

SERIES FLUSH GLAZE INSULATED FRAMING SYSTEM 51mm (2") X 114mm (4-1/2")

I. GENERAL

Scope of Work

Furnish materials, labour, plant, equipment, related items and services necessary for the supply, complete fabrication and installation of glazed wall aluminum framing as shown on the drawings, required by job conditions and specified herein.

Work Not Included

Structural support for the system, steel and other embeds in concrete or masonry, interior moulding, closure or trim as well as flashing unless specifically detailed and called out as such.
(Specifier List of Other Exclusions)

Related Work Specified Elsewhere (Specifier List)

Submittals

Shop Drawings

Prior to fabrication submit shop drawings showing frame elevations, full size details as far as practical, all dimensions, coordination with related work, provision for thermal expansion and main structure deformations and tolerances, sealing and caulking joints and their sizes, material and installation notes as well as all necessary references to local Building Code requirements.

Samples

Before any work is fabricated, all requested representative and properly labeled samples, including specified products with their finishes, shall be submitted to the Architect for his approval.

II. PRODUCTS

Glazing System

- ° The system must allow for full integration with the building envelope.
- ° Aluminum framing shall be **1140 TB Series**, thermally broken - with high strength casting resin and mechanical debridging - (Specifier selection) as manufactured by **Aluminex**
- ° The system shall be dry-dry, outside-glazed, able to accommodate double glass units 25.4 mm / 1", where required, as specified and shown on the architectural drawings.
- ° The nominal profile dimensions shall be 50.8 mm / 2" wide and 114.3mm / 4.5" deep appropriate for load and span conditions.
If required, steel reinforcing shall contribute to the glazing system structural capacity.
- ° Glass retention shall be achieved by flush glazing with extruded aluminum exterior glazing stop as for dry-dry gasketing method.
- ° Continuous sill aluminum flashing, with its properly designed end dams, must ensure that all water intrusions are directed to the outside.
- ° Whenever substitute systems and/or products are considered, supporting data must be submitted ten (10) days prior to bid date to allow for valid comparison.

Performance

- ° The minimum requirements shall be based on the following ASTM test standards: E-283 Air Infiltration, E-331 Water Penetration, and E-330 Structural Performance with L/ 175 or 19 mm / 0.75" (whichever is less) deflection limitations.
- ° Temperature Index, for the thermally broken variant, depended upon glass selection, shall remain in the range of I = 54 to 64.
- U-value of the assembly shall remain in 1.84 to 3.16 W/m²K (0.32 to 0.49 Btu/ft²h*°F) range dependent upon glass selection. NFRC 100-2010 & AAMA 1502.7-1981 standard is applicable.
- ° Seismic movement minimum allowances shall be referred to and follow structural design and requirements of the main structure.

Materials

- ° Extruded aluminum shall be AA 6063 T6, Fy = 170 MPa / 25 KSI, alloy and temper minimum, or other as required by the Code and Standards, able to meet or exceed structural and finishing criteria as specified.
- ° Any defects impairing strength, durability or appearance are not acceptable.
- ° Sufficient strength and size fasteners shall be made of corrosion resistant and compatible material such as cadmium or zinc plated carbon steel type 400, stainless steel type 300, or aluminum.
- ° Anchoring fastener minimum penetration and location in the main structure materials shall follow manufacturer's specifications.
- ° Dis-similar materials shall be separated with approved bituminous paint or spacers, to prevent any galvanic action (corrosion).
- ° Glazing shall utilize wedge or spline extruded Neoprene, EPDM, or other compatible material, gaskets.
- ° Gasket profiles shall be designed and sized to work with the system and properly serve glazing rabbet assembly.
- ° Setting blocks must be properly sized (L mm = 25 mm / 1" per each 1 m² / 10 ft² of glass, but not less than 51 mm / 2"), placed at 1/4 points, and compatible with the insulating glass sealant.

Finish

- All exposed surfaces shall be free from defects, scratches and serious blemishes. Aluminum shall receive one of the following available finishes specified by the Architect:
- Standard commercial clear anodic coating integral colour (02).
 - Standard commercial dark bronze or black hardcolour anodic coating (04,05).
 - Optional anodic coating finishes are light bronze. -Specifier selection
 - Standard baked enamel paint, white, black, Rideau brown colour.
 - Other paint qualities and colours in baked enamel -Specifier selection

III. EXECUTION

Fabrication

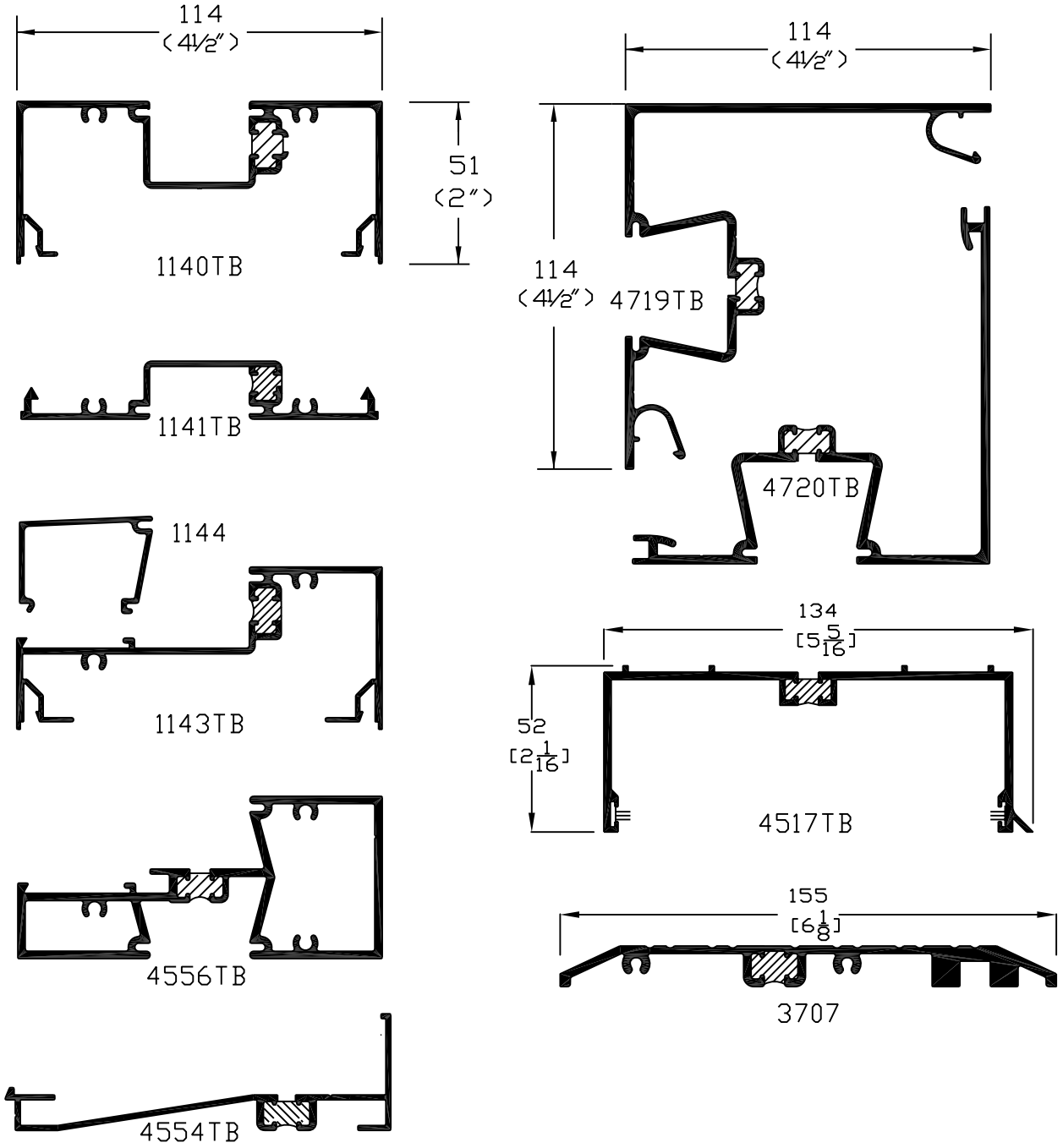
- ° Fabricate and assemble in strict accordance with the approved shop drawings and manufacturer's published recommendations.
- ° The System shall allow for outside conventional flush glazing, with glass hard bite not less than 10mm (0.375").
- ° Aluminum profiles shall be connected accurately to each other by anti-corrosive fasteners and sealed properly, presenting air and water tight joints, and providing for resilient glass setting and for thermal expansion.
- ° Entrance and other glazed curtain wall members, wherever applicable, shall be compatible in appearance with the System.
- ° All frames for single acting doors shall include positive weathering barrier.

