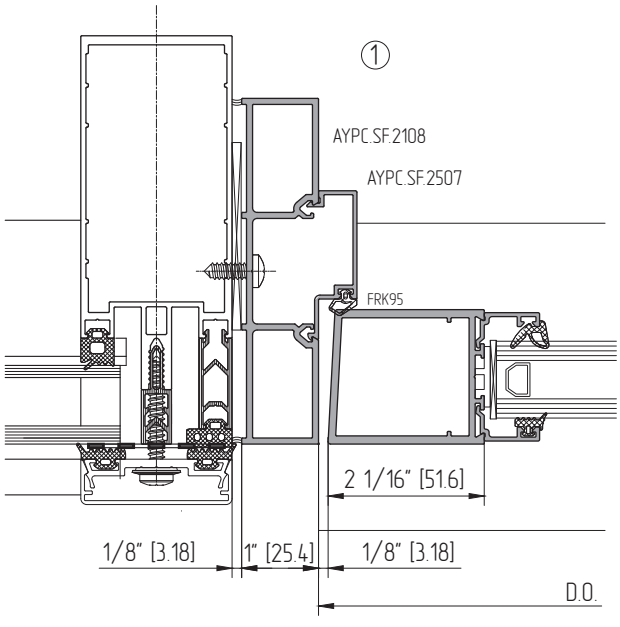


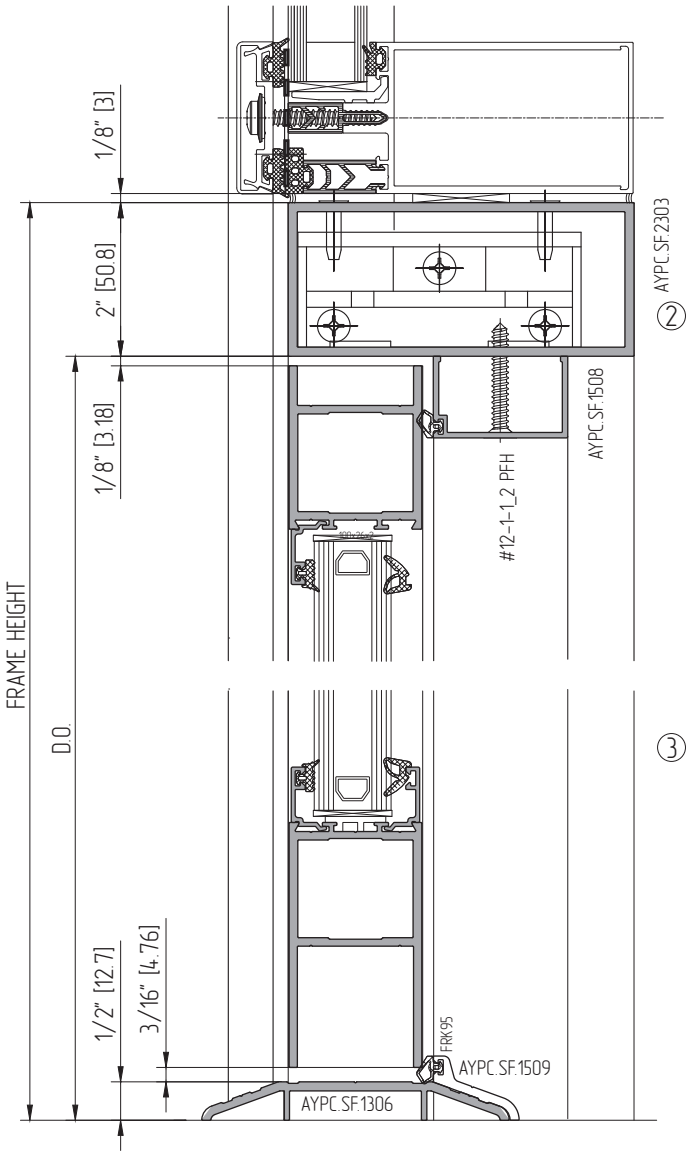


DOOR FRAME SECTIONS (1" IGU). STOREFRONT SF450. INSTALLATION TO CURTAIN WALL

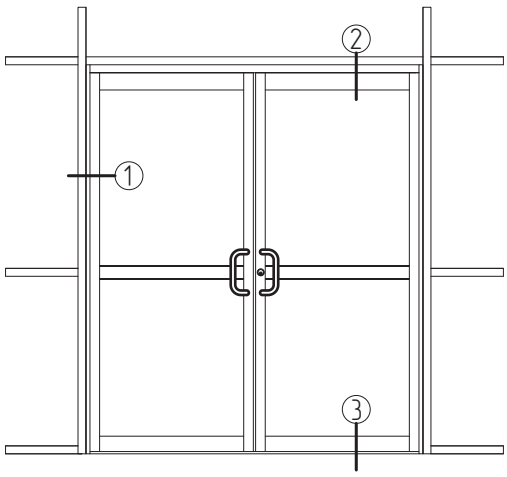


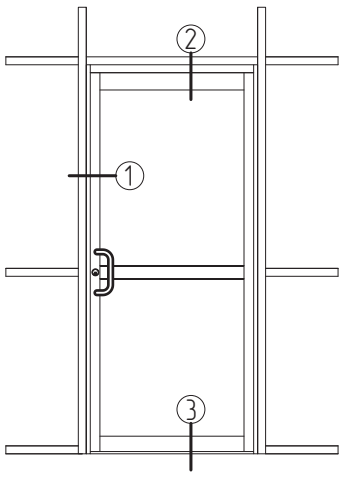
OFFSET HUNG DOORS



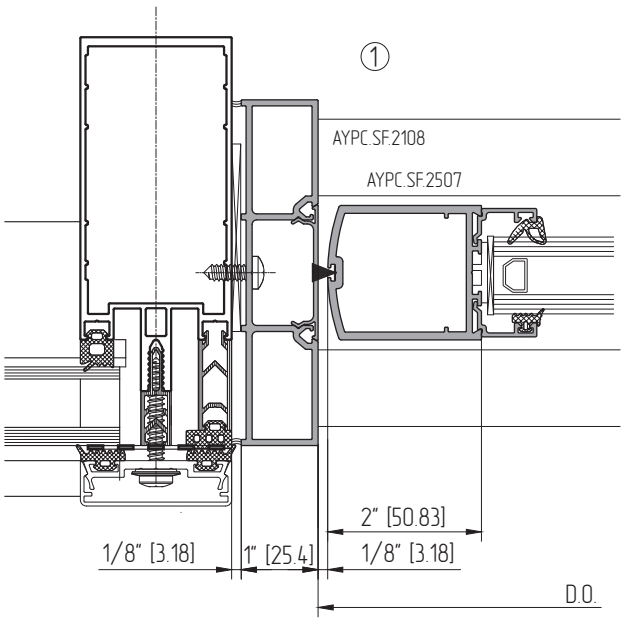


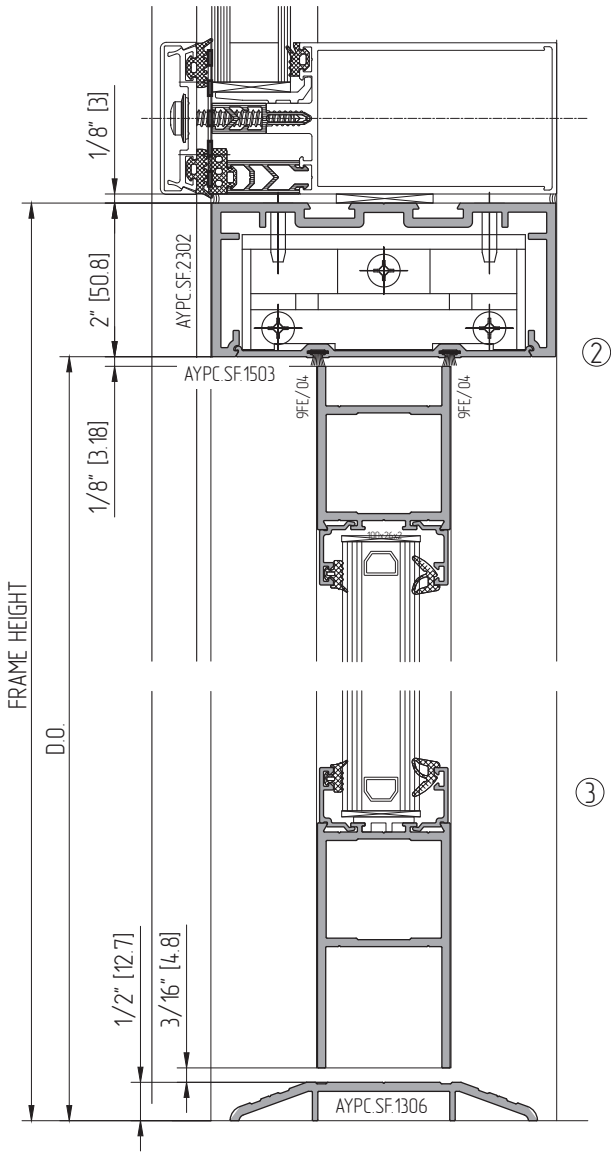
DOOR FRAME SECTIONS (1" IGU). STOREFRONT SF450. INSTALLATION TO CURTAIN WALL

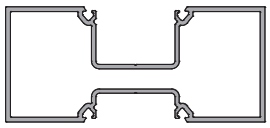
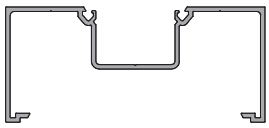
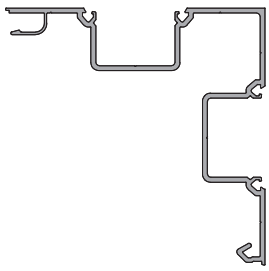
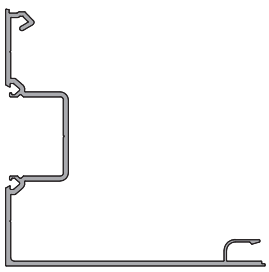
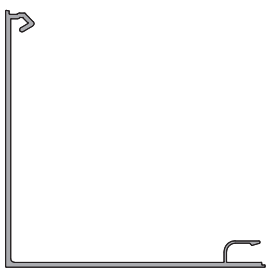
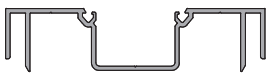
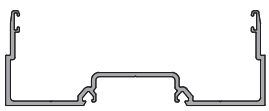


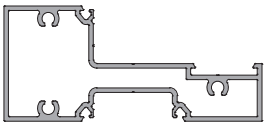
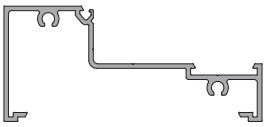
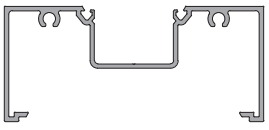
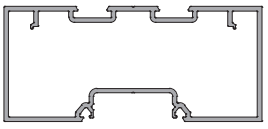
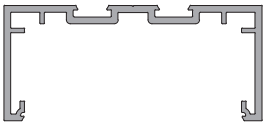
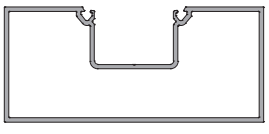
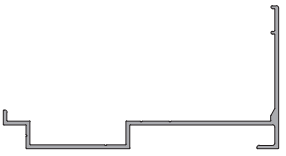


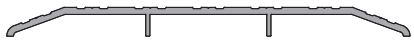
OFFSET HUNG DOORS

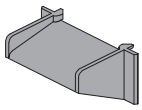
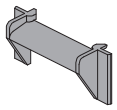
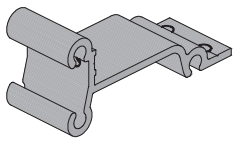
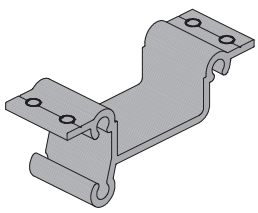
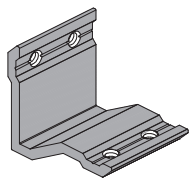
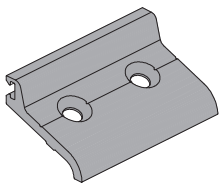


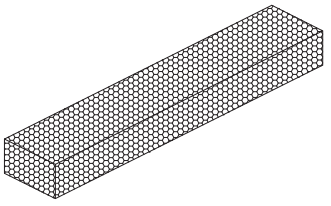
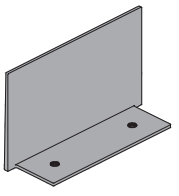
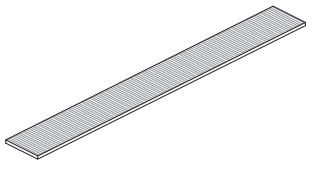
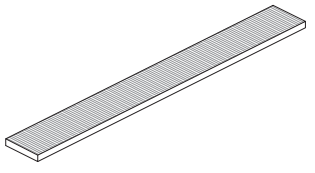
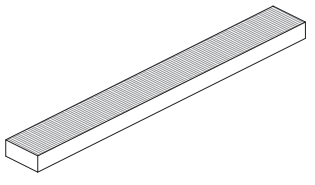


Part NO.	Code	Color	Detail	Description	PKG. QTY.
AYPC.SF.2101	125029808 125029858 125029878	A00–D6 A05–D6 A07–D6		Vertical mullion	2
AYPC.SF.2102	125030808 125030858 125030878	A00–D6 A05–D6 A07–D6		Open back vertical mullion/jamb	2
AYPC.SF.2103	125034808 125034858 125034878	A00–D6 A05–D6 A07–D6		90° Post mates with AYPC.SF.2105	2
AYPC.SF.2104	125035808 125035858 125035878	A00–D6 A05–D6 A07–D6		Self mating 180° post	2
AYPC.SF.2105	125036808 125036858 125036878	A00–D6 A05–D6 A07–D6		Flat corner post mates with AYPC.SF.2103, AYPC.SF.2104	2
AYPC.SF.2106	125037808 125037858 125037878	A00–D6 A05–D6 A07–D6		Expansion mullion (requires AYPC.SF.2107)	2
AYPC.SF.2107	125038808 125037858 125037878	A00–D6 A05–D6 A07–D6		Expansion mullion (requires AYPC.SF.2106)	2

Part NO.	Code	Color	Detail	Description	PKG. QTY.
AYPC.SF.2108	125039808 125039858 125039878	A00–D6 A05–D6 A07–D6		Vertical mullion	2
AYPC.SF.2201	125031808 125031858 125031878	A00–D6 A05–D6 A07–D6		Intermediate horizontal mullion	2
AYPC.SF.2202	125032808 125032858 125032878	A00–D6 A05–D6 A07–D6		Open back sill/horizontal mullion	2
AYPC.SF.2203	125033808 125033858 125033878	A00–D6 A05–D6 A07–D6		Open back head/horizontal/ mullion	2
AYPC.SF.2301	125050808 125050858 125050878	A00–D6 A05–D6 A07–D6		Door header	2
AYPC.SF.2302	125051808 125051858 125051878	A00–D6 A05–D6 A07–D6		Open back door header (requires AYPC.SF.1503)	2
AYPC.SF.2303	125052808 125052858 125052878	A00–D6 A05–D6 A07–D6		2"x4–1/2" Tube	2
AYPC.SF.2304	125053808 125053858 125053878	A00–D6 A05–D6 A07–D6		Door jamb	2
AYPC.SF.2401	125042808 125042858 125042878	A00–D6 A05–D6 A07–D6		Subsill (high back)	4

Part NO.	Code	Color	Detail	Description	PKG. QTY.
AYPC.SF.2501	125043808 125043858 125043878	A00-D6 A05-D6 A07-D6		Open back filler	6
AYPC.SF.2502	125044808 125044858 125044878	A00-D6 A05-D6 A07-D6		Open back flat filler	8
AYPC.SF.2504	125045808 125045858 125045878	A00-D6 A05-D6 A07-D6		Glass stop	12
AYPC.SF.2505	125046808 125046858 125046878	A00-D6 A05-D6 A07-D6		Glass stop for sash	12
AYPC.SF.2506	125047808 125047858 125047878	A00-D6 A05-D6 A07-D6		Sash	6
AYPC.SF.2507	125048808 125048858 125048878	A00-D6 A05-D6 A07-D6		Door stop	12
AYPC.SF.2510	125049808 125049858 125049878	A00-D6 A05-D6 A07-D6		Glass pocket filler	16
AYPC.SF.1306	12500600	00		Threshold 4"	4
AYPC.SF.1307	12505500	00		Threshold 7"	2
AYPC.SF.1503	125026808 125026858 125026878	A00-D6 A05-D6 A07-D6		Door header filler (requires AYPC.SF.2302)	6
AYPC.SF.1508	125054808 125054858 125054878	A00-D6 A05-D6 A07-D6		Door stop (concealed door closer arm cover)	8
AYPC.SF.1509	12501300	00		Threshold door stop for double leaf door	8

Part NO.	Code	Detail	Description	PKG. QTY.
AYPC.SF.2701	12570100		Water deflector for deep pocket	80
AYPC.SF.2701-01	12570200		Water deflector for shallow pocket	80
AYPC.SF.2702	12570300		Shear block	60
AYPC.SF.2703	12570400		Shear block	60
AYPC.SF.1703	12530300		Threshold clip	36
AYPC.SF.1704	12530400		Threshold door stop	35

Part NO.	Code	Detail	Description	PKG. QTY.
AYPC.SF.1705	12530500		Weep baffle	72
AYPC.SF.2706	12570500		End dam	40
100x32x2	11213500		Setting block (1-1/4"x3/32" [32x2 mm])	1000
100x32x3	11213600		Setting block (1-1/4"x1/8" [32x3 mm])	1000
100x32x5	10840300		Setting block (1-1/4"x3/16" [32x5 mm])	1000
FRK95	10512300		Rebate ledge gasket (EPDM)	2132' [650 m]
FRK153	12520200		Gasket (1" glass)	656' [200 m]
9FE/04	10170600		Weather brush strip	4264' [1300 m]

Windload Charts

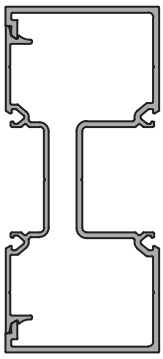
STANDART WALL VERTICAL MULLIONS FOR 1" (25)

Mullions designed for 1/175 deflection ratio and for the following allowable working stresses:

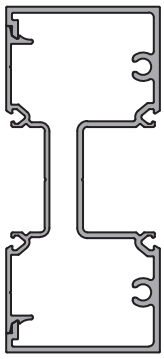
Aluminum alloy 6063-T6: allowable stress for widnload 12,929 psi (89 MPa).
Steel reinforcing: allowable stress for windload 26,666 psi (183 Mpa).

Curves represent the limit values and based on criteria for simple beam, uniformly loaded, using the distribution of wind forces on the wall with rectangular loading. Glass is not cosidered as contributing to resistance of deflection.

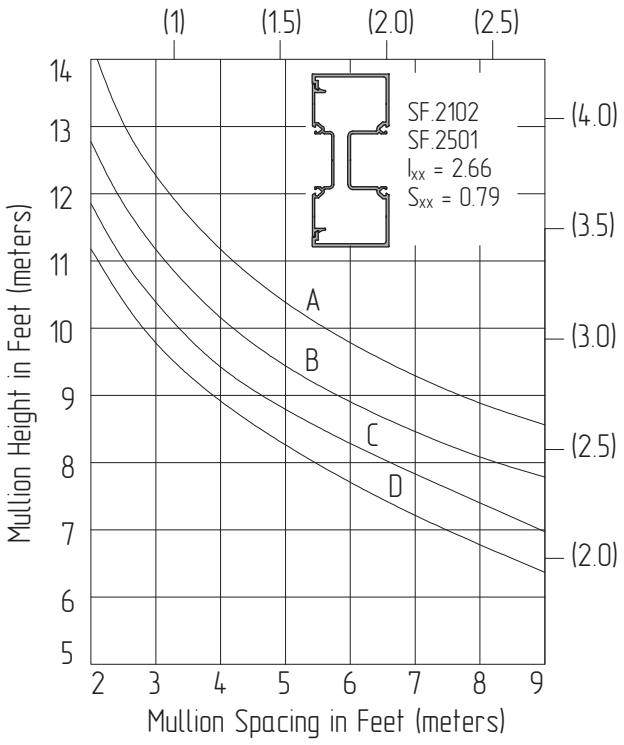
Limitation of vertical mullions for:
CURVES A = 15 PSF (718 Pa)
CURVES B = 20 PSF (957 Pa)
CURVES C = 25 PSF (1197 Pa)
CURVES D = 30 PSF (1436 Pa)

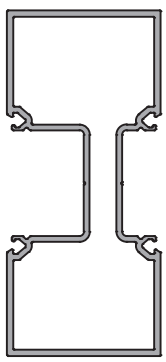


AYPC.SF.2102/AYPC.SF.2501
I=2.66 (110.71x10^4)
S=0.79 (12.96x10^3)

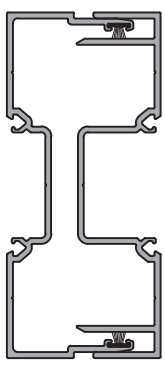


AYPC.SF.2203/AYPC.SF.2501
I=2.95 (122.78x10^4)
S=0.859 (14.09x10^3)





AYPC.SF.2101
I=2.715 (112.9x10^4)
S=0.815 (13.37x10^3)



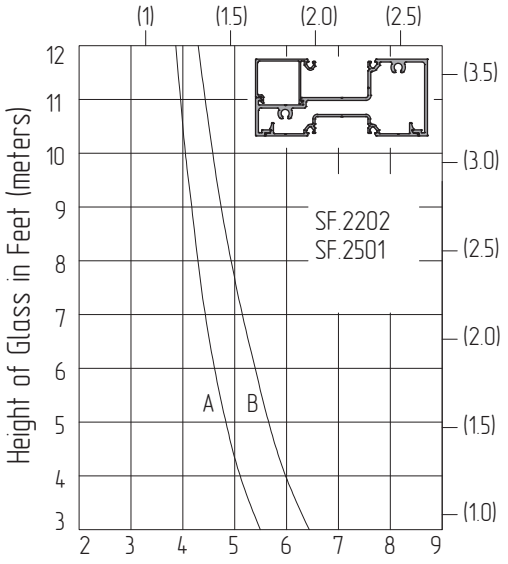
AYPC.SF.2106/AYPC.SF.2107
I=2.86 (119.03x10^4)
S=0.957 (15.69x10^3)

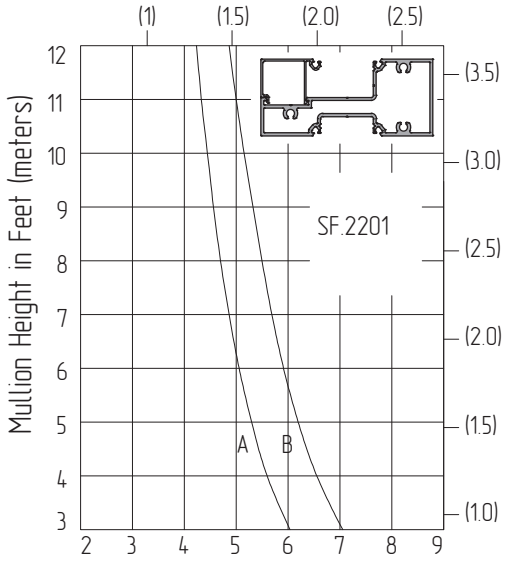
Deadload Charts

INTERMEDIATE HORIZONTAL MULLIONS

FOR 1" (6) GLAZING

Deadload charts are based on 1/8" (3.2) maximum allowable deflection at the center point of the horizontal mullion and on a glass weight of 6.5 p.s.f. (31.74 Kg/m^2).
Glass shall rest on two setting blocks located at:
CURVES A = 1/4 points
CURVES B = 1/8 points or 8" (203.2) from corners, whichever is larger





INSTALLATION INSTRUCTIONS. GENERAL NOTES. HANDLING, STORAGE AND PROTECTION OF ALUMINUM.

The following precautions are recommended to protect the material against damage. Following these precautions will help ensure early acceptance of your products and workmanship.

1. HANDLE CAREFULLY.

All aluminum materials at job site must be stored in a safe place well removed from possible damage by other trades. Cardboard wrapped or paper interleaved materials must be kept dry.

2. CHECK ARRIVING MATERIALS.

Check for quantity and keep records of where various materials are stored.

3. KEEP MATERIAL AWAY FROM WATER, MUD AND SPRAY.

Prevent cement plaster or other materials from damaging the finish.

4. PROTECT THE MATERIALS AFTER INSTALLATION.

Protect installed frame with polyethylene or canvas splatter screen. Cement, plaster, terrazzo, other alkaline solutions and acid based materials used to clean masonry are harmful to the finish. If any of these materials come in contact with the aluminum, IMMEDIATELY remove with water and mild soap.

GENERAL INSTALLATION NOTES. RECOMMENDED GUIDELINES FOR ALL INSTALLATIONS:

1. REVIEW CONTRACT DOCUMENTS.

Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Note any field verified notes on the shop drawings prior to installing. The installation instructions are of general nature and cover most conditions.

2. INSTALLATION.

All materials are to be installed plumb, level and true.

3. BENCH MARKS.

All work should start from bench marks and/or column lines as established by the architectural drawings and the general contractor with guaranteed accuracy. Working from these datum points and lines determine:
a) The plane of the wall in reference to offset lines provided on each floor.
b) The finish floor lines in reference to bench marks on the outer building columns.
c) Mullion spacing from both ends of masonry opening to prevent dimensional build-up of daylight opening.

4. FIELD WELDING.

All field welding must be adequately shielded to avoid any splatter on glass or aluminum.
Results will be unsightly and/or structurally unsound. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.

NOTE: Dimensions in parentheses [ ] are millimeters unless otherwise noted. Other metric units shown in this manual are:
m – meter;
Kg – kilogram;
Pa – pascal; KPa – kilopascal; MPa – megapascal;
N – newton.

5. SURROUNDING CONDITIONS.

Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.

6. INSULATION OF ALUMINUM.

Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be insulated with a heavy coat of zinc chromate or bituminous paint.

7. SEALANTS.

Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning/priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established. This is required on every project.

8. FASTENING.

Within the body of these instructions "fastening" means any method of securing one part to another or to adjacent materials. Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements perimeter and anchor fasteners are not specified in these instructions. For perimeter and anchor fasteners refer to the shop drawings or consult the fastener supplier.

9. BUILDING CODES.

Due to the diversity in state/provincial local and federal laws and codes that govern the design and application of architectural products it is the responsibility of the individual architect owner and installer to assure that products selected for use on projects comply with all the applicable building codes and laws. AluminTechno exercises no control over the use or application of its products, glazing materials and operating hardware and assumes no responsibility thereof.

10. WATER HOSE TEST.

As soon as a representative amount of the wall has been glazed (500 square feet or 46.5 m^2) a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. On all jobs the hose test should be repeated every 500 square feet (46.5m^2) during the glazing operation.

11. COORDINATION WITH OTHER TRADES.

Coordinate with the general contractor any sequence with other trades which offset curtain wall installation (i.e. fire proofing, back-up walls, partitions, ceilings, mechanical ducts, converters etc.).

12. CARE AND MAINTENANCE.

Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA. 609.1 for anodized aluminum and 610.1 for painted aluminum.

13. SEALANTS.

All sealants referenced in these instructions must be a one part elastomeric silicone and must be applied according to the silicone manufacturer's recommendations.

14. APPLICATION.

Structural silicone must be applied from the interior and weather seal from the exterior after the interior structural silicone has fully cured.

16. MAXIMUM ALLOWABLE STRESS ON SILICONE.

The maximum allowable size of the glass light is controlled by the width and depth of the silicone joint combined with the specified design windload (PSF or Pa). The stress on the structural silicone must not exceed 20 PSI (137 KPa) for a 6:1 safety factor. Check Structural Silicone Chart in the Architectural Design Manual for this product series.

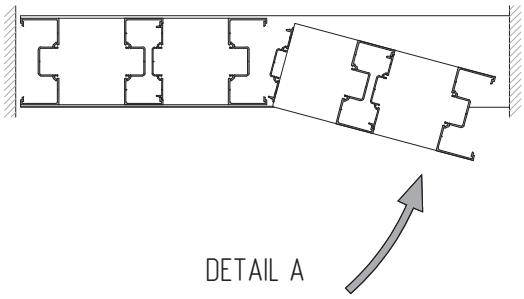
17. ARCHITECT.

It is the responsibility of the architect to secure approval of the system and request from the Glazing Contractor the compatibility and adhesion test reports described below.

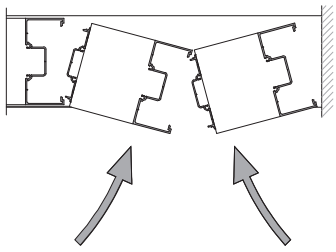
18. GLAZING CONTRACTOR.

It is the responsibility of the glazing contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established. This is required on every project.

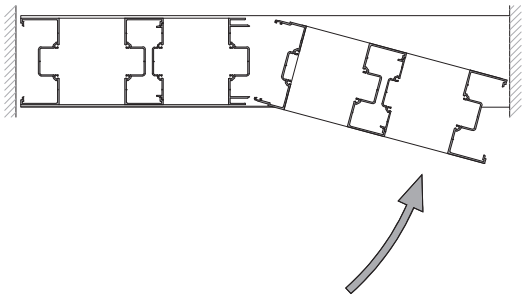
NOTE! Frames may be shop fabricated and shipped to job site partially or totally assembled. Systems feature screw race and allows for interior or exterior glazing. Frames are fabricated in units and snapped together. Each unit must have at least one vertical deep pocket to allow for glazing. Never allow two shallow pockets to face each other. Plan units accordingly. See DETAIL A and B. Expansion mullions should be used in elevations exceeding 24 feet (7.3m) in length to allow for thermal movement. See DETAIL C and D. Install shim as required.



DETAIL A



DETAIL B



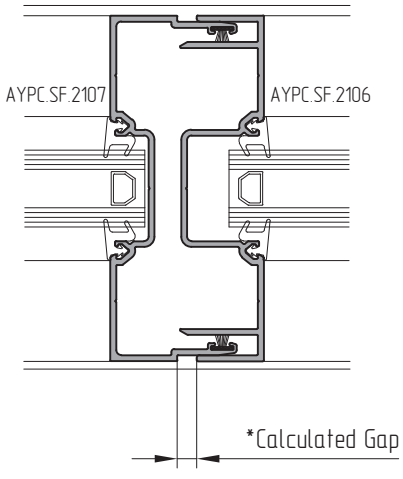
DETAIL C

19. EXPANSION MULLION INSTALLATION PROCEDURE.

* Determined by job conditions, project specifications and temperature at the time of installation. Expansion mullions allow for 1/4" (6.4 mm) maximum movement.See DETAIL D.

GAP SIZE FORMULA (") = LENGTH (") X F° DIFFERENCE X 0.0000123
L = Length in inches between centerline of expansion mullion in elevation
F = Specified temperature variation (Degrees Farenheit)
0.0000123 = Thermal coefficient for aluminum

EXAMPLE:
Assume 100° temperature variation specified and temperature at job site on day of installation is 60°.
1. 100° – 60° = 40° temperature difference
2. Length of elevation between expansion mullions equals 20' – 0" or 240"
3. 240" x 0.0000123 x 40° = 0.118". Therefore, set expansion gap at 0.118" (2.99mm).

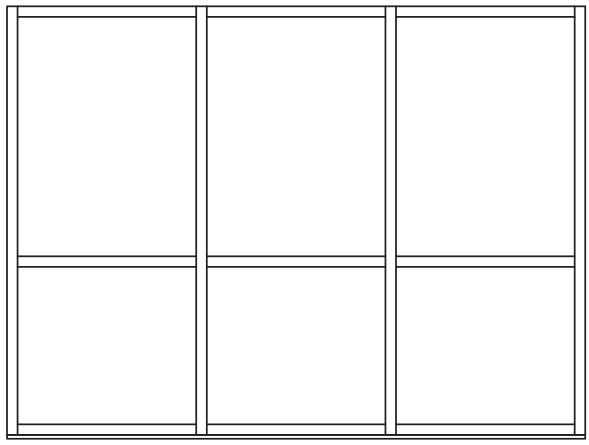


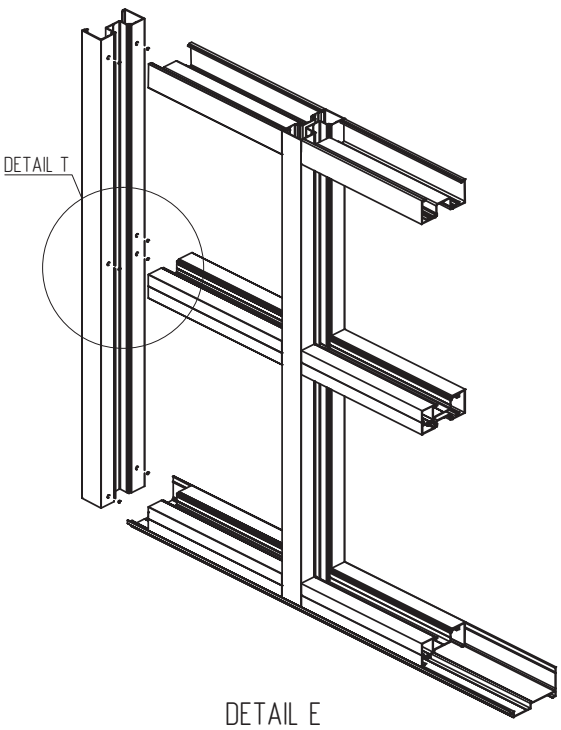
DETAIL D

20. Special Features.

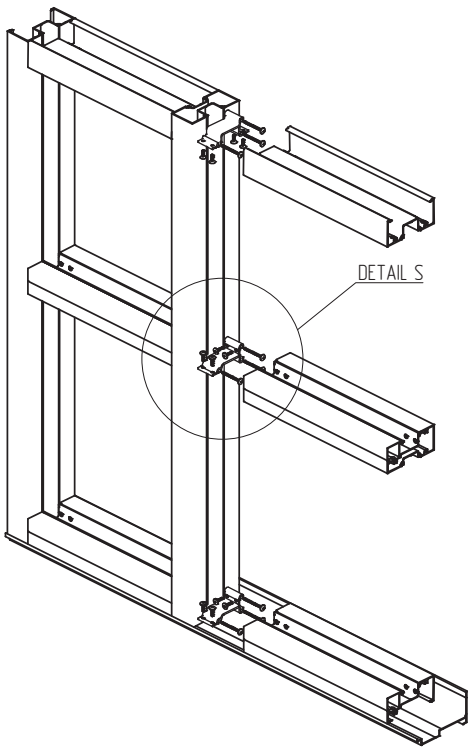
Two Piece (split) Vertical Mullions and are joined together with screws through back of vertical members the extruded screw splines in the as shown below. The panels then snapped together in the field to long runs. Extruded subsill flashing be used with this type of installation. See DETAIL E.

Anchor Clips are available for attaching horizontal members to tubular vertical members when required or selected. See DETAIL F.





DETAIL E



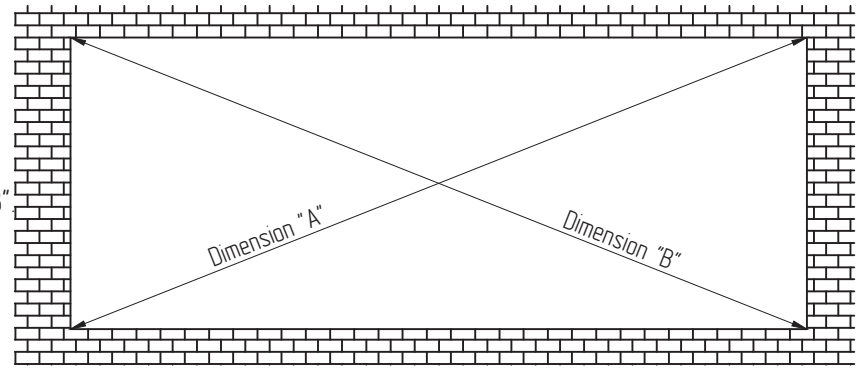
DETAIL F

FABRICATION AND ASSEMBLY

1. Measure Rough Opening to determine cut length of frame components.

1.1 DETERMINE SQUARENESS. Check opening for squareness to Plumb at both ends. Frames must be installed in a true rectangle.

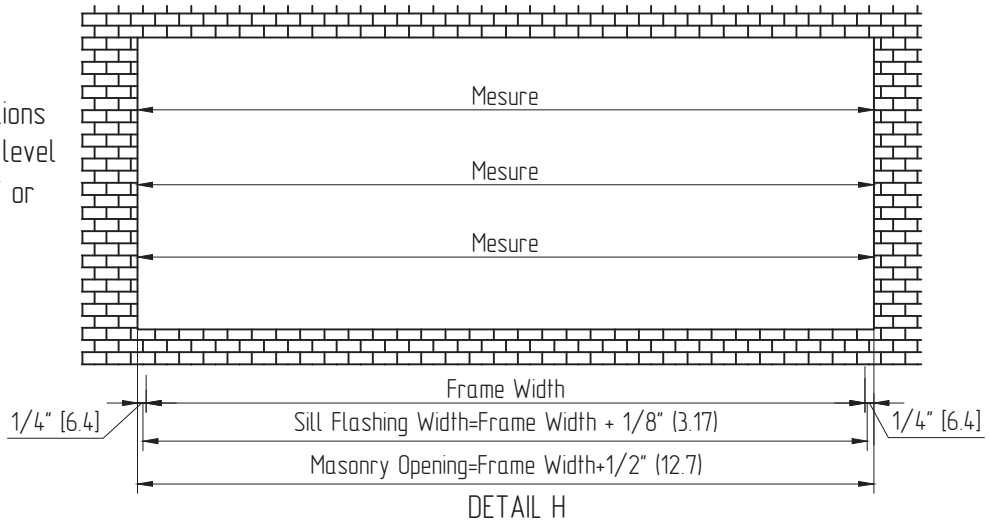
NOTE! Within any rectangular opening there should be no more than 1/8" difference between dimension "A" & "B"



DETAIL G

1.2 DETERMINE FRAME WIDTH. Measure the width of the masonry opening at top, middle and bottom. Select the smallest dimension measured and subtract 1/2" to determine frame width.

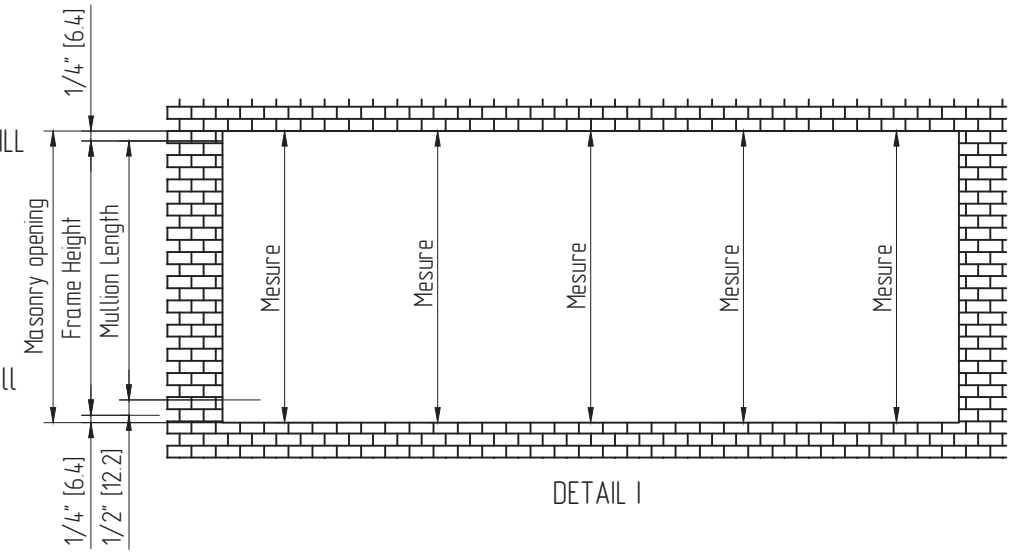
NOTE! Maximum variation of mullions from plumb or horizontals from level should not exceed 1/8" in 12'–0" or 1/4" in any single run.



DETAIL H

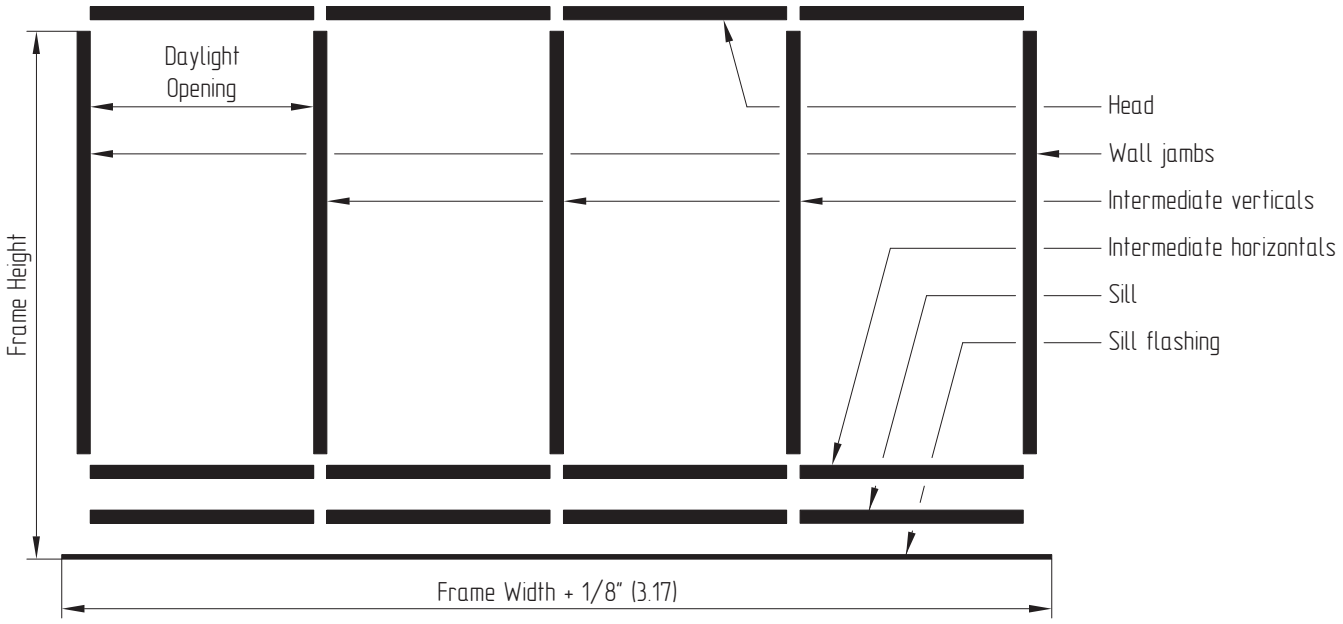
1.3 DETERMINE FRAME HEIGHT. Measure the height of masonry opening several times along the entire length of opening. Select the smallest dimension for the masonry opening height.

CONTINUOUS HEAD AND SILL
Subtract:
1/2" from the masonry opening height.
1/4" caulk joint at head above head.
1/4" caulk joint below sill receptor.



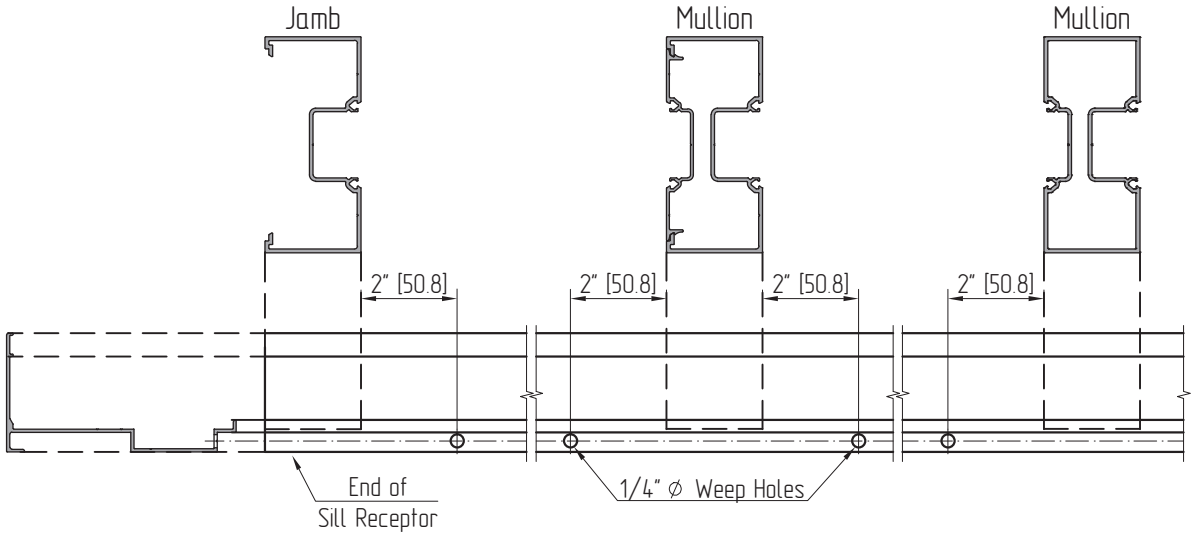
DETAIL I

2. Cut subsill to size: Overall Frame Width plus 1/8" (3.2). Subsill must extend 1/8" (3.2) exterior of last wall jamb to allow last panel installation. Subsill runs through. See DETAIL J



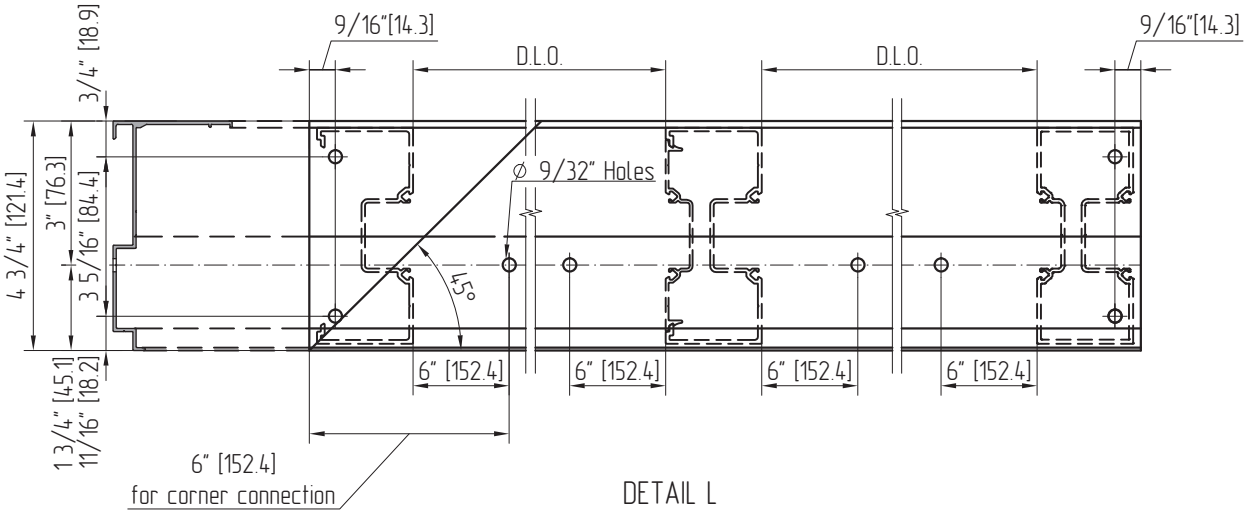
DETAIL J

2.1 Drill ∅ 1/4" in AYPC.SF.2401 for weep holes. Weep hole dimensions are located approximately 2" from edge of each vertical member. See DETAIL K.



DETAIL K

Drill ∅ 9/32" holes for anchoring AYPC.SF.2401 to substrate.
Anchoring hole dimensions are located approximately 6" [152.4] each side of vertical mullion. See DETAIL L.

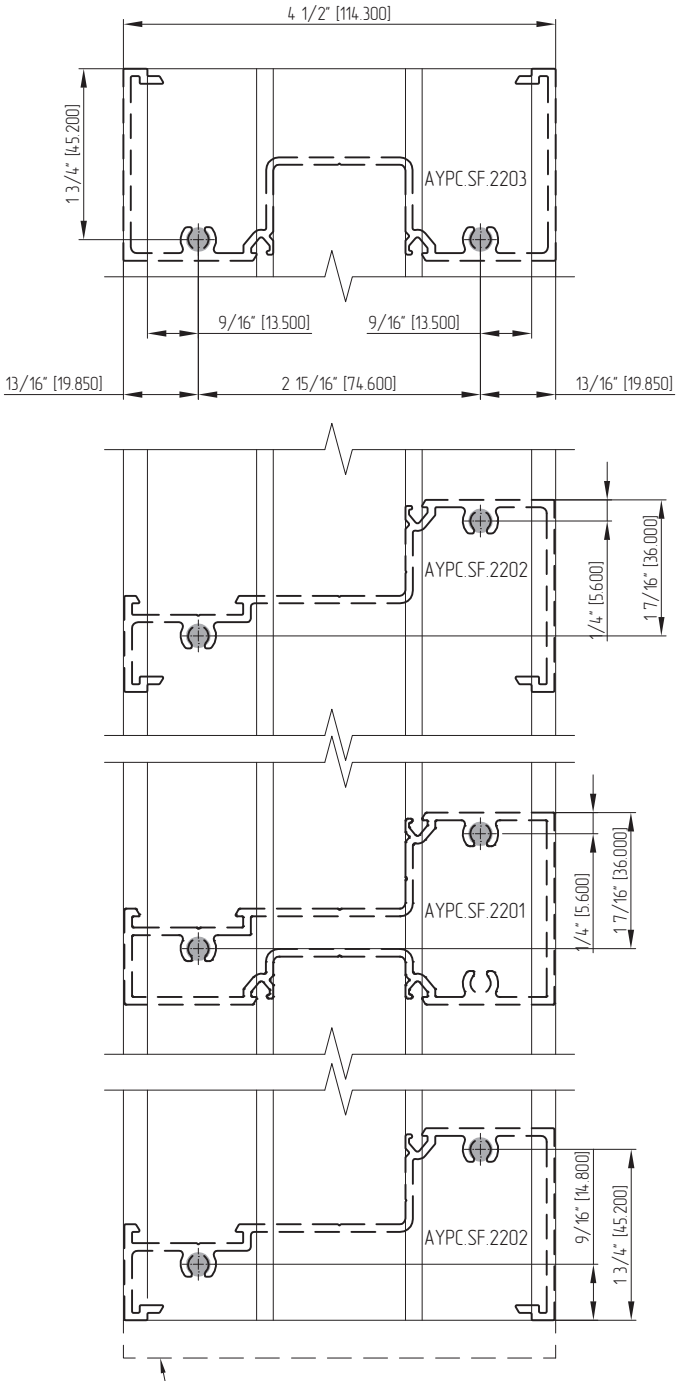


DETAIL L

NOTE:
The anchor holes shown above are for illustration only.

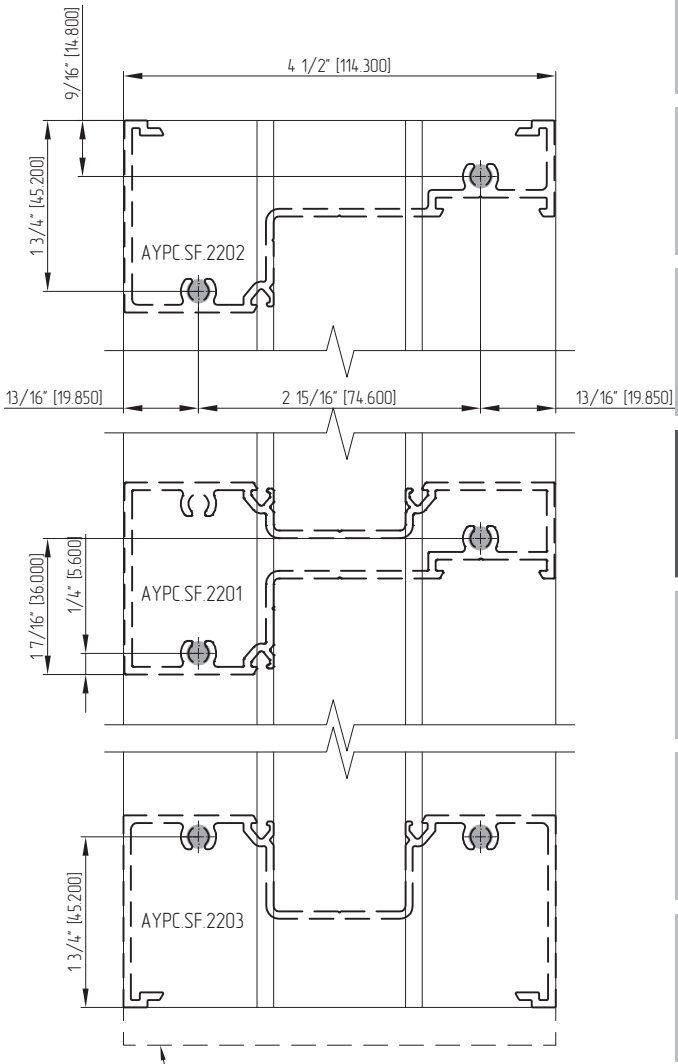
3. If the assembly method using screws (See DETAIL E)
Cut verticals to size: Overall Frame Height minus 1/2" (12.2). Verticals run through. See DETAIL M, N.
Drill 0.257 holes (letter "f" drill) in vertical members for screw 1/4-14 1" HWS-F MS

Exterior glazing. Screw race application



DETAIL M

Interior glazing. Screw race application

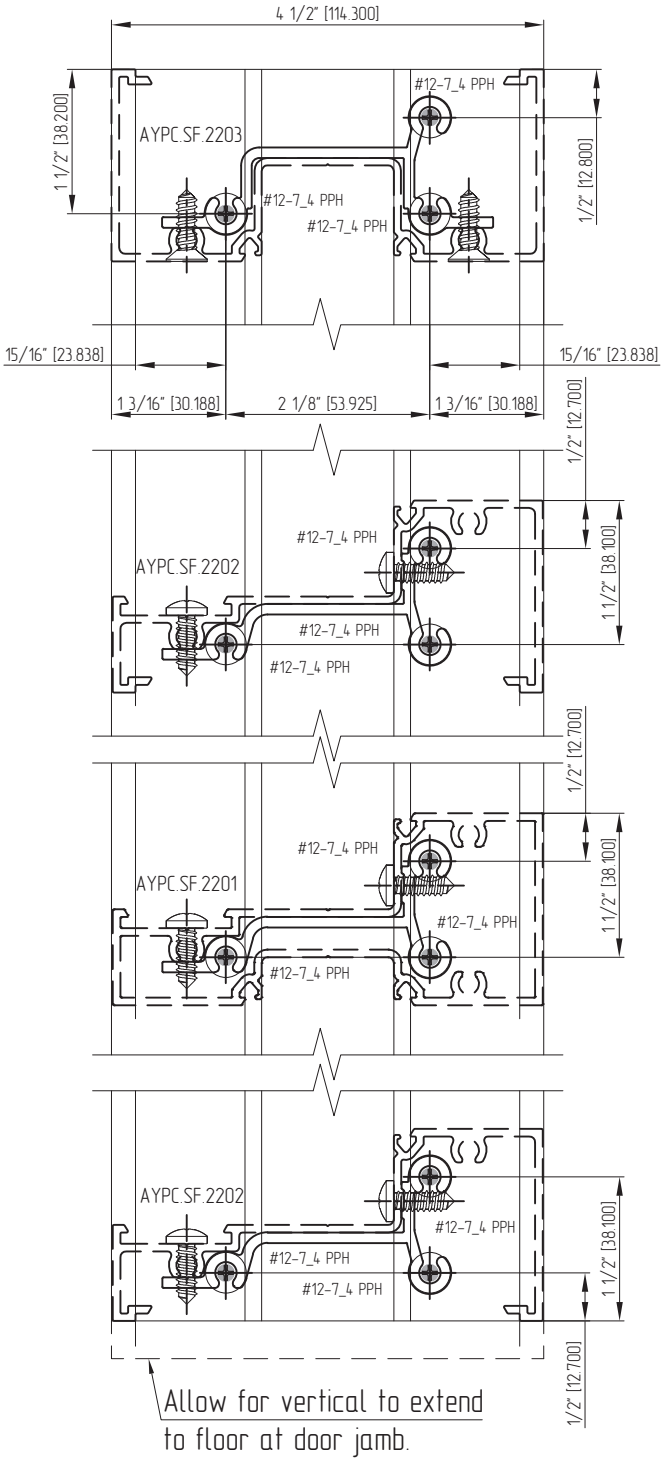


DETAIL N

3.1. Cut horizontals to size: Daylight Opening. Horizontals run between verticals.
3.2. Apply silicone to edge of all horizontal members and assemble panels using screws provided. See DETAIL T.
Never allow two shallow pockets to face each other. Tool excess silicone.

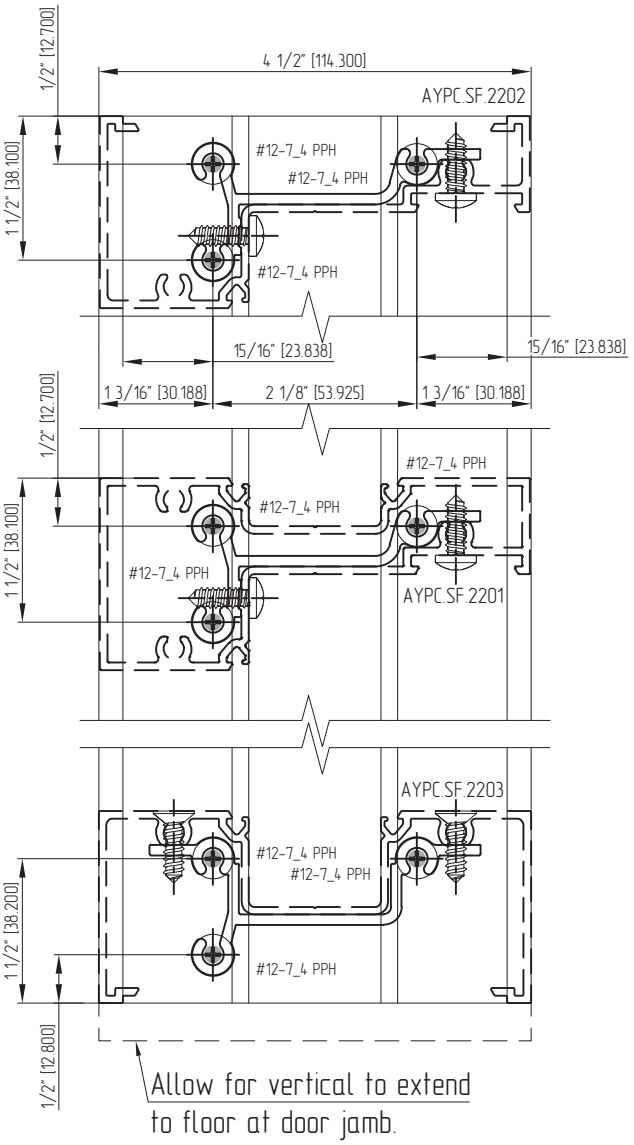
4. If the assembly method using anchor Clips (See DETAIL F)
Cut verticals to size: Overall Frame Height minus 1/2" (12.2). Verticals run through. See DETAIL O, P.
Drill 0.189 holes in vertical members for screw #12-7_4 PPH

Exterior glazing.



DETAIL O

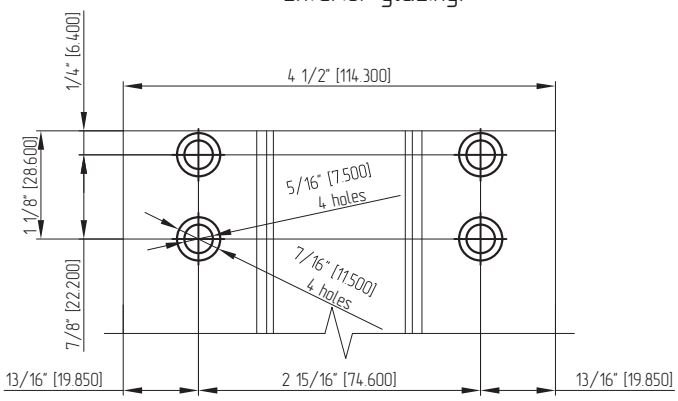
Interior glazing.

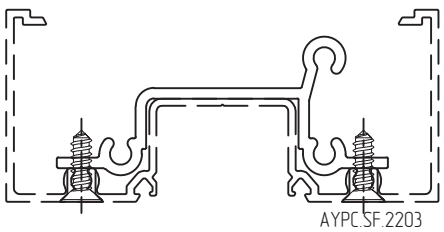


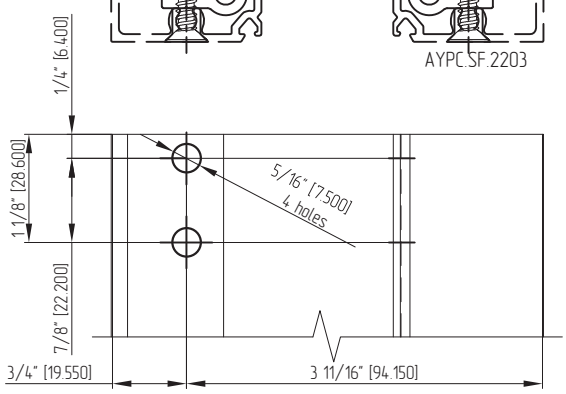
DETAIL P

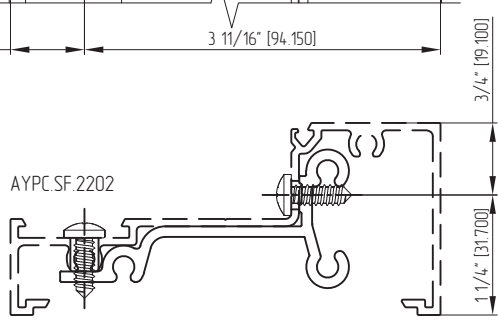
4.1 Cut horizontal to size: Daylight Opening. Horizontals run between verticals. See DETAIL S.
Drill and countersink for 0.295 (letter "f" drill) holes in AYPC.SF.2203 for screw #12-5_8 PFH
Drill for 0.295 (letter "M" drill) holes in AYPC.SF.2201, AYPC.SF.2202 for screw #12-5_8 PPH. See DETAIL Q, R.

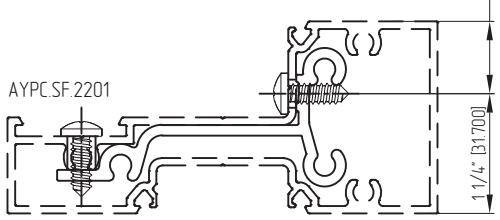
Exterior glazing.





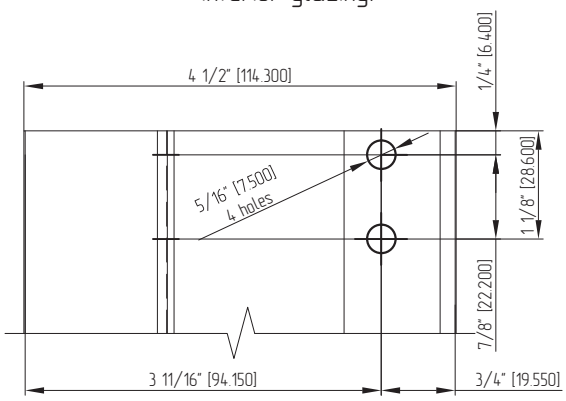


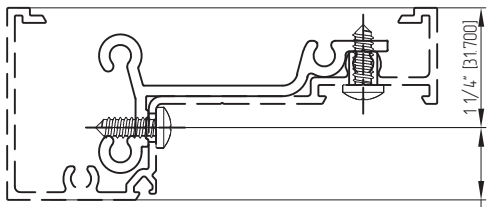


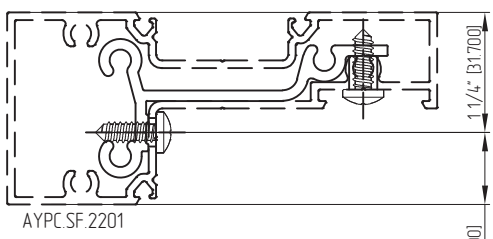


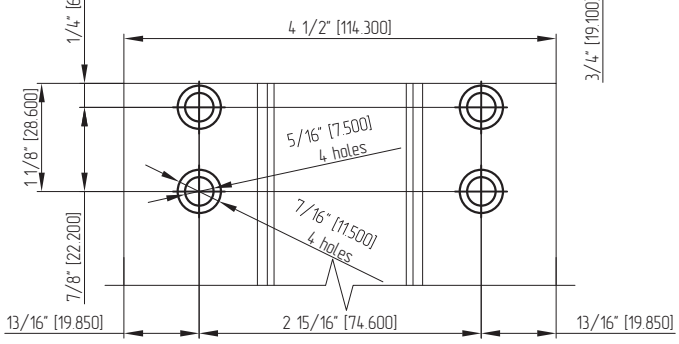
DETAIL Q

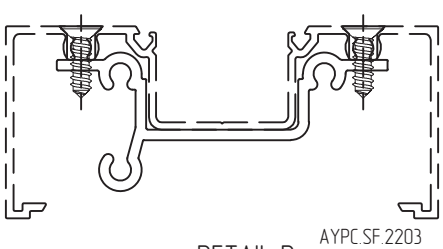
Interior glazing.







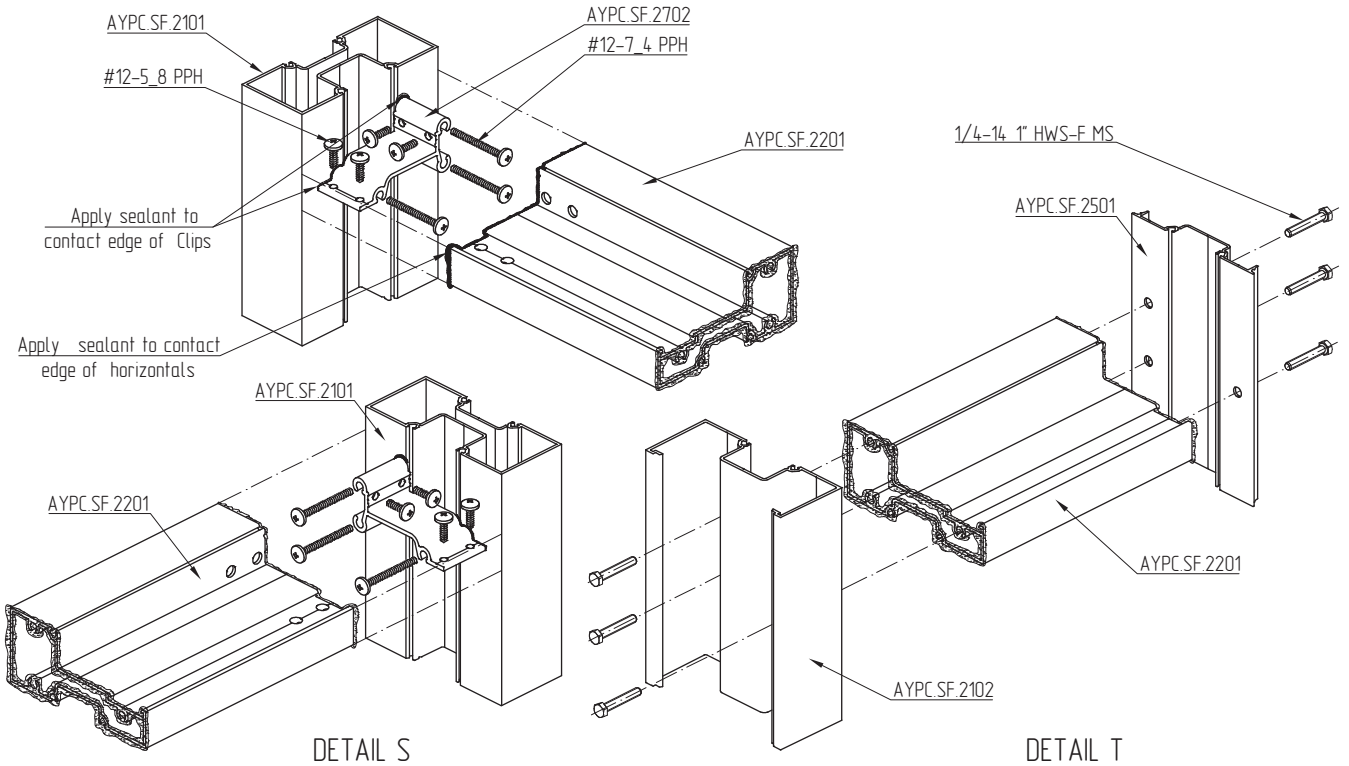




DETAIL R

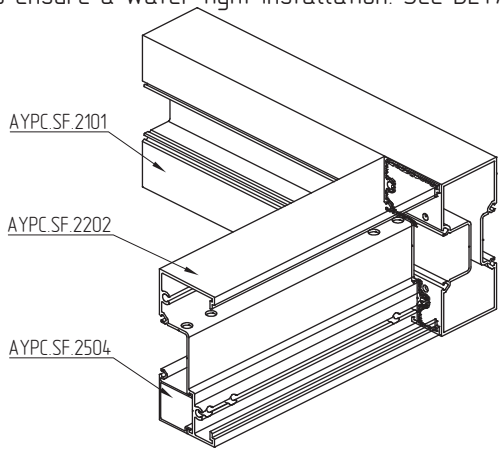
4.2 Apply silicone to edge of all horizontal members and assemble panels using anchor Clips. See DETAIL S. Never allow two shallow pockets to face each other. Tool excess silicone.

5. Apply silicone to edge of all horizontal members and assemble panels using screws provided or anchor Clips. See DETAIL S, DETAIL T. Never allow two shallow pockets to face each other. Tool excess silicone.

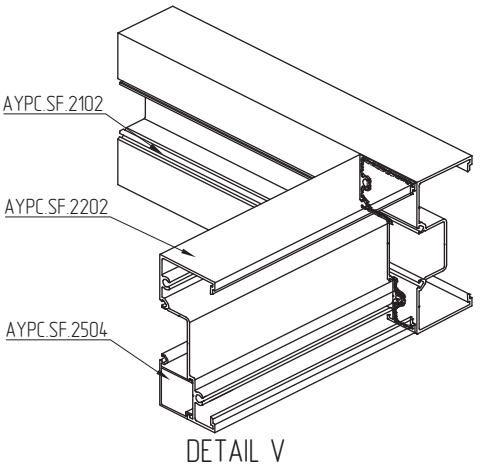


DETAIL S DETAIL T

6. After panels are assembled, apply and tool bead of silicone to joint between verticals and sill members from underside, to ensure a water tight installation. See DETAIL U, DETAIL V.

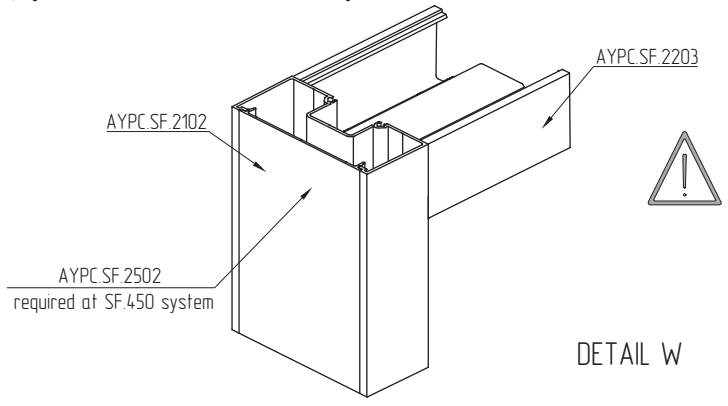


DETAIL U



DETAIL V

7. Apply jamb filler to back of wall jamb. See DETAIL W.

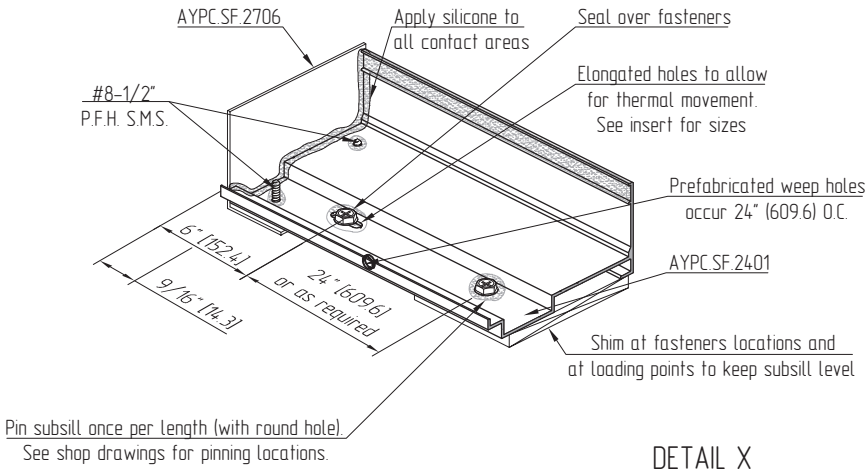


DETAIL W

If used at SF.450 cut 6" (152.4) long. Place at centers of jamb anchors.

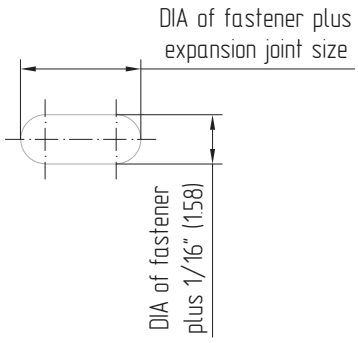
When Entrances occur install Entrance Frames first. See Entrance Doors and Frame Installation Instructions.

8. Set subsill into place, shimmed as required for leveling, and anchor to structure. Locate fasteners 6" (152.4) each side of vertical and 24" (609.6) O.C. or as required. Holes for fasteners should be elongated laterally to allow for thermal movement. Pin subsill to structure at one point only per cut length.
Note: See shop drawings for proper location of pinned connections. Subsill should be shimmed at fastener locations, underneath verticals and at setting block locations. Seal all joints and over heads of fasteners. See DETAIL X

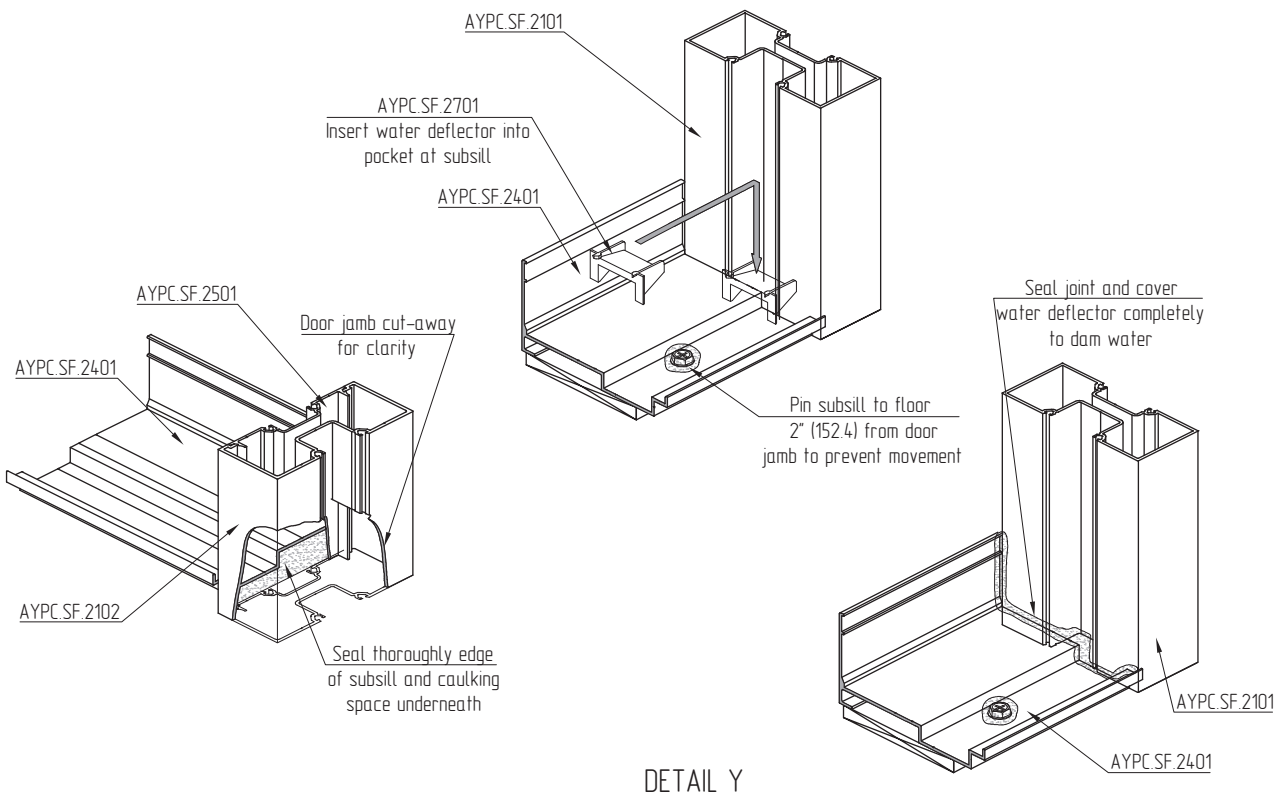


DETAIL X

ELONGATED HOLE SIZE FORMULA

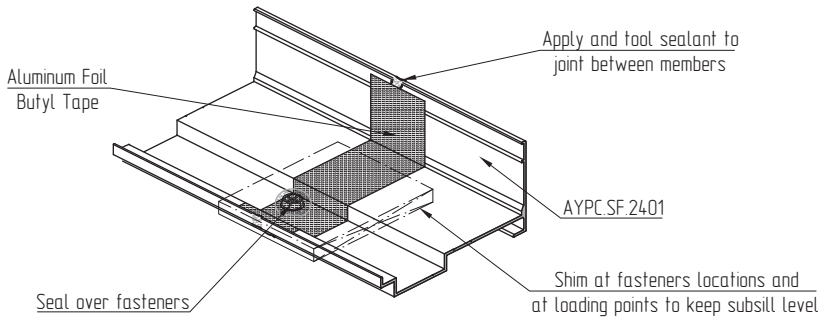


Subsill butts against door jambs, where they occur.
NOTE: End of subsill that butts against door jamb cannot be dammed. Special care should be taken to control water infiltration at this point. See DETAIL Y. Infiltrated water from upper lights must be kept out of jambs.



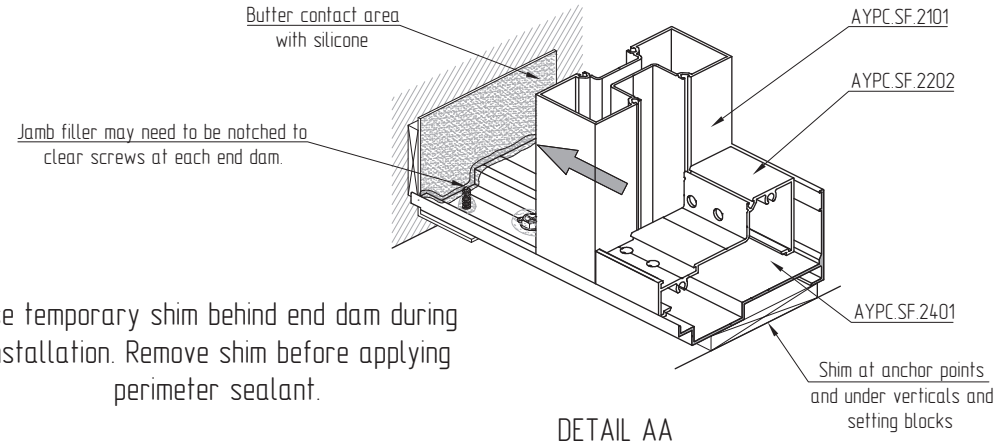
DETAIL Y

9. Splice as required. Splices should be located every 12–15 feet (3.66–4.57m) with a 1/2" expansion joint. See DETAIL Z.



DETAIL Z

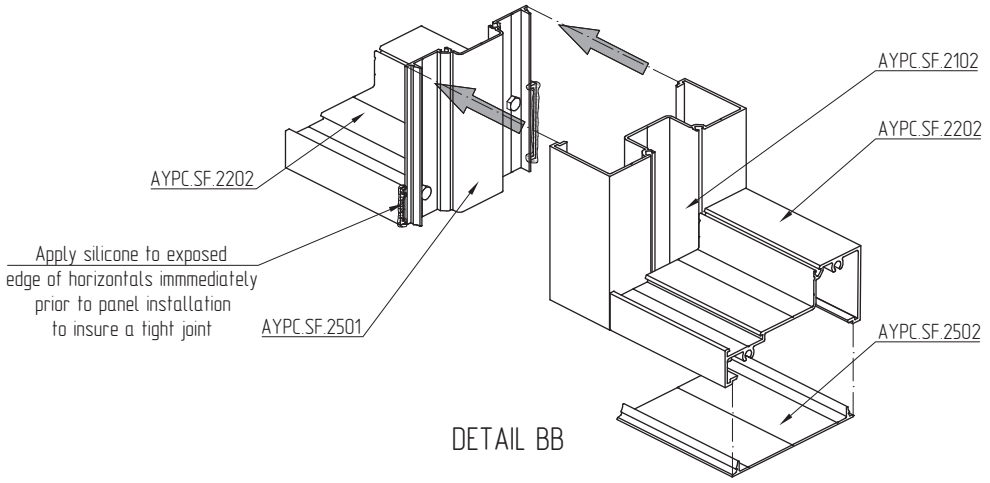
10. If there are no entrances, start frame installation at wall jamb unit. Apply silicone to end dam contact areas. See DETAIL AA.
Set first panel interior subsill and into place.
NOTE: Temporarily shim behind end dam to push it tight against wall jamb. See DETAIL AA
Panel must be pushed against subsill upturned back wall. Plumb and shim unit and fasten it to structure. Locate header fasteners 6" (152.4) each side of verticals and no more than 24" (609.6) O.C. Secure wall jamb through glass pocket as required to limit deflection. Always shim at anchor points.



Use temporary shim behind end dam during installation. Remove shim before applying perimeter sealant.

DETAIL AA

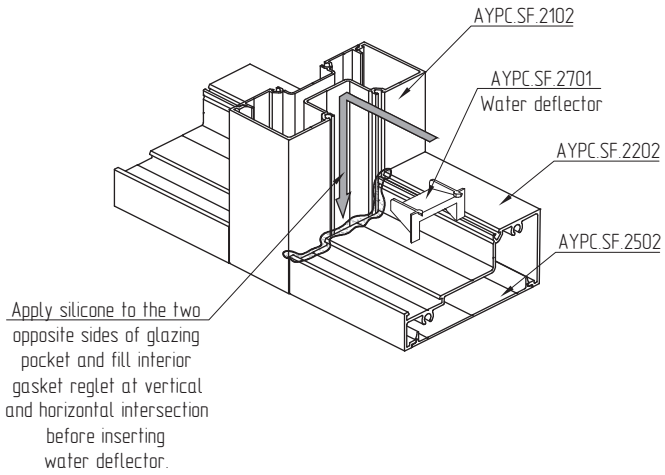
11. Install remainder of panels, one by one, snapping them together. See DETAIL BB.
NOTE: The last two panels may required to be installed together as a unit to fit into opening. See Detail A.



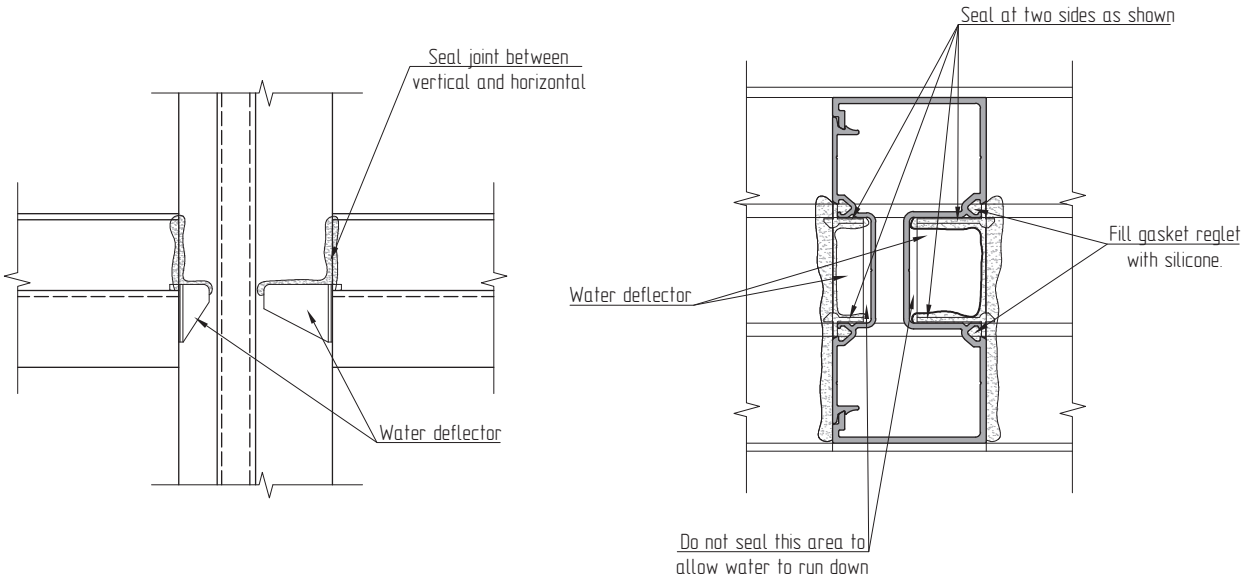
DETAIL BB

12. Apply silicone to vertical glazing pocket and gasket reglet at vertical/horizontal intersection. Silicone must be applied to two opposite sides of pocket only clearance at inner wall will allow infiltrated water to run down to subsill. Insert water deflector into glazing pocket and slide it down to position. Top of deflector must be flush with horizontal glazing pocket. See DETAIL CC and DETAIL DD.

NOTE: Water deflectors at door jamb must be sealed all around to prevent water from running to floor (water will drain to other end).



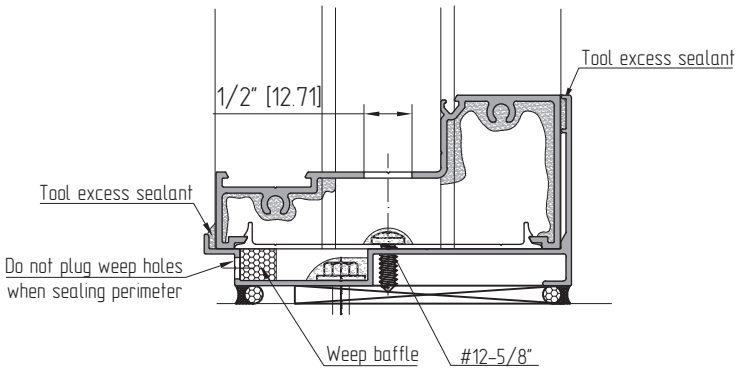
DETAIL CC



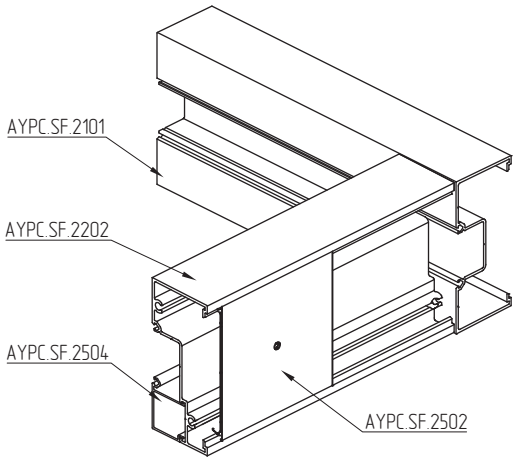
DETAIL DD

13. Seal joints between panels and subsill at both interior and exterior. See DETAIL EE, FF, GG.

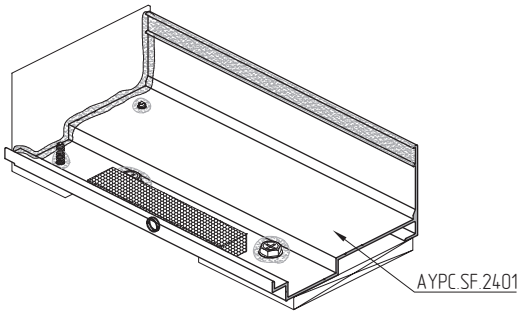
Push panels tightly against back of subsill prior to anchoring.



DETAIL EE



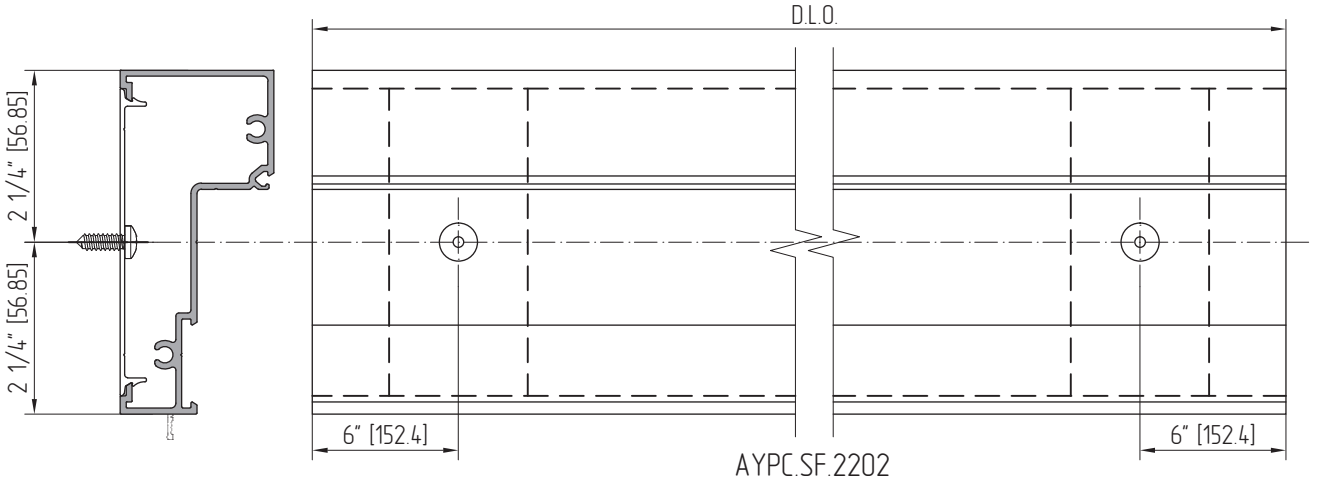
DETAIL FF



DETAIL GG

14. When interior glazing a multistory building exterior perimeter sealing must be done before glazing, unless perimeter seal is to be applied from the exterior, as a secondary operation.

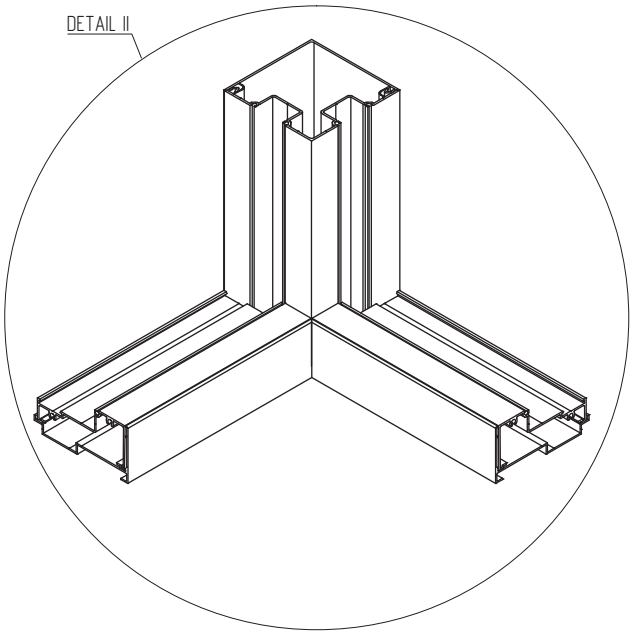
15. Cut sill members to length as determined in DETAIL J.
Drill holes for attachment to subsill. See DETAIL HH.

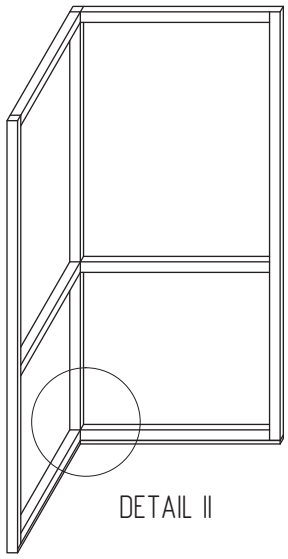


AYPC.SF.2202

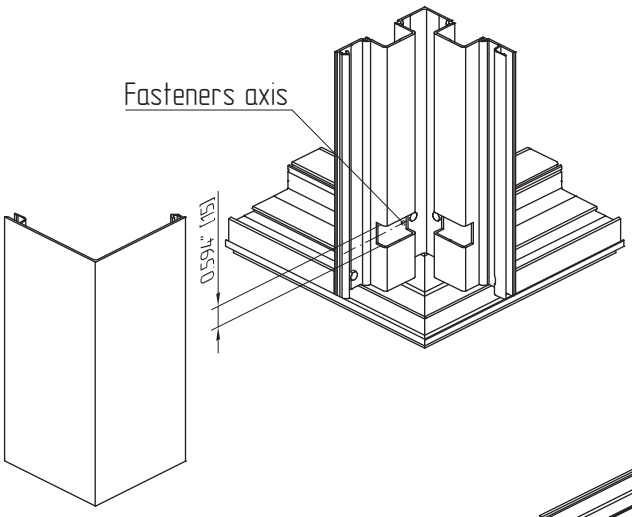
DETAIL HH

16. Corner conditions. See DETAIL II
Two-piece 90° corner posts may be assembled to horizontals using screw race or anchor clip attachment. See DETAIL JJ, DETAIL KK.

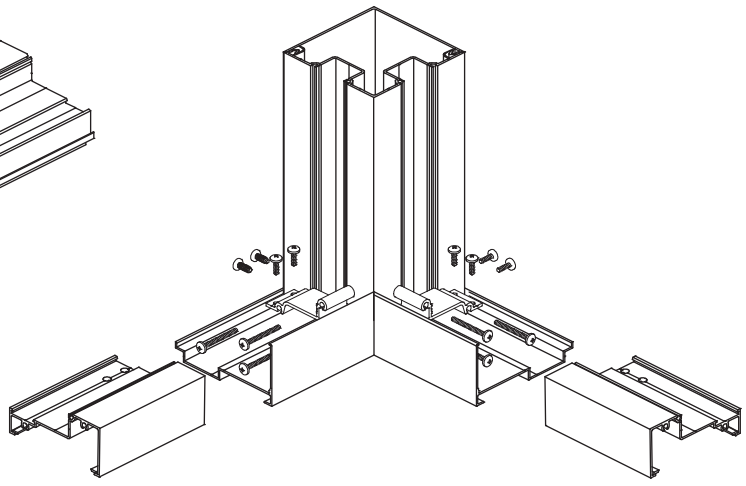




DETAIL II



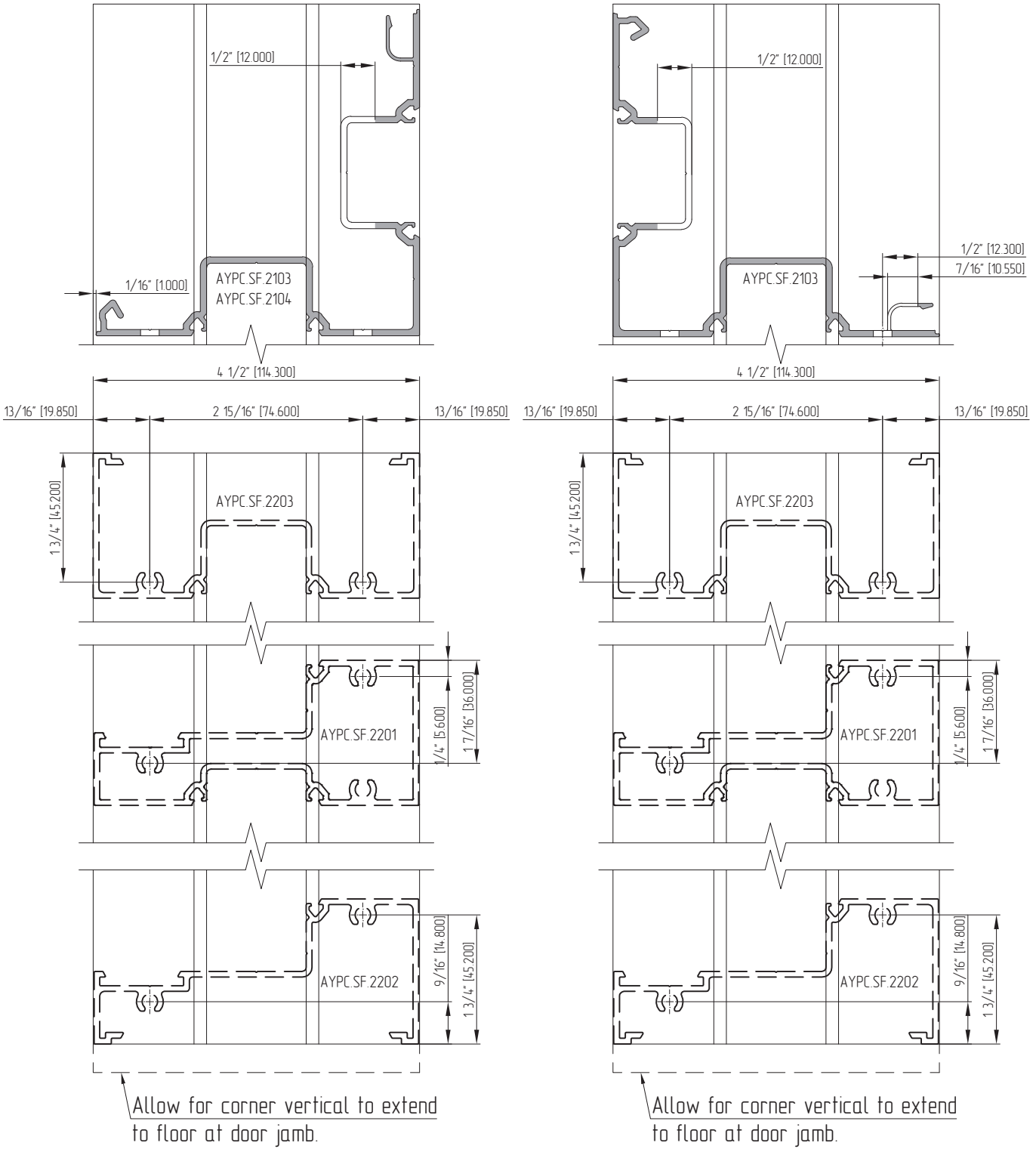
DETAIL JJ



DETAIL KK

17. If the assembly method using screws (See DETAIL JJ)
Cut corner verticals to size: Overall Frame Height minus 1/2" (12.2). Corner verticals run through. See DETAIL LL, MM.
Drill 0.257 holes (letter "f" drill) in vertical corner members for screw 1/4-14 1" HWS-F MS

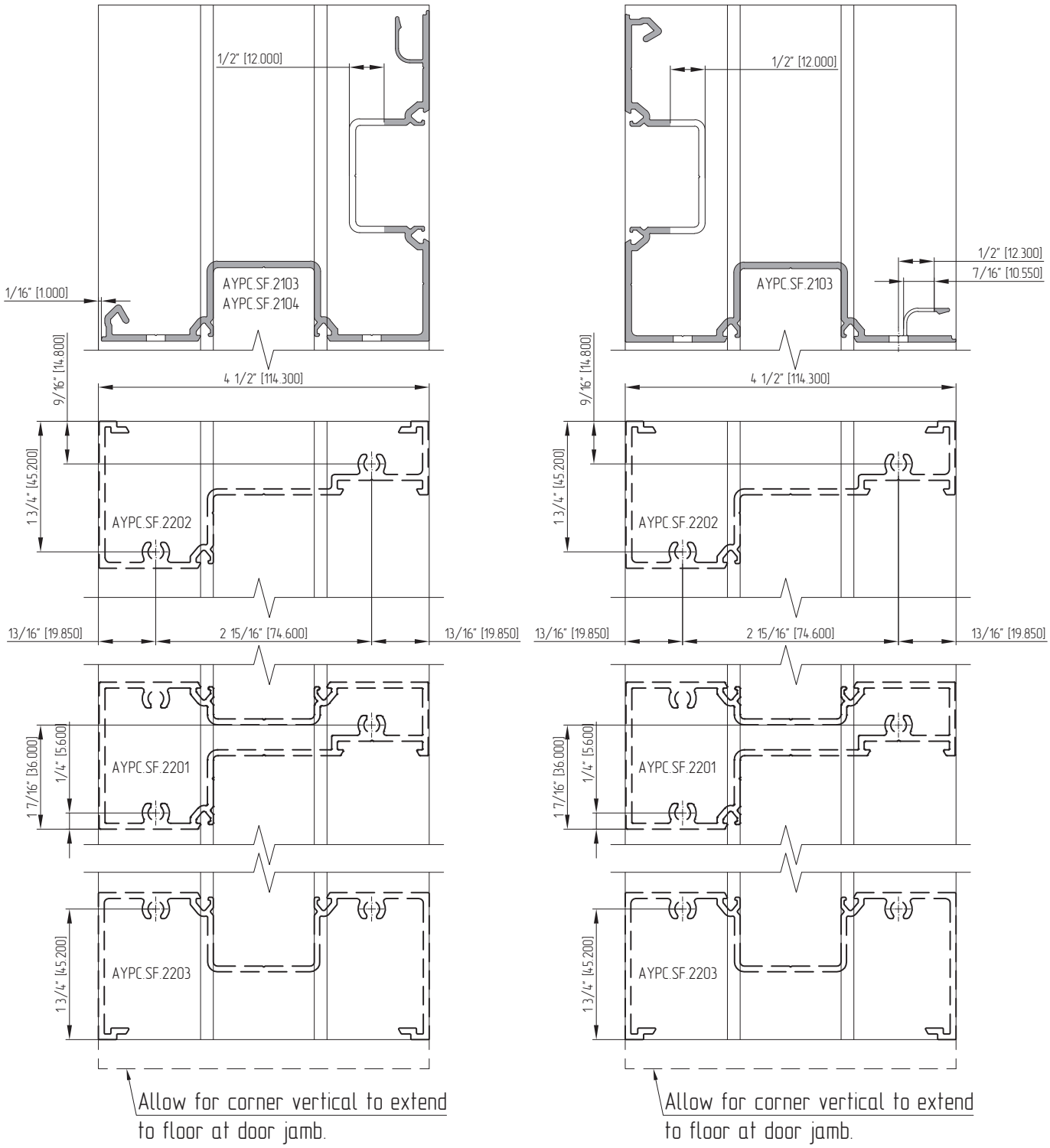
Exterior glazing. Screw race application



DETAIL LL

17.1. Cut horizontals to size: Daylight Opening. Horizontals run between verticals.
17.2. Apply silicone to edge of all horizontal members and assemble panels using screws provided. See DETAIL RR, SS. Never allow two shallow pockets to face each other. Tool excess silicone.

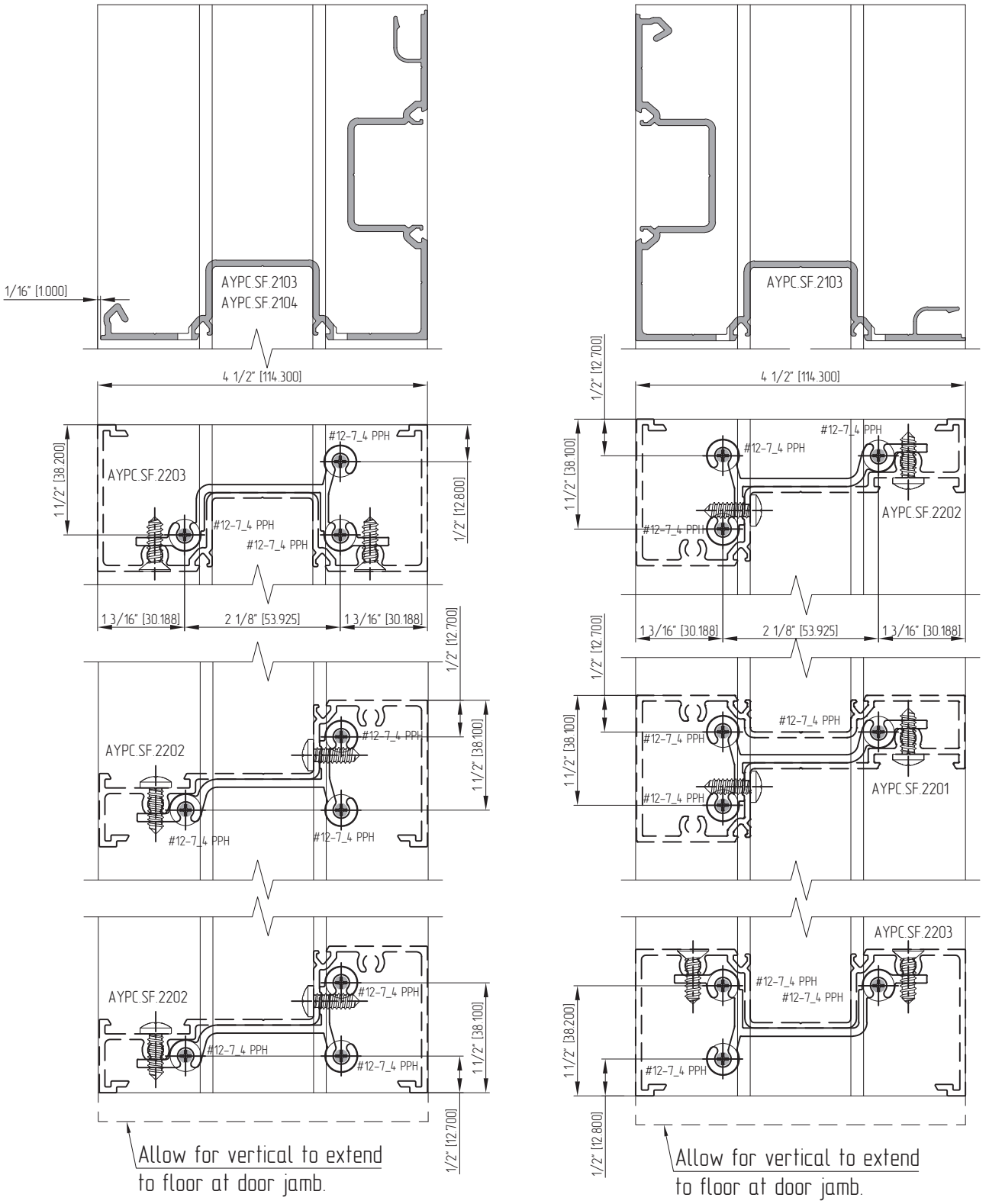
Interior glazing. Screw race application



DETAIL MM

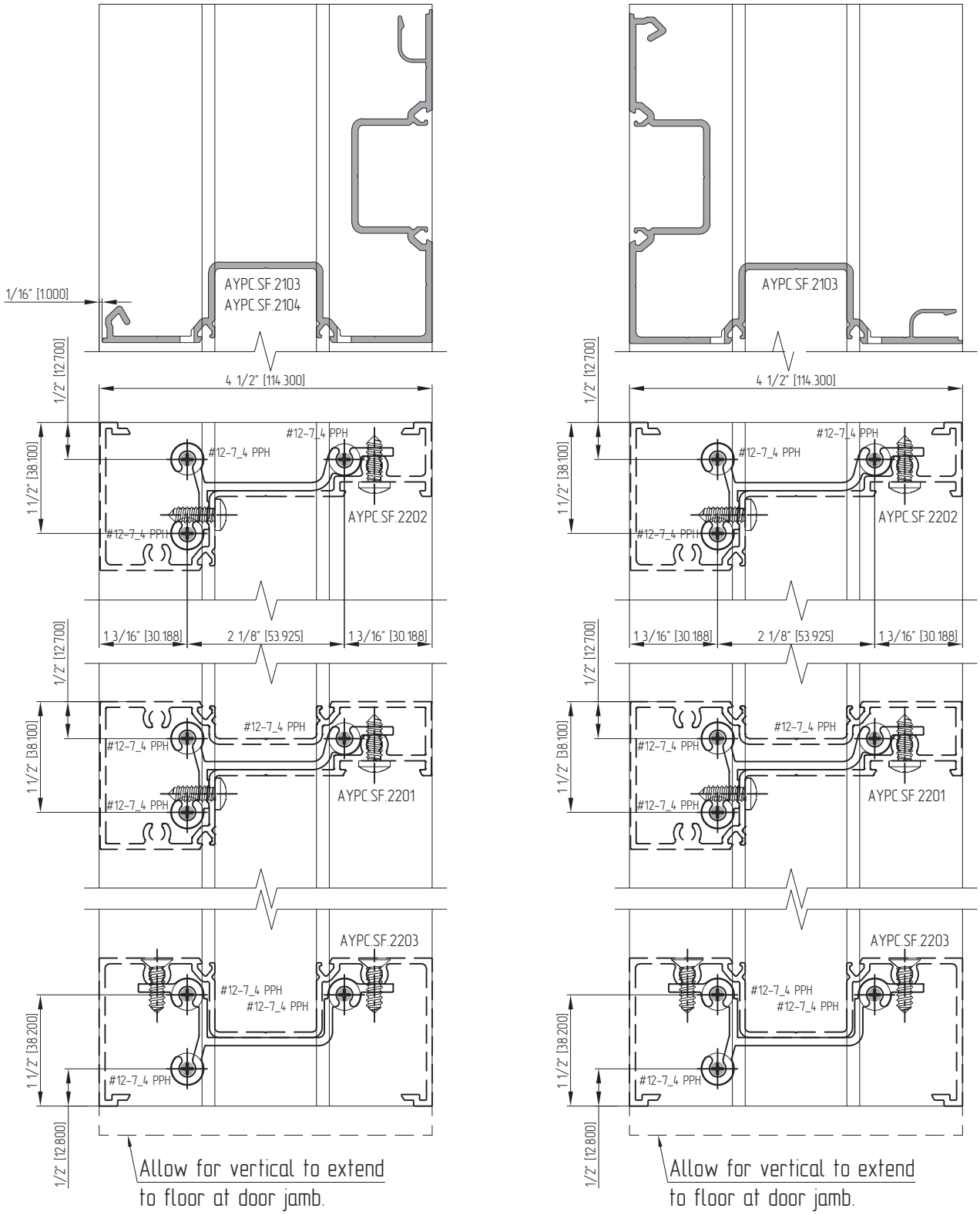
18. If the assembly method using anchor Clips (See DETAIL KK)
Cut verticals to size: Overall Frame Height minus 1/2" (12.2). Verticals run through. See DETAIL NN, OO.
Drill 0.189 holes in vertical members for screw #12-7_4 PPH

Exterior glazing.



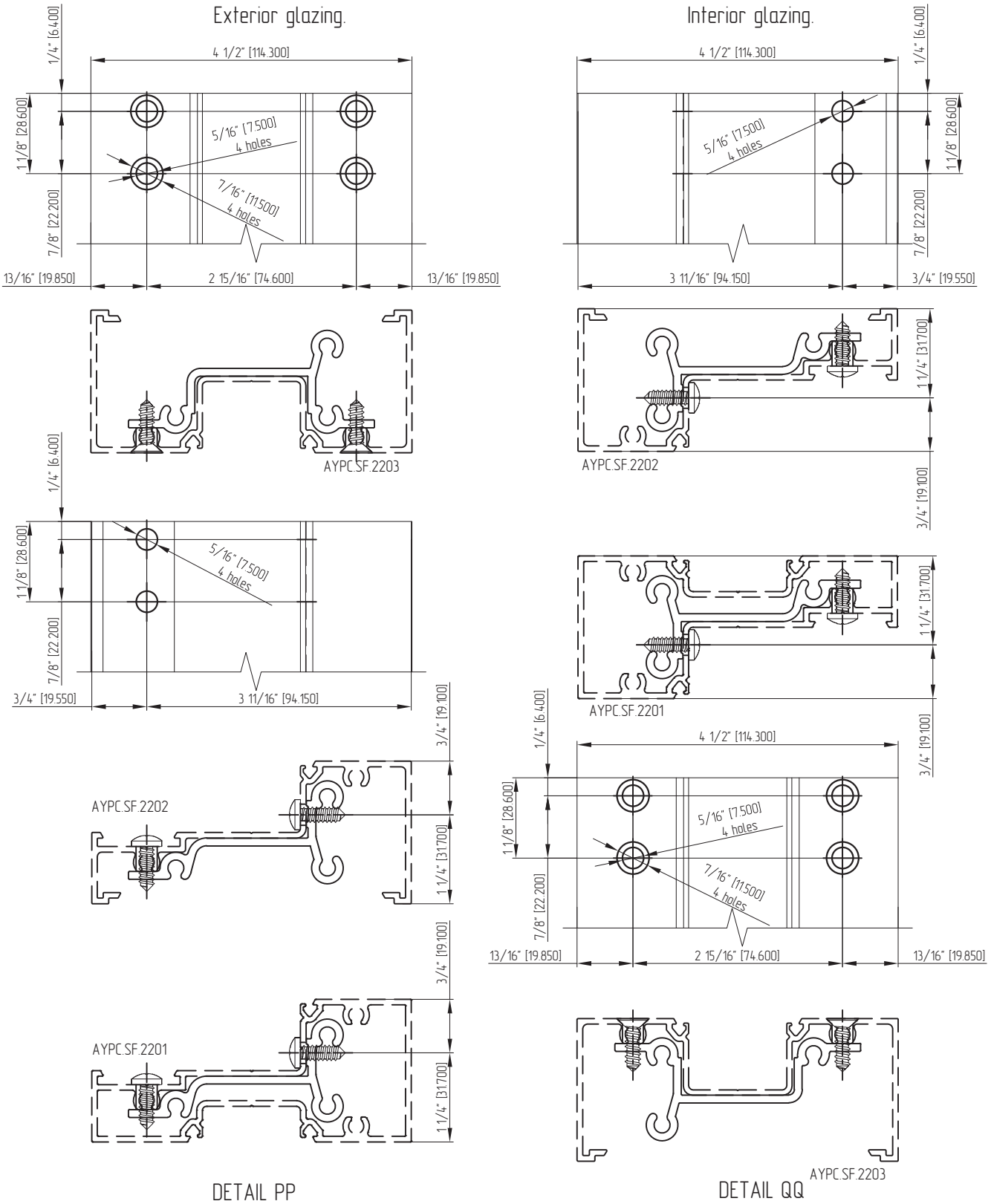
DETAIL NN

Interior glazing.



DETAIL 00

18.1 Cut horizontal to size: Daylight Opening. Horizontals run between verticals. See DETAIL RR, SS.
Drill and countersink for 0.295 holes in AYPC.SF.2203 for screw #12-5_8 PFH
Drill for 0.295 holes in AYPC.SF.2201, AYPC.SF.2202 for screw #12-5_8 PPH. See DETAIL PP, QQ.

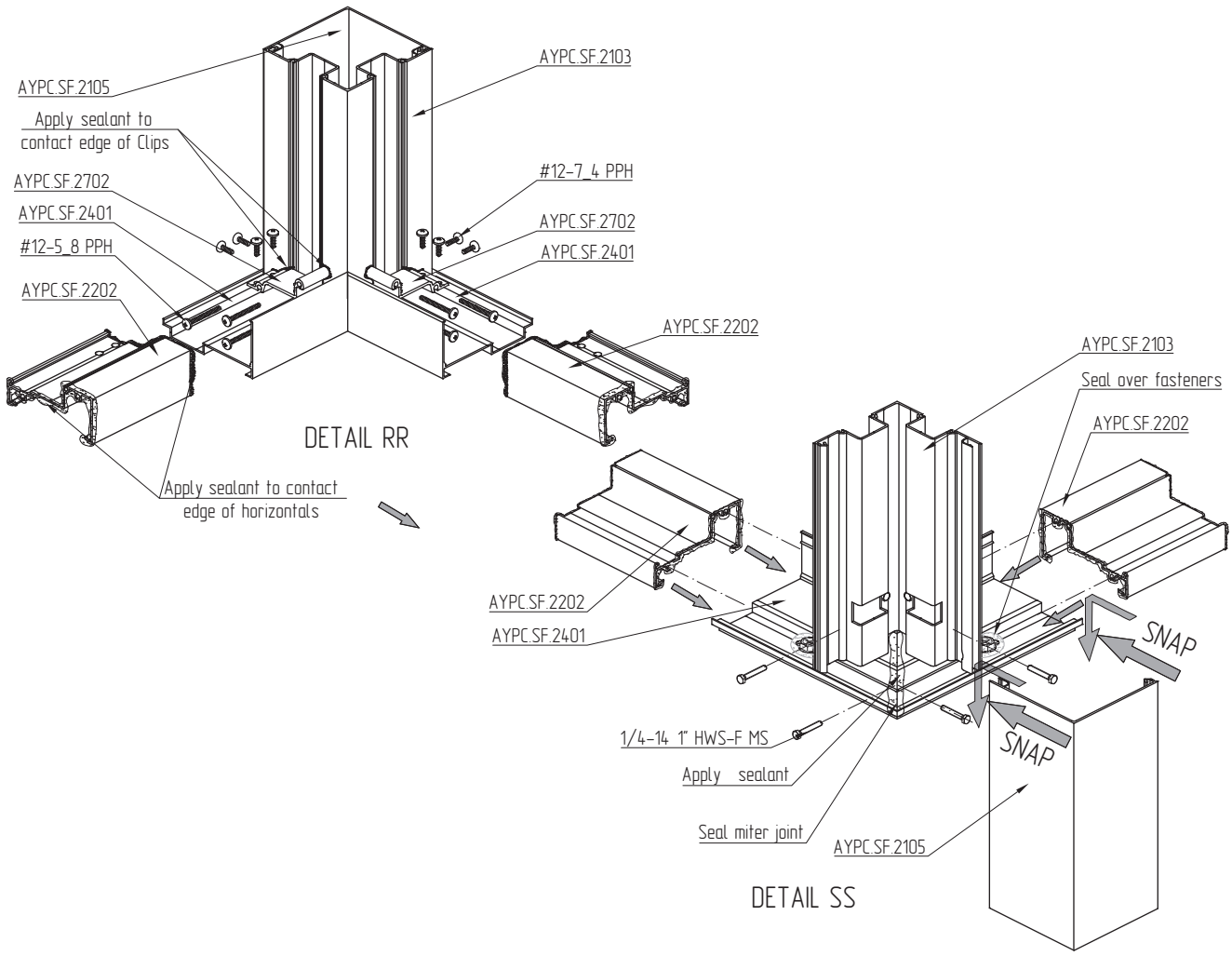


DETAIL PP

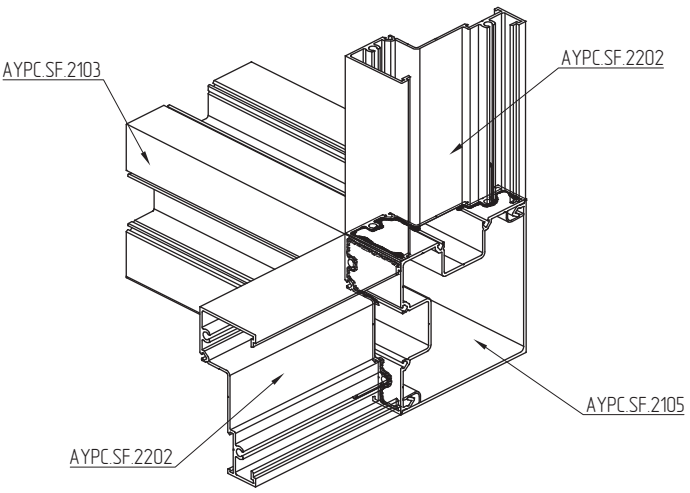
DETAIL QQ

18.2 Apply silicone to edge of all horizontal members and assemble panels using anchor Clips. See DETAIL QQ, RR.
Never allow two shallow pockets to face each other. Tool excess silicone.

19. Apply silicone to edge of all horizontal members and assemble panels using screws provided or anchor Clips. See DETAIL RR, DETAIL SS. Never allow two shallow pockets to face each other. Tool excess silicone.

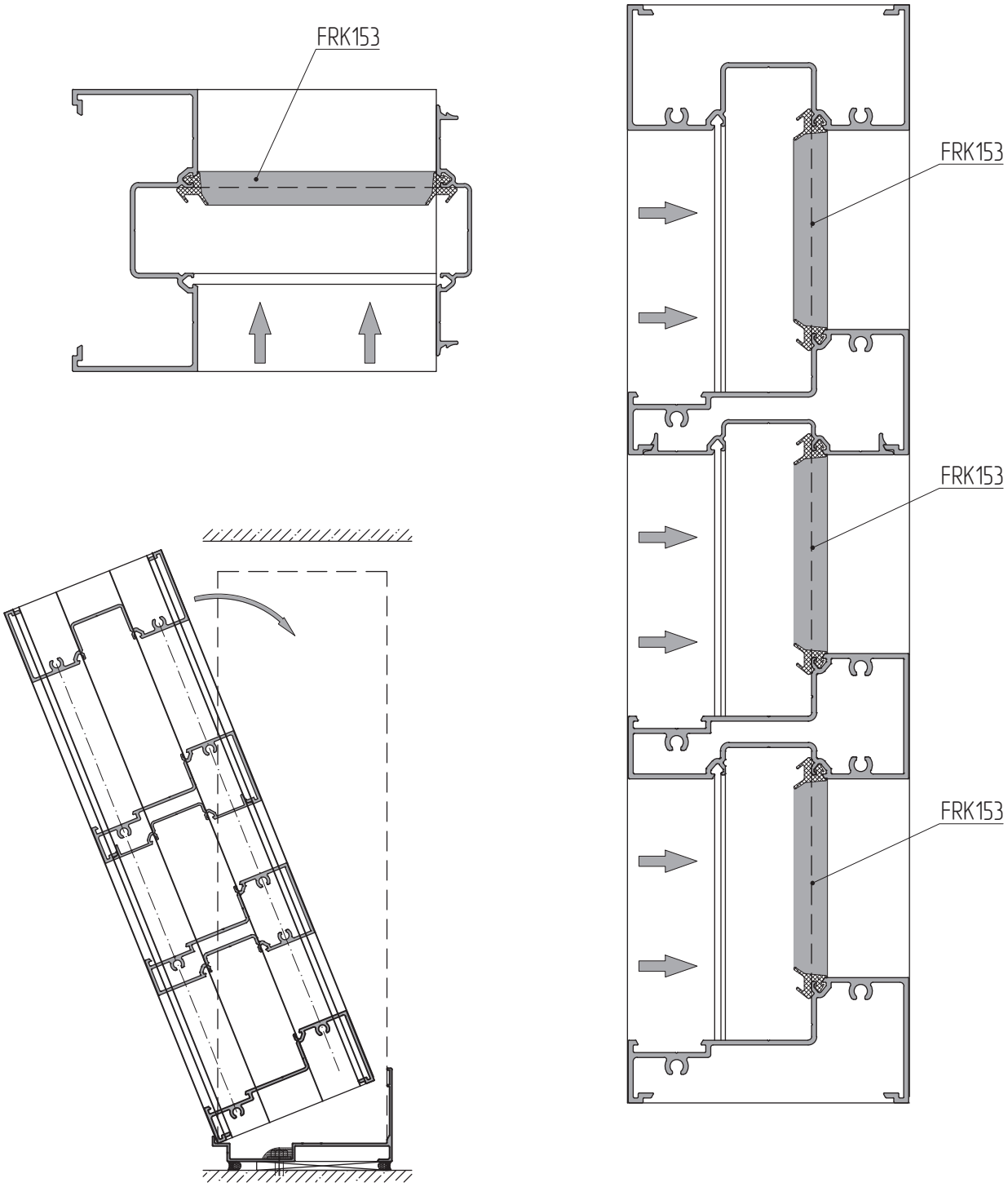


20. After panels are assembled, apply and tool bead of silicone to joint between verticals and sill members from underside, to ensure a water tight installation. See DETAIL TT, DETAIL UU.



DETAIL TT

21. Install gaskets into assembled frames as shown in DETAIL VV.



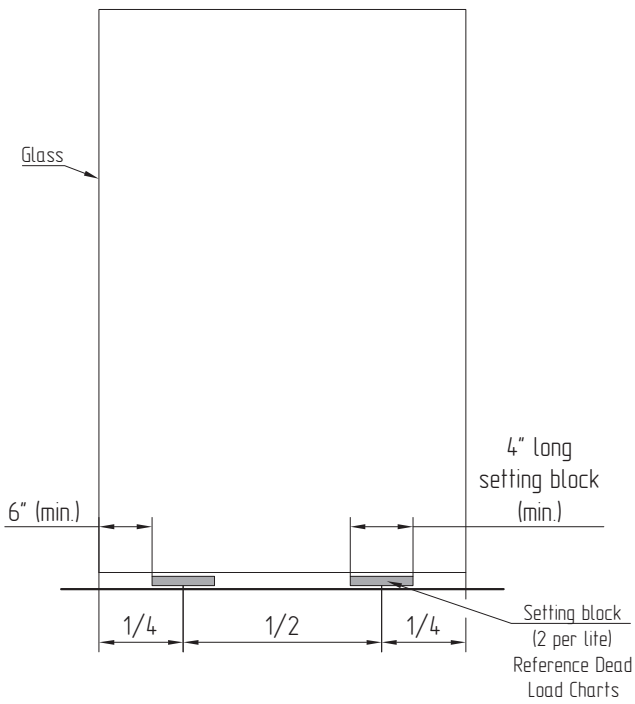
DETAIL VV

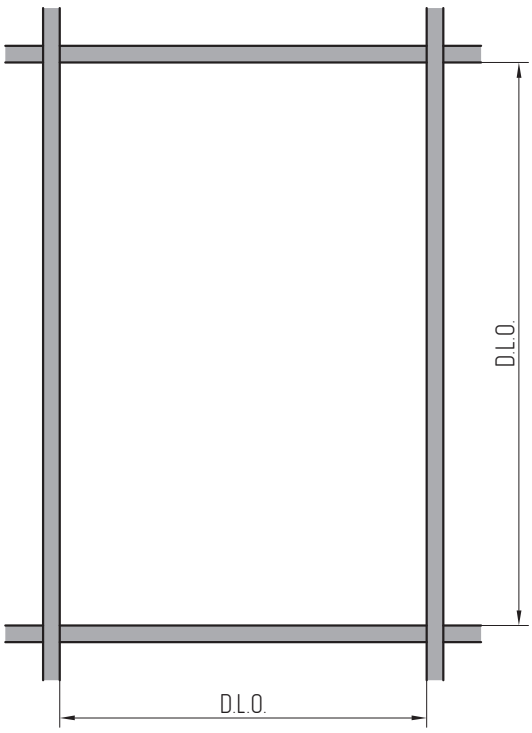
REMOVE ALL TRASH FROM GLAZING POCKETS AND REGLETS

22. Set glass on setting blocks positioned at 1/4 points in opening. Reference "Dead Load Charts" for location of setting blocks at horizontal. Setting blocks should not be placed closer than 6" from the edge of glass for typical conditions.

GLASS SIZE = DAYLIGHT OPENING (D.L.O.) + 7/8"

Note: This formula does not allow for undersized or out of square daylight openings. The glass manufacturer must indicate the specific glazing requirements for the material being used.





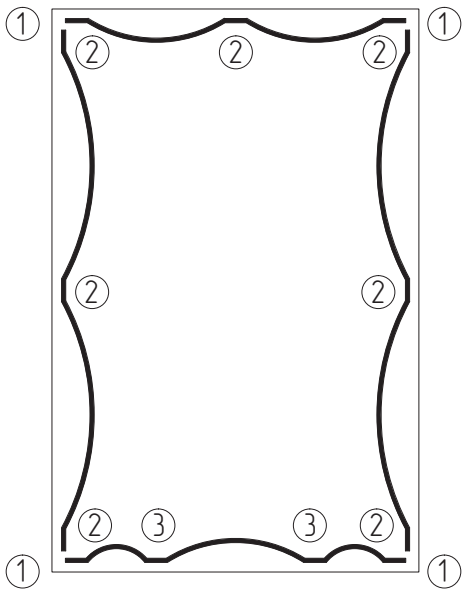
DETAIL WW

Cut horizontal and vertical gaskets D.L.O. + 1/8" per foot of D.L.O. to allow for shrinkage. (see DETAIL XX).

① Vertical gaskets run between horizontal gaskets

② Start head and jamb gaskets at center of opening and corners.

③ Start sill gasket at setting block location and corners.



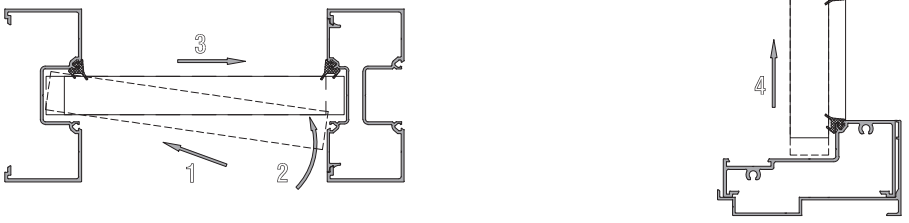
DETAIL XX

GLAZING

23. Glass Sizes *:

SF.450 for 1" (25) glass: Daylight Opening + 7/8" (22.2)

*These formulae do not account for glass tolerances. Consult glass manufacturer before ordering glass. See Door Frame instructions for glass size at transom.



DETAIL YY

24. EXTERIOR GLAZING

24.1 Cut glazing gaskets to size. Gaskets should be 1/8" longer per foot of aluminum member to allow for shrinkage.

Same gaskets are used at interior and exterior.

24.2 Install interior gasket. Vertical gasket runs through. Start at corners and work towards center. Tight-butt joined corners are critical to avoid leakage. Seal ends of horizontal gaskets prior to abutting to vertical gaskets.

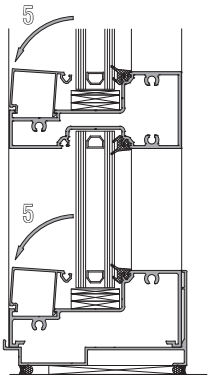
24.3 Set glass in place following the four step procedure. See DETAIL YY. Be careful not to disturb interior gasket while installing glass. Center glass in the opening.

24.4 Locate setting blocks in horizontal/sill member. Check deadload charts and shop drawings for correct setting block locations.

Rest glass on setting blocks pressed against installed gaskets.

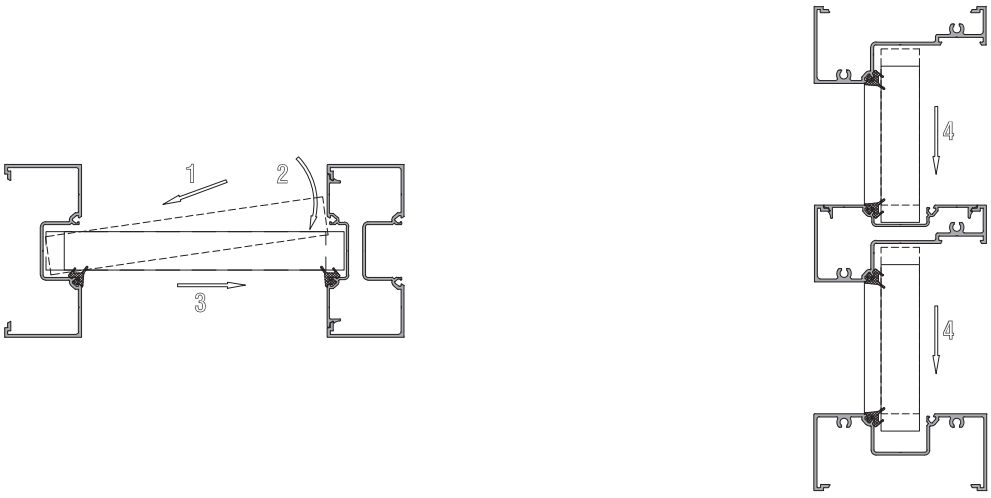
24.5 Snap-in glazing beads. See DETAIL ZZ.

24.6 To prevent glass from shifting in the opening one "W" side block should be installed into deep glass pocket of the vertical at center point or as recommended by glass manufacturer. See DETAIL CCC.



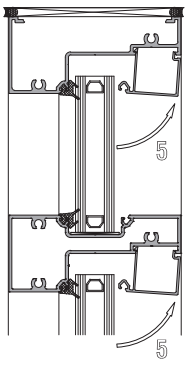
DETAIL ZZ

25. INTERIOR GLAZING



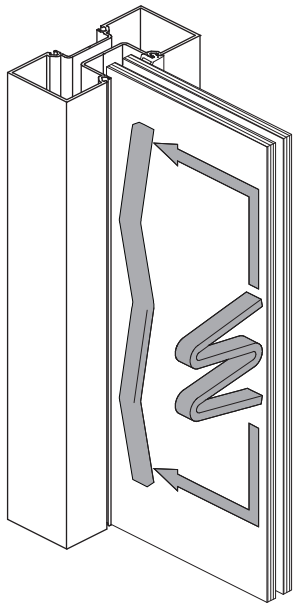
DETAIL AAA

26.1 Cut glazing gaskets to size. Gaskets should be 1/8" longer per foot of aluminum member to allow for shrinkage.
Same gaskets are used at interior and exterior.
26.2 Insert setting blocks, two per glass light, into horizontal and sill members. Check deadload charts and shop drawings for correct setting block locations.
26.3 Install exterior gaskets. Vertical gaskets run through. Start at corners and work towards center. Tight butt joined corners are critical to avoid leakage. Seal ends of horizontal gaskets prior to abutting to vertical gaskets.
26.4 Set glass in place following the four step procedure. See DETAIL AAA. Be careful not to disturb exterior gasket while installing glass. Center glass into opening and rest on setting blocks pressed against exterior gasket.
26.5 Snap-in glazing beads. See DETAIL BBB.



DETAIL BBB

27. To prevent glass from shifting in the opening one "W" side block should be installed into deep glass pocket of the vertical at center point or as recommended by glass manufacturer. Side blocking is recommended to prevent glass from shifting in pocket. See DETAIL CCC.



DETAIL CCC

28. Install remaining gaskets. Vertical gaskets run through. Start at corners and work toward center. Tight butt joined corners are critical to avoid leakage. Seal ends of horizontal gaskets prior to abutting to vertical gaskets.

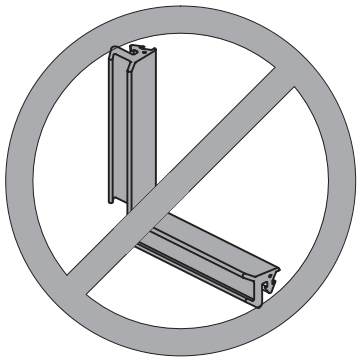
29. GLAZING

CORNER TREATMENT

Glazing gaskets are prone to shrink and pull away at the corners over a period of time allowing for excessive air and water infiltration at the corners. Standard glazing practice is to provide corner treatment to ensure tightness on the exterior and interior corner intersections.

NOT RECOMMENDED

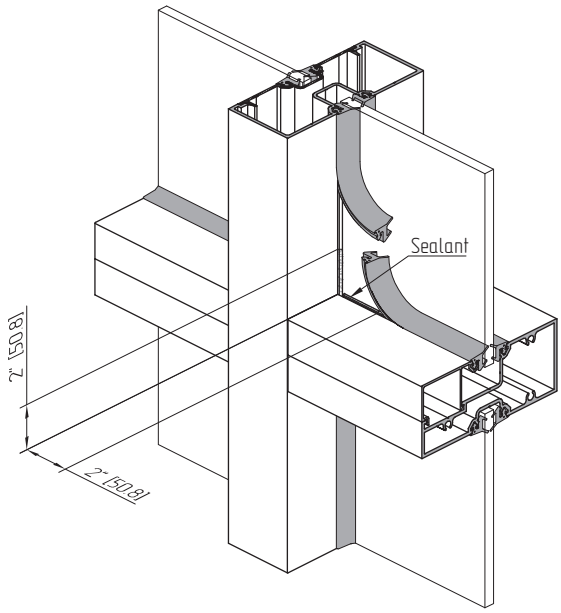
Notched Corners – The corners of the rubber gaskets are notched on the underside without cutting the nearside. The gasket is installed in one length and is butt joined in the center of horizontal section. While this method of glazing is widely used for marine glazing, residential sliding doors and shower doors, it is not recommended for commercial window wall glazing. See DETAIL DDD.



DETAIL DDD

RECOMMENDED WAY

Seal Corners – Pull gaskets back 2" in both directions from interior and exterior corners as shown in (see detail EEE) and apply sealant. This should be done on the interior (inside glaze) or exterior (outside glaze) for best performance. While long-term adhesion to the rubber gaskets with sealant is nor assured, historical field experience has proven this type of corner treatment to be the next best method short of vulcanized gasket corners.

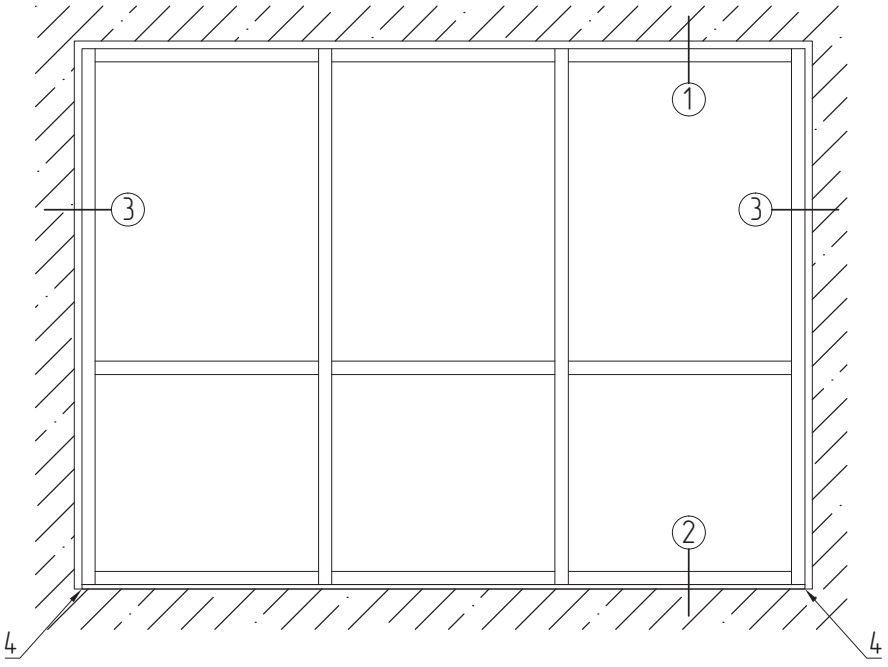


DETAIL EEE

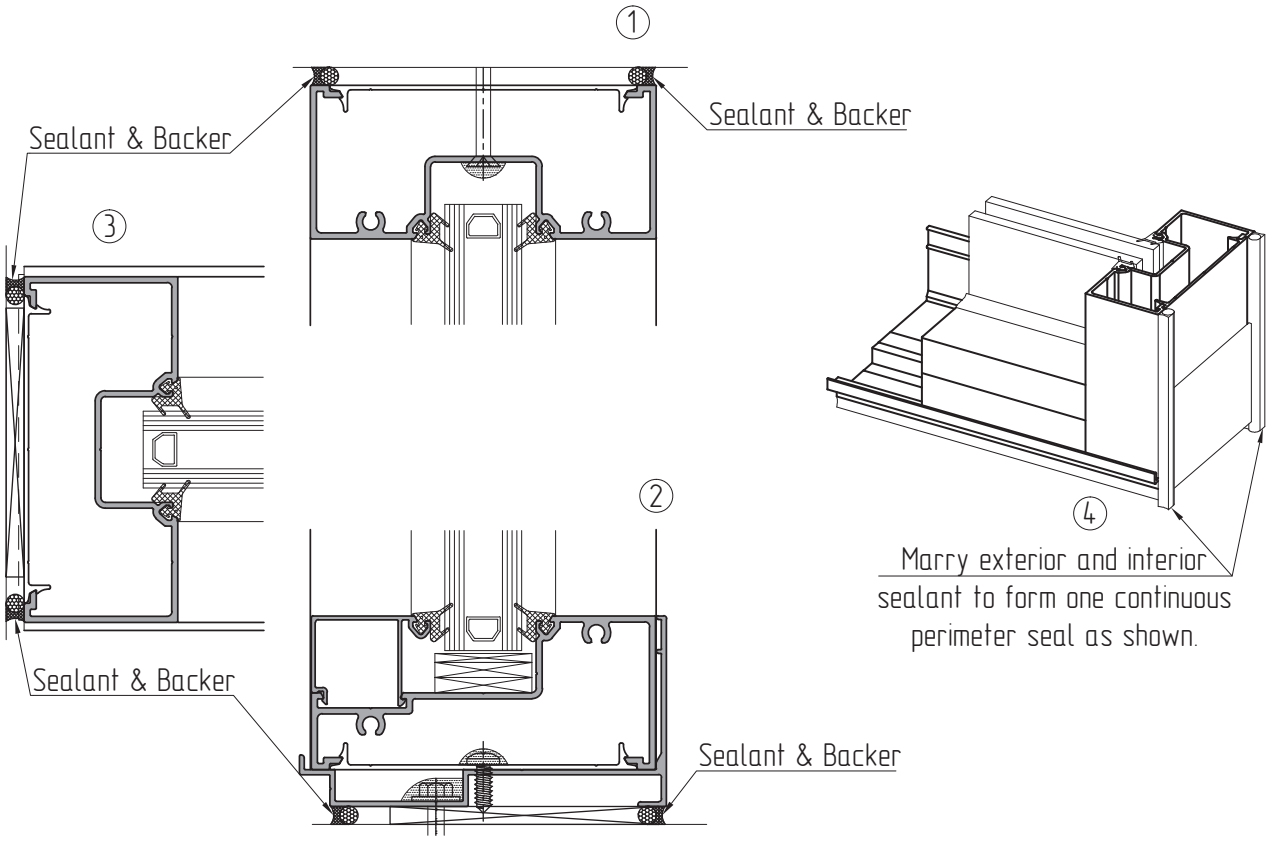
30. PERIMETER SEAL

Apply continuous exterior and interior perimeter seal to elevation. See DETAIL FFF.

Marry exterior and interior sealant. See DETAIL GGG.



DETAIL FFF



DETAIL GGG

ALT SF 450
Center glazed
storefront system

STOREFRONT DOORS

Features

- 190 narrow stile has 2" vertical stile, 2-1/8" top and 3-3/16" bottom rail;
- 300 medium stile has 3-1/2" vertical stile, 3-3/16" top and 6-1/2" bottom rail;
- 500 wide stile has 5" vertical stile, 5-1/2" top and 6-1/2" bottom rail;

9-1/2" bottom rails may be substituted on the Non-Impact rated entrance listed above

- door is 1-3/4" deep;
- single or double acting;
- offset pivots, butt hinges, continuous geared hinge or center pivots;
- infills range from 1";
- adjustable astragal utilizing pile weathering with polymeric fin at meeting stiles.

Product Applications

- 190 narrow stile – normal Traffic;
- 300 medium stile – Heavy to Abusive Traffic;
- 500 wide stile – Abusive Traffic;

INSTALLATION INSTRUCTIONS GENERAL NOTES

HANDLING, STORAGE AND PROTECTION OF ALUMINUM

The following precautions are recommended to protect the material against damage. Following these precautions will help ensure early acceptance of your products and workmanship.

A. Handle carefully.

All aluminum materials at job site must be stored in a safe place well removed from possible damage by other trades. Cardboard wrapped or paper interleaved materials must be kept dry.

B. Check arriving materials.

Check for quantity and keep records of where various materials are stored.

C. Keep material away from water, mud and spray.

Prevent cement plaster or other materials from damaging the finish.

D. Protect the materials after erection.

Protect erected frame with polyethylene or canvas splatter screen. Cement, plaster, terrazzo, other alkaline solutions and acid based materials used to clean masonry are harmful to the finish. If any of these materials come in contact with the aluminum, IMMEDIATELY remove with water and mild soap.

NOTE: Dimensions in parentheses [ ] are millimeters unless otherwise noted. Other metric units shown in this manual are: m – meter;

Kg – kilogram;

Pa – pascal;

KPa – kilopascal;

MPa – megapascal;

N – newton.

GENERAL INSTALLATION NOTES
RECOMMENDED GUIDELINES FOR ALL INSTALLATIONS:

1. Review contract documents.

Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings toke precedence and include specific details for the project. Note any field verified notes on the shop drawings prior to installing. The installation instructions ore of general nature and cover most conditions.

2. Installation.

All materials ore to be installed plumb, level and true.

3. Bench marks.

All work should start from bench marks and/ or column lines as established by the architectural drawings and the general contractor with guaranteed accuracy. Working from these datum points and lines determine:

a) The plane of the wall in reference to offset lines provided on each floor.

b) The finish floor lines in reference to bench marks on the outer building columns.

c) Mullion spacing from both ends of masonry opening to prevent dimensional build-up of daylight opening.

4. Field welding.

All field welding must be adequately shielded to ovoid any splatter on gloss or aluminum. Results will be unsightly and/ or structurally unsound. Advise general contractor and other trodes accordingly. All field welds of steel anchors must receive touch-up point (zinc chromate) to avoid rust.

5. Surrounding conditions.

Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.

6. Isolation of aluminum.

Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous point.

7. Sealants.
Sealants must be compatible with all materials with which they hove contact, including other sealant surfaces Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning/ priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that gloss and glazing materials hove been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in gloss fabrication must be established. This is required on every project.

8. Fastening.
Within the body of these instructions "fastening" means any method of securing one port to another or to adjacent materials. Only those fasteners used within the system ore specified in these instructions. Due to the varying perimeter conditions and performance requirements perimeter and anchor fasteners are not specified in these instructions. For perimeter and anchor fasteners refer to the shop drawings or consult the fastener supplier.

9. Building codes.
Due to the diversity in state/provincial law and federal laws and codes that govern the design and application of architectural products it is the responsibility of the individual architect owner and installer to assure that products selected for use on projects comply with all the opplirnble building codes and laws. United States Aluminum exercises no control over the use or application of its products, glazing materials and operating hardware and assumes no responsibility thereof.

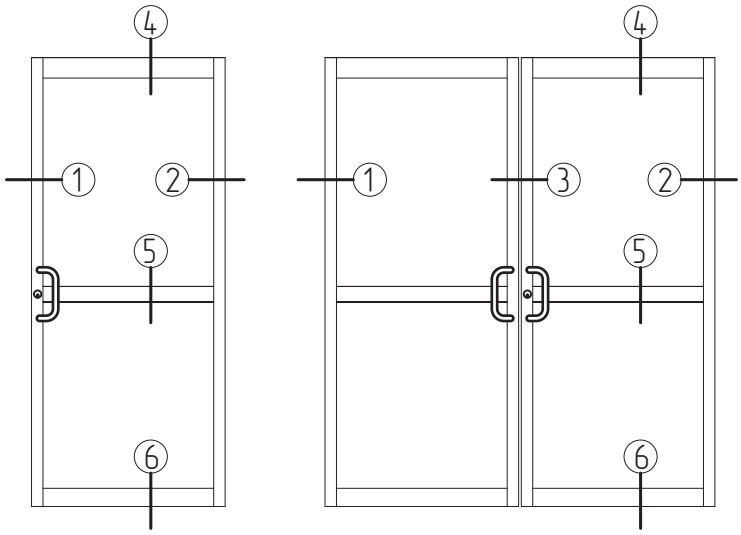
10. Expansion joints.
Expansion joints and perimeter seals shown in these instructions and in the shop drawings ore shown at normal size. Actual dimensions may vary due to perimeter conditions and/or difference in metal temperature between the time of fabrication and the time of installation. Gap between expansion members should be based on temperature at time of installation.

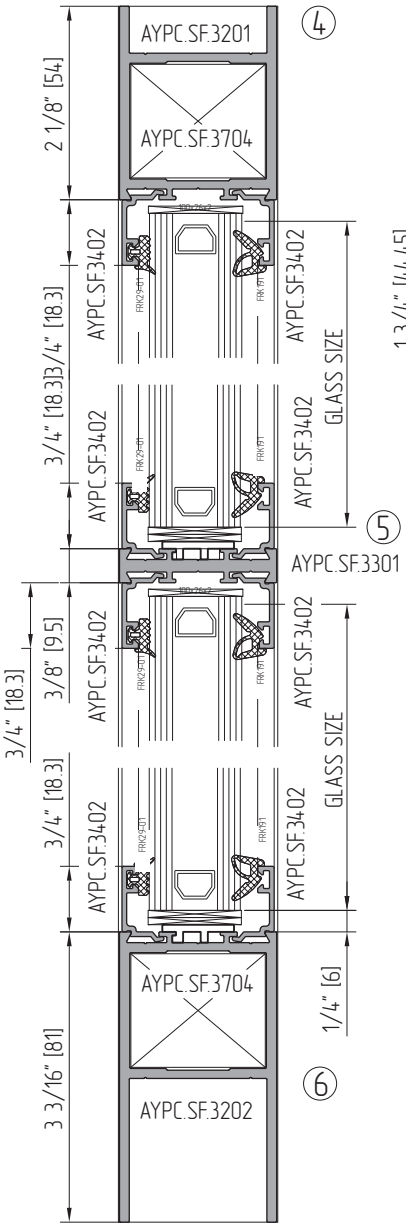
11. Water hose test.
As soon as a representative amount of the wall has been glazed (500 square feet or 46.5 m^2) a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. On all jobs the hose test should be repeated every 500 square feet (46. Sm^2) during the glazing operation.

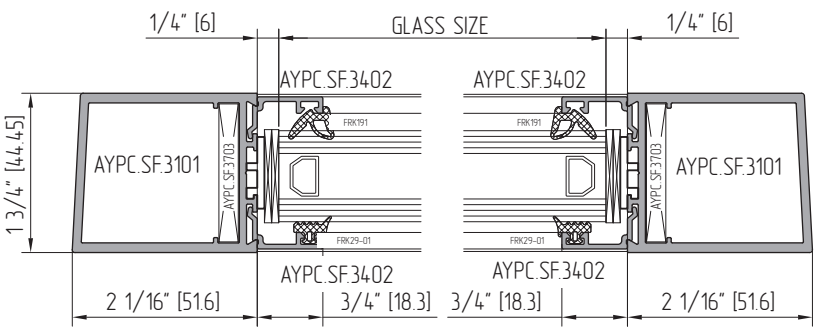
12. Coordination with other trades.
Coordinate with the general contractor any sequence with other trades which offset curtain wall installation (ie fire proofing, back-up walls, partitions, ceilings, mechanical ducts, converters etd.

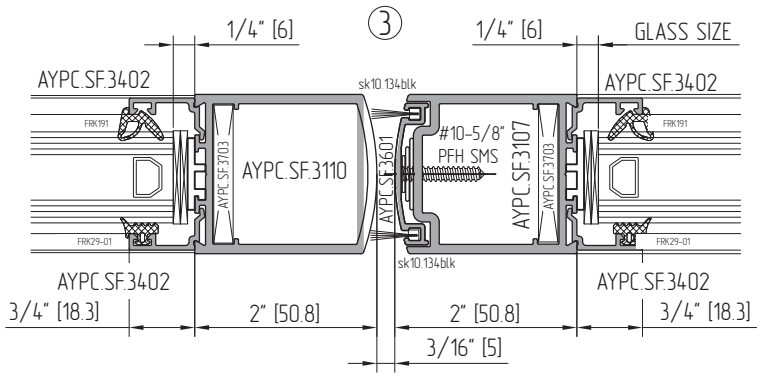
13. Care and maintenance.
Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA. 609.1 for anodized aluminum and 610.1 for painted aluminum.

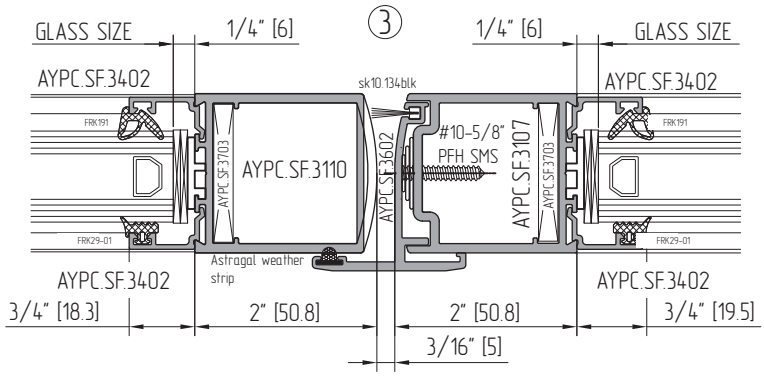
DOOR LEAF SECTIONS (1" GLASS)



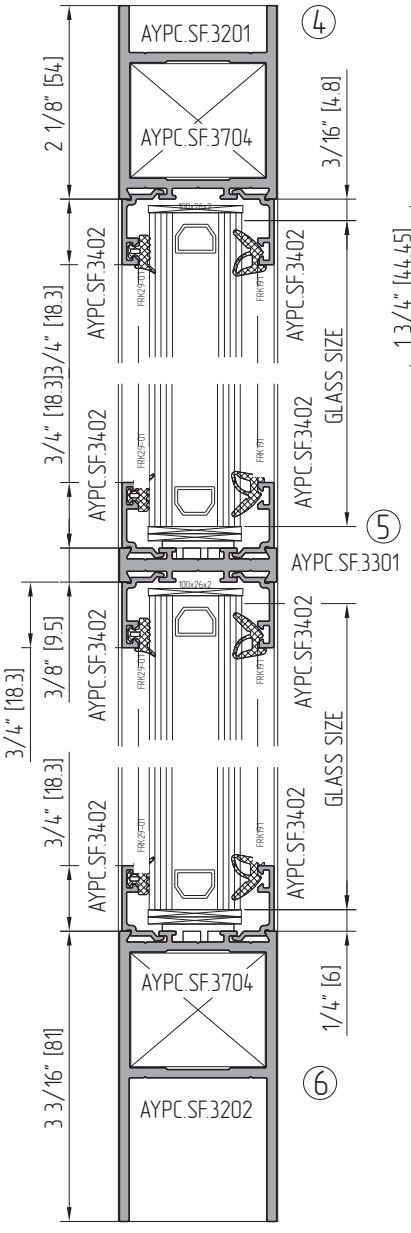


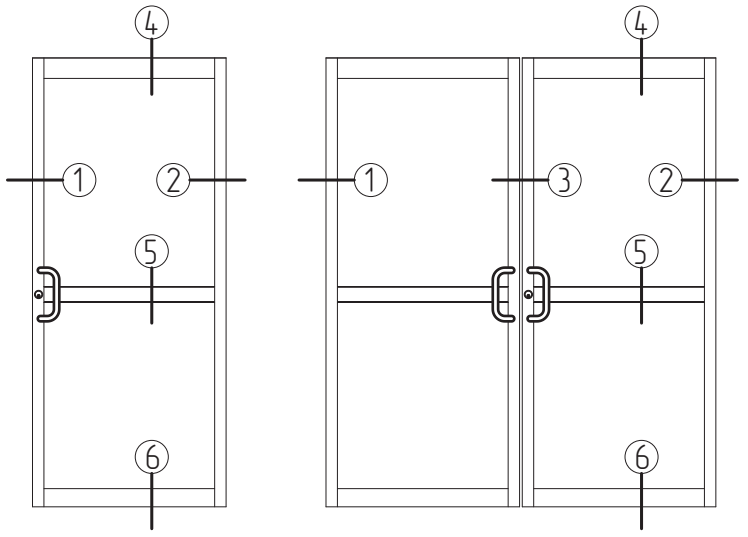


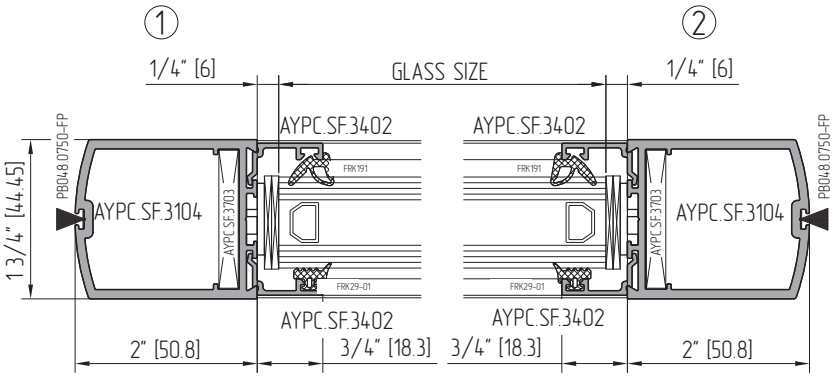


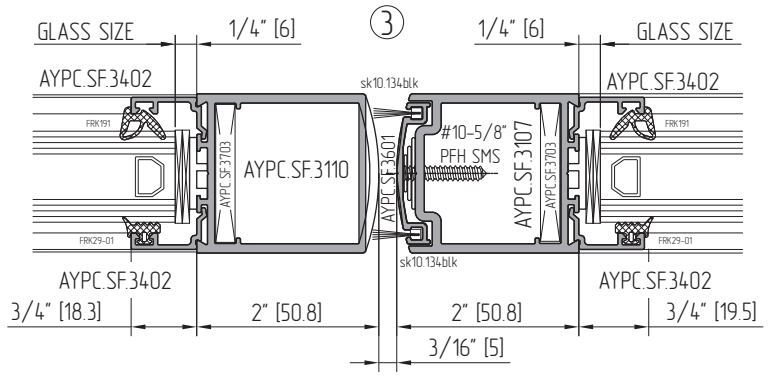


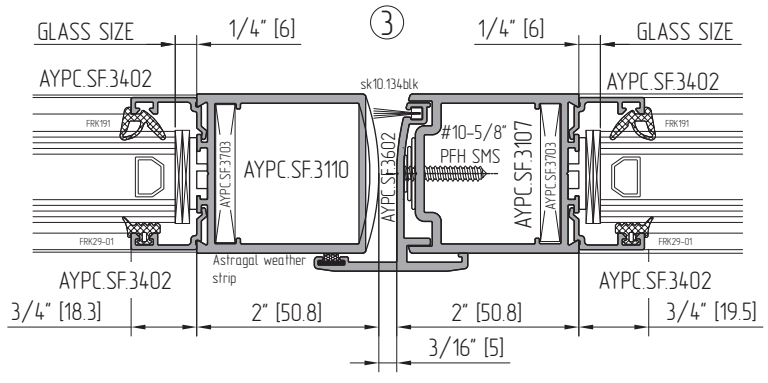
DOOR LEAF SECTIONS (THE SECURED GLASS STOPS) (1" GLASS)











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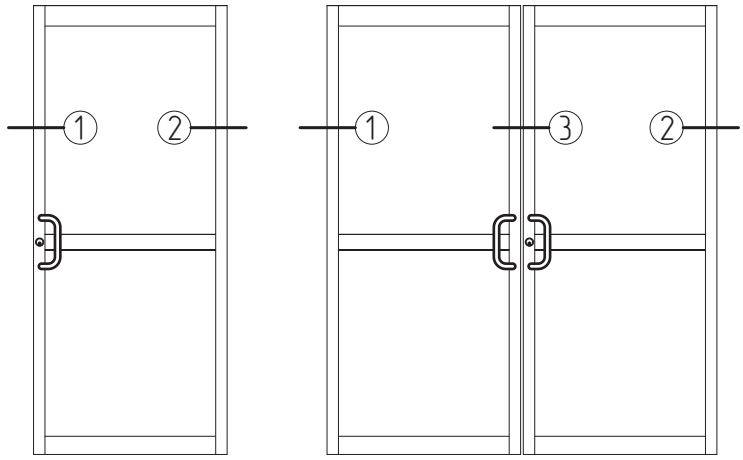

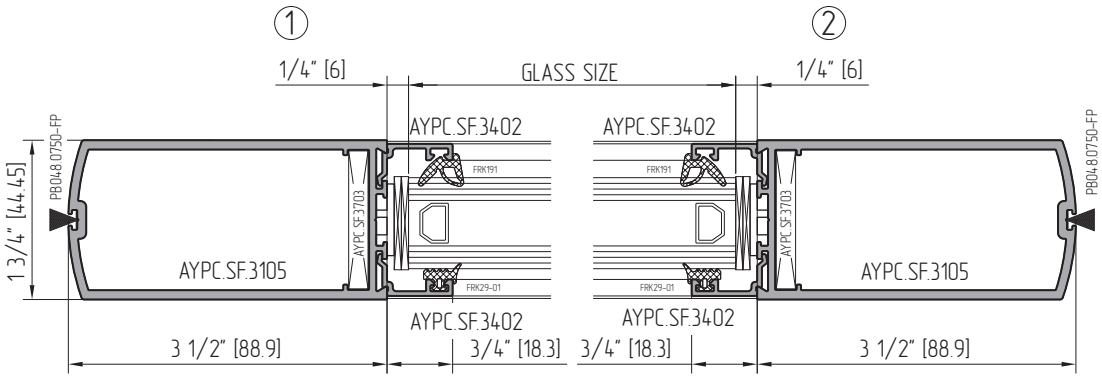

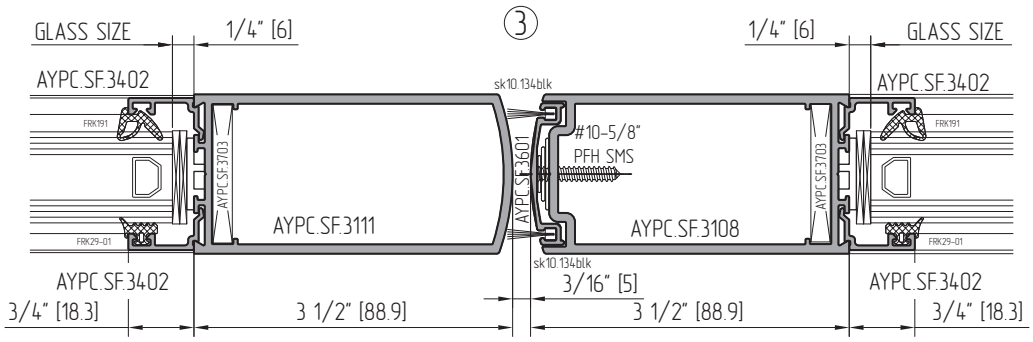

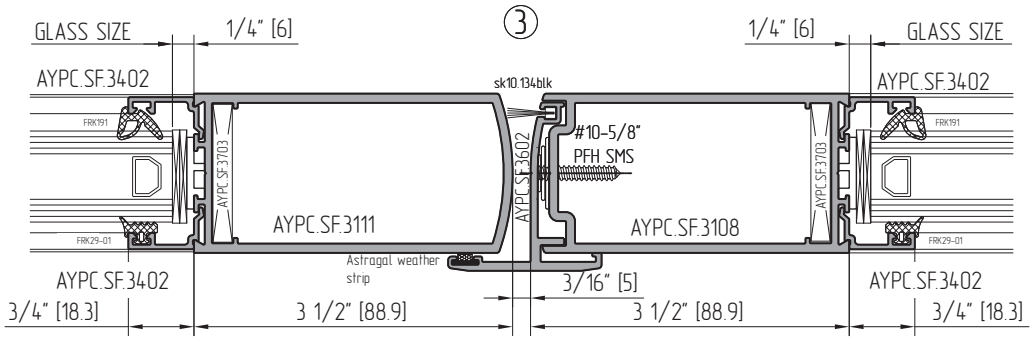

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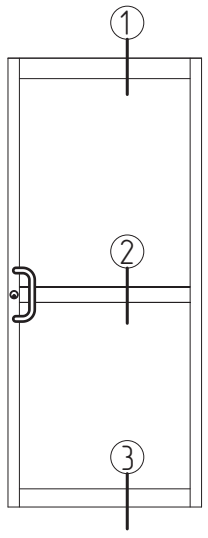

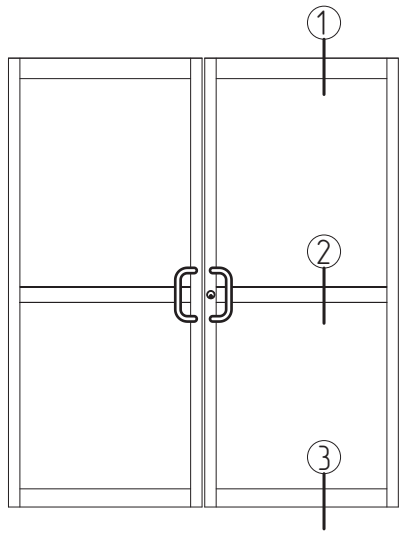

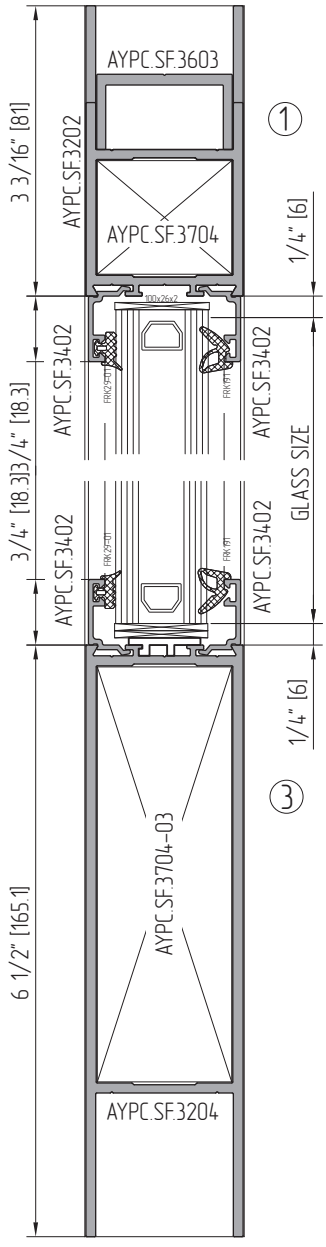

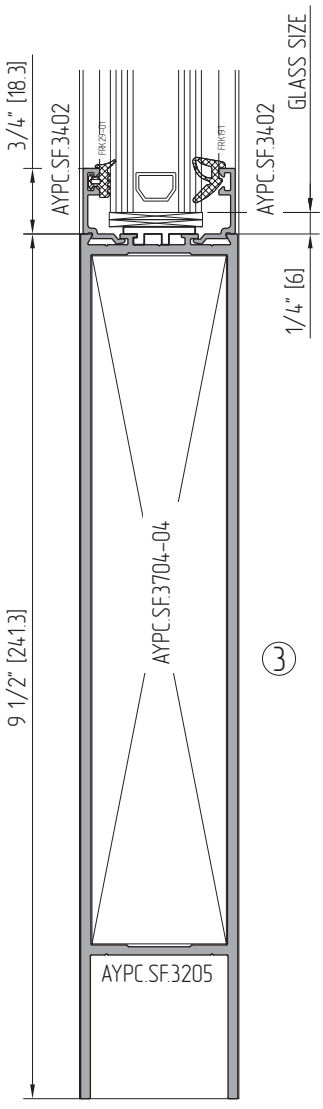

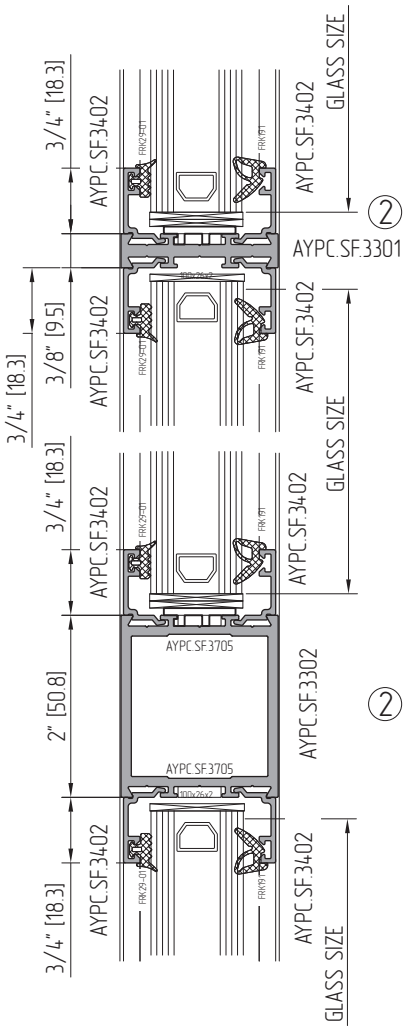

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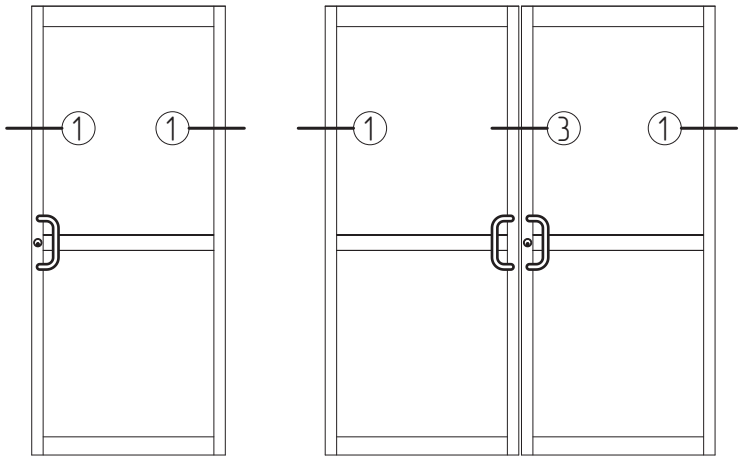

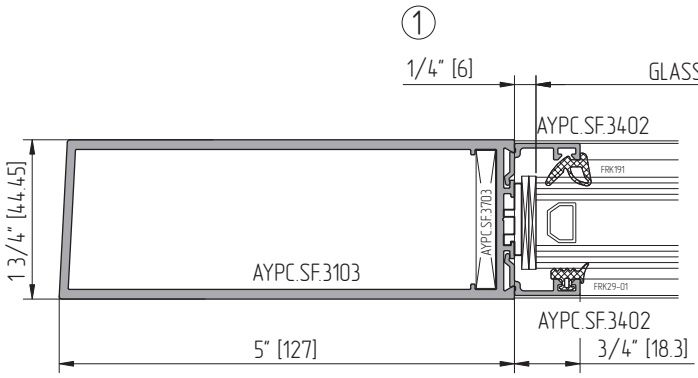

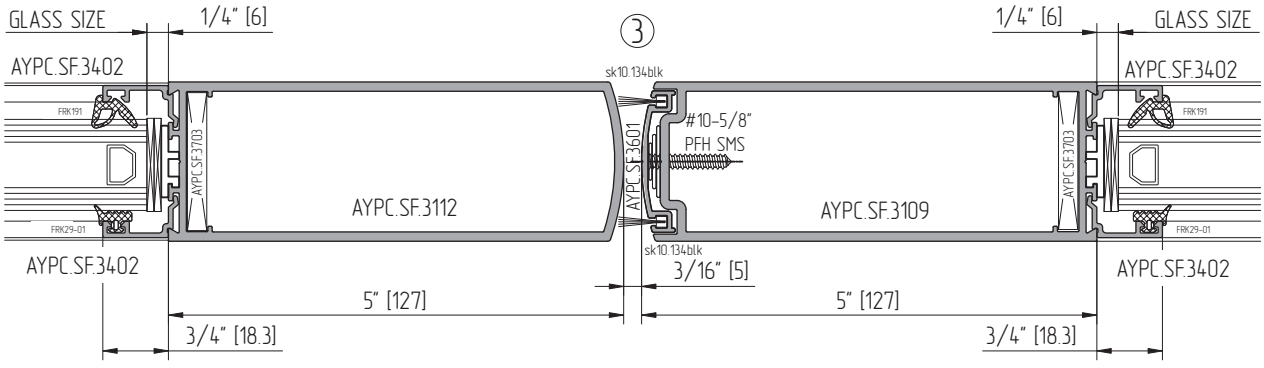

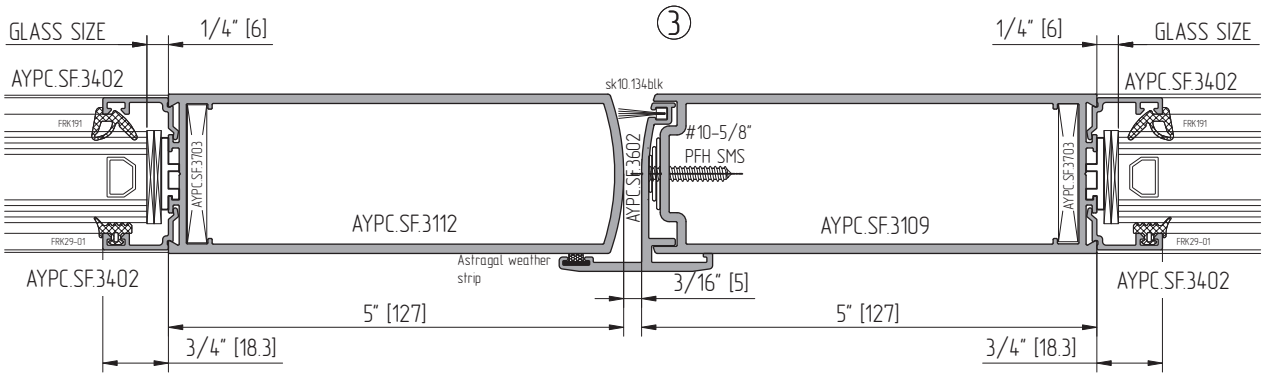

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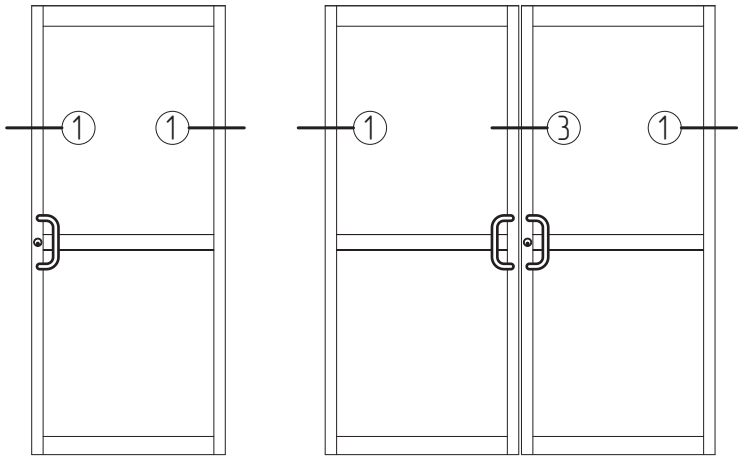
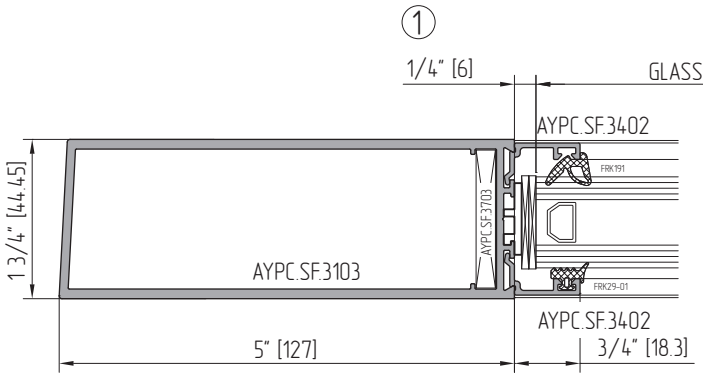
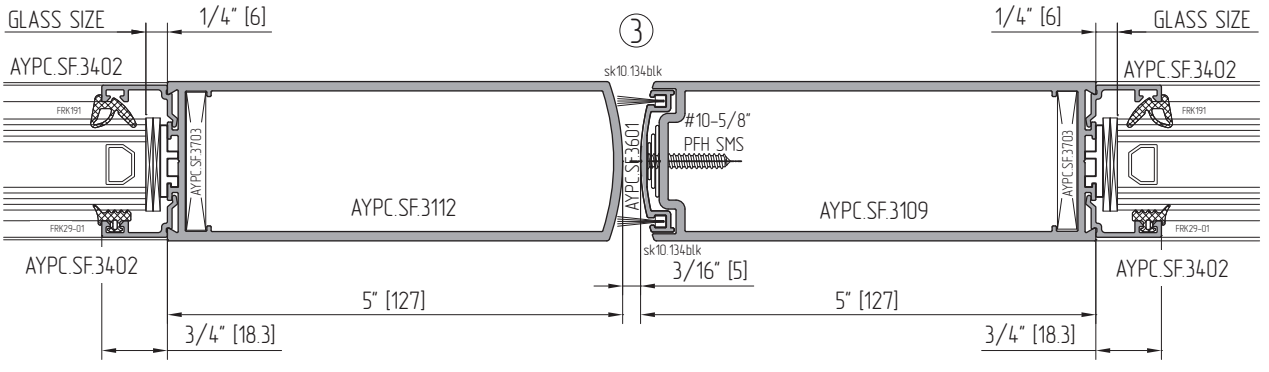
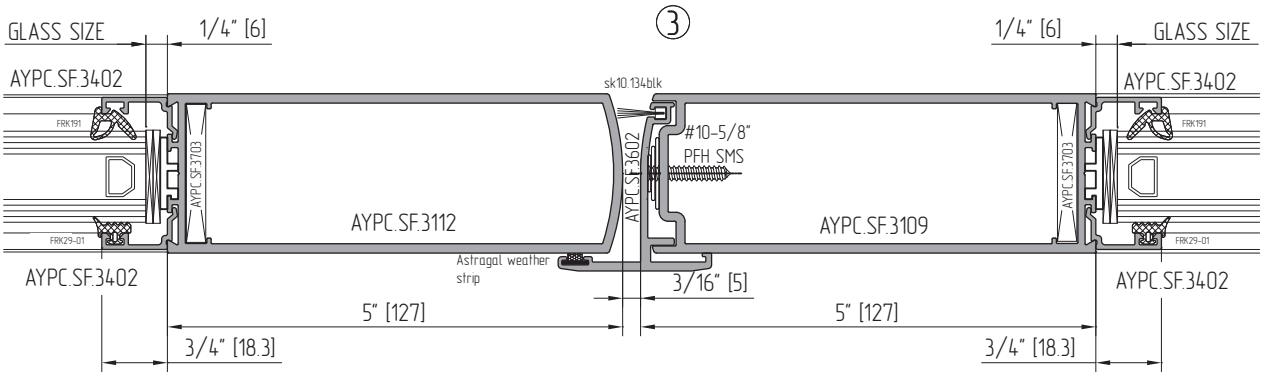
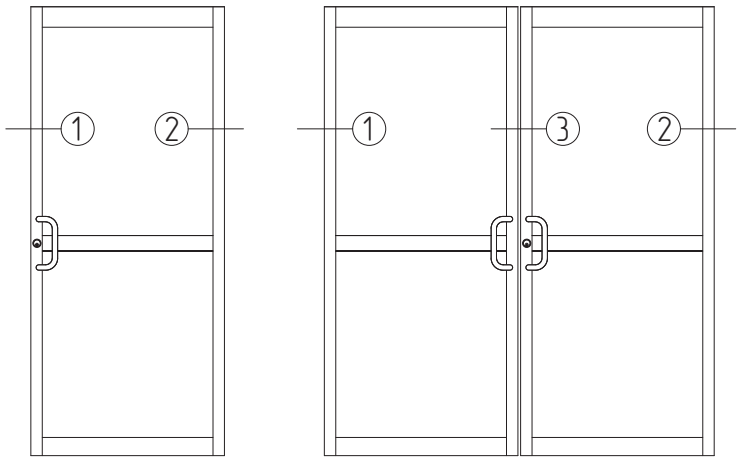


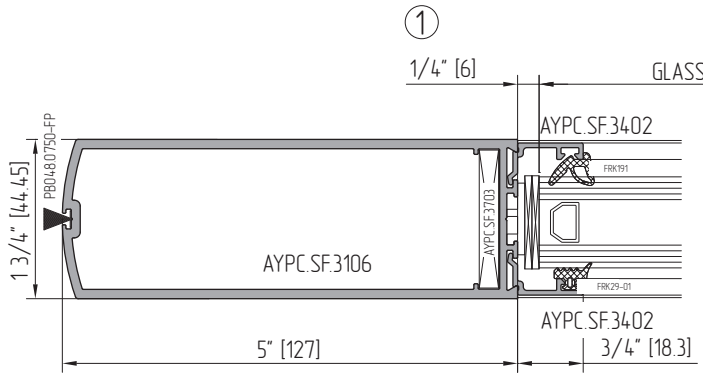


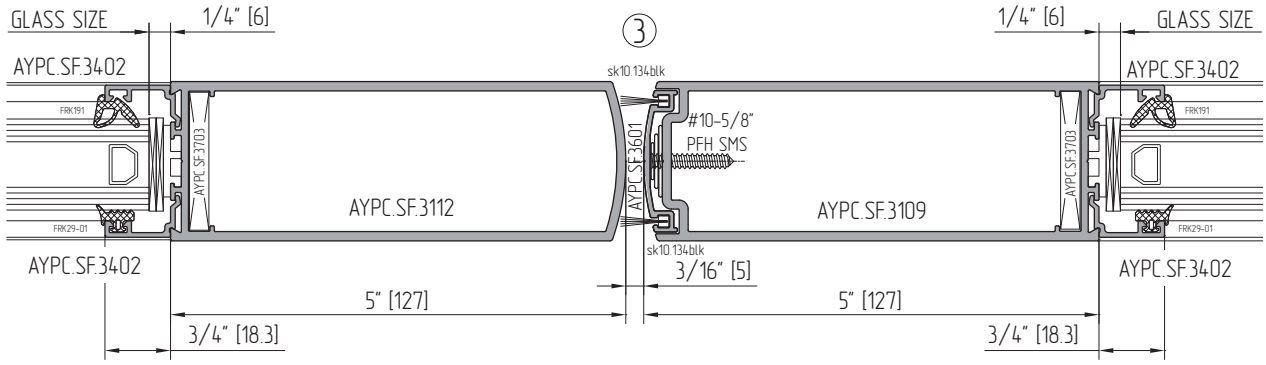


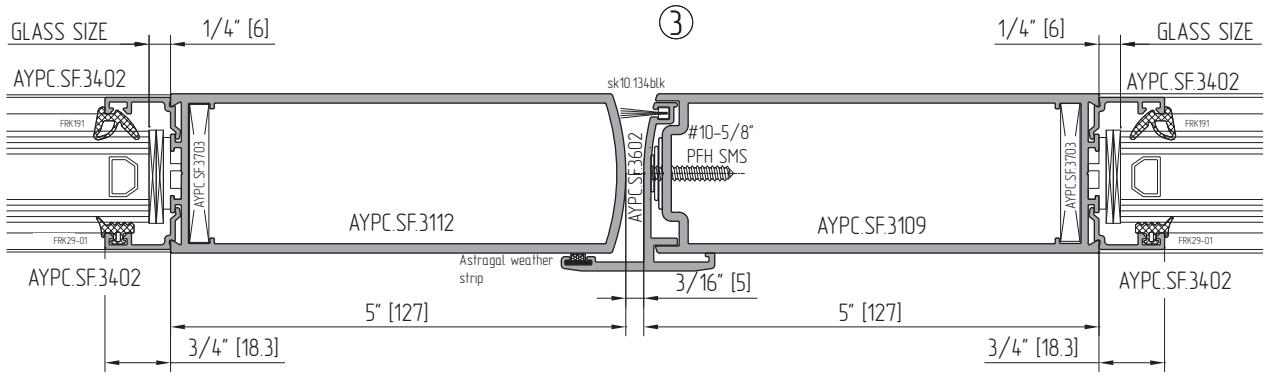


DOOR LEAF SECTIONS (THE SECURED GLASS STOPS) (1" GLASS)









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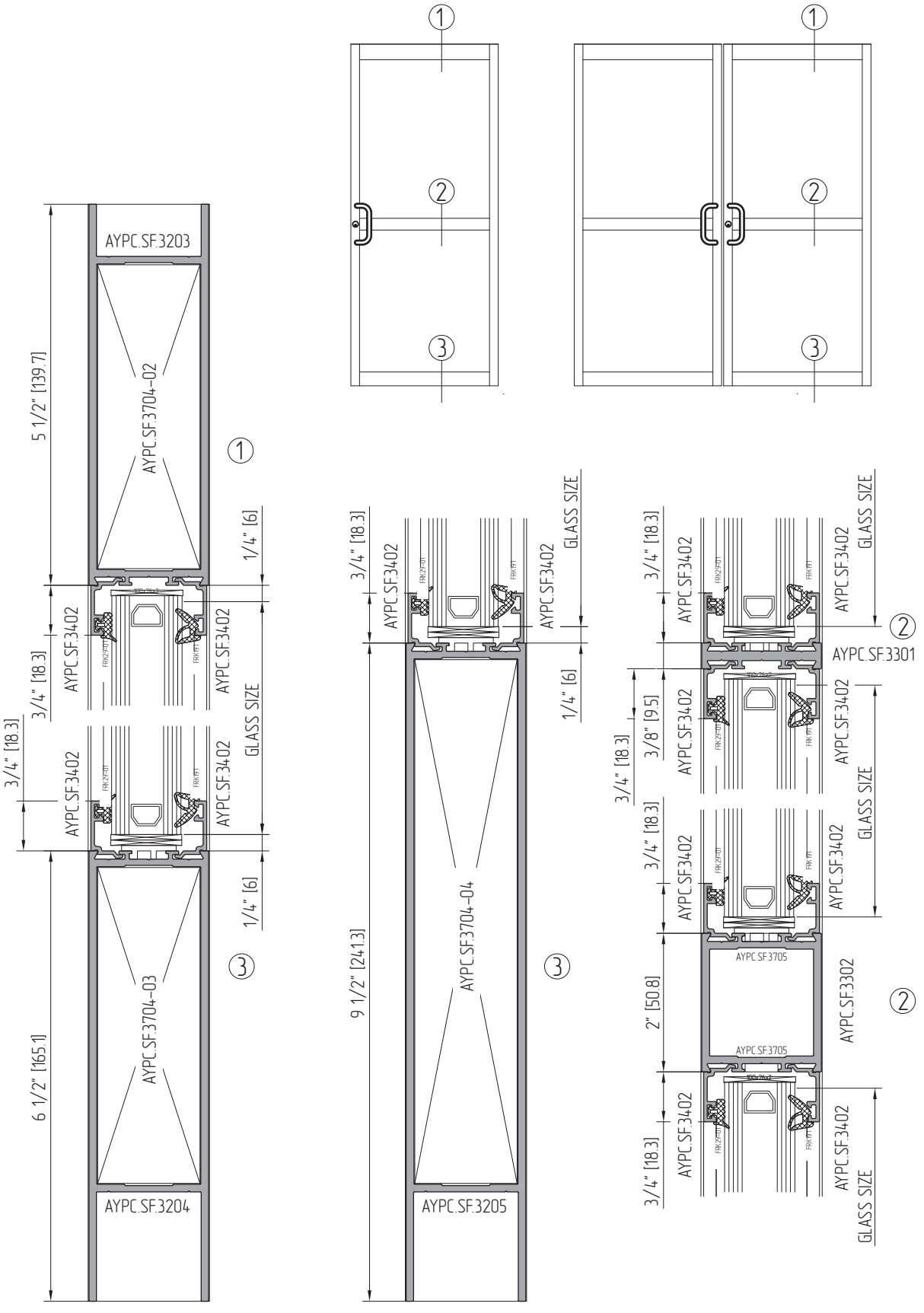

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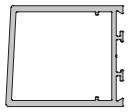
AYPC.SF.3101	125014808 125014858 125014878	A00-D6 A05-D6 A07-D6		Beveled hinge stile 2"	4
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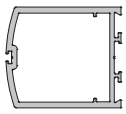
AYPC.SF.3103	125057808 125057858 125057878	A00-D6 A05-D6 A07-D6		Beveled hinge stile 5"	2
AYPC.SF.3104	125058808 125058858 125058878	A00-D6 A05-D6 A07-D6		Center pivot stile 2"	4
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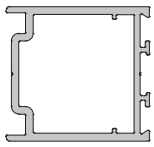
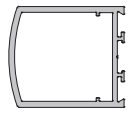
AYPC.SF.3106	125060808 125060858 125060878	A00-D6 A05-D6 A07-D6		Center pivot stile 5"	2
AYPC.SF.3107	125015808 125015858 125015878	A00-D6 A05-D6 A07-D6		Active meeting stile 2"	4
AYPC.SF.3108	1205061808 1205061858 1205061878	A00-D6 A05-D6 A07-D6		Active meeting stile 3-1/2"	2
AYPC.SF.3109	125062808 125062858 125062878	A00-D6 A05-D6 A07-D6		Active meeting stile 5"	2

Part NO.	Code	Color	Detail	Description	PKG. QTY.
AYPC.SF.3110	125016808 125016858 125016878	A00–D6 A05–D6 A07–D6		Inactive stile 2"	4
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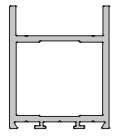
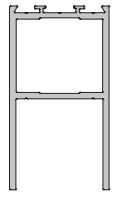
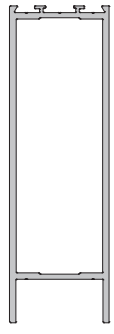
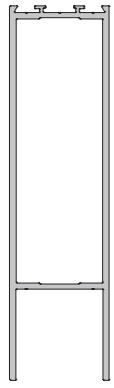
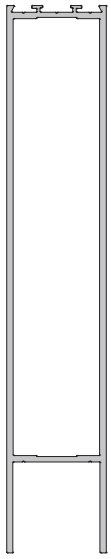
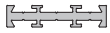
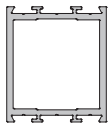
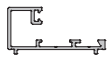
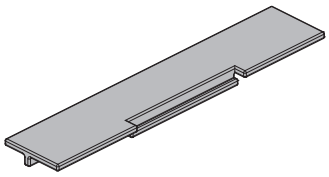
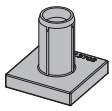
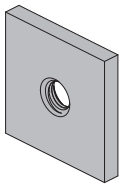
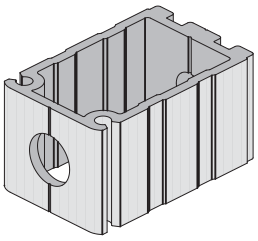
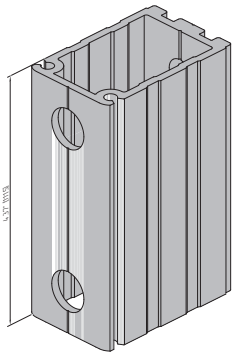
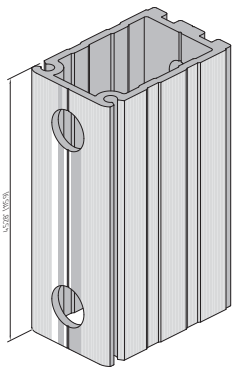
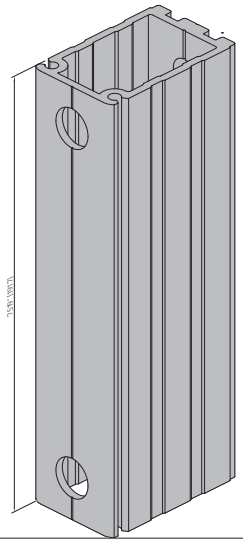
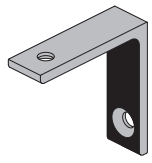
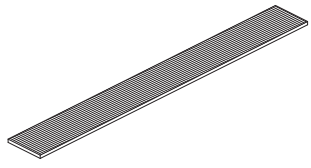
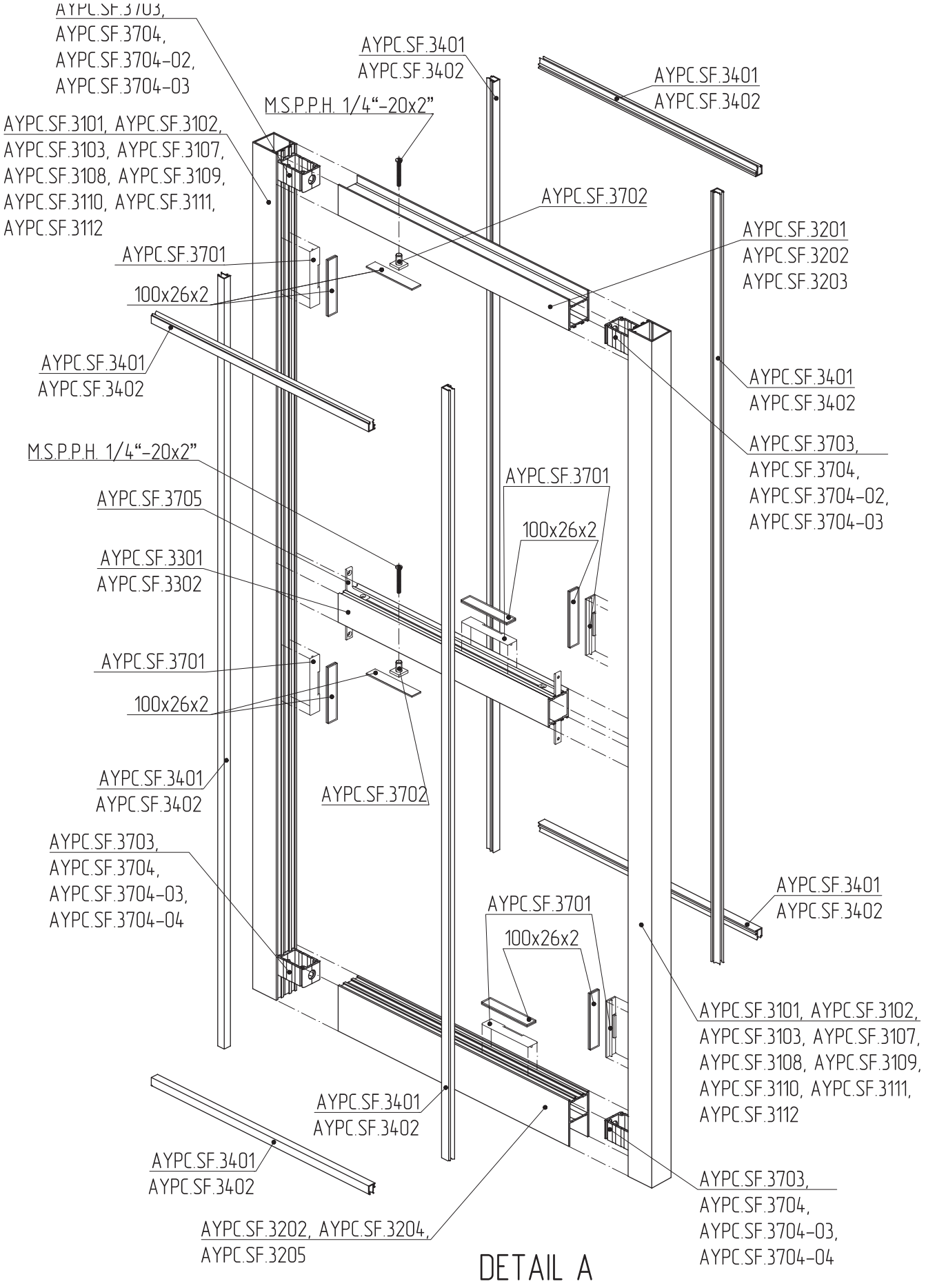
AYPC.SF.3112	125064808 125064858 125064858	A00–D6 A05–D6 A07–D6		Inactive stile 5"	2
AYPC.SF.3201	125017808 125017858 125017878	A00–D6 A05–D6 A07–D6		Top rail 2–1/8"	4
AYPC.SF.3202	125018808 125018858 125018878	A00–D6 A05–D6 A07–D6		Bottom/top rail 3–3/16"	2
AYPC.SF.3203	125065808 125065858 125065878	A00–D6 A05–D6 A07–D6		Top rail 5–1/2"	2
AYPC.SF.3204	125066808 125066858 125066878	A00–D6 A05–D6 A07–D6		Bottom/top rail 6–1/2"	1

Part NO.	Code	Color	Detail	Description	PKG. QTY.
AYPC.SF.3205	125067808 125067858 125067878	A00–D6 A05–D6 A07–D6		Optional bottom rail 9–1/2"	1
AYPC.SF.3301	125068808 125068858 125068878	A00–D6 A05–D6 A07–D6		Middle rail 3/8"	6
AYPC.SF.3302	125069808 125069858 125069878	A00–D6 A05–D6 A07–D6		Middle rail 2"	2
AYPC.SF.3401	125019808 125019858 125019878	A00–D6 A05–D6 A07–D6		Door glass stop for 1/4" single glass	16
AYPC.SF.3402	125070808 125070858 125070878	A00–D6 A05–D6 A07–D6		Door glass stop for 1" insulated glass unit	16
AYPC.SF.3403	125028808 125028858 125028878	A00–D6 A05–D6 A07–D6		Burglar resistant door glass stop for 1/4" single glass	8
AYPC.SF.3601	125021808 125021858 125021878	A00–D6 A05–D6 A07–D6		Adjustable astragal plate	16

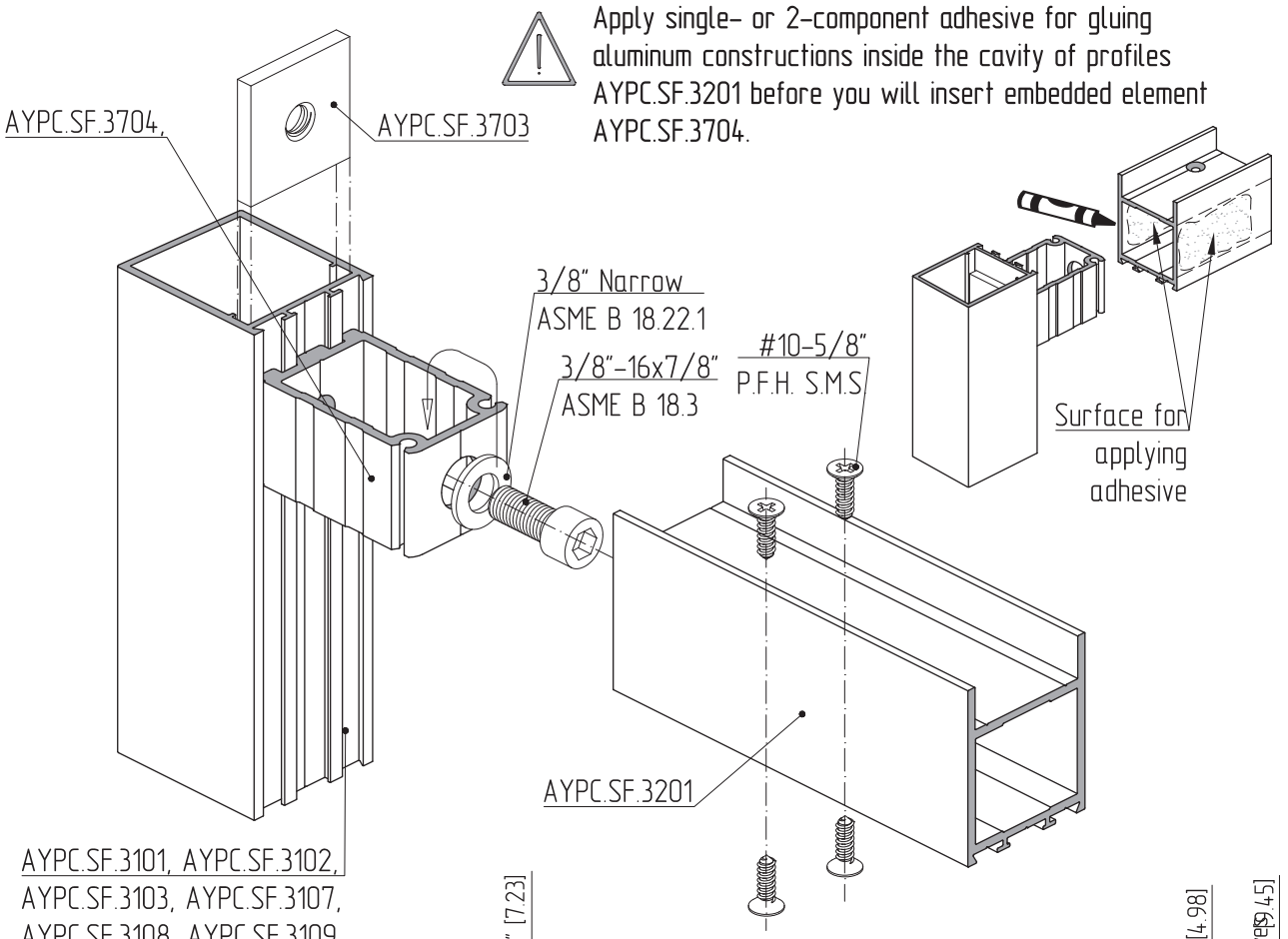
Part NO.	Code	Color	Detail	Description	PKG. QTY.
AYPC.SF.3602	125071808 125071858 125071878	A00-D6 A05-D6 A07-D6		Overlapping astragal plate	4
AYPC.SF.3603	12507200	00		Channel spacer for concealed door closer slide channel installation (mating with AYPC.SF.3202, AYPC.SF.3203, AYPC.SF.3204, AYPC.SF.3205)	6

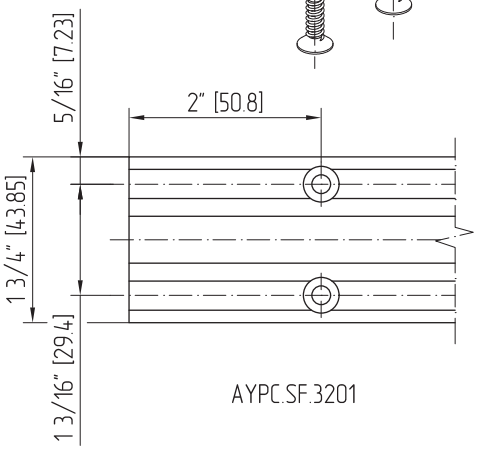
Part NO.	Code	Detail	Description	PKG. QTY.
AYPC.SF.3701	12550100		Setting/edge block	100
AYPC.SF.3702	12550200		Adjustable setting block	50
AYPC.SF.3703	12550300		Embeded block	60
AYPC.SF.3704	12550400		Shear Block (required for AYPC.SF.3201 AYPC.SF.3202)	64
AYPC.SF.3704-02	12550800		Shear Block (required for AYPC.SF.3203)	24
AYPC.SF.3704-03	12550900		Shear Block (required for AYPC.SF.3204)	24

Part NO.	Code	Detail	Description	PKG. QTY.
AYPC.SF.3704-04	12551000		Shear Block (required for AYPC.SF.3205)	10
AYPC.SF.3705	12551100		Intermediate rail bracket (required for AYPC.SF.3301, AYPC.SF.3302)	30
ST15690	12550500		Cone spring	50
100x26x2	10414700		Setting block (1-1/64"x3/32" [26x2 mm])	1000
FRK29-01	10415900		EPDM rubber gasket	1312' [400 m]
FRK191	10830300		EPDM rubber gasket	410' [125 m]
FRK192	10830500		EPDM rubber gasket	328' [100 m]
sk10.134blk	10413800		Astragal weather strip	656' [200 m]
PB048.0750-FP	10211300		Felt sealing	3280' [1000 m]
–	–		Astragal weather strip	–

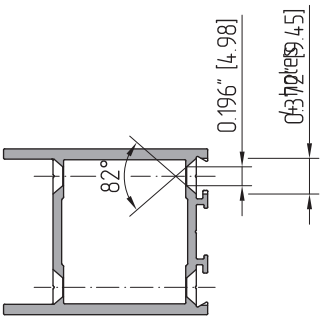

AYPC.SF.3703,
AYPC.SF.3704,
AYPC.SF.3704-02,
AYPC.SF.3704-03
AYPC.SF.3401
AYPC.SF.3402
M.S.P.P.H. 1/4"-20x2"
AYPC.SF.3101, AYPC.SF.3102,
AYPC.SF.3103, AYPC.SF.3107,
AYPC.SF.3108, AYPC.SF.3109,
AYPC.SF.3110, AYPC.SF.3111,
AYPC.SF.3112
AYPC.SF.3702
AYPC.SF.3201
AYPC.SF.3202
AYPC.SF.3203
AYPC.SF.3701
100x26x2
AYPC.SF.3401
AYPC.SF.3402
AYPC.SF.3703,
AYPC.SF.3704,
AYPC.SF.3704-02,
AYPC.SF.3704-03
M.S.P.P.H. 1/4"-20x2"
AYPC.SF.3705
AYPC.SF.3701
100x26x2
AYPC.SF.3301
AYPC.SF.3302
AYPC.SF.3701
100x26x2
AYPC.SF.3401
AYPC.SF.3402
AYPC.SF.3702
AYPC.SF.3703,
AYPC.SF.3704,
AYPC.SF.3704-03,
AYPC.SF.3704-04
AYPC.SF.3401
AYPC.SF.3402
AYPC.SF.3701
100x26x2
AYPC.SF.3101, AYPC.SF.3102,
AYPC.SF.3103, AYPC.SF.3107,
AYPC.SF.3108, AYPC.SF.3109,
AYPC.SF.3110, AYPC.SF.3111,
AYPC.SF.3112
AYPC.SF.3401
AYPC.SF.3402
AYPC.SF.3401
AYPC.SF.3402
AYPC.SF.3703,
AYPC.SF.3704,
AYPC.SF.3704-03,
AYPC.SF.3704-04
AYPC.SF.3202, AYPC.SF.3204,
AYPC.SF.3205
DETAIL A

Apply single- or 2-component adhesive for gluing aluminum constructions inside the cavity of profiles AYPC.SF.3201 before you will insert embedded element AYPC.SF.3704.



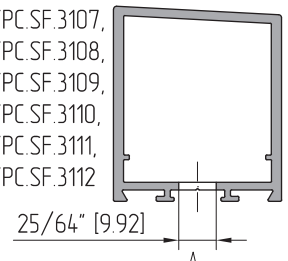


AYPC.SF.3201

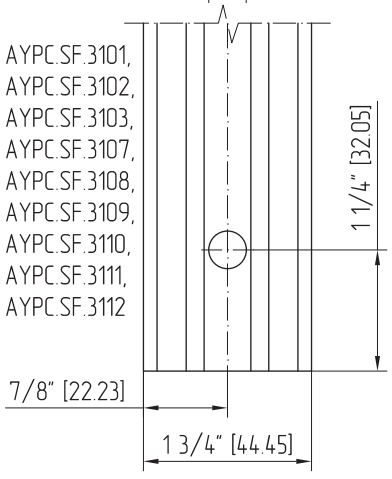


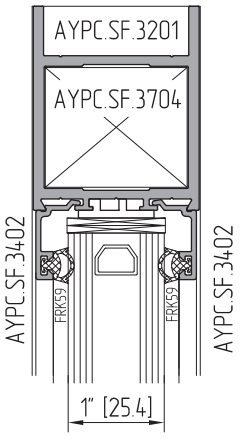
AYPC.SF.3201

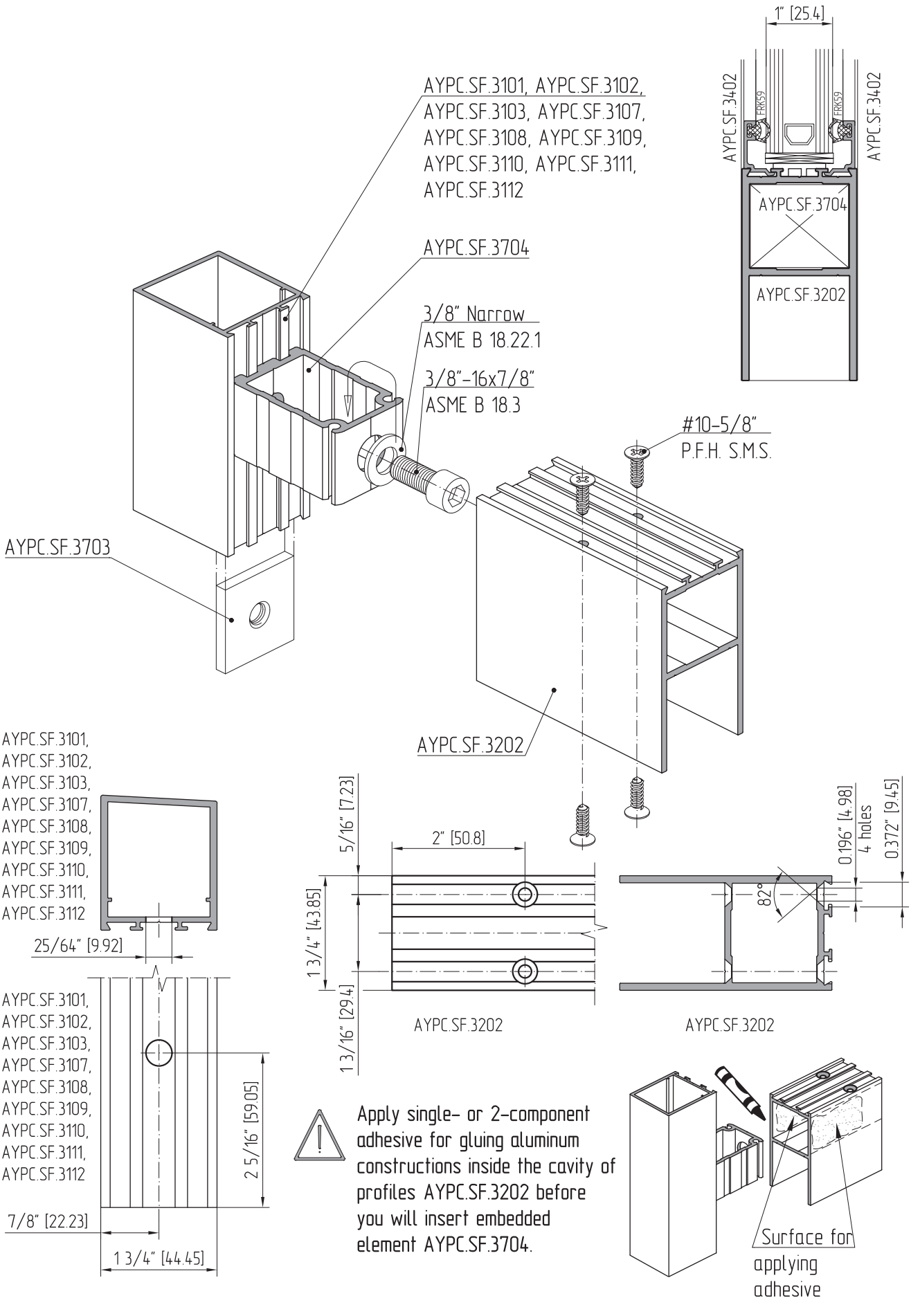
AYPC.SF.3101,
AYPC.SF.3102,
AYPC.SF.3103,
AYPC.SF.3107,
AYPC.SF.3108,
AYPC.SF.3109,
AYPC.SF.3110,
AYPC.SF.3111,
AYPC.SF.3112



AYPC.SF.3101,
AYPC.SF.3102,
AYPC.SF.3103,
AYPC.SF.3107,
AYPC.SF.3108,
AYPC.SF.3109,
AYPC.SF.3110,
AYPC.SF.3111,
AYPC.SF.3112

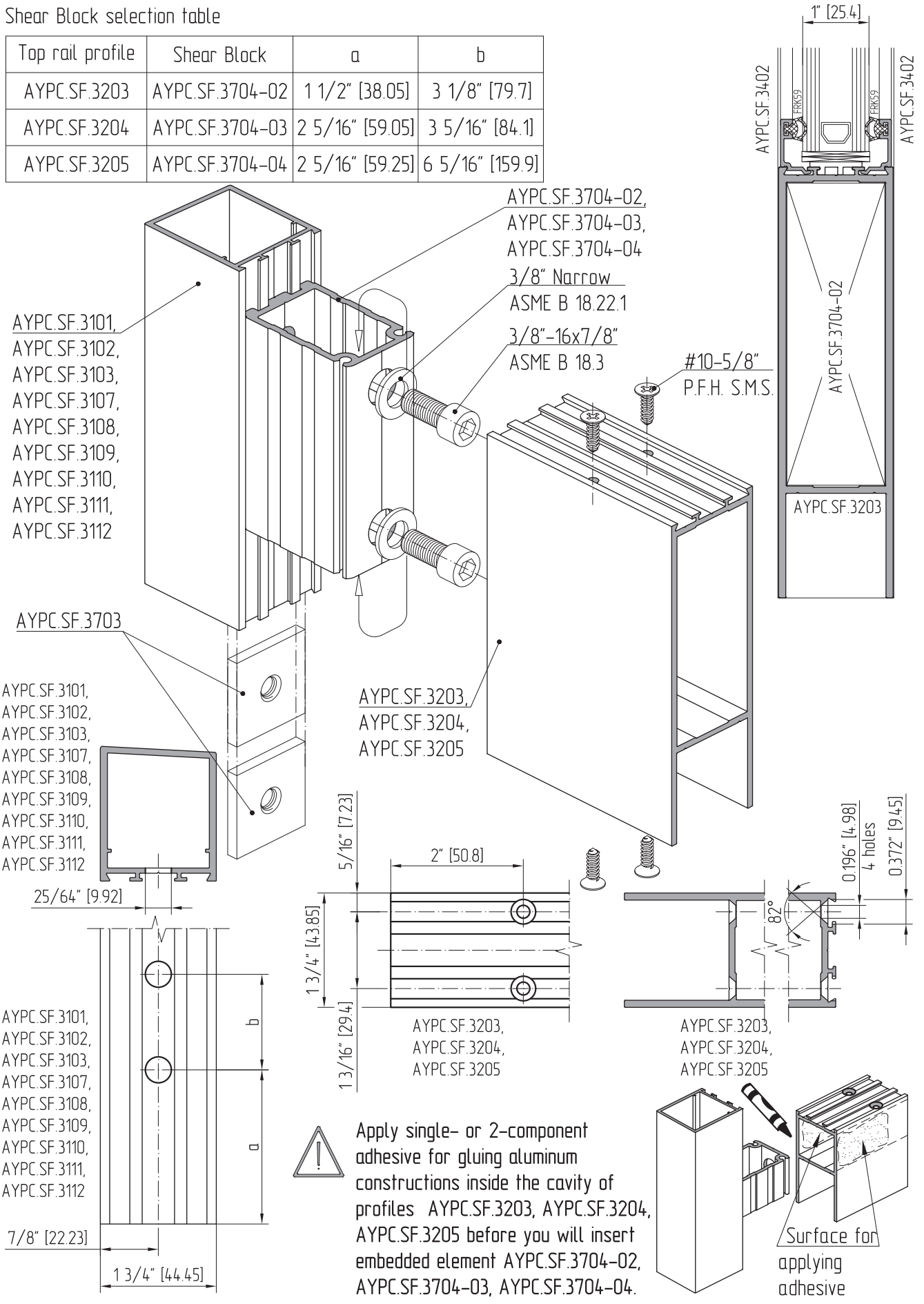


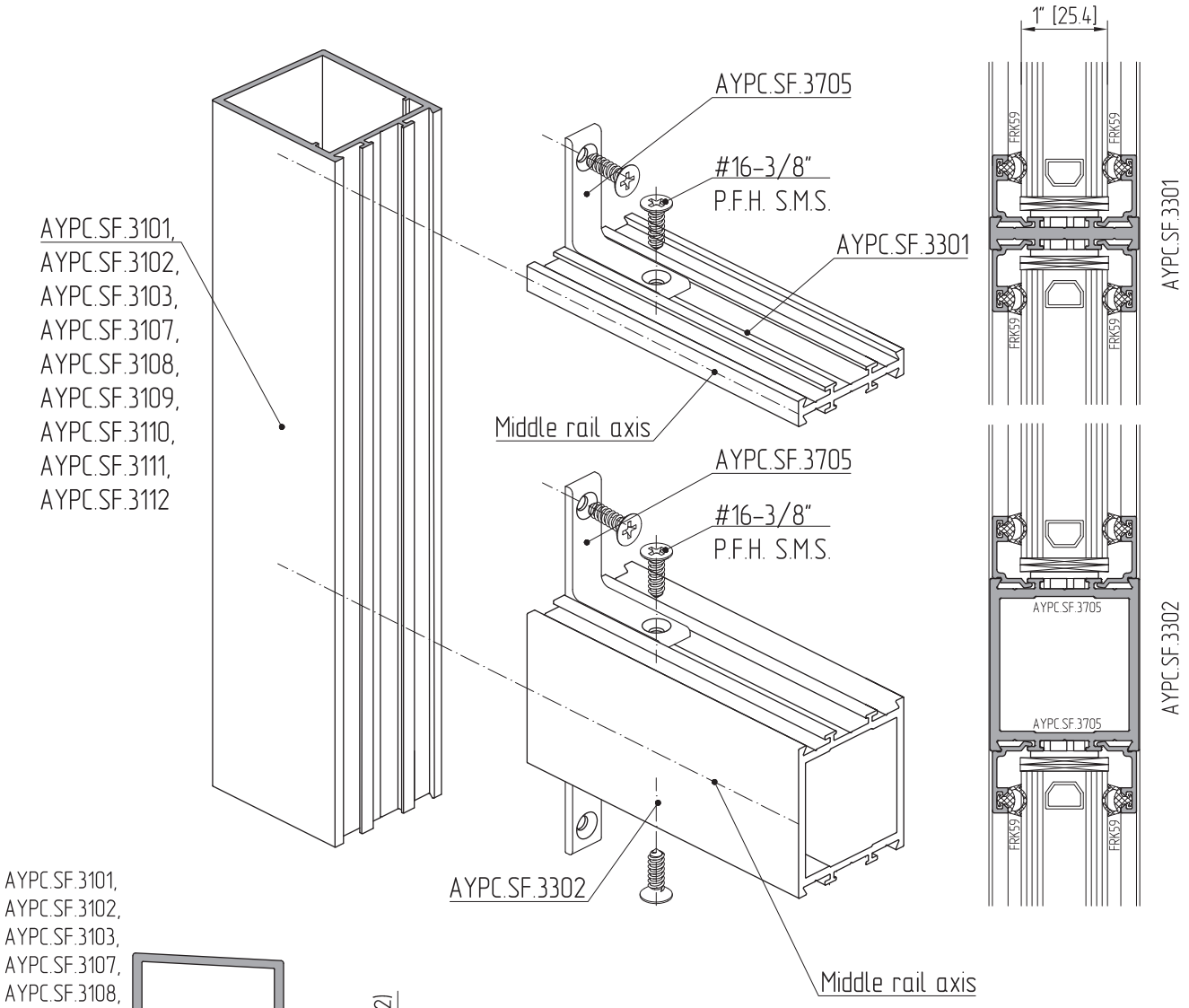


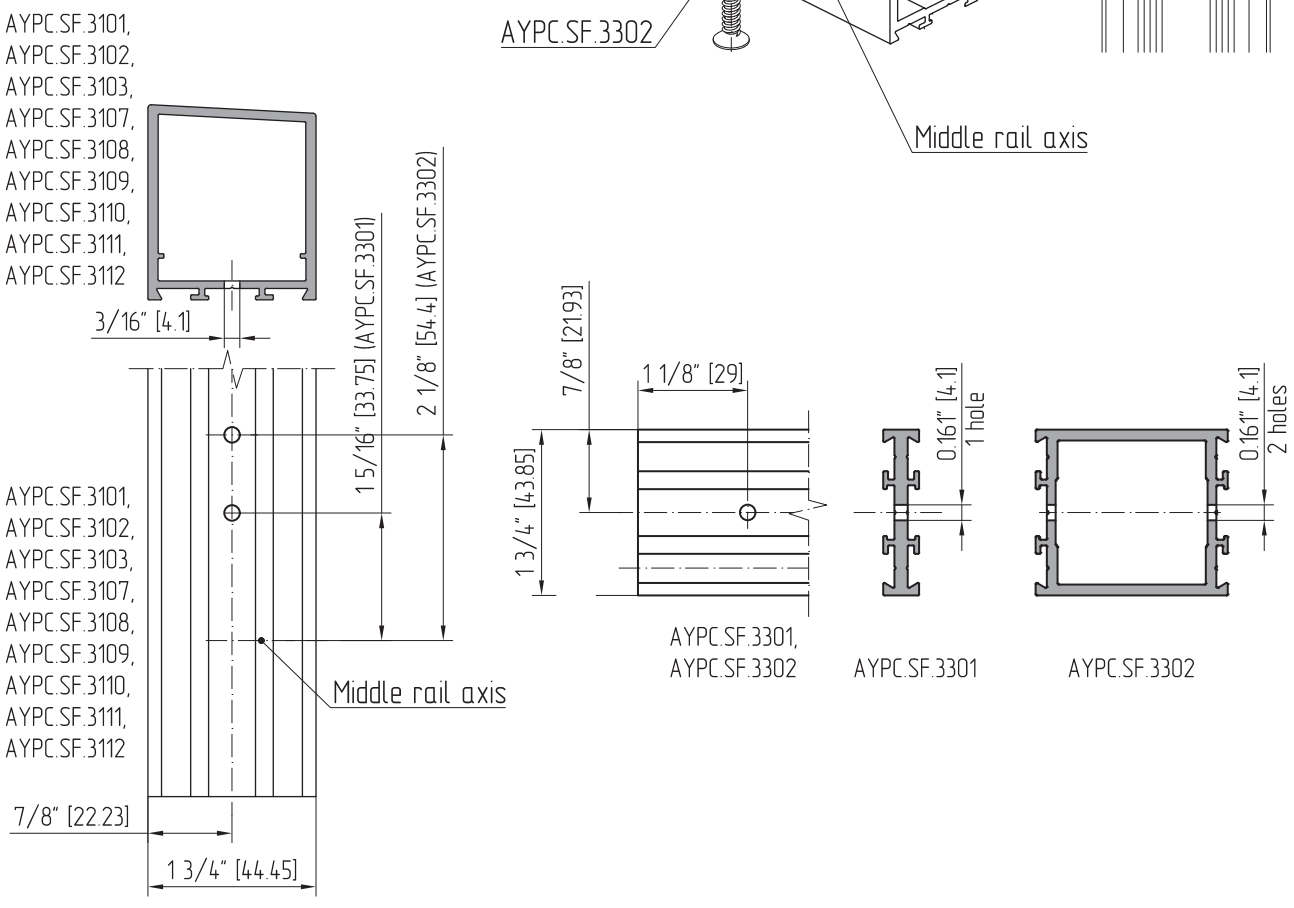

1" [25.4]
AYPC.SF.3402
AYPC.SF.3402
ERMS9
ERMS9
AYPC.SF.3704
AYPC.SF.3202
AYPC.SF.3101, AYPC.SF.3102,
AYPC.SF.3103, AYPC.SF.3107,
AYPC.SF.3108, AYPC.SF.3109,
AYPC.SF.3110, AYPC.SF.3111,
AYPC.SF.3112
AYPC.SF.3704
3/8" Narrow
ASME B 18.22.1
3/8"-16x7/8"
ASME B 18.3
#10-5/8"
P.F.H. S.M.S.
AYPC.SF.3703
AYPC.SF.3202
AYPC.SF.3101,
AYPC.SF.3102,
AYPC.SF.3103,
AYPC.SF.3107,
AYPC.SF.3108,
AYPC.SF.3109,
AYPC.SF.3110,
AYPC.SF.3111,
AYPC.SF.3112
25/64" [9.92]
AYPC.SF.3101,
AYPC.SF.3102,
AYPC.SF.3103,
AYPC.SF.3107,
AYPC.SF.3108,
AYPC.SF.3109,
AYPC.SF.3110,
AYPC.SF.3111,
AYPC.SF.3112
2 5/16" [59.05]
7/8" [22.23]
1 3/4" [44.45]
5/16" [7.23]
2" [50.8]
1 3/4" [43.85]
1 3/16" [29.4]
AYPC.SF.3202
0.196" [4.98]
4 holes
0.372" [9.45]
82°
AYPC.SF.3202
Apply single- or 2-component adhesive for gluing aluminum constructions inside the cavity of profiles AYPC.SF.3202 before you will insert embedded element AYPC.SF.3704.
Surface for applying adhesive

Shear Block selection table

Top rail profile	Shear Block	a	b
AYPC.SF.3203	AYPC.SF.3704-02	1 1/2" [38.05]	3 1/8" [79.7]
AYPC.SF.3204	AYPC.SF.3704-03	2 5/16" [59.05]	3 5/16" [84.1]
AYPC.SF.3205	AYPC.SF.3704-04	2 5/16" [59.25]	6 5/16" [159.9]

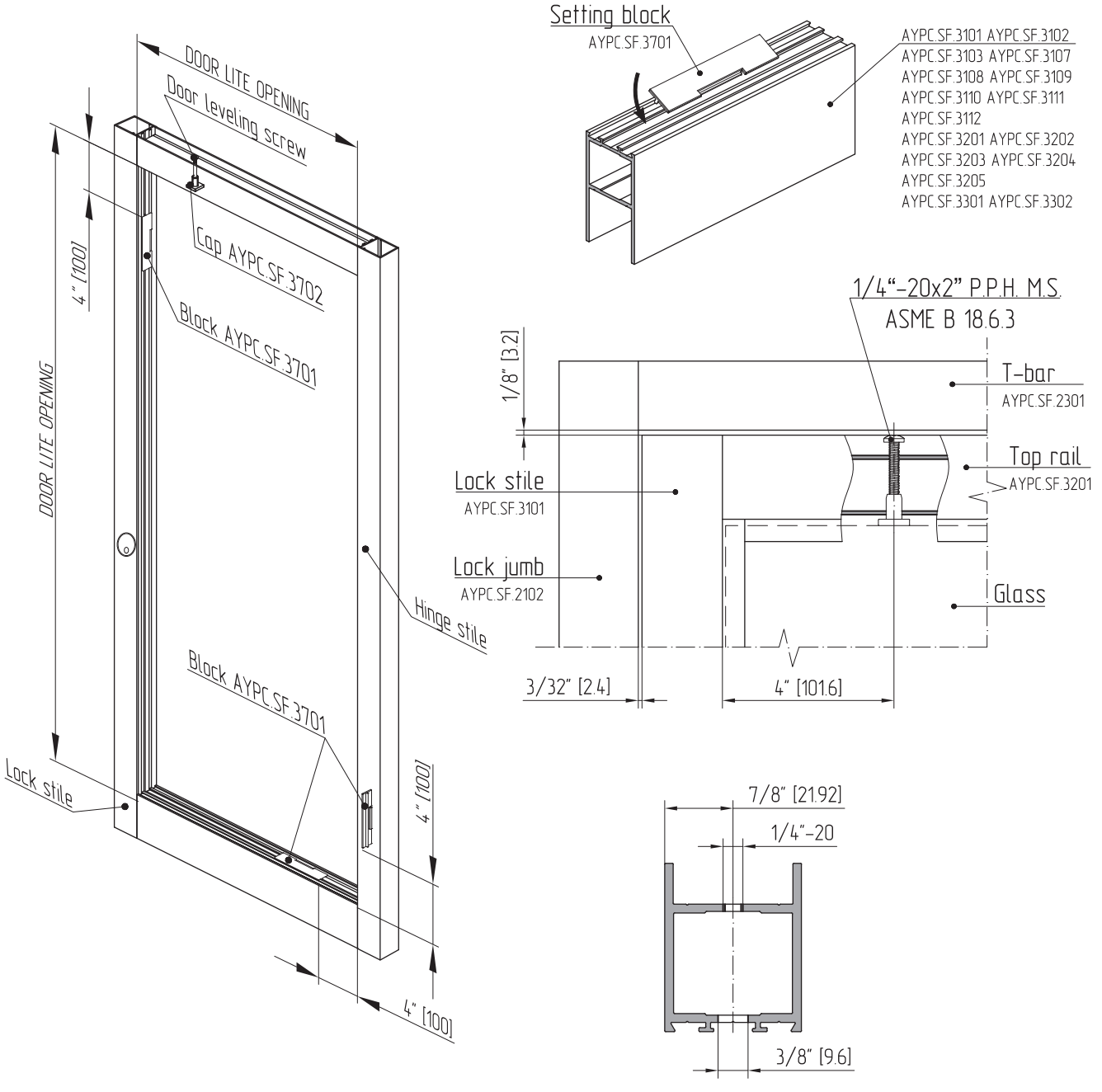



AYPC.SF.3101,
AYPC.SF.3102,
AYPC.SF.3103,
AYPC.SF.3107,
AYPC.SF.3108,
AYPC.SF.3109,
AYPC.SF.3110,
AYPC.SF.3111,
AYPC.SF.3112
AYPC.SF.3705
#16-3/8"
P.F.H. S.M.S.
AYPC.SF.3301
Middle rail axis
AYPC.SF.3705
#16-3/8"
P.F.H. S.M.S.
AYPC.SF.3302
Middle rail axis
1" [25.4]
FRK59
AYPC.SF.3301
AYPC.SF.3705
AYPC.SF.3302

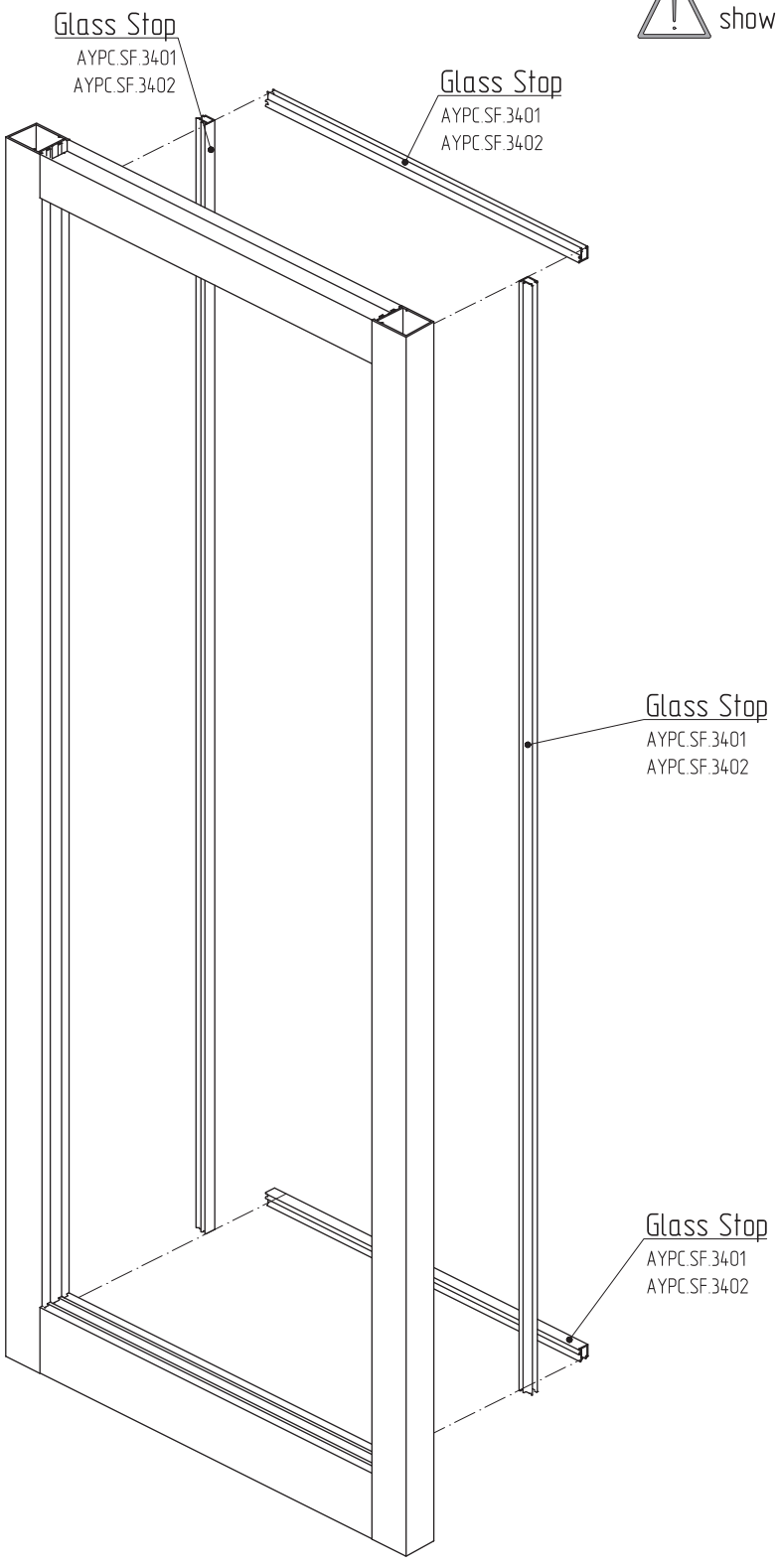

AYPC.SF.3101,
AYPC.SF.3102,
AYPC.SF.3103,
AYPC.SF.3107,
AYPC.SF.3108,
AYPC.SF.3109,
AYPC.SF.3110,
AYPC.SF.3111,
AYPC.SF.3112
3/16" [4.1]
1 5/16" [33.75] (AYPC.SF.3301)
2 1/8" [54.4] (AYPC.SF.3302)
Middle rail axis
7/8" [22.23]
1 3/4" [44.45]
7/8" [21.93]
1 1/8" [29]
1 3/4" [43.85]
AYPC.SF.3301,
AYPC.SF.3302
0.161" [4.1]
1 hole
AYPC.SF.3301
0.161" [4.1]
2 holes
AYPC.SF.3302

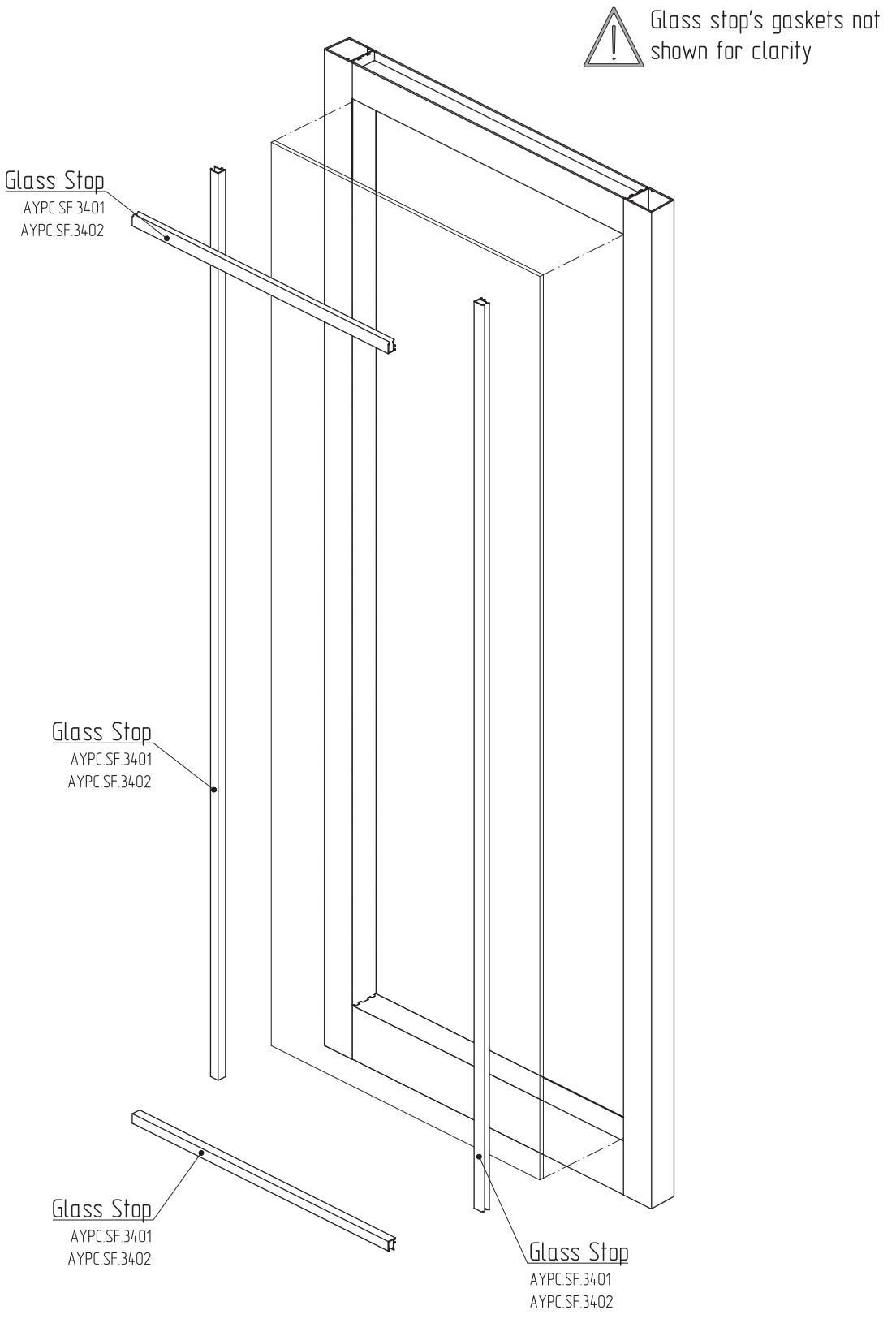
EDGE BLOCK, SETTING BLOCK LOCATIONS and GLAZING STEPS

1. Install door in frame.
2. Install horizontal glass stops first, then verticals on one side of door.
3. Install three setting blocks AYPC.SF.3701.
4. Position AYPC.SF.3702.
5. Install glass in place, centered between stiles and AYPC.SF.3701 block.
6. Install remaining horizontal glass stops, then vertical glass stops.
7. Turn the door leveling screw clockwise and adjust for uniform clearance between top edge of door and doorframe.
8. On pair of STOREFRONT DOORS, adjust astragal.

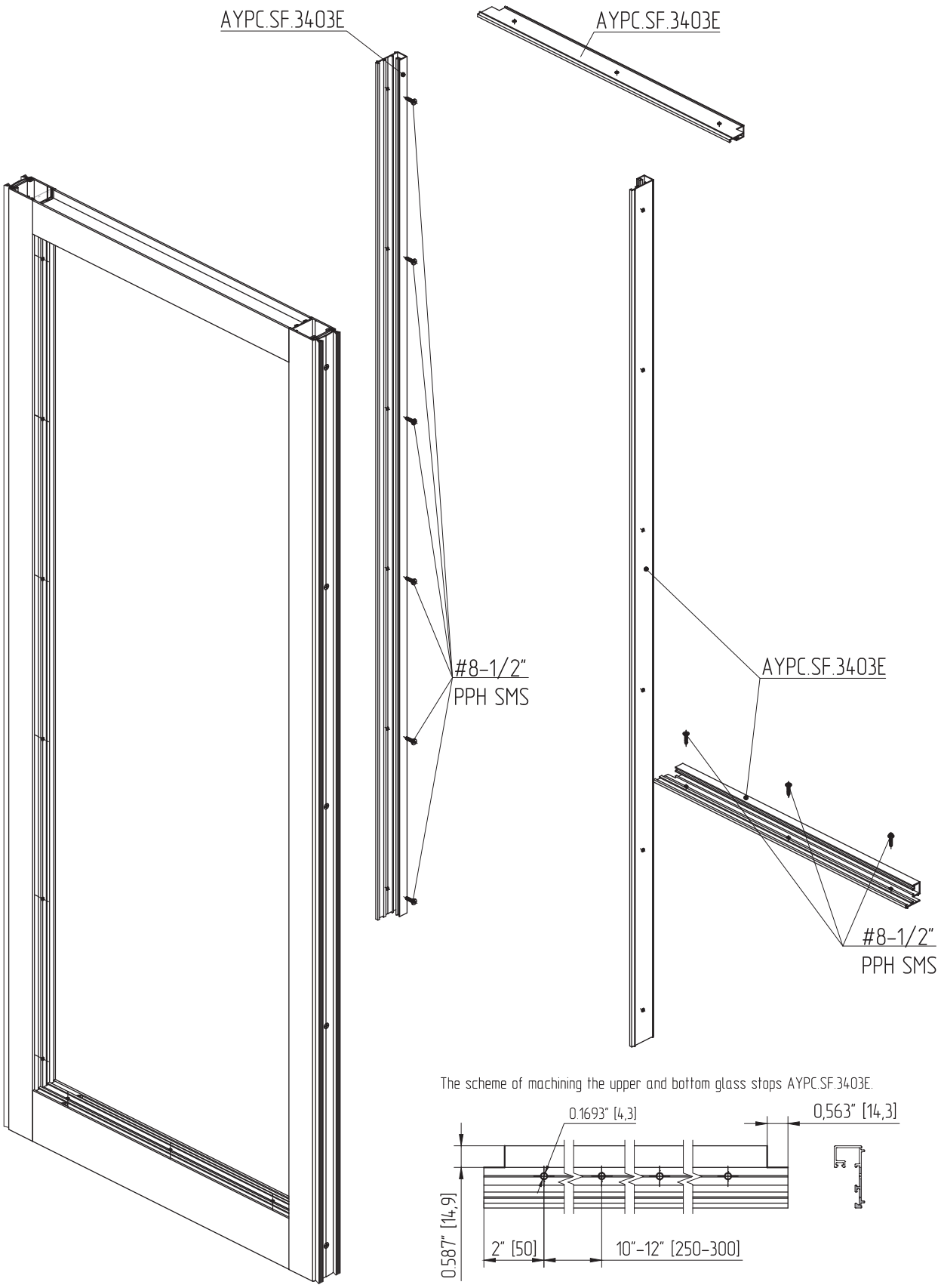


Glass stop's gaskets not shown for clarity



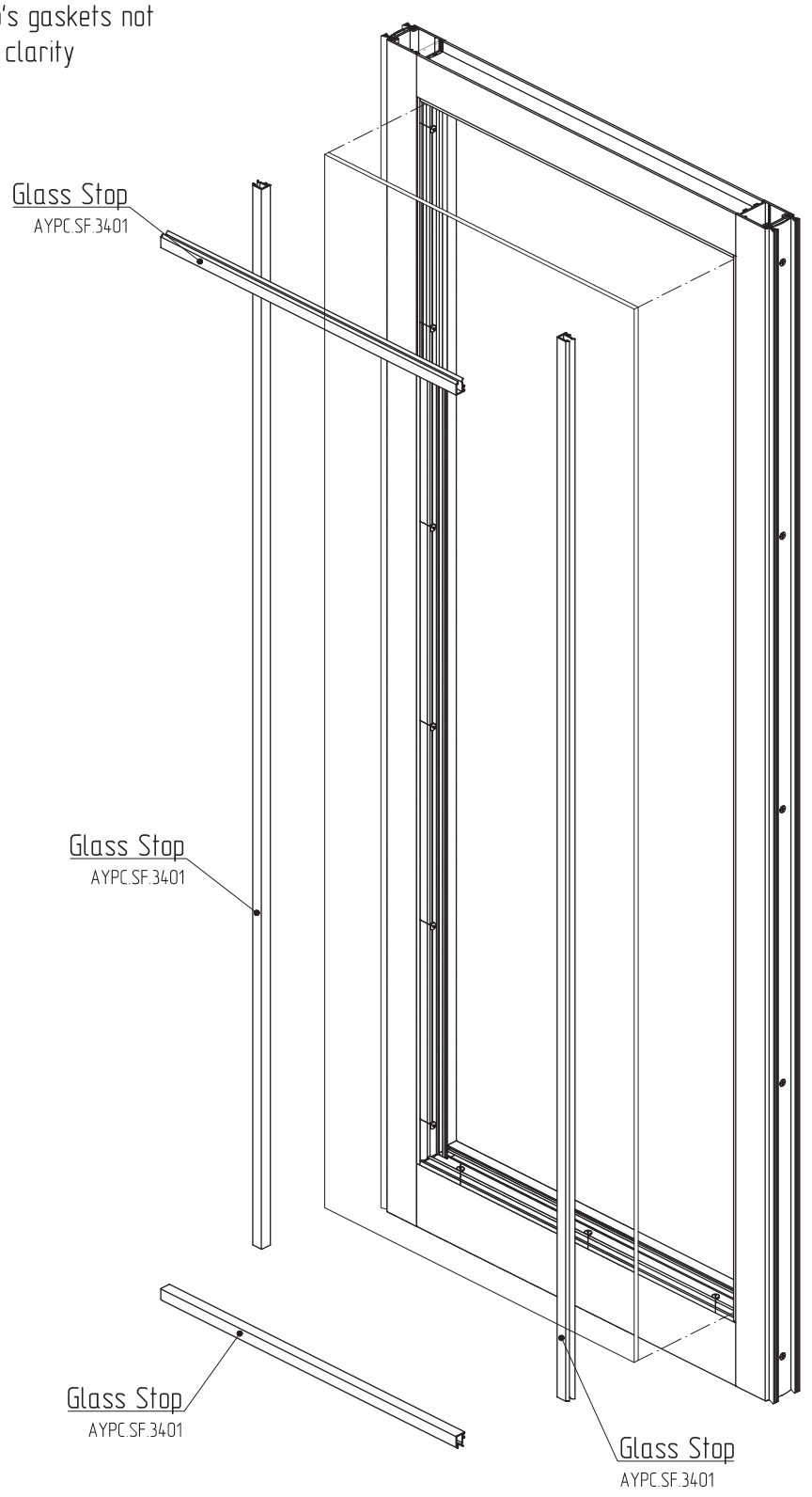

Glass stop's gaskets not shown for clarity
Glass Stop
AYPC.SF.3401
AYPC.SF.3402
Glass Stop
AYPC.SF.3401
AYPC.SF.3402
Glass Stop
AYPC.SF.3401
AYPC.SF.3402
Glass Stop
AYPC.SF.3401
AYPC.SF.3402

Glass stop's gaskets not shown for clarity



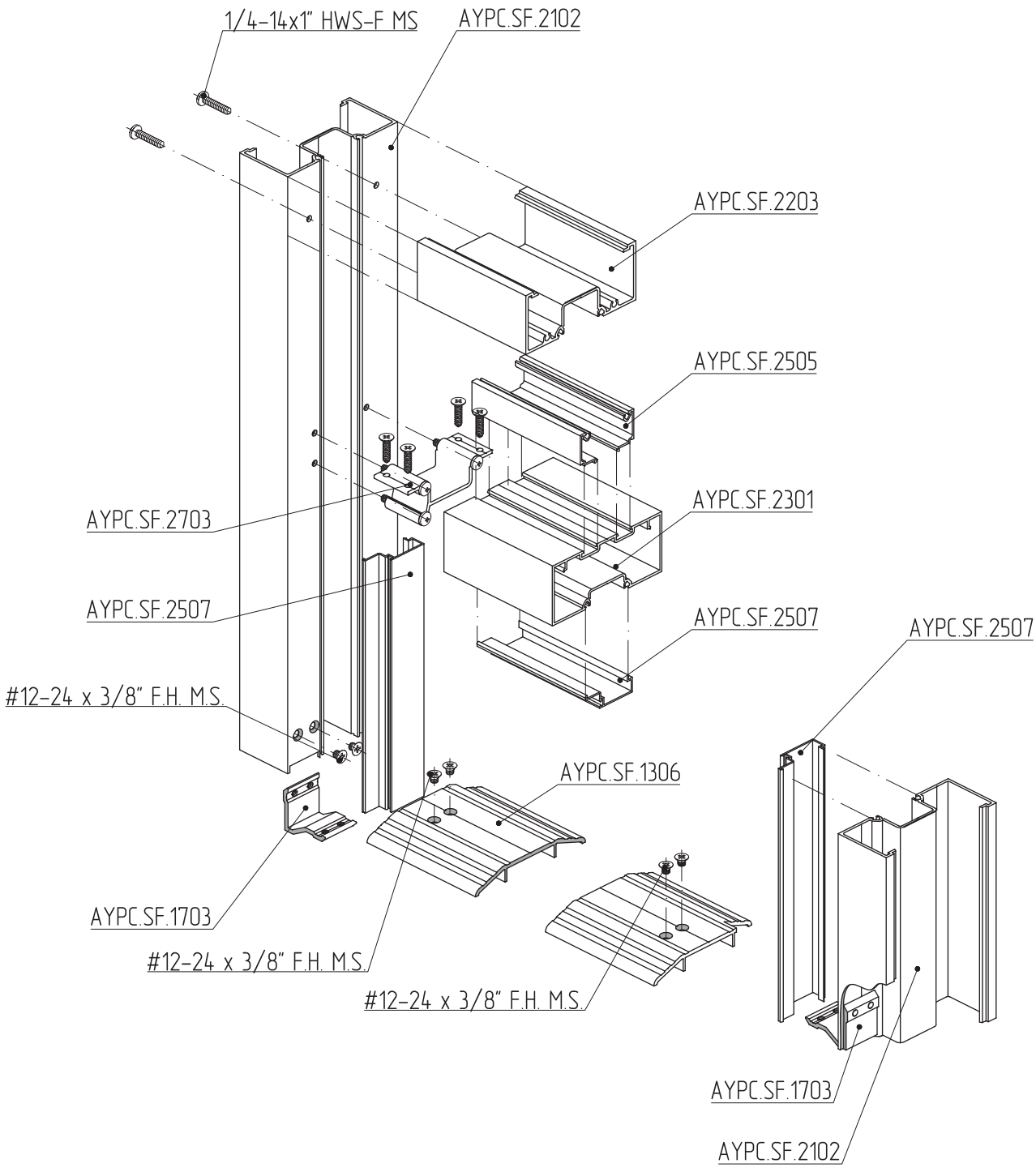
The scheme of machining the upper and bottom glass stops AYPC.SF.3403E.

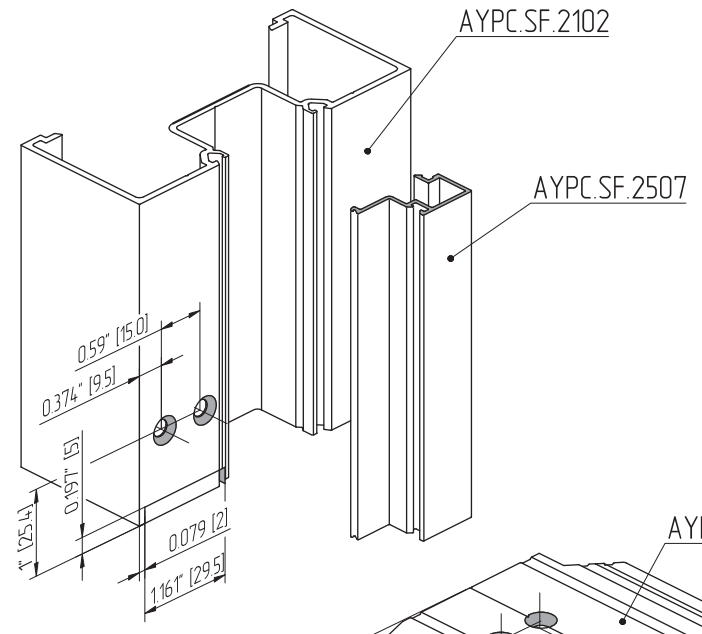
Glass stop's gaskets not shown for clarity

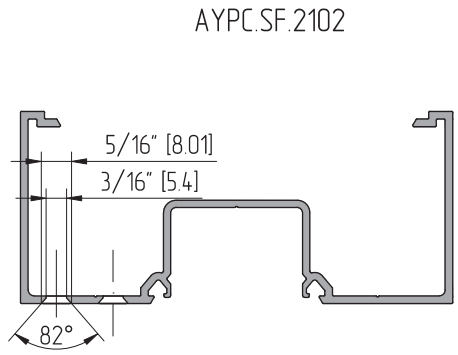


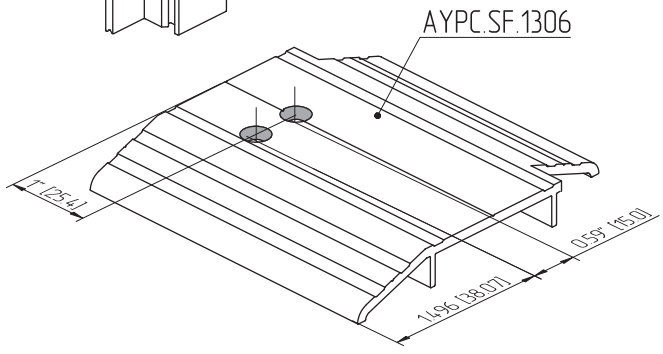
ASSEMBLY INSTRUCTIONS:

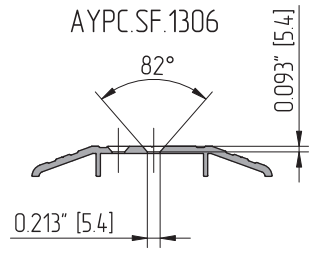
1. Verify opening size. Allow for 1/4" (6.4) shim and caulk space at sides, and 1/2" (12.7) space at top of frame.
2. If required, cut off top of vertical jambs to adjust frame to desired height.
3. Cut templates from instructions. Align edge of template with top of vertical and drill holes for head clips.
4. Attach anchor clips for head, door header, and threshold to jambs with provided screws.
5. Butter contact surface of anchor clips with sealant.
6. Assemble head and door header to jambs as shown.

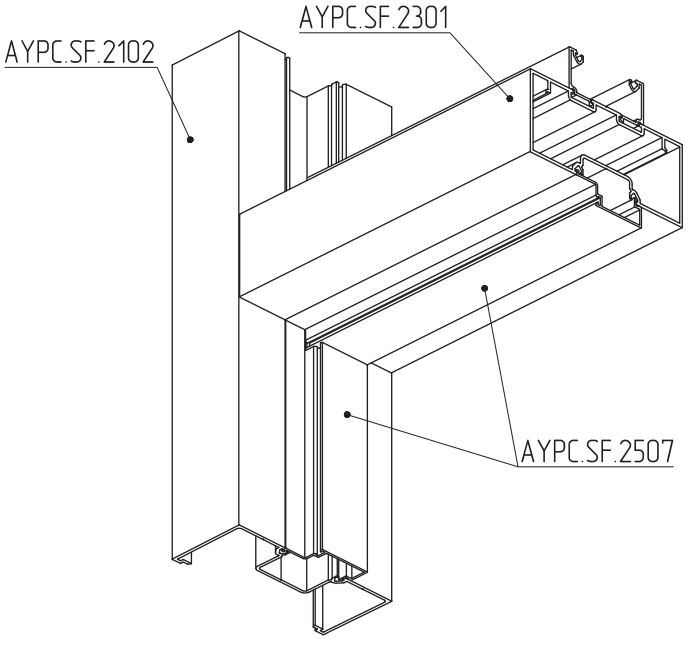


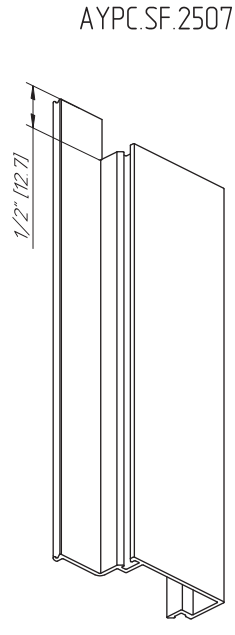

AYPC.SF.2102
AYPC.SF.2507
0.59" [15.0]
0.374" [9.5]
0.197" [5]
1" [25.4]
0.079 [2]
1.161" [29.5]


AYPC.SF.2102
5/16" [8.01]
3/16" [5.4]
82°


AYPC.SF.1306
1" [25.4]
0.59" [15.0]
1.496 [38.07]

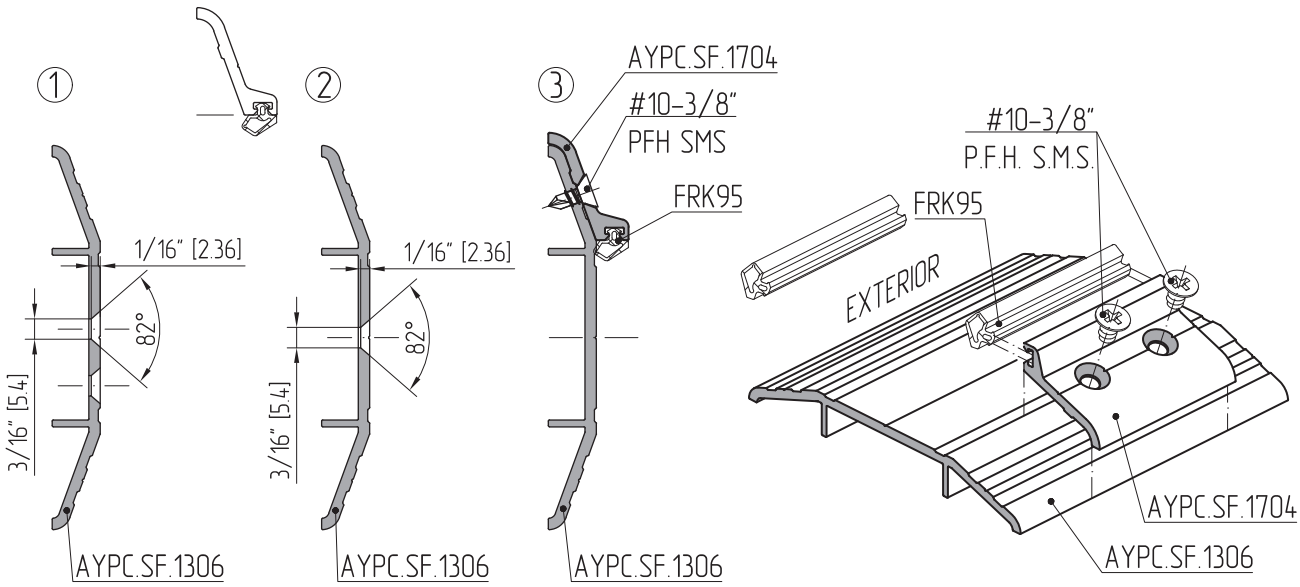

AYPC.SF.1306
82°
0.093" [5.4]
0.213" [5.4]


AYPC.SF.2102
AYPC.SF.2301
AYPC.SF.2507


AYPC.SF.2507
1/2" [12.7]

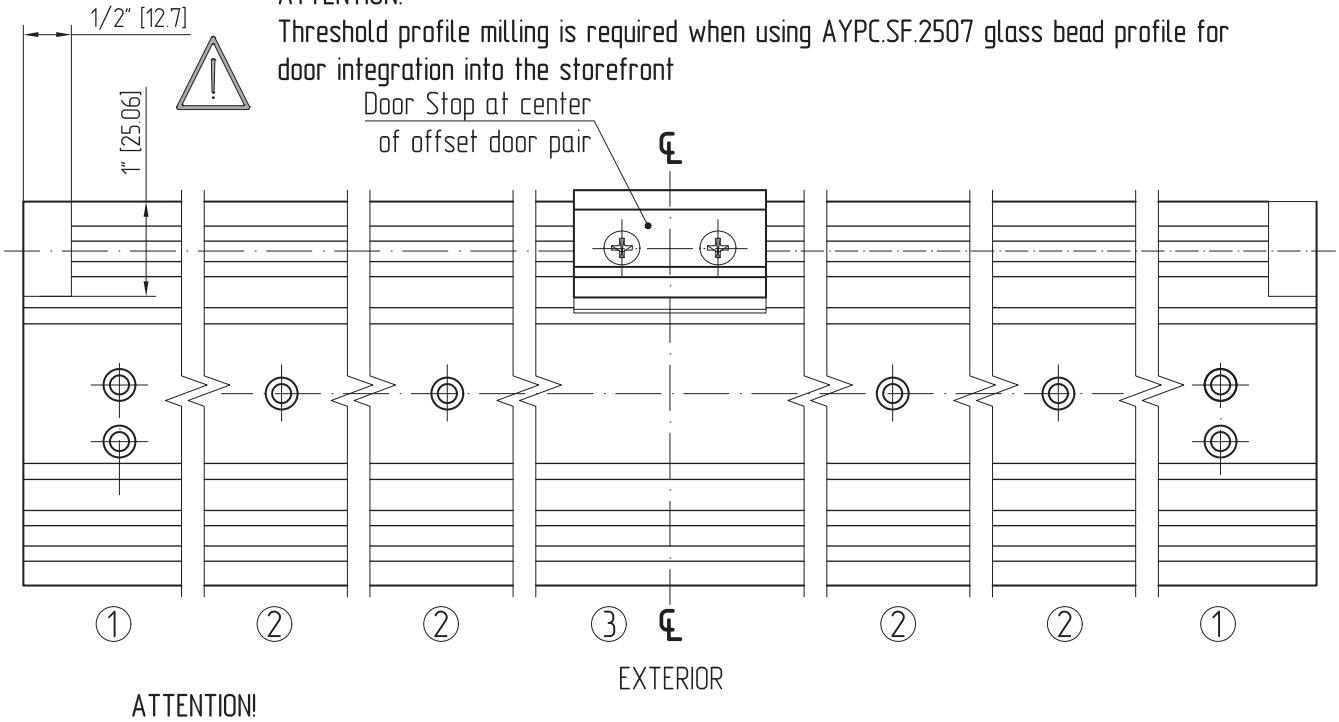
INSTALLATION INSTRUCTIONS:

1. Set frame into opening plumb and square.
2. Drill holes for #12 installation screws starting 6" (152.4) from corners and not more than 24" (609.6) O.C.
3. Secure jambs and head to opening and threshold to floor with #12 screws.
4. If pivot is not supported by finished floor, block as required.
5. Snap door stops with weatherstrip into jambs and door header. Jamb stops run through.
6. For 1" (25.4) glazing, snap jamb sash into jambs. Jamb sash runs through.
7. Place glass setting blocks in door header at quarter or eighth points as required and glaze transom.
8. Install sash glazing bead.
9. Roll-in glazing gaskets for jambs and header.



ATTENTION!

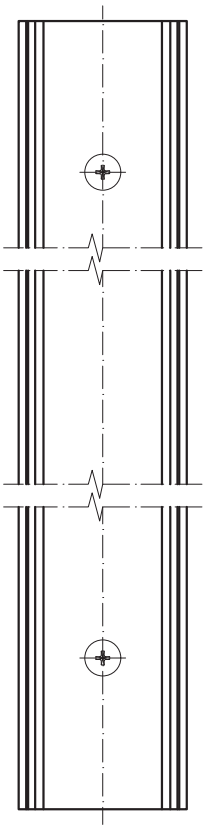
Threshold profile milling is required when using AYPC.SF.2507 glass bead profile for door integration into the storefront

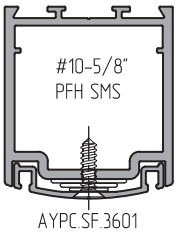


ATTENTION!

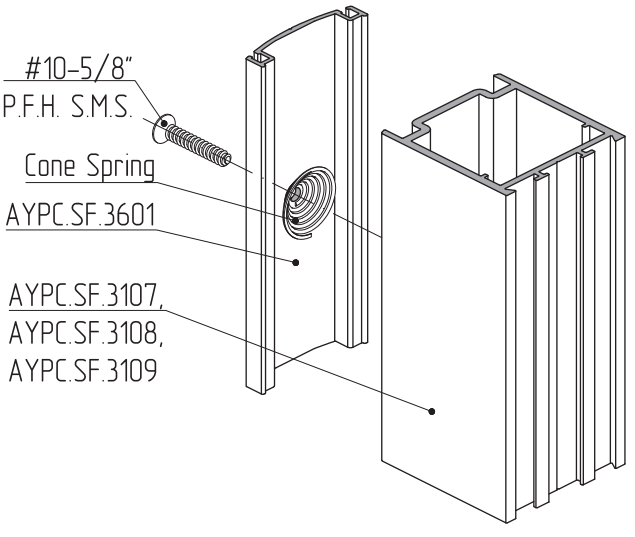
In case of additional requirements of air leakage and water penetration profile AYPC.SF.1509 (with gasket FRK07) can be used on all length of threshold AYPC.SF.1306. Profile AYPC.SF.1509 Fastening

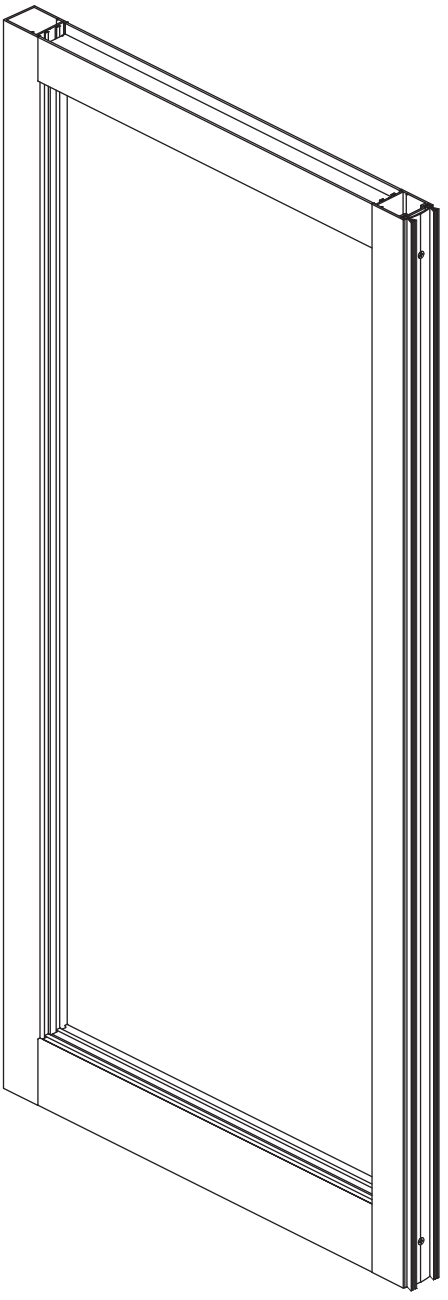
ASTRAGAL INSTALLATION INSTRUCTION:





AYPC.SF.3601





ADJUST WEATHER ASTRAGAL FOR PAIR OF STOREFRONT DOORS

Adjust the weather astragal by turning the adjustment screws located along the meeting stile cover of the active leaf:
Clockwise to increase the distance between leafs. Counter clockwise to reduce the clearance between leafs.

Calculate Door Glass Sizes:

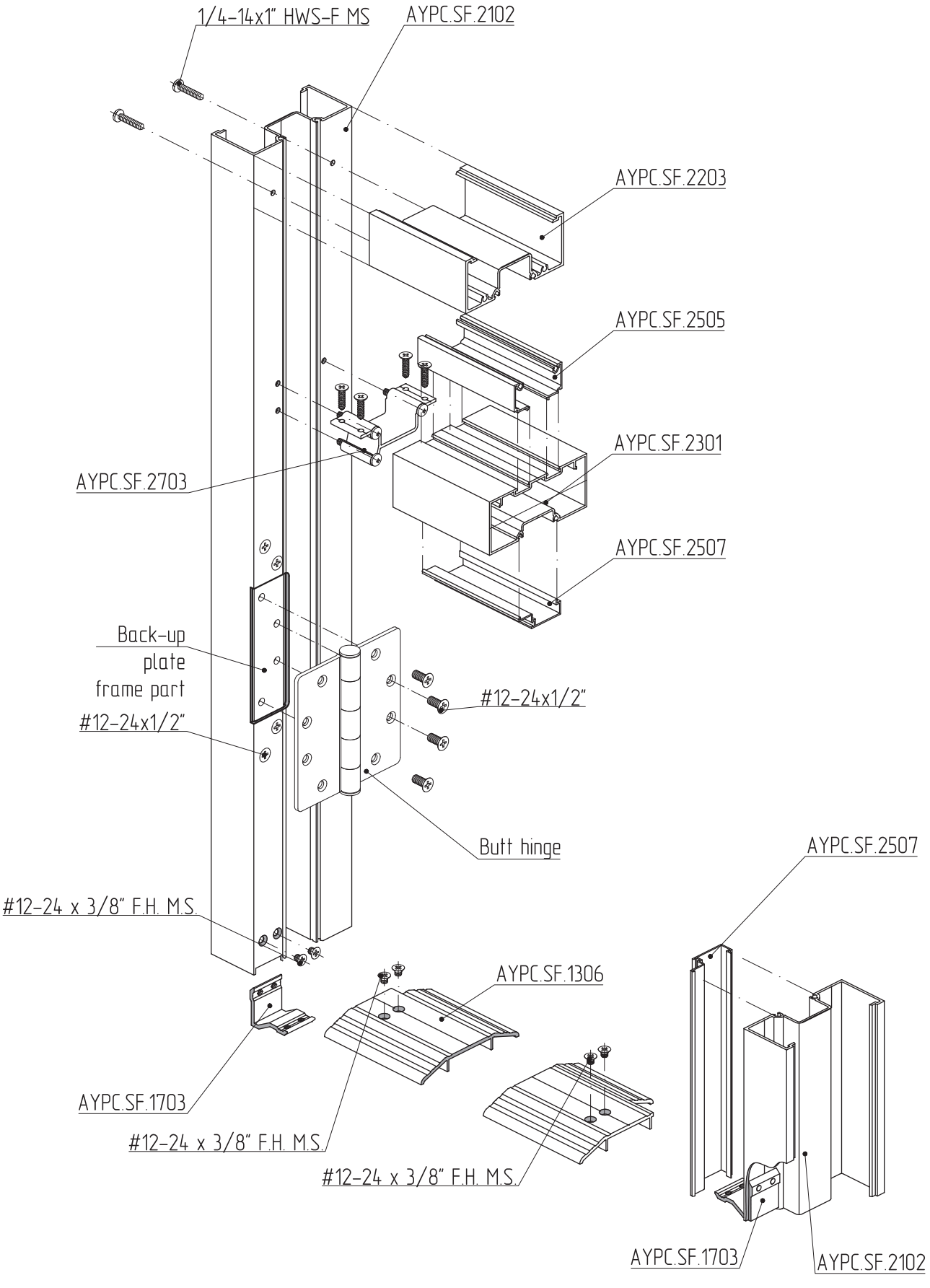
Transom glass formula

TYPE	SF450
Width for Insulating Glass	D.L.O.+(plus)31/32"
Height for Insulating Glass	D.L.O.+(plus)31/32"

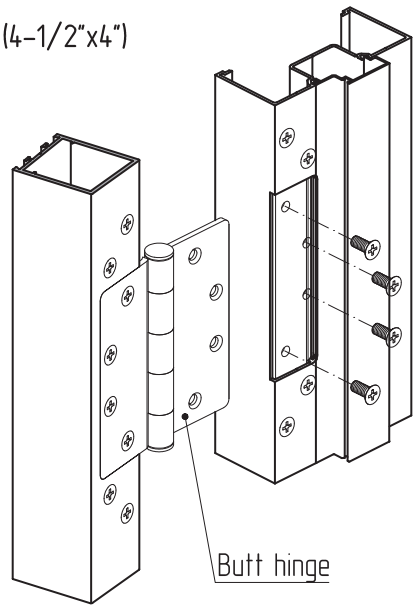
Threshold (1/2") Allowance Included

Door Opening Size	Narrow Stile	Medium Stile	Wide Stile
Height (Glass for Insulating Glass)	D.O.–(minus)6–5/8"	D.O.–(minus)11"	D.O.–(minus)13–5/16"
Width (Glass for Insulating Glass)	D.O.–(minus)4–3/4"	D.O.–(minus)7–3/4"	D.O.–(minus)10–3/4"
Width Pair (Glass for Insulating Glass)	(D.O. –(minus)5–7/16") ÷ 2	(D.O. –(minus)8–7/16") ÷ 2	(D.O. –(minus)11–7/16") ÷ 2

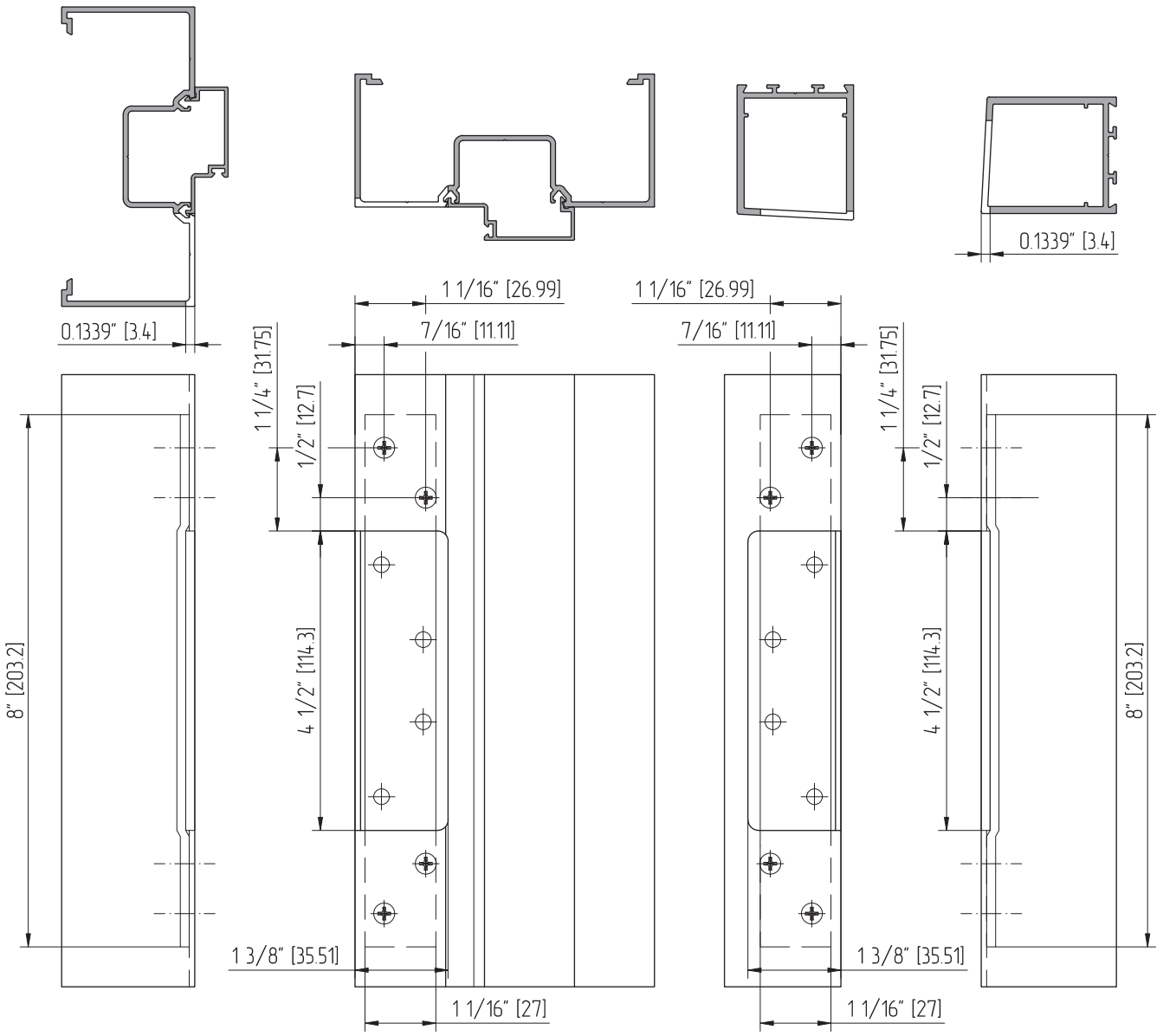
FRAME UNIT FOR BUTT HUNG DOOR (OPEN BACK FRAME)



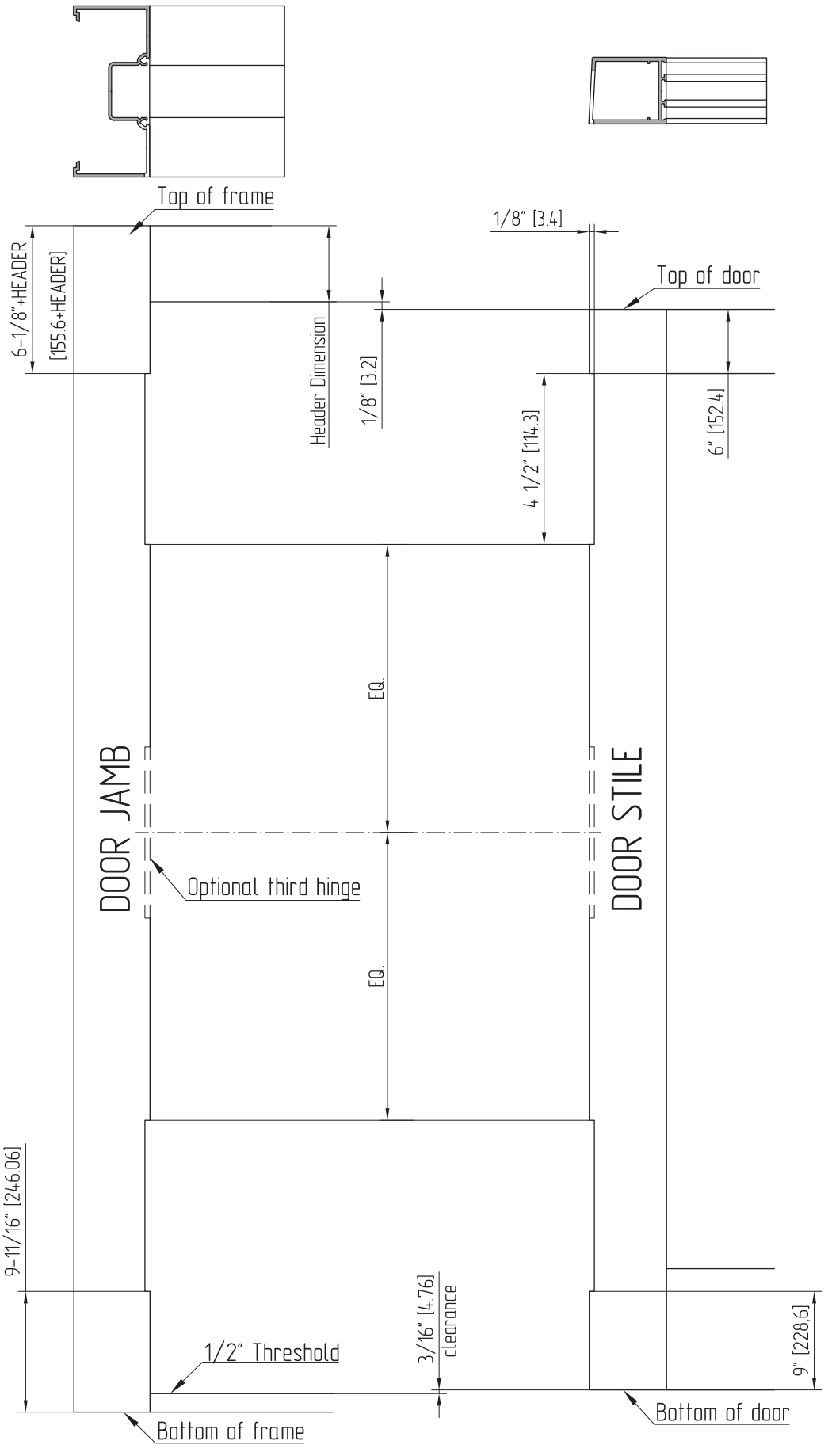
BUTT HINGE (4-1/2"x4")



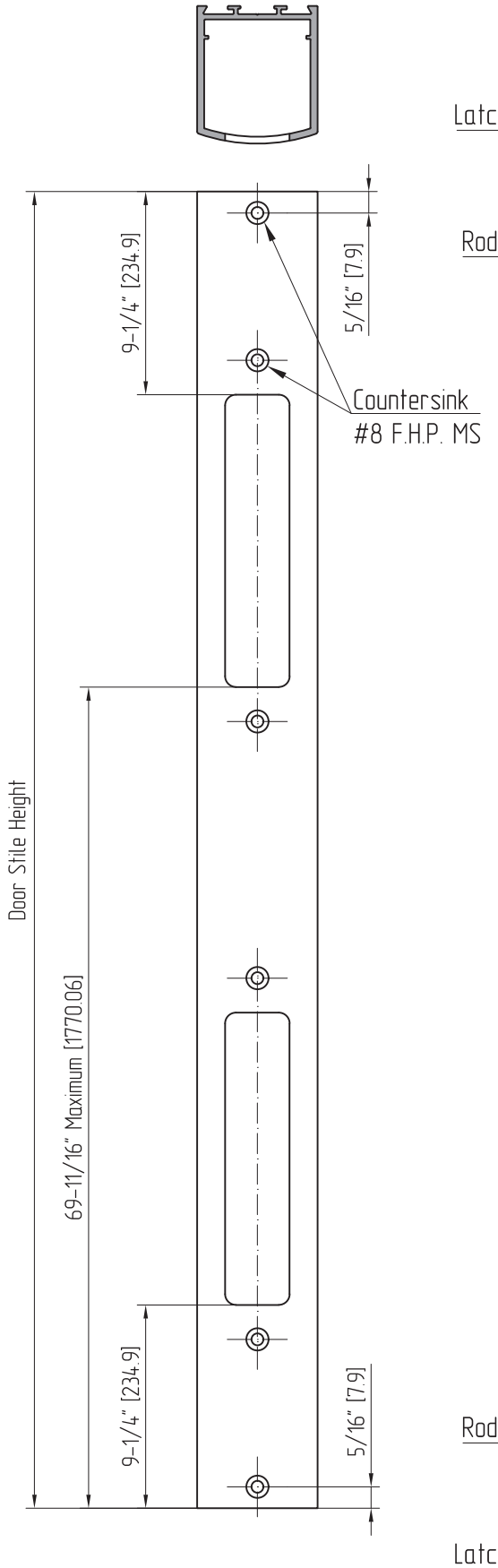
Prepare frame and door for hinges, as shown.
Install back-up plates in door and frame.
Install butt hinges in door. Set door in place and fasten hinges to frame.
For butt hinge standart location see page 05.03.

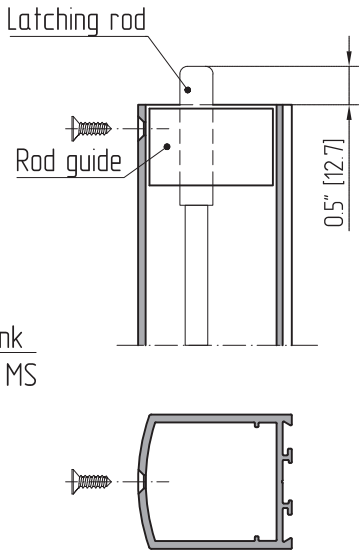


BUTT HINGE STANDARD LOCATION

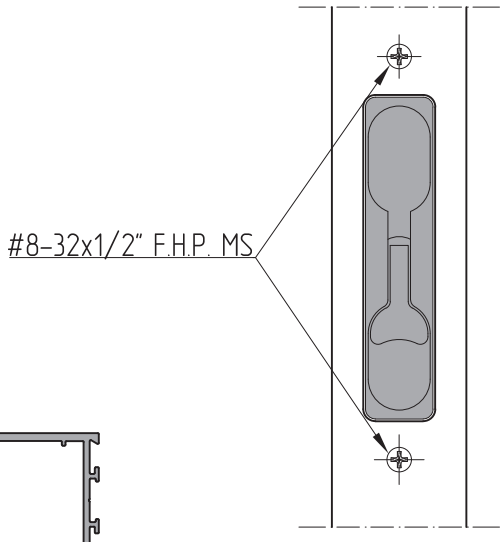


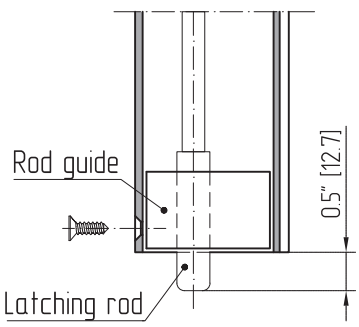
FLUSH BOLT INSTALLATION IN INACTIVE LEAF OF DOOR PAIR



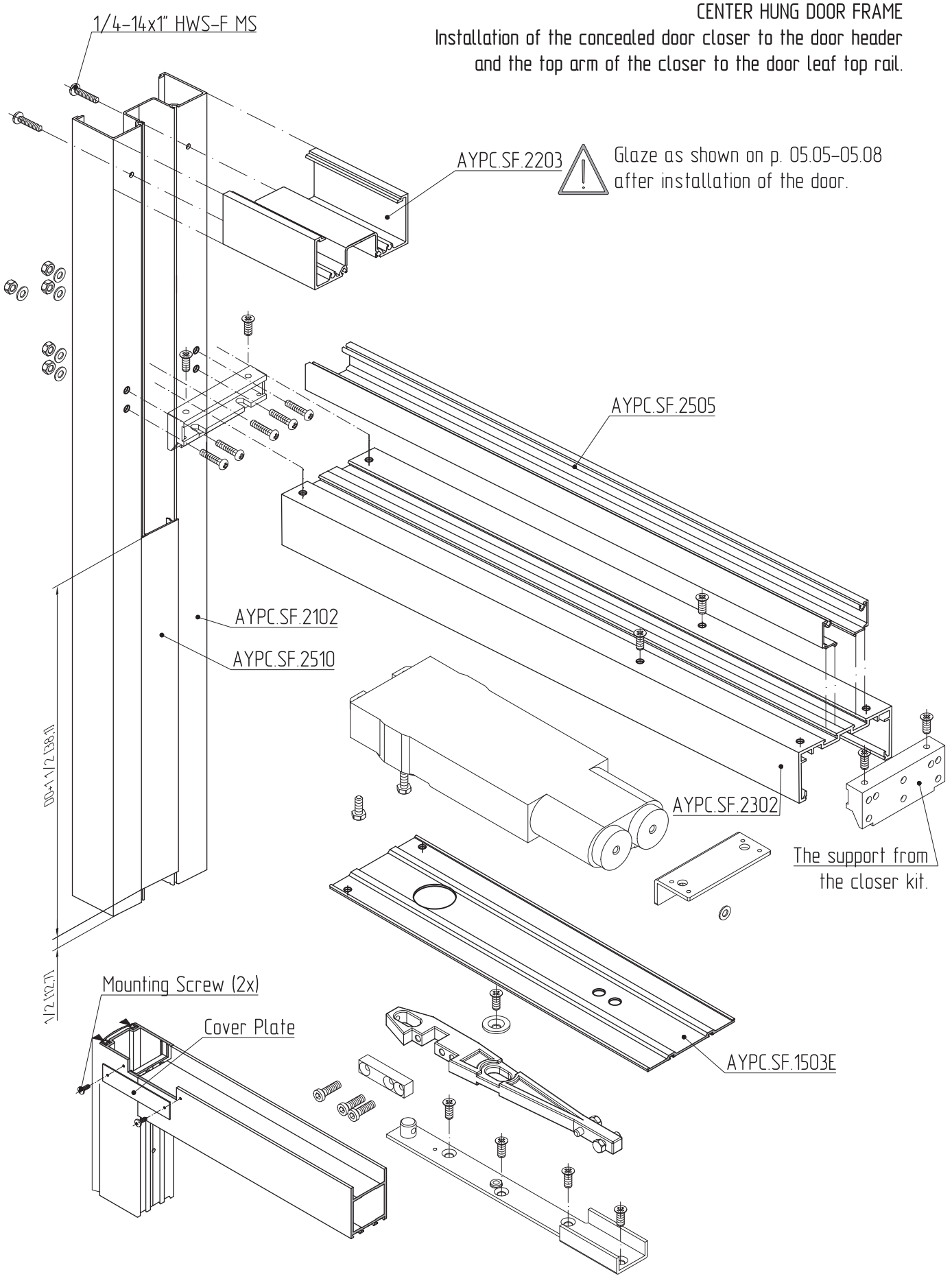


1. Insert flush bolts through cutouts in door sitle and push rod through top and bottom guides.
2. Adjust flush bolt rods so tips extend 1/2" beyond ends of door stile.
3. Attach top and bottom flush bolts with #8-32x1/2" FHP MS.
4. Position each lever in the lock position.
5. Flip levers to retract flush bolts.



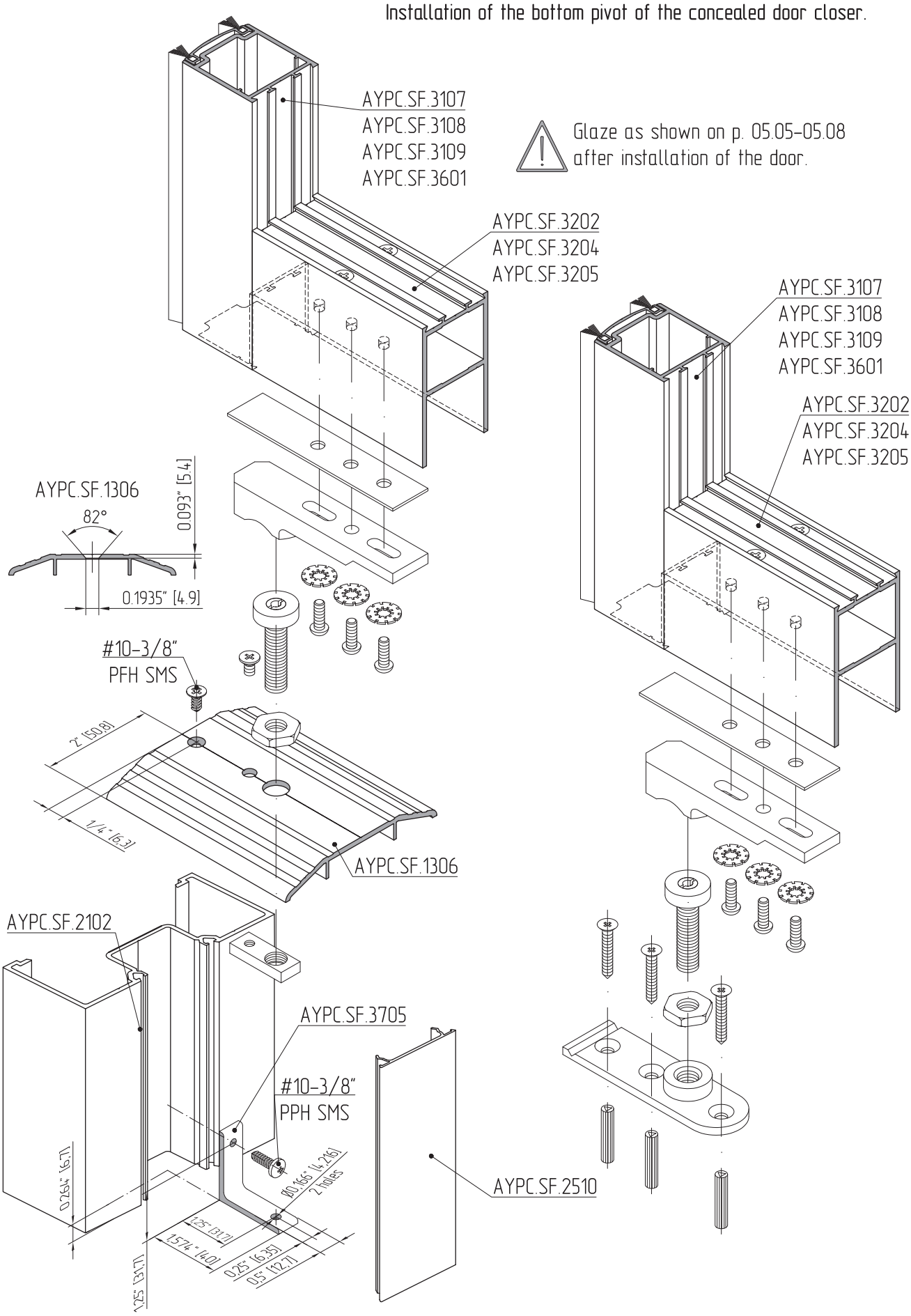


CENTER HUNG DOOR FRAME
Installation of the concealed door closer to the door header and the top arm of the closer to the door leaf top rail.

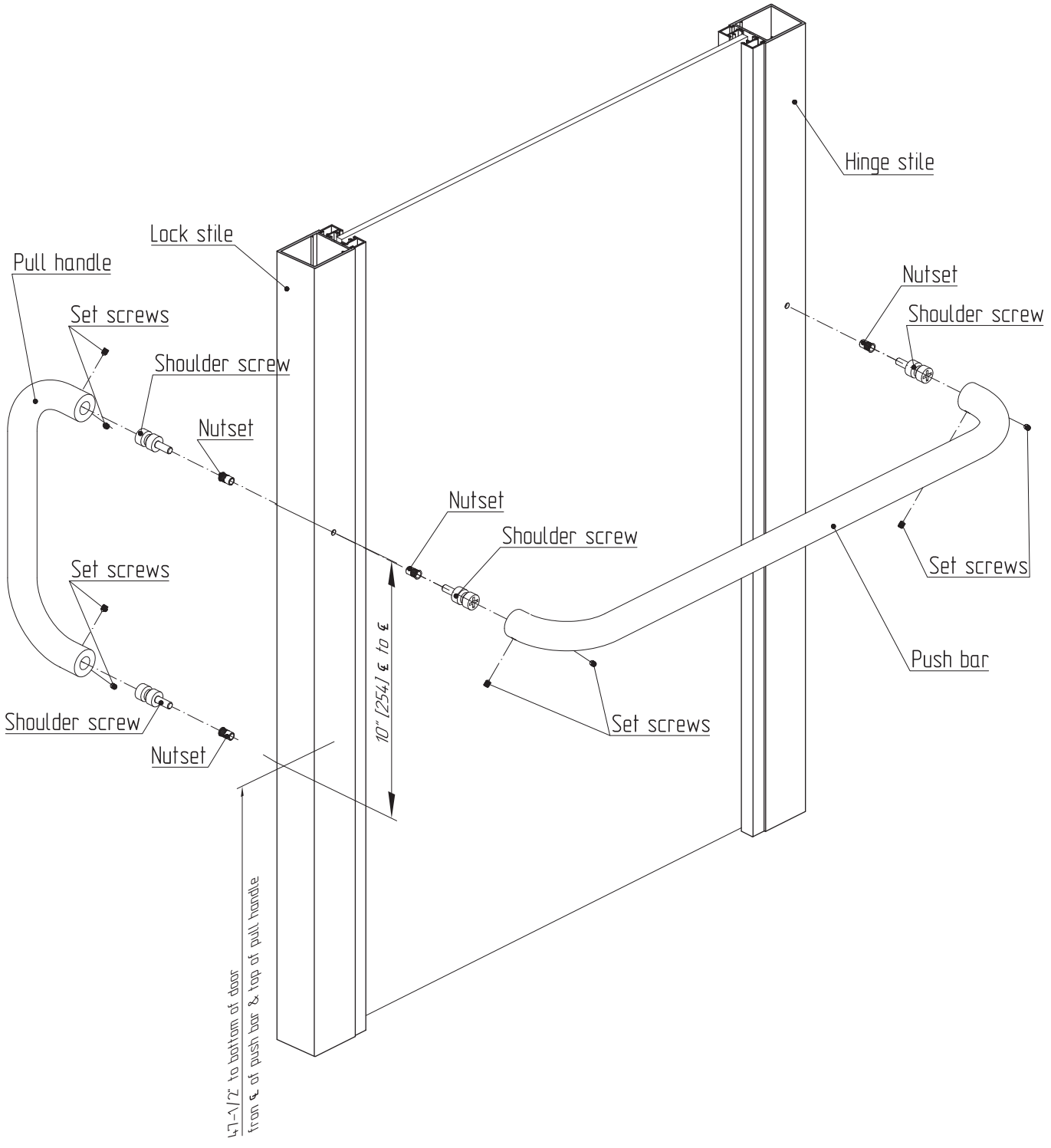


CENTER HUNG DOOR FRAME

Installation of the bottom pivot of the concealed door closer.



PUSH/PULL HARDWARE FOR OFFSET STOREFRONT DOORS



PUSH/PULL HARDWARE – PANIC STOREFRONT DOORS