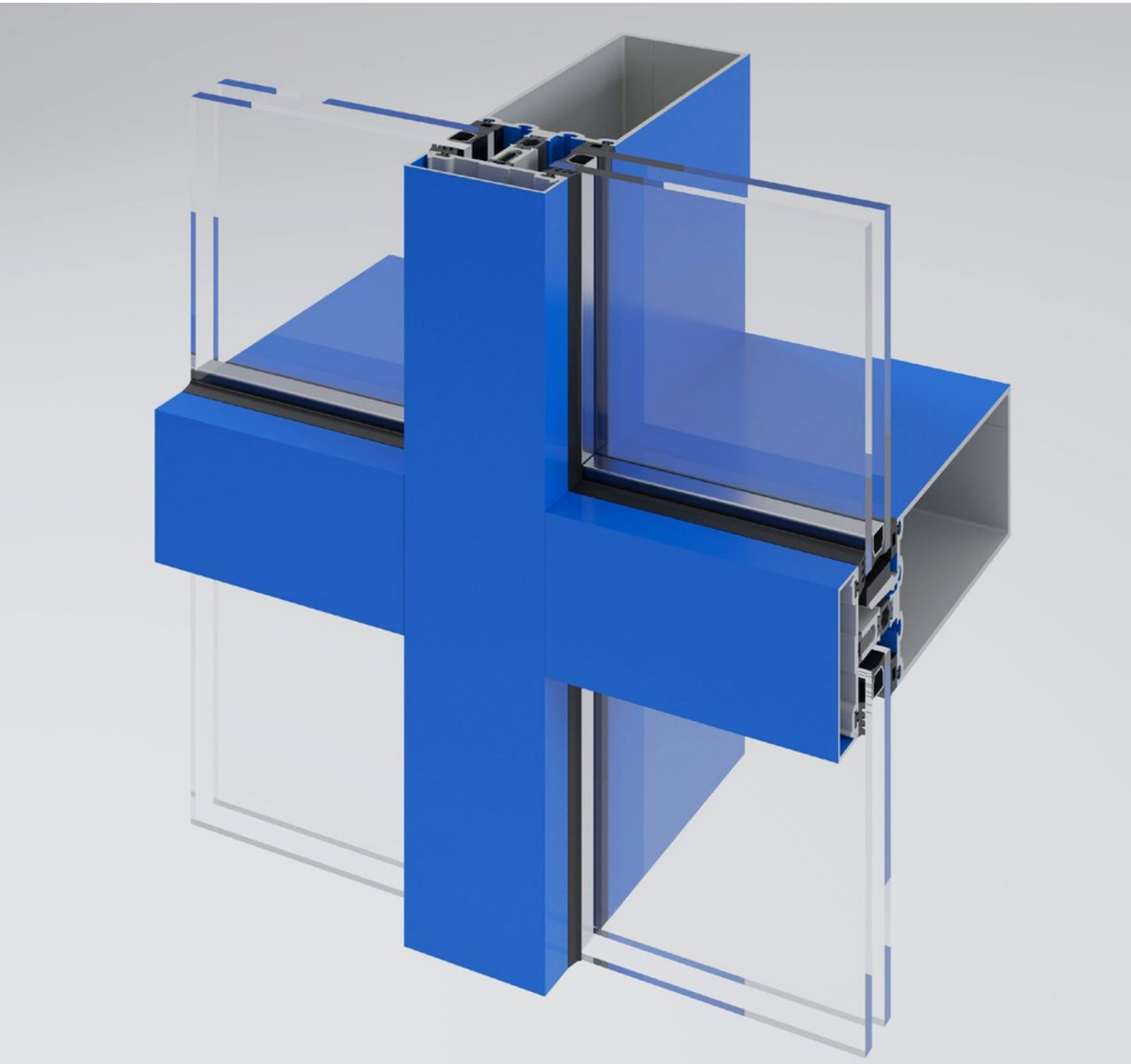
ACRO
ALUMINUM INC.

3000 Series 2-1/2-Inch Curtainwall Architectural Details



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Series 3000 Thermally Improved Curtain Wall System 2-1/2" x 6-1/4" For 1" Glazing

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Special Features

SECTION 08 44 13 ALUMINUM
CURTAIN WALL SYSTEMS

SERIES	FACE WIDTH	BACK MEMBER DEPTH	OVERALL DEPTH	GLAZING INFILL	GLAZING METHOD
3000	2-1/2" (63.5)	5" (127)	6-1/4" (158.8)	1" (25)	Exterior

Features:

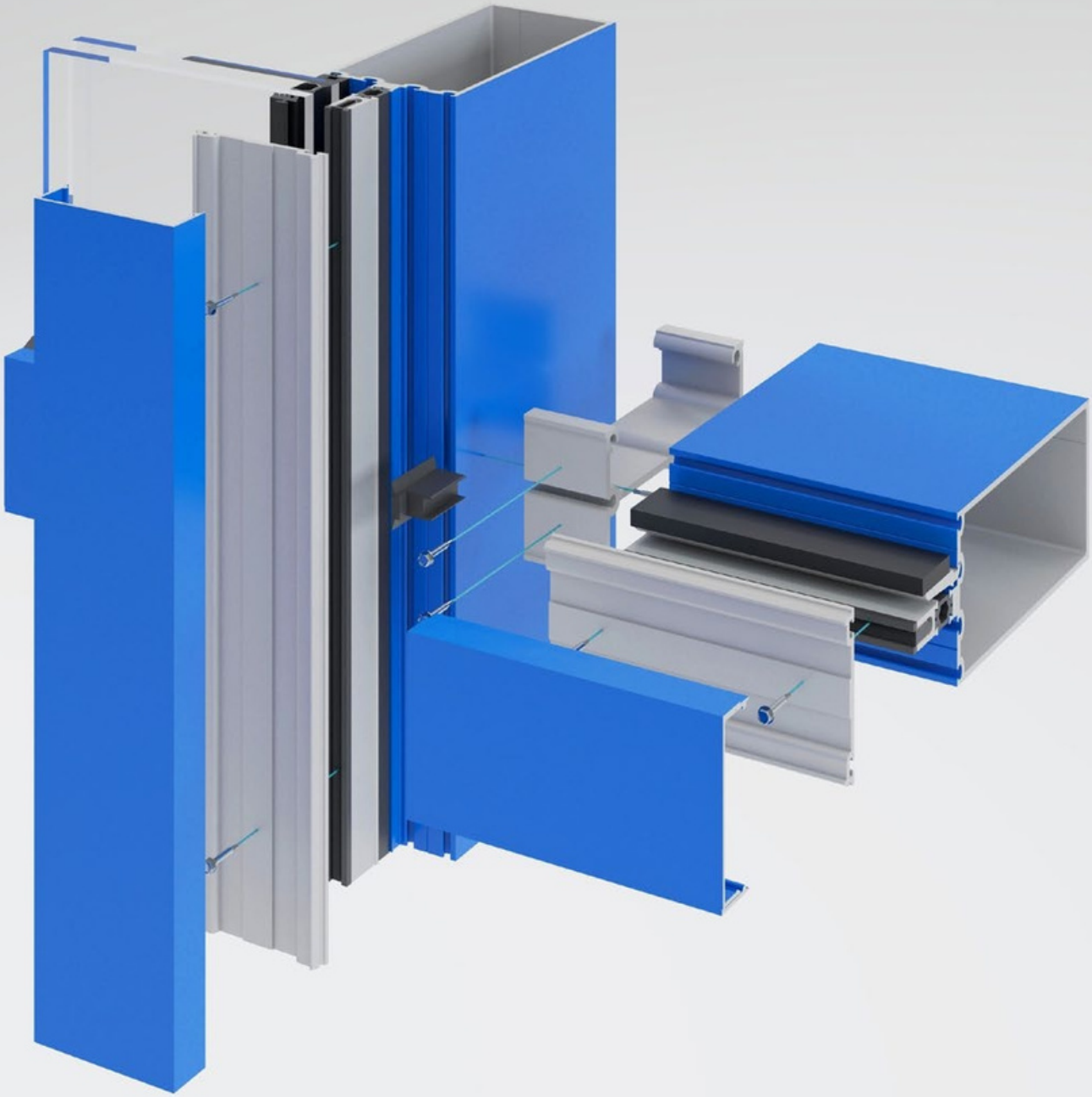
- 2 ½" frame width
- 5 ⅛" or 8" back sections
- Outside glazed curtain wall
- Captured, 2 sided SSG, and 4 sided SSG configuration
- 1" infill (dual glazed) and 1 ¾" (triple glazed) compatible
- Concealed shear block joinery
- Excellent thermal performance with polyamide thermal strut
- Designed to integrate with door and vent systems
- Aluminum alloy 6063 T6 temper
- Pressure-equalized rainscreen system
- Steel reinforced mullions available
- Extended cap/sunshade available

Available finishes:

- Clear anodized finish (Class 1 or 2)
- Black/bronze anodized finish (Class 1)
- Custom color powder coating. Compliant to AAMA 2604

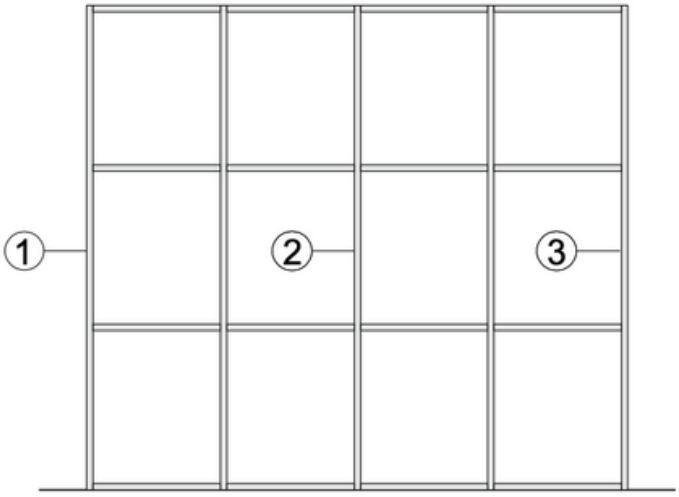
Intended Applications:

- Designed for low to mid-rise applications looking for a high performing curtainwall system

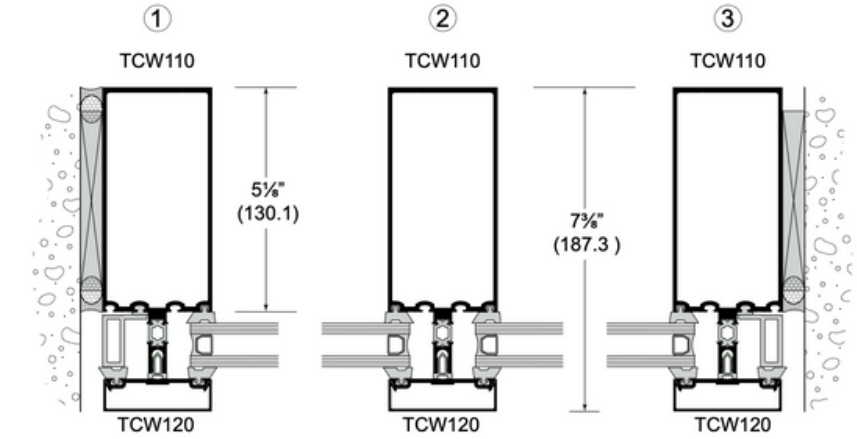


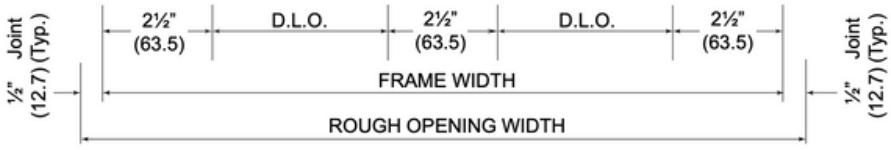
Captured Mullion

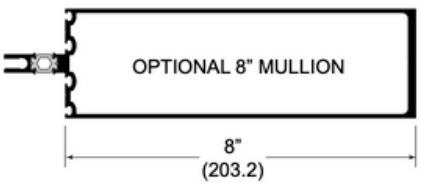
VERTICAL MULLIONS



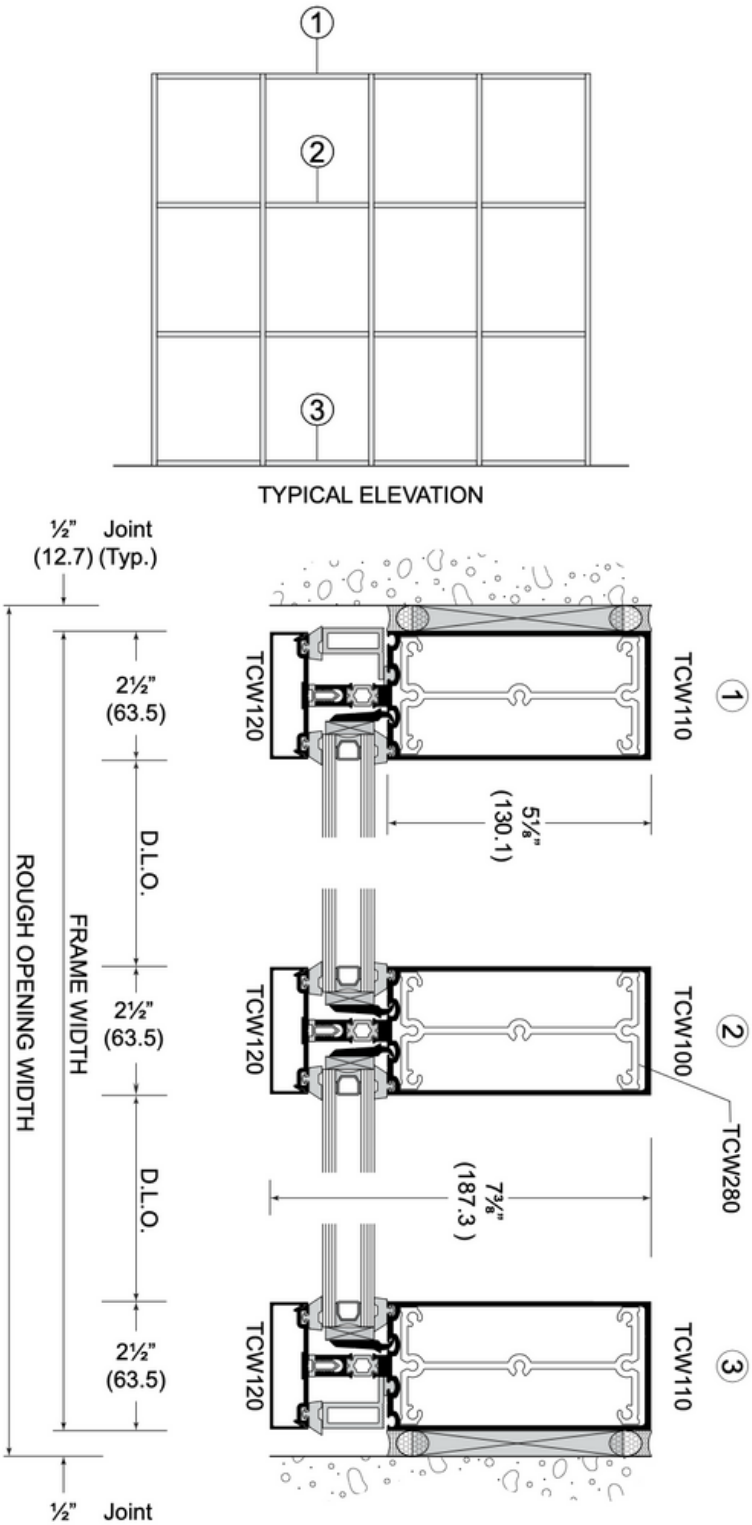
TYPICAL ELEVATION





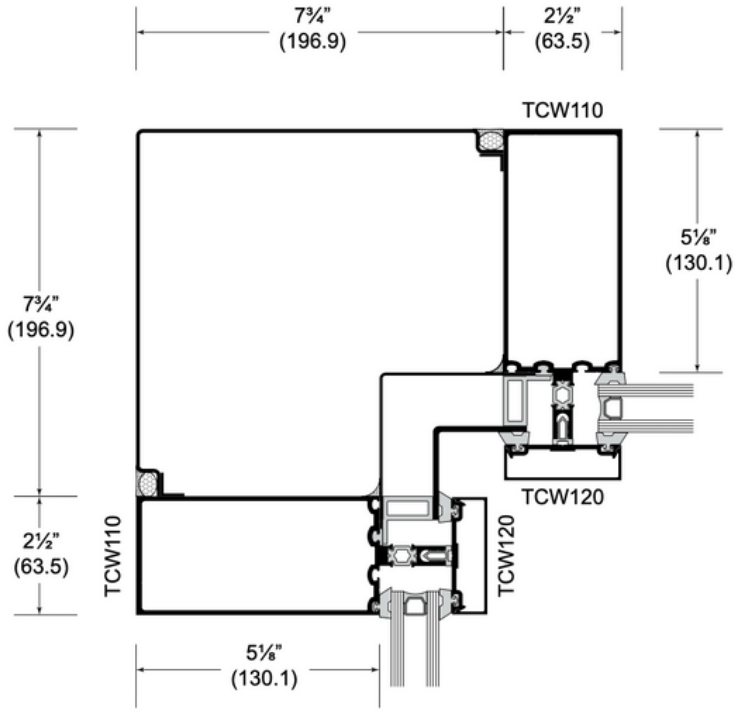


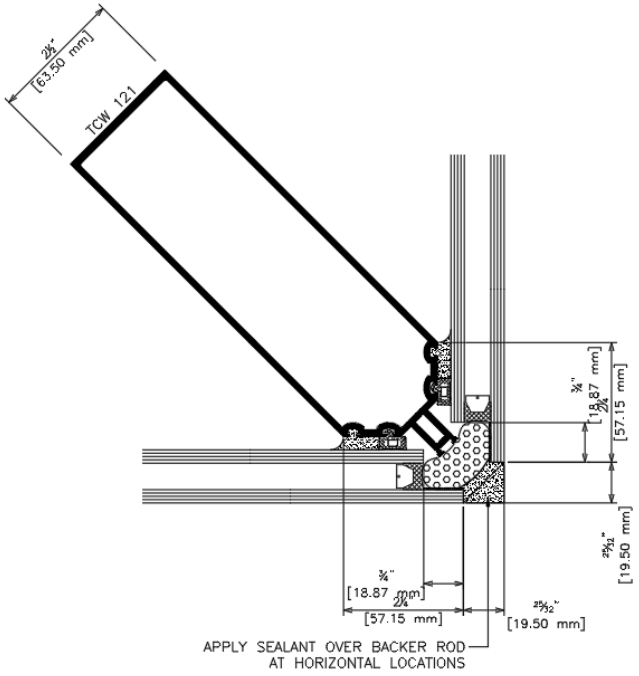
Captured Mullion
HORIZONTAL MULLIONS



Captured Mullion

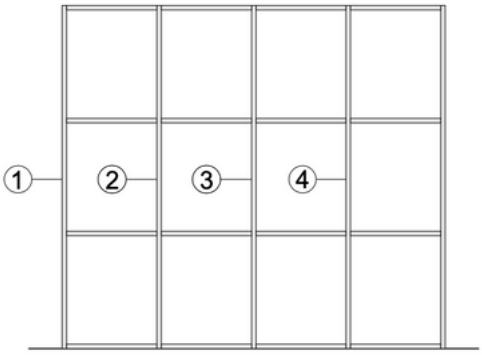
90 DEGREE INSIDE AND OUTSIDE CORNER CONDITION



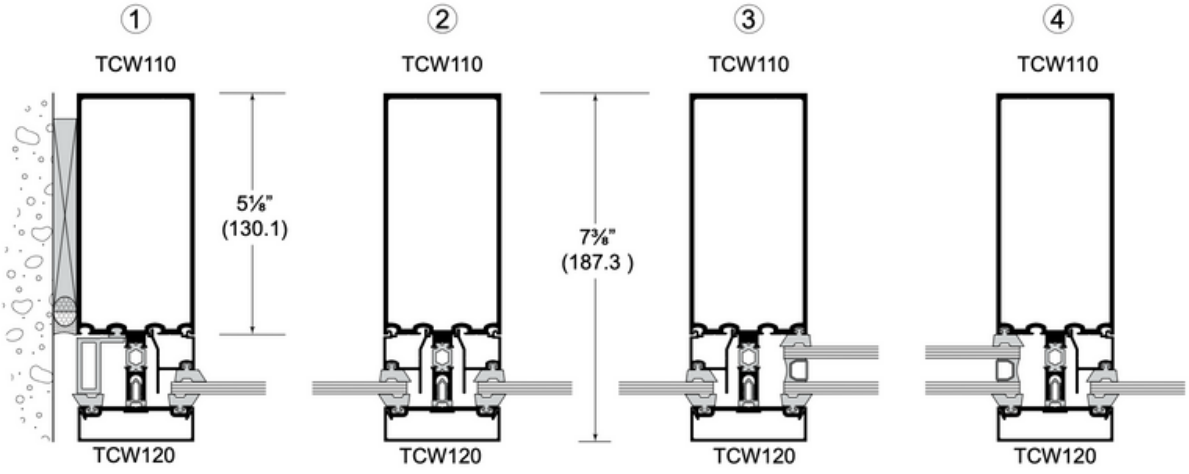


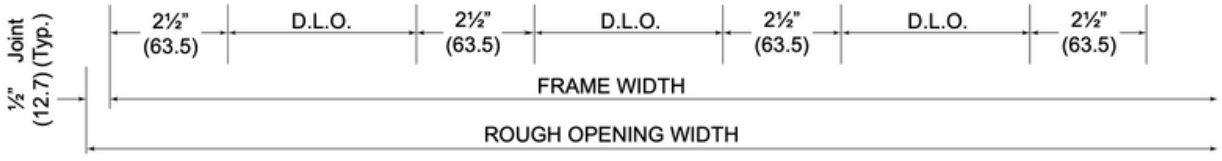
Captured Mullion

1/4” (6) VERTICAL TRANSITION GLAZING

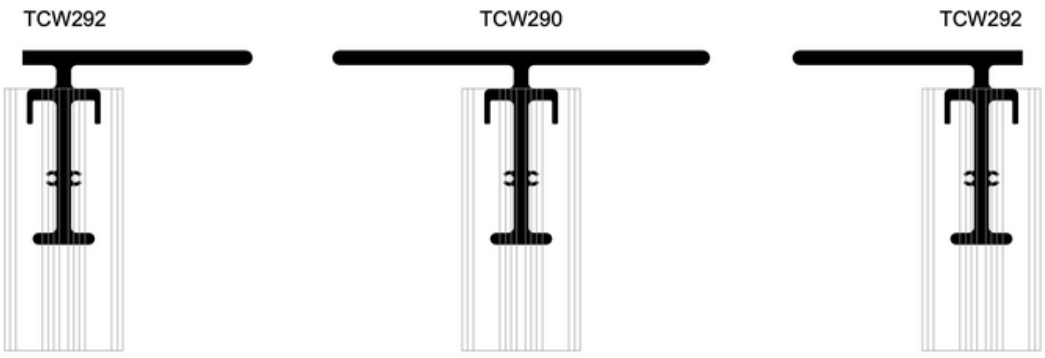


TYPICAL ELEVATION



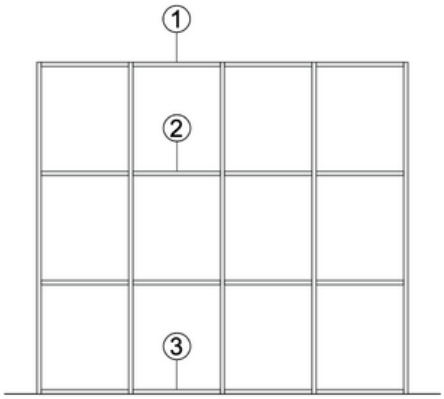


T and F anchor detail

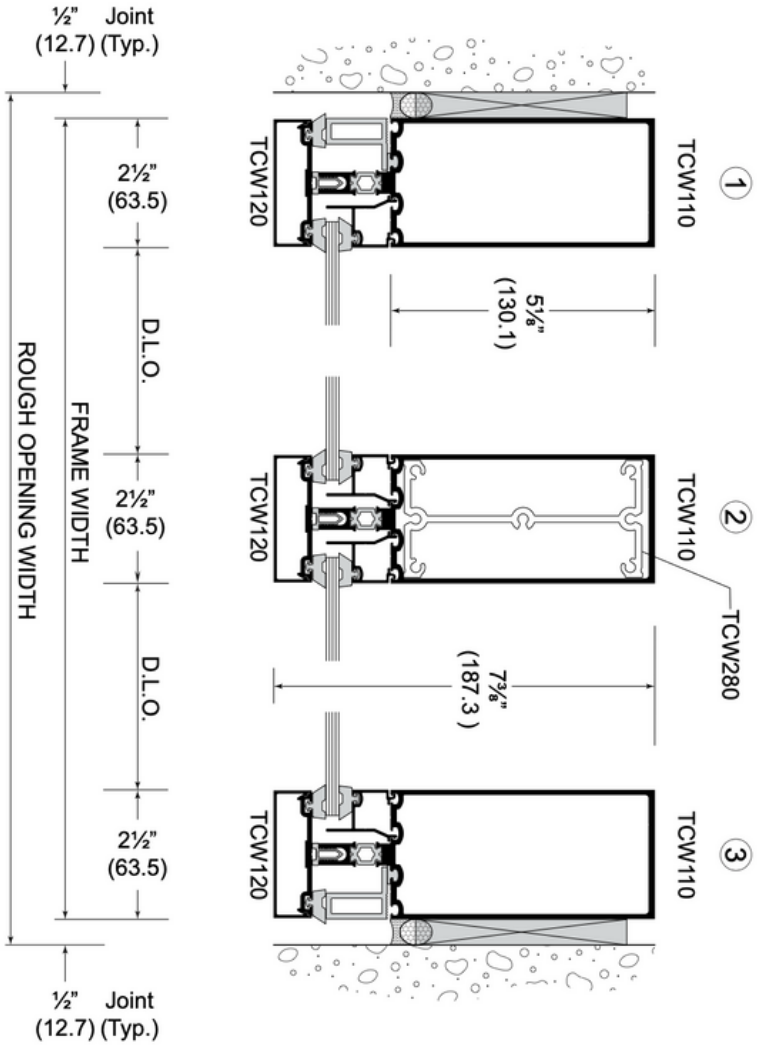


Captured Mullion

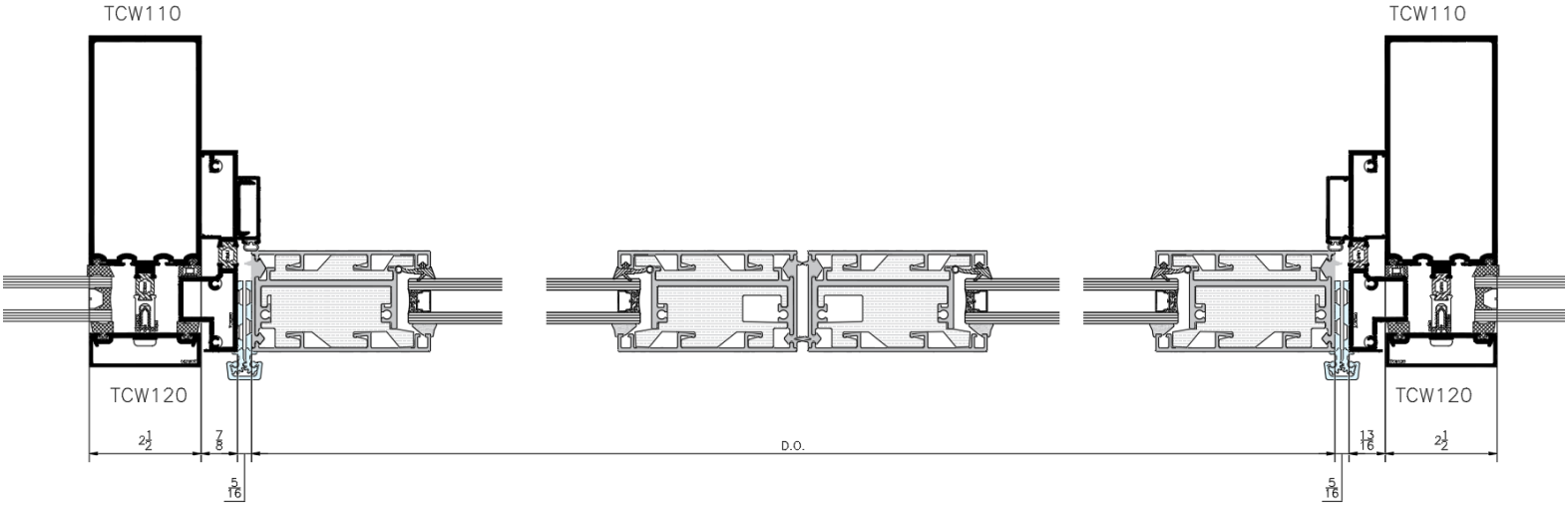
1/4” (6) HORIZONTAL TRANSITION GLAZING



TYPICAL ELEVATION

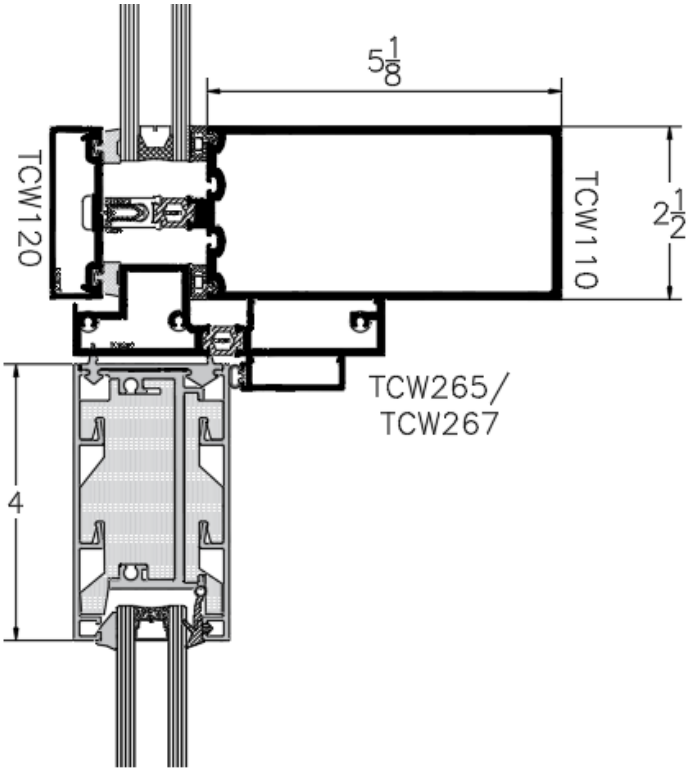


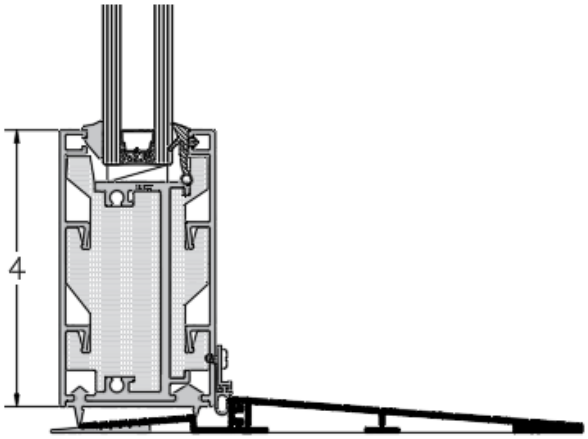
Captured Mullion
VERTICAL DOOR FRAMING



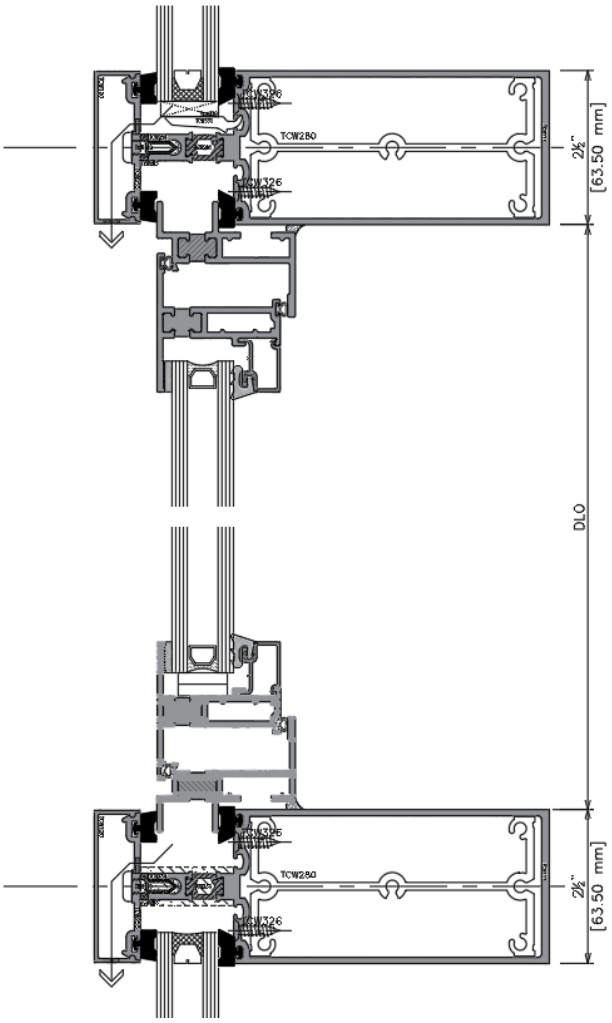
Captured Mullion

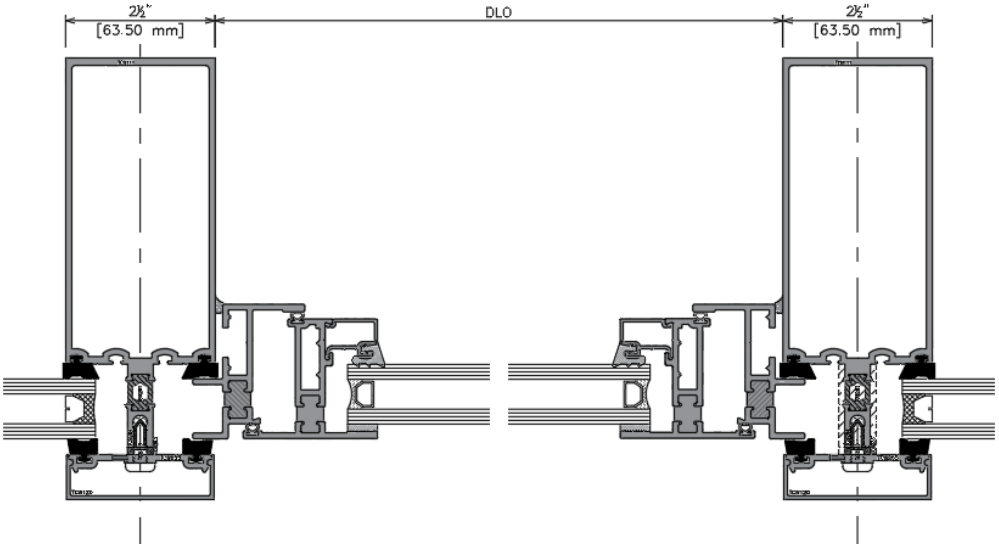
HORIZONTAL DOOR FRAMING





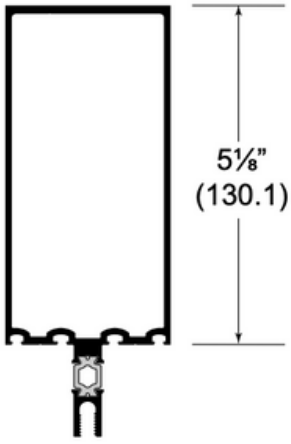
Captured Mullion
WINDOW





Windload Charts

51/8" CAPTURED VERTICAL MULLIONS



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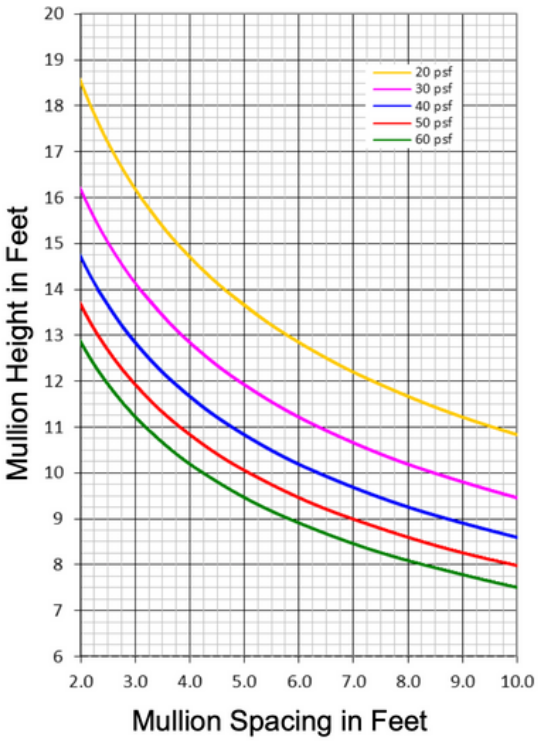


SYSTEM PROPERTIES	
Moment of Inertia, Section Modulus & Area	
Moment of Inertia, I_{xx}	I_{xx} = 8.35 in^4
Section Modules, S_{xx}	S_{xx} = 2.39 in^3
Total Area	A = 1.90 in^2
Modulus of Elasticity	
Aluminum	10,000,000 PSI
Steel	29,000,000 PSI

1. Deflection Limit: L/175.

2. Assume horizontal members provide lateral support.

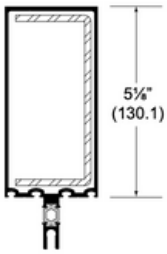
3. Inertia values, I, are expressed in terms of aluminum. Steel moment of inertia converted to aluminum equivalent.

4. CANADIAN PROJECTS: Use SLS wind loads or modify the specified wind load by 0.75 before utilizing this chart. i.e. if project specifications require pnet = 40 psf, utilize 30 psf on this chart (0.75 x 40 = 30). (Based on NBCC 2015)

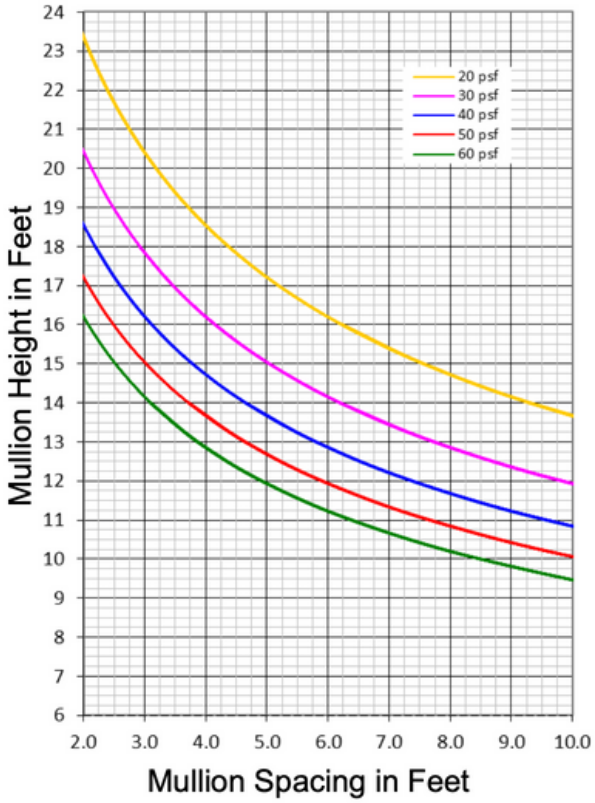
5. Value of mullion includes the back section, and nosing.

Windload Charts

51/8" CAPTURED VERTICAL MULLIONS



3000
with SB327



SYSTEM PROPERTIES	
Moment of Inertia, Section Modulus & Area	
Moment of Inertia, I_{xx}	I_{xx} = 16.94 in^4
Section Modules, S_{xx}	S_{xx} = 4.37 in^3
Total Area	A = 3.14 in^2
Modulus of Elasticity	
Aluminum	10,000,000 PSI
Steel	29,000,000 PSI

1. Deflection Limit: L/175.

2. Assume horizontal members provide lateral support.

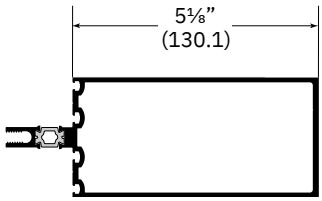
3. Inertia values, I, are expressed in terms of aluminum. Steel moment of inertia converted to aluminum equivalent.

4. CANADIAN PROJECTS: Use SLS wind loads or modify the specified wind load by 0.75 before utilizing this chart. i.e. if project specifications require pnet = 40 psf, utilize 30 psf on this chart (0.75 x 40 = 30). (Based on NBCC 2015)

5. Value of the mullion includes the back section, steel reinforcing, and nosing.

Deadload Charts

51/8” CAPTURED HORIZONTAL MULLIONS



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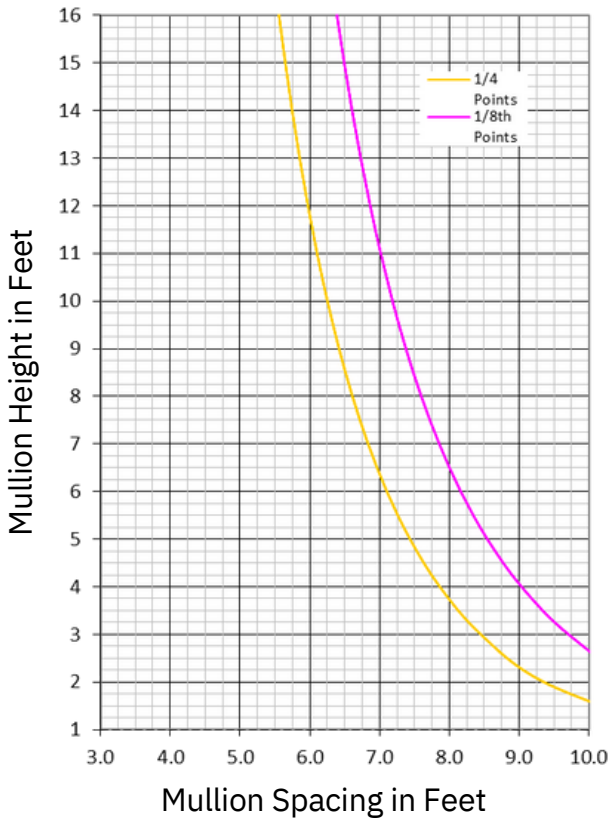
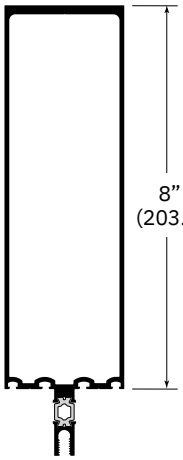


Deadload charts are based on 1/8” (3.2) maximum deflection at the center point of the horizontal member and on a glass weight of 6.5 psf (31.74 Kg/m2). Glass shall rest on two setting blocks located at:
YELLOW CURVE: 1/4 points
PURPLE CURVE: 1/8 points or 8” (203.2) from corners, whichever is larger.

Windload Charts

8” CAPTURED VERTICAL MULLIONS



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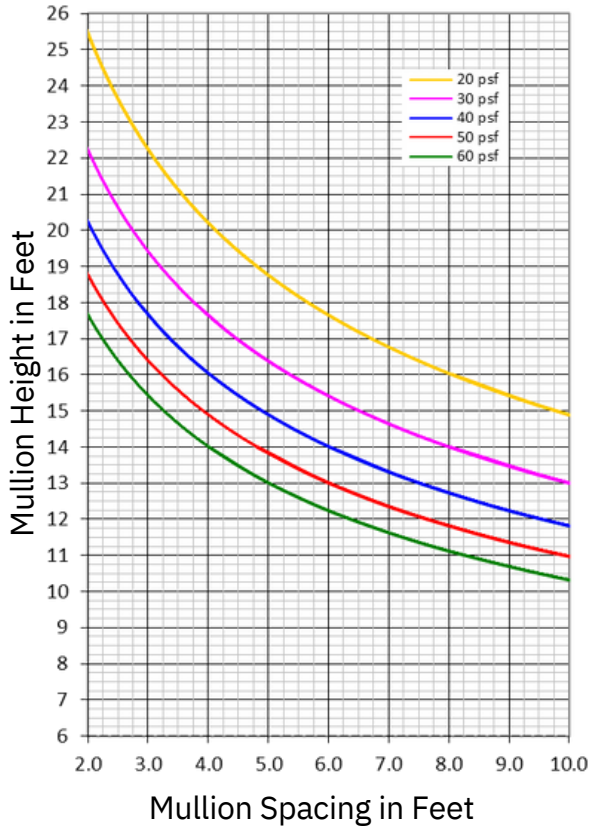
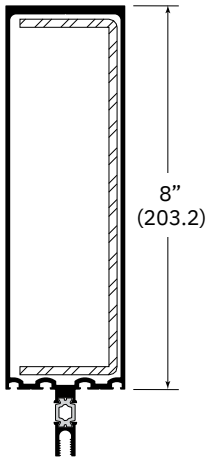


SYSTEM PROPERTIES	
Moment of Inertia, Section Modulus & Area	
Moment of Inertia, I_{xx}	I_{xx} = 21.66 in^4
Section Modules, S_{xx}	S_{xx} = 5.42 in^3
Total Area	A = 2.45 in^2
Modulus of Elasticity	
Aluminum	10,000,000 PSI
Steel	29,000,000 PSI

1. Deflection Limit: L/175.
2. Assume horizontal members provide lateral support.
3. Inertia values, I, are expressed in terms of aluminum. Steel moment of inertia converted to aluminum equivalent.
4. CANADIAN PROJECTS: Use SLS wind loads or modify the specified wind load by 0.75 before utilizing this chart. i.e. if project specifications require pnet = 40 psf, utilize 30 psf on this chart (0.75 x 40 = 30). (Based on NBCC 2015)
5. Value of mullion includes the back section, and nosing.

Windload Charts

8” CAPTURED VERTICAL MULLIONS



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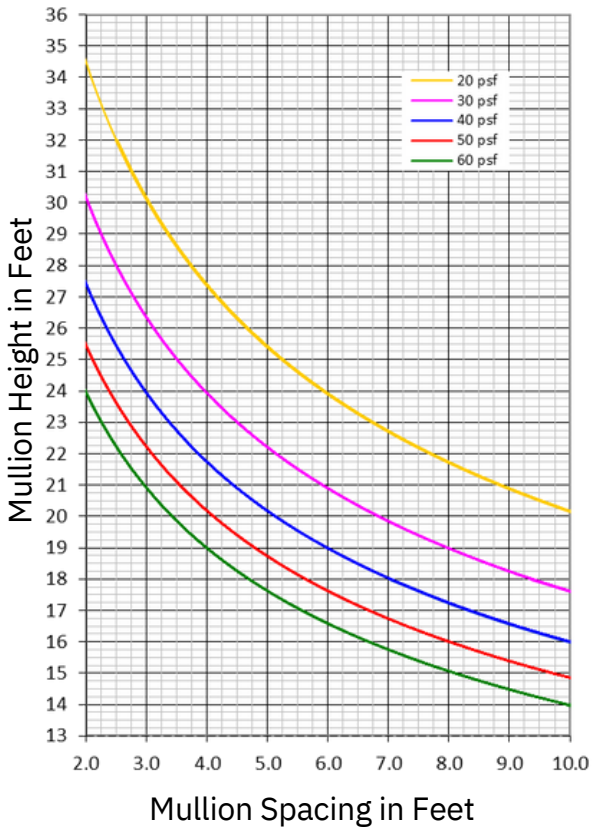
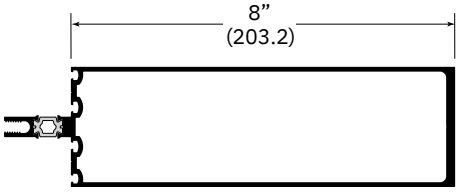


SYSTEM PROPERTIES	
Moment of Inertia, Section Modulus & Area	
Moment of Inertia, I_{xx}	I_{xx} = 53.77 in^4
Section Modules, S_{xx}	S_{xx} = 13.3 in^3
Total Area	A = 4.25 in^2
Modulus of Elasticity	
Aluminum	10,000,000 PSI
Steel	29,000,000 PSI

1. Deflection Limit: L/175.
2. Assume horizontal members provide lateral support.
3. Inertia values, I, are expressed in terms of aluminum. Steel moment of inertia converted to aluminum equivalent.
4. CANADIAN PROJECTS: Use SLS wind loads or modify the specified wind load by 0.75 before utilizing this chart. i.e. if project specifications require pnet = 40 psf, utilize 30 psf on this chart (0.75 x 40 = 30). (Based on NBCC 2015)
5. Value of the mullion includes the back section, steel reinforcing, and nosing.

Deadload Charts

8” CAPTURED HORIZONTAL MULLIONS



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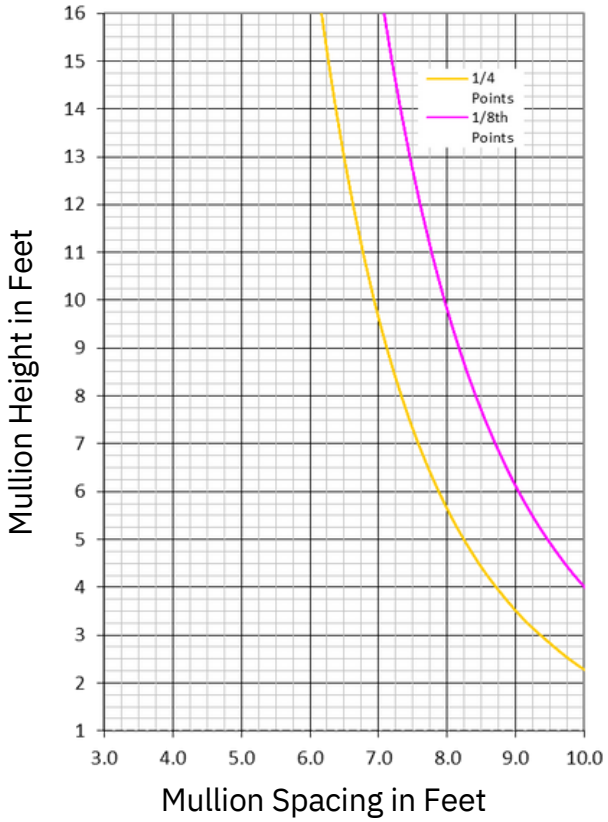


Deadload charts are based on 1/8” (3.2) maximum deflection at the center point of the horizontal member and on a glass weight of 6.5 psf (31.74 Kg/m2). Glass shall rest on two setting blocks located at:
YELLOW CURVE: 1/4 points
PURPLE CURVE: 1/8 points or 8” (203.2) from corners, whichever is larger.

Standard Frame Size

The standard NFRC sizes for curtainwall windows was used, the standard size is 2000 x 2000 mm (78.74 x 78.74 in). That standard size consists of half frames used around the perimeter, as well as a full vertical frame in the centre as shown in the figure below (taken from the NFRC 2017 Simulation manual Section 8.9.2).

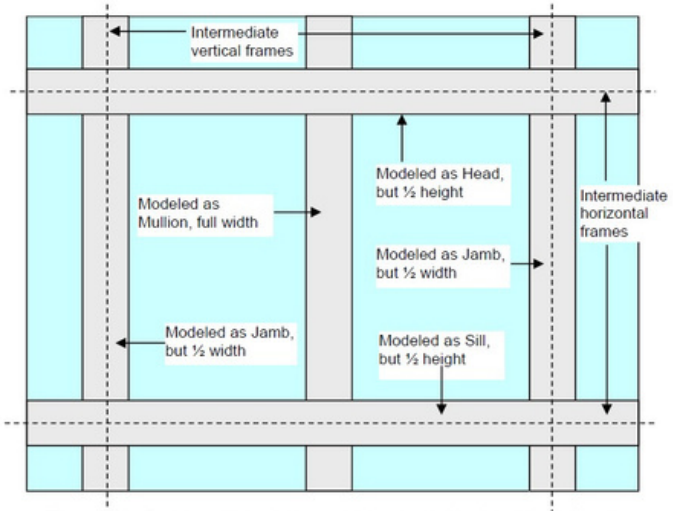


Figure 8-88. Curtain wall simulation model (represented by dotted lines) for rating, where the framing members are modeled at half their width.

Insulated Glazing Unit (IGU) Details:
GL1: Generic Clear Glass / 12.7mm Air (10%) - Argon (90%) Mix / Generic Clear Glass (Total Thickness = 24.1mm)

GL2a: Solarban® 60 on Clear 6mm (Surface #2, ε = 0.035) / 12.7mm Air (10%) - Argon (90%) Mix / Generic Clear Glass (Total Thickness = 24.1mm)

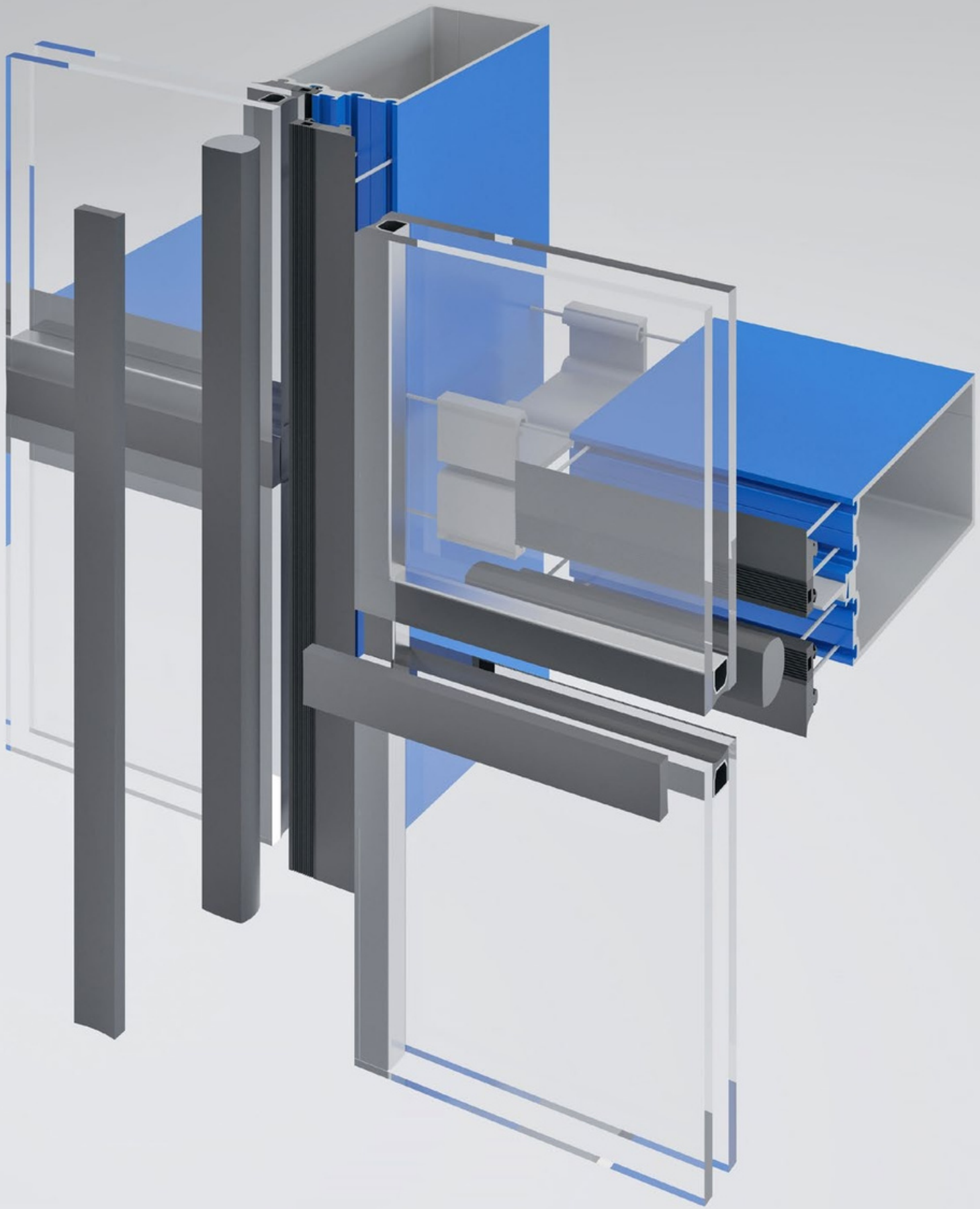
GL2b: LoE3 366 on 6mm Clear (Surface #2, ε = 0.02) / 12.7mm Air (10%) - Argon (90%) Mix / Generic Clear Glass (Total Thickness = 24.1mm)

GL2c: LoE² 270 on 6mm Clear (Surface #2, ε = 0.035) / 12.7mm Air (10%) - Argon (90%) Mix / Generic Clear Glass (Total Thickness = 24.1mm)

GL3: Solarban® 60 on Clear 6mm (Surface #2, ε = 0.035) / 12.7mm Air (10%) - Argon (90%) Mix / Energy Advantage™ Low-E (Surface #4, ε = 0.157) (Total Thickness = 24mm)

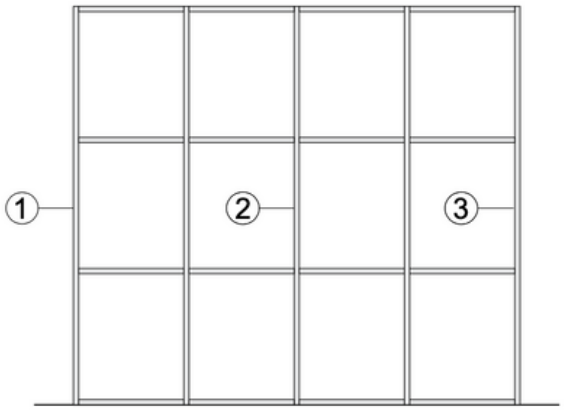
3000 SERIES: Thermal Modelling Results

Glazing Type	Low-E Coating	Center of Glass U-Factor (W/m²·K)	Overall U-Factor (W/m²·K)	Overall U-Factor (Btu/h·ft²·°F)	SHGC VT	VT
GL1	None	2.54	2.81	0.49	0.64	0.71
GL2a	SB60	1.39	1.82	0.32	0.36	0.63
GL2b	366	1.35	1.79	0.32	0.26	0.56
GL2c	270	1.39	1.82	0.32	0.33	0.60
GL3	SB60 + EnAdv	1.13	1.59	0.28	0.39	0.59

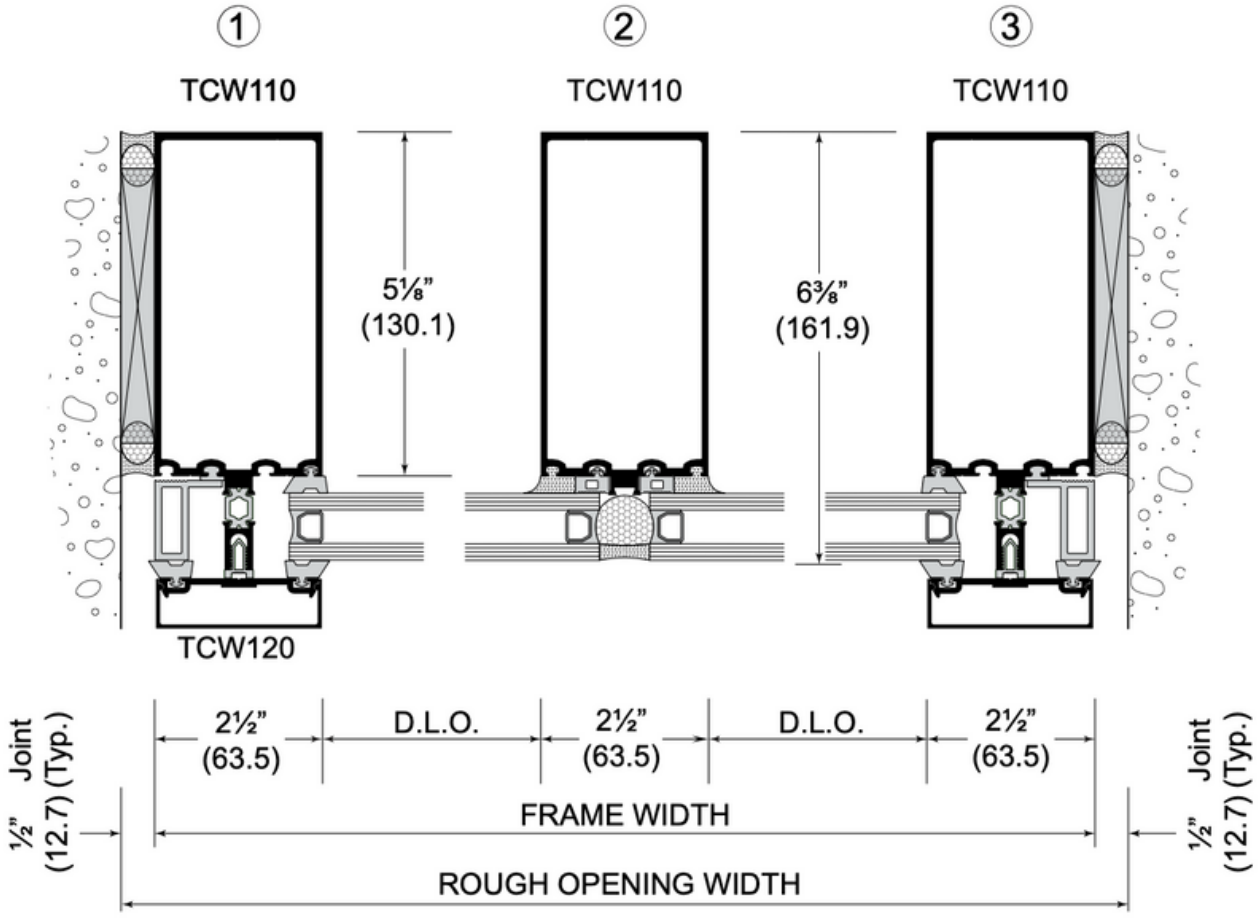


Structural Silicone Glazed

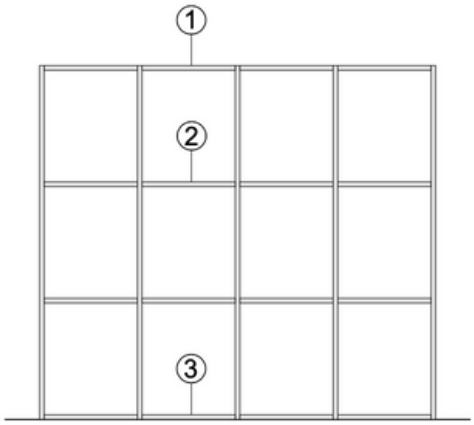
VERTICAL MULLIONS



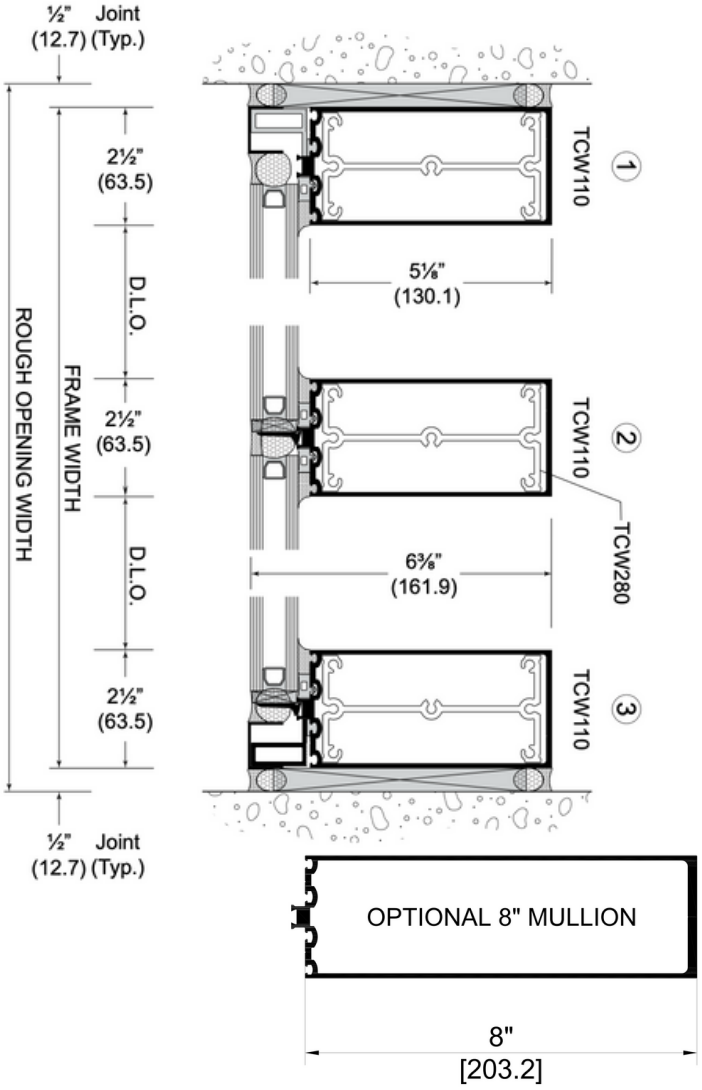
TYPICAL ELEVATION



Structural Silicone Glazed
HORIZONTAL MULLIONS

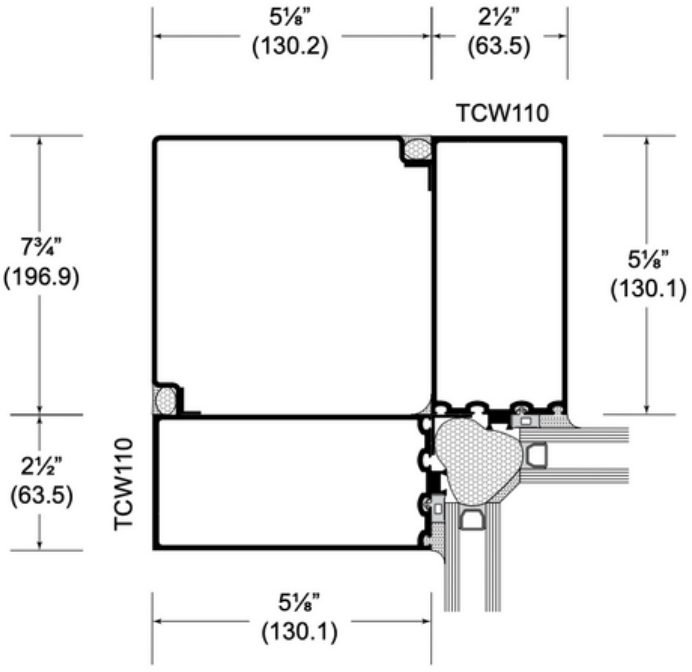


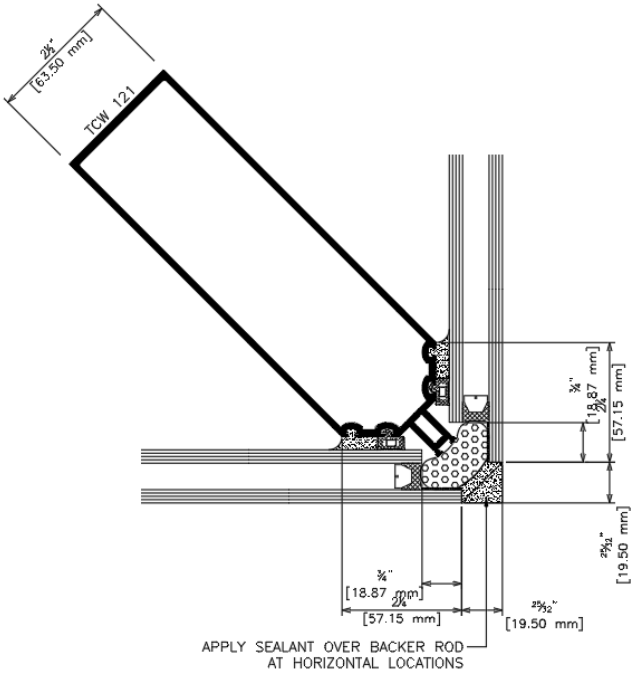
TYPICAL ELEVATION



Structural Silicone Glazed

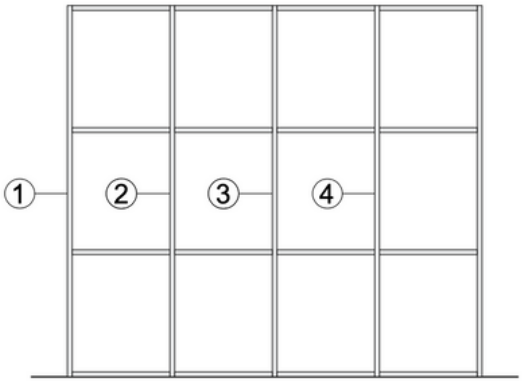
90 DEGREE INSIDE AND OUTSIDE CORNER CONDITION



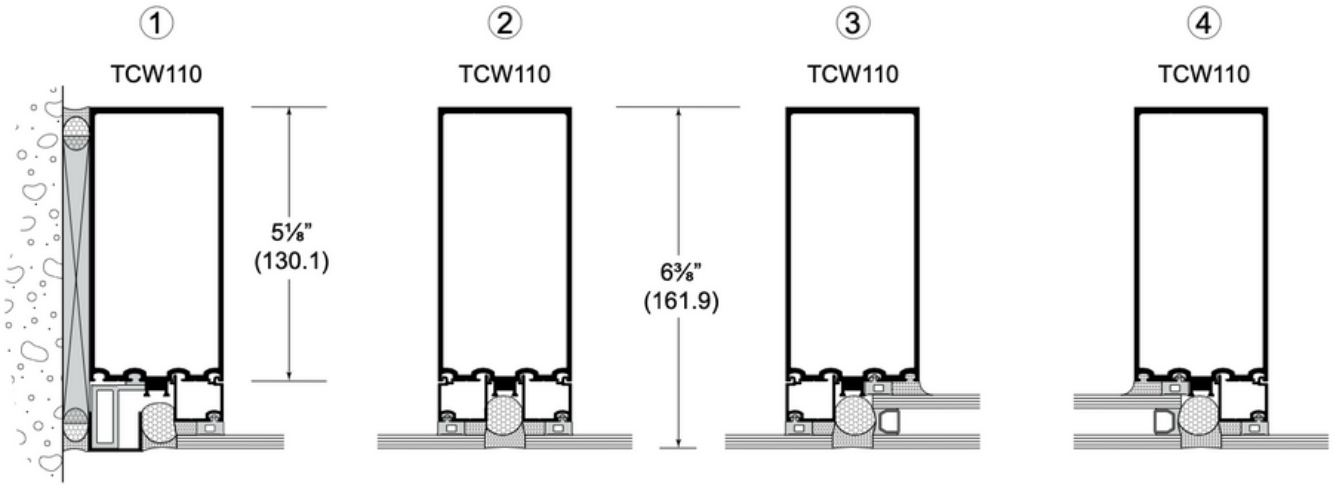


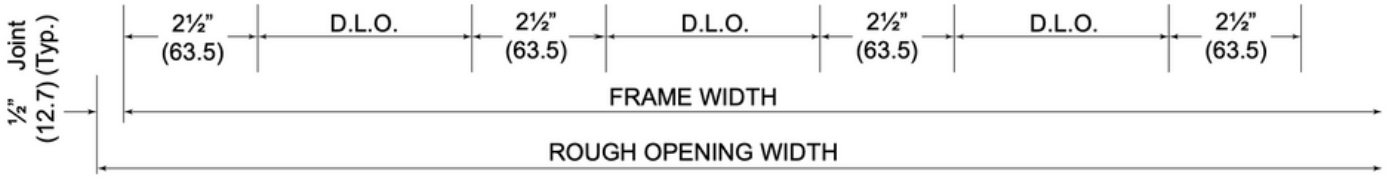
Structural Silicone Glazed

1/4” (6) VERTICAL TRANSITION GLAZING



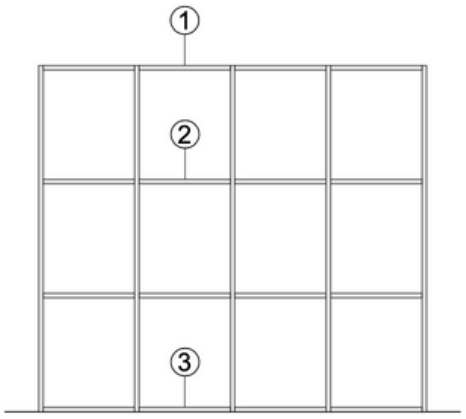
TYPICAL ELEVATION