Installation

- ° Framing shall be installed, secured and glazed by an experienced crew.
- ° Set framing level, plumb, square and aligned with other work, in accordance with approved shop drawings and manufacturer's installation instructions and published glazing standards.
- ° All perimeter joints shall be sealed and caulked with approved sealant materials to ensure a weather-tight installation.

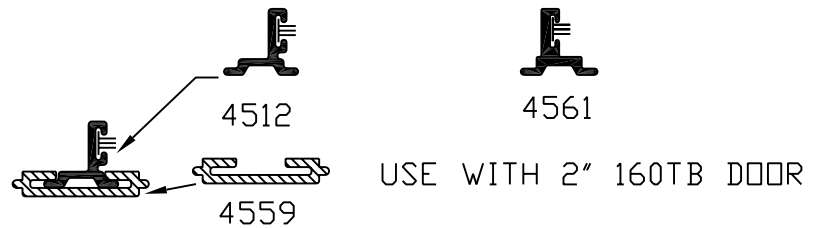
Protection and Cleaning

- ° All work shall be protected against damage during and after installation.
- ° After installation all exposed surfaces shall be cleaned of all contaminants.
- ° The General Contractor is responsible for protection and final cleaning.




8520
GASKET


8510
GASKET

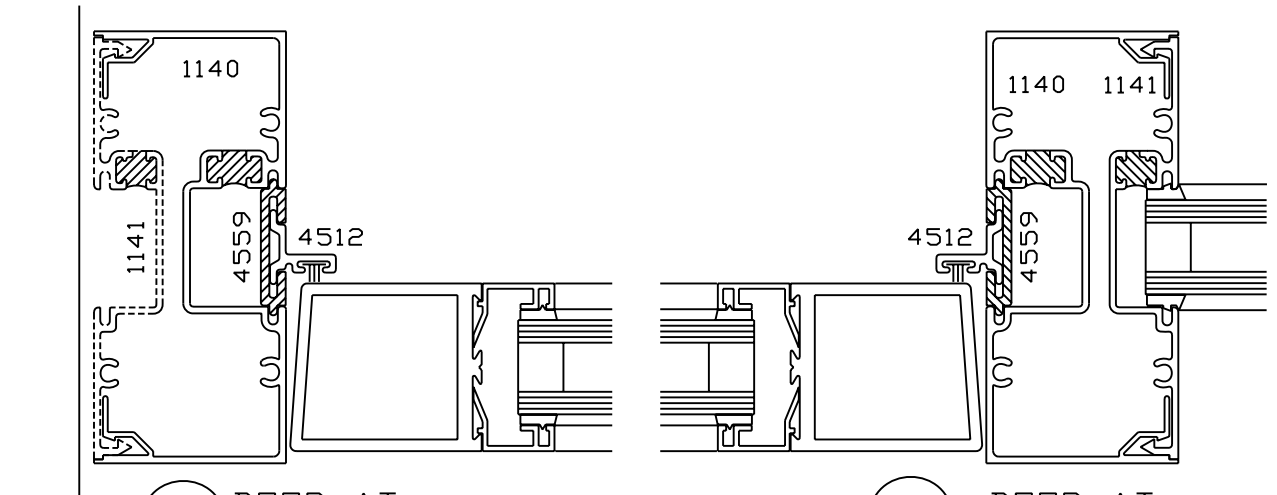
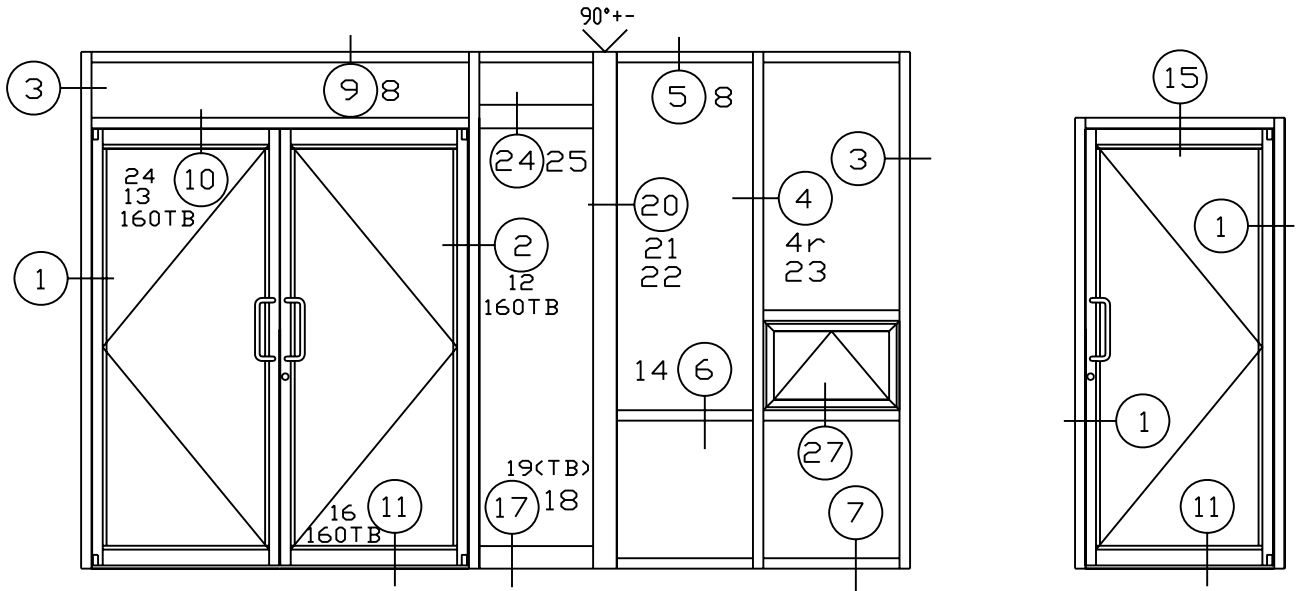


TB DR STOP ADAPTER
REVERSE FOR FLAT FILLER

SCALE 1:2

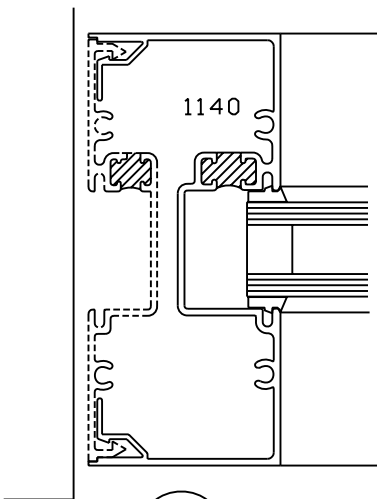
B-4.1

SECTION-PAGE



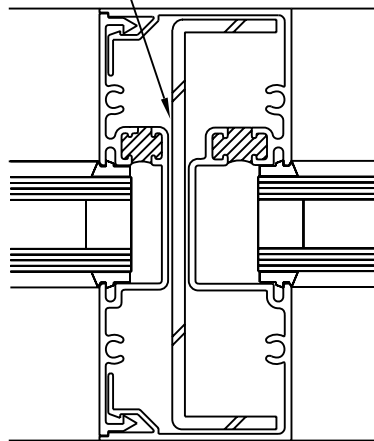
1 DOOR AT JAMB

2 DOOR AT MULLION

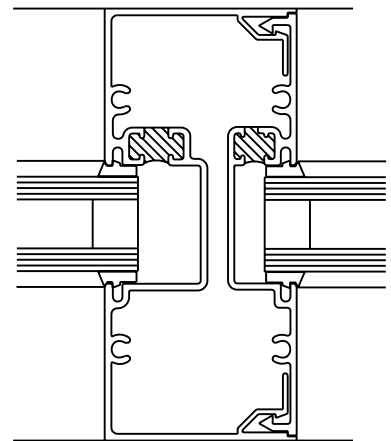


JAMB 3

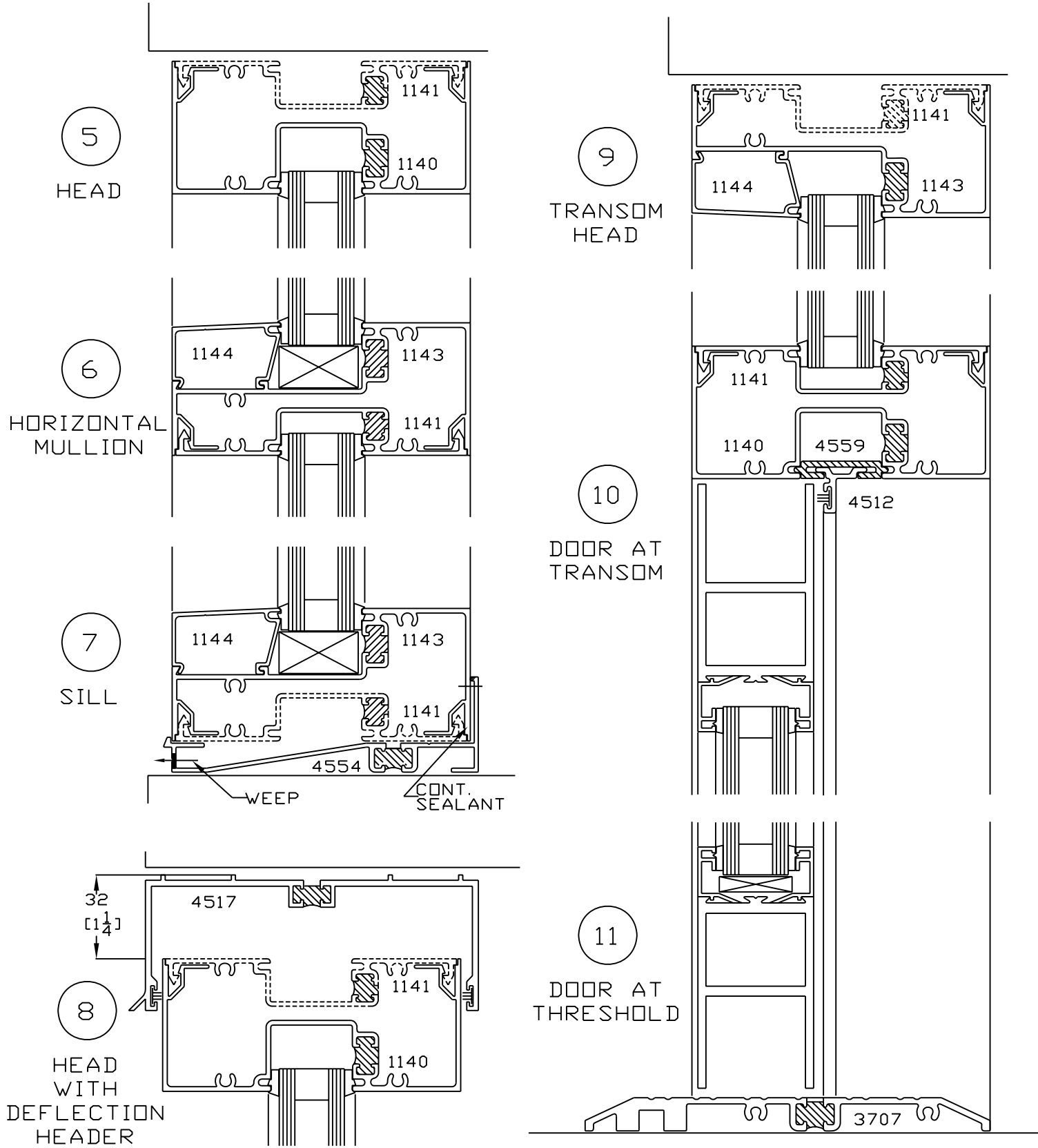
SCALE 1:2



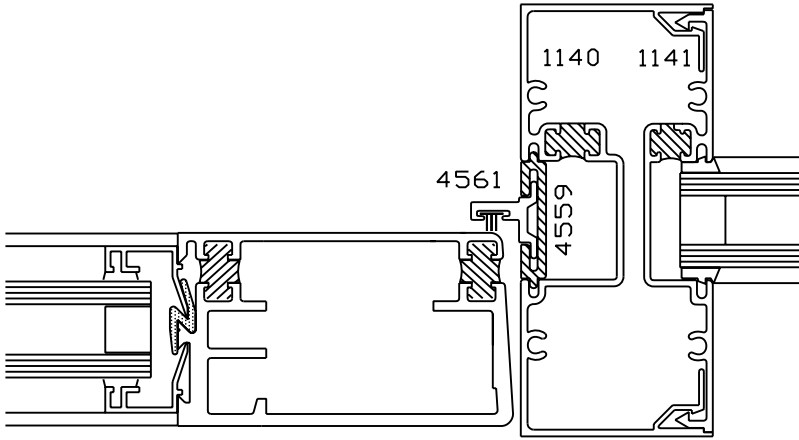
4r COUPLING MULLION FOR REINFORCING



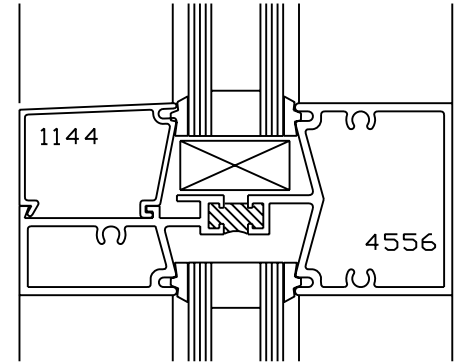
4 COUPLING MULLION



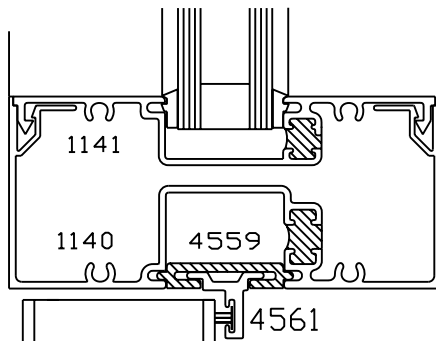
SCALE 1:2



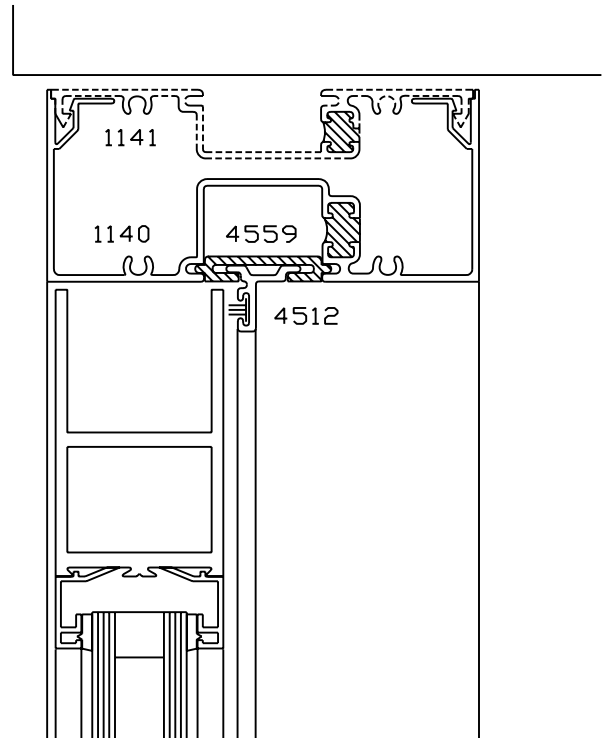
12 160TB
DOOR AT
MULLION



14
INTERMEDIATE
HORIZONTAL

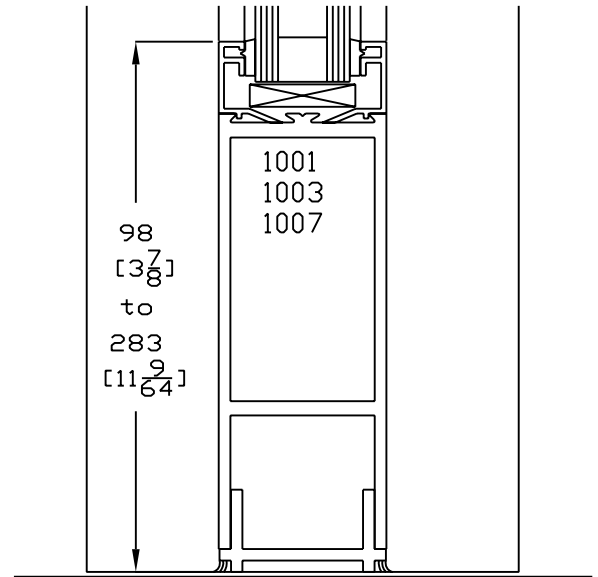
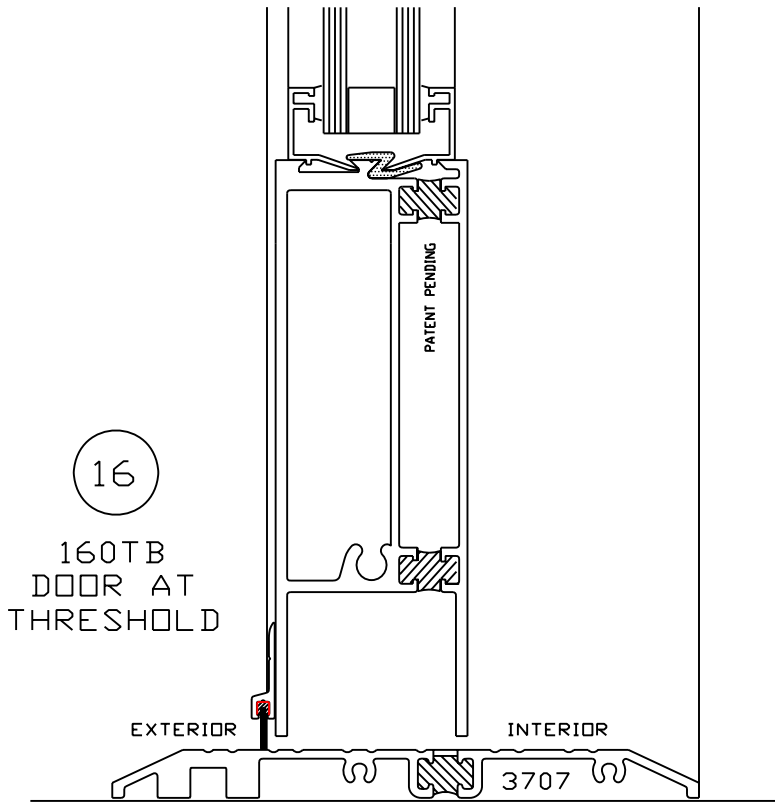


13
160TB
DOOR AT
TRANSOM

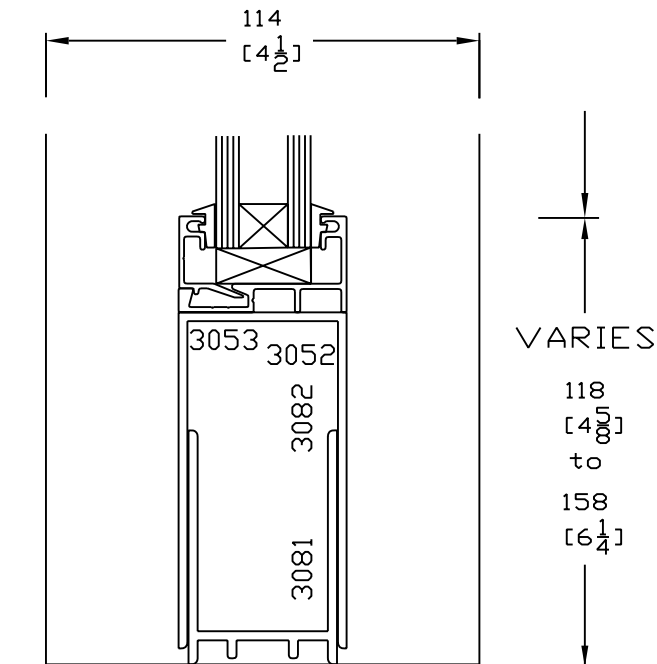


15
DOOR
HEAD

SCALE 1:2

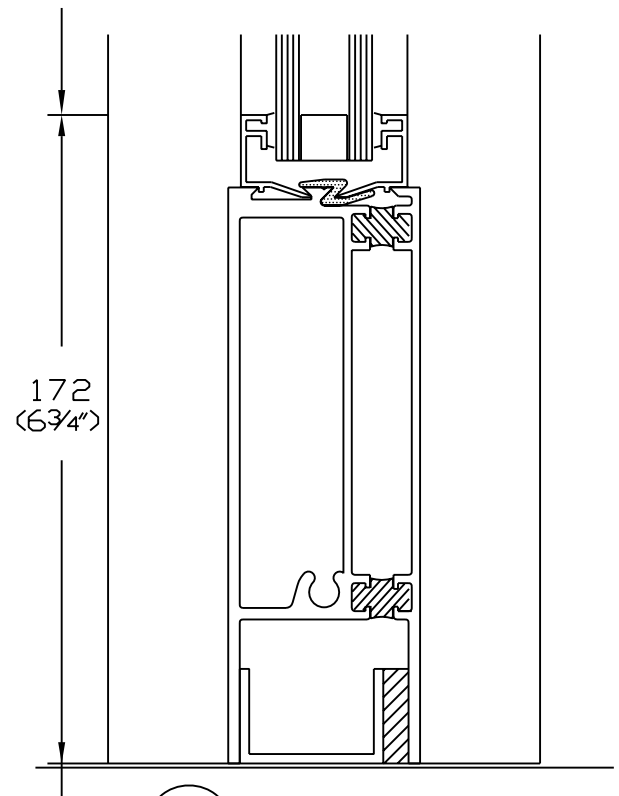


18 SIDE-LITE
BASE

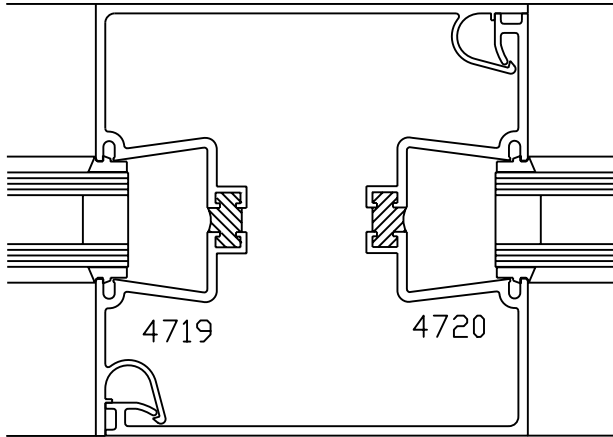


17 ADJUSTABLE
SIDE-LITE
BASE

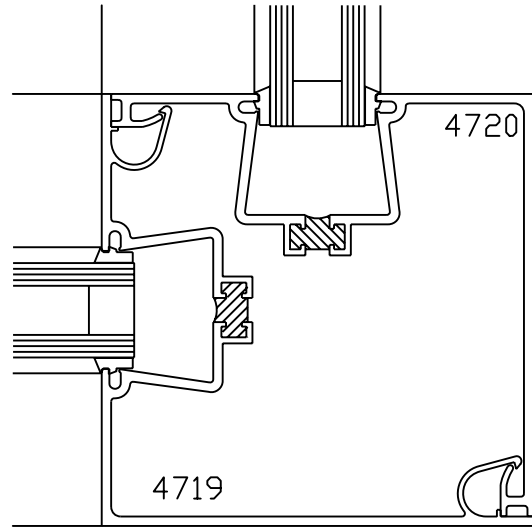
SCALE 1:2



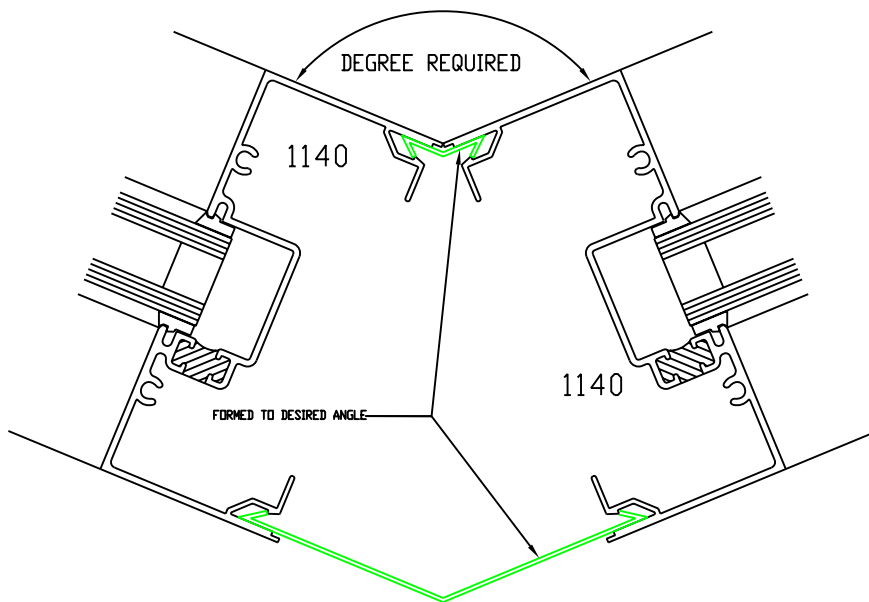
19 SIDE-LITE
BASE (TB)



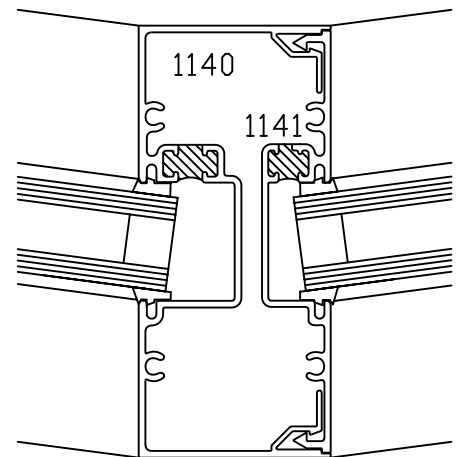
20 114 (4-1/2")
WIDE MULLION



21 CORNER
MULLION



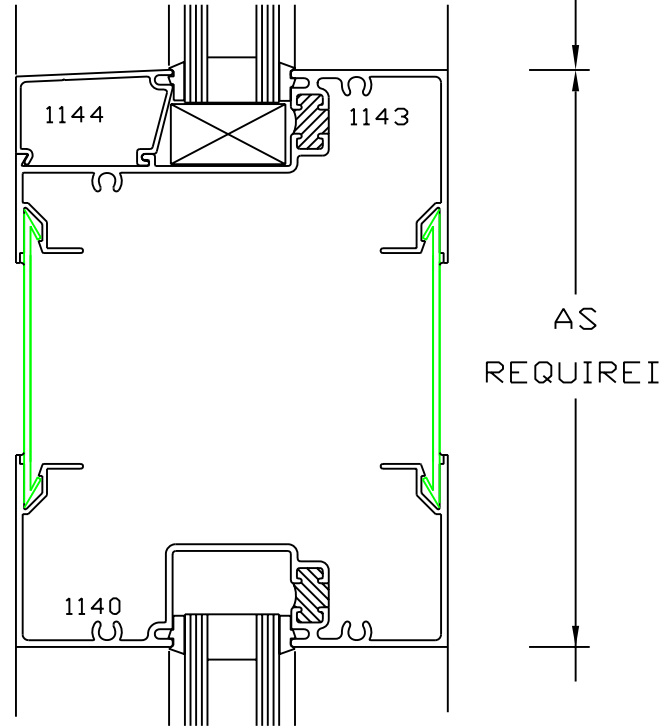
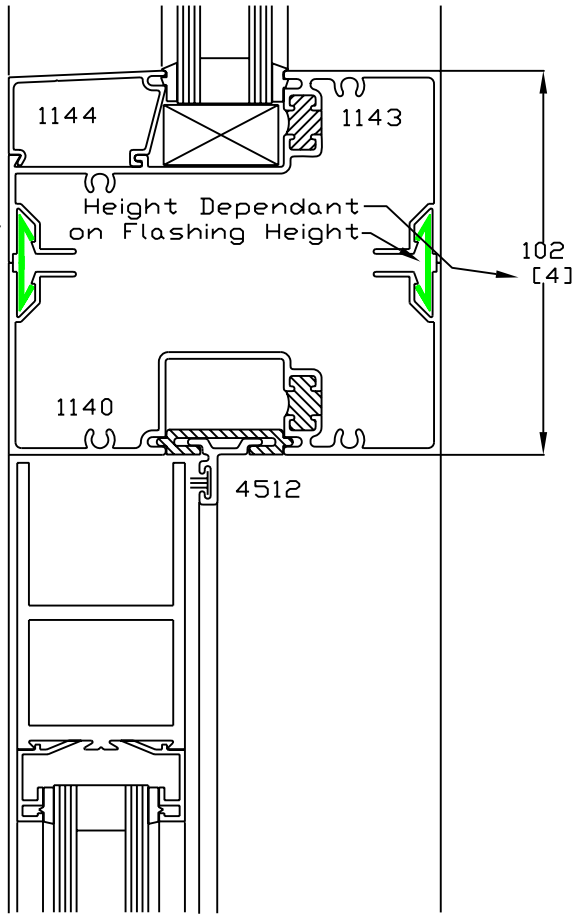
22 ANGLED
MULLION



23 SEGMENTED
MULLION

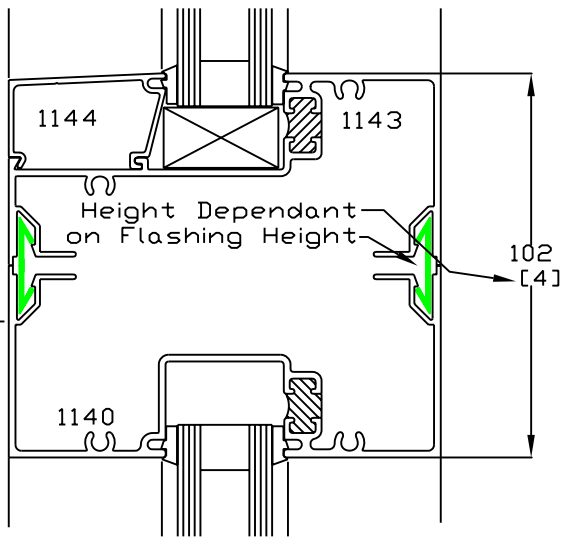
SCALE 1:2

24
HORIZONTAL
MULLION

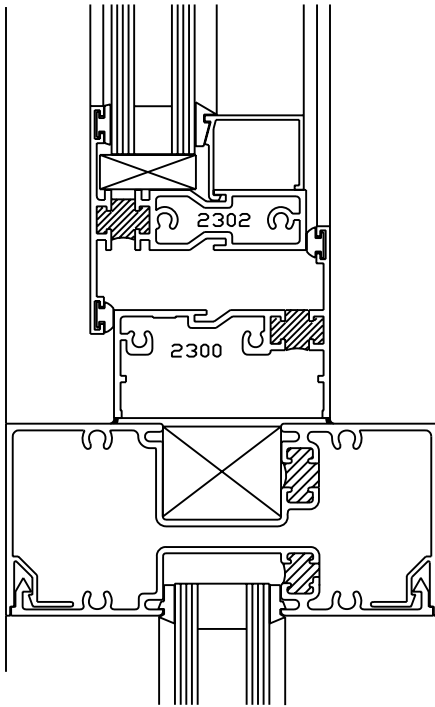


26
HORIZONTAL
MULLION

25
HORIZONTAL
MULLION

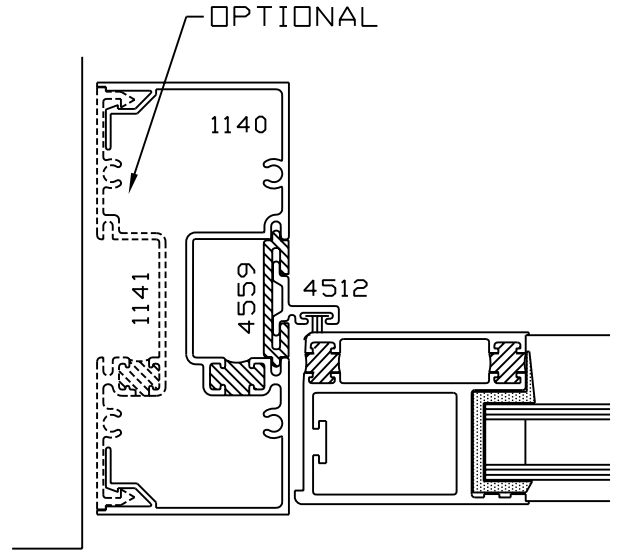


SCALE 1:2



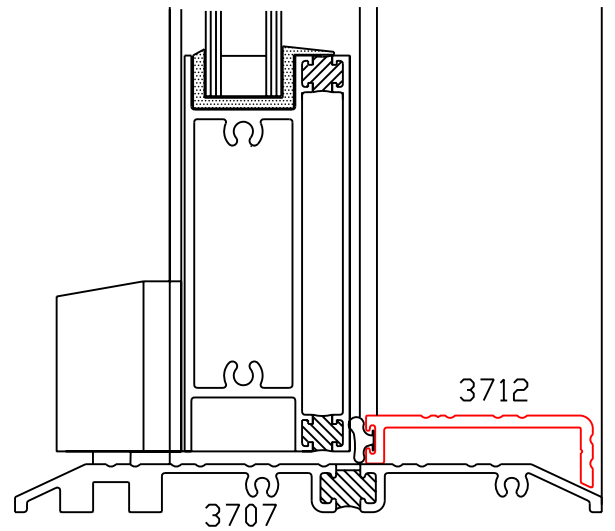
27

HORIZONTAL
WITH VENT
JAMB, HEAD
SIMILAR



28

OPTIONAL
USING 140TB
WEST COAST
TB DOOR



29

OPTIONAL
USING 140TB
WEST COAST
TB DOOR

PROFILE: 1140 + 1141	MATERIAL: REINFORCING MATERIAL: AA 6063 T5 N/A
A= 1013 mm ² (1.57 IN ²)	I= 1435812 mm ⁴ (3.45 IN ⁴)
C/L = 58.35 mm (2.3 IN) max	S= 24605 mm ³ (1.502 IN ³)

MAX. ALLOWABLE MULLION LENGTH (m/ft)
FOR SPECIFIED WIND LOAD

SPACING	0.72 kPa	0.96 kPa	1.20 kPa	1.44 kPa	1.68 kPa	1.91 kPa
	15 PSF	20 PSF	25 PSF	30 PSF	35 PSF	40 PSF
.45 m	5.15	4.65	4.35	4.10	3.90	3.70
1.5'	16.9	15.3	14.3	13.5	12.8	12.1
.60 m	4.65	4.25	3.95	3.70	3.50	3.35
2.0'	15.3	13.9	13.0	12.1	11.5	11.0
.75 m	4.35	3.95	3.65	3.45	3.20	3.00
2.5'	14.3	13.0	12.0	11.3	10.5	9.8
.90 m	4.10	3.70	3.45	3.15	2.95	2.75
3.0'	13.5	12.1	11.3	10.3	9.7	9.0
1.05 m	3.9	3.50	3.20	2.95	2.70	2.55
3.5'	12.8	11.5	10.5	9.7	8.9	8.4
1.20 m	3.70	3.35	3.00	2.75	2.55	2.40
4.0'	12.1	11.0	9.8	9.0	8.4	7.9
1.35 m	3.55	3.15	2.85	2.60	2.40	2.25
4.5'	11.6	10.3	9.4	8.5	7.9	7.4
1.50 m	3.45	3.00	2.70	2.45	2.25	2.10
5.0'	11.3	9.8	8.9	8.0	7.4	6.9
1.65 m	3.30	2.85	2.55	2.35	2.15	2.05
5.5'	10.8	9.4	8.4	7.7	7.1	6.7
1.80 m	3.15	2.75	2.45	2.25	2.05	1.95
6.0'	10.3	9.0	8.0	7.4	6.7	6.4
1.95 m	3.05	2.65	2.35	2.15	2.00	1.85
6.5'	10.0	8.7	7.7	7.1	6.6	6.1
2.10 m	2.95	2.55	2.25	2.05	1.90	1.80
7.0'	9.7	8.4	7.4	6.7	6.2	5.9
2.25 m	2.85	2.45	2.20	2.00	1.85	1.75
7.5'	9.4	8.0	7.2	6.6	6.1	5.7
2.40 m	2.75	2.35	2.10	1.95	1.80	1.70
8.0'	9.0	7.7	6.9	6.4	5.9	5.60

m
ft

PROFILE: 1140 + 1141	MATERIAL: REINFORCING MATERIAL: AA 6063 T5 250W STEEL
A= 1419 mm ² (2.2 IN ²)	I= 3184690 mm ⁴ (7.651 IN ⁴)
C/L = 63.2 mm (2.49 IN) max	S= 50379 mm ³ (3.074 IN ³)

MAX. ALLOWABLE MULLION LENGTH (m/ft)
FOR SPECIFIED WIND LOAD

SPACING	0.72 kPa	0.96 kPa	1.20 kPa	1.44 kPa	1.68 kPa	1.91 kPa
	15 PSF	20 PSF	25 PSF	30 PSF	35 PSF	40 PSF
.45 m	6.30	5.70	5.30	5.00	4.75	4.55
1.5'	20.7	18.7	17.4	16.4	15.6	14.9
.60 m	5.70	5.20	4.80	4.55	4.30	4.15
2.0'	18.7	17.1	15.7	14.9	14.1	13.6
.75 m	5.30	4.80	4.45	4.20	4.00	3.85
2.5'	17.4	15.7	14.6	13.8	12.3	12.6
.90 m	5.00	4.55	4.2	3.95	3.75	3.6
3.0'	16.4	14.9	13.8	13.0	12.3	11.8
1.05 m	4.75	4.30	4.00	3.75	3.55	3.4
3.5'	15.6	14.1	13.1	12.3	11.6	11.2
1.20 m	4.55	4.10	3.80	3.60	3.40	3.25
4.0'	14.9	13.5	12.5	11.8	11.2	10.7
1.35 m	4.35	3.95	3.70	3.45	3.30	3.10
4.5'	14.3	13.0	12.1	11.3	10.8	10.2
1.50 m	4.20	3.80	3.55	3.35	3.15	2.95
5.0'	13.8	12.5	11.6	11.0	10.3	9.7
1.65 m	4.1	3.70	3.45	3.25	3.00	2.80
5.5'	13.5	12.1	11.3	10.7	9.8	9.2
1.80 m	3.95	3.60	3.35	3.10	2.85	2.70
6.0'	13.0	11.8	11.0	10.2	9.4	8.9
1.95 m	3.85	3.50	3.25	2.95	2.75	2.60
6.5'	12.6	11.5	10.7	9.7	9.0	8.5
2.10 m	3.75	3.40	3.15	2.85	2.65	2.50
7.0'	12.3	11.2	10.3	9.4	8.7	8.2
2.25 m	3.70	3.35	3.05	2.75	2.55	2.40
7.5'	12.1	11.0	10.0	9.0	8.4	7.9
2.40 m	3.60	3.25	2.95	2.65	2.50	2.30
8.0'	11.8	10.7	9.7	8.7	8.2	7.5

m
ft

- 1/ UNIFORM (RECTANGULAR) LOAD DISTRIBUTION
- 2/ BASED ON L/175 MAX ALLOWABLE DEFLECTION
OR F_y = 110 MPa FOR AA 6063 T5
- WHICHEVER IS LESS - CONFORMING TO CAN3-S157-M83
- 3/ FOR ESTIMATING PURPOSES ONLY

PROFILE: 1140 + 1141 12GA 1"x4.25' STL C	MATERIAL: AA 6063 T5 REINFORCING MATERIAL: 250W STEEL
A= 1419 mm ² (2.2 IN ²)	I= 3184690 mm ⁴ (7.651 IN ⁴)
C/L _{max} = 63.2 mm (2.49 IN)	S= 50379 mm ³ (3.074 IN ³)

MAX. ALLOWABLE MULLION LENGTH (m/ft)
FOR SPECIFIED WIND LOAD

SPACING	0.72 kPa	0.96 kPa	1.20 kPa	1.44 kPa	1.68 kPa	1.91 kPa	m ft
	15 PSF	20 PSF	25 PSF	30 PSF	35 PSF	40 PSF	
.45 m 1.5'	6.70 22.0	6.10 20.0	5.65 18.5	5.30 17.4	5.05 16.6	4.85 15.9	
.60 m 2.0'	6.10 20.0	5.55 18.2	5.15 16.9	4.85 15.9	4.60 15.1	4.40 14.4	
.75 m 2.5'	5.65 18.5	5.15 16.9	4.75 15.6	4.50 14.8	4.25 13.9	4.10 13.5	
.90 m 3.0'	5.30 17.4	4.85 15.9	4.50 14.8	4.20 13.8	4.00 13.1	3.85 12.6	
1.05 m 3.5'	5.05 16.6	4.60 15.1	4.25 13.9	4.00 13.1	3.80 12.5	3.65 12.0	
1.20 m 4.0'	4.85 15.9	4.40 14.4	4.10 13.5	3.85 12.6	3.65 12.0	3.40 11.2	
1.35 m 4.5'	4.65 15.3	4.20 13.8	3.90 12.8	3.70 12.1	3.40 11.2	3.20 10.5	
1.50 m 5.0'	4.50 14.8	4.10 13.5	3.80 12.5	3.50 11.5	3.25 10.7	3.05 10.0	
1.65 m 5.5'	4.35 14.3	3.95 13.0	3.65 12.0	3.35 11.0	3.10 10.2	2.90 9.5	
1.80 m 6.0'	4.20 13.8	3.85 12.6	3.50 11.5	3.20 10.5	2.95 9.7	2.80 9.2	
1.95 m 6.5'	4.10 13.5	3.75 12.3	3.35 11.0	3.05 10.0	2.85 9.4	2.65 8.7	
2.10 m 7.0'	4.00 13.1	3.65 12.0	3.25 10.7	2.95 9.7	2.75 9.0	2.55 8.4	
2.25 m 7.5'	3.90 12.8	3.50 11.5	3.15 10.3	2.85 9.4	2.65 8.7	2.50 8.2	
2.40 m 8.0'	3.85 12.6	3.40 11.2	3.05 10.0	2.75 9.0	2.55 8.4	2.40 7.9	

- 1/ UNIFORM (RECTANGULAR) LOAD DISTRIBUTION
- 2/ BASED ON L/175 MAX ALLOWABLE DEFLECTION
OR F_y = 110 MPa FOR AA 6063 T5
- WHICHEVER IS LESS - CONFORMING TO CAN3-S157-M83
- 3/ FOR ESTIMATING PURPOSES ONLY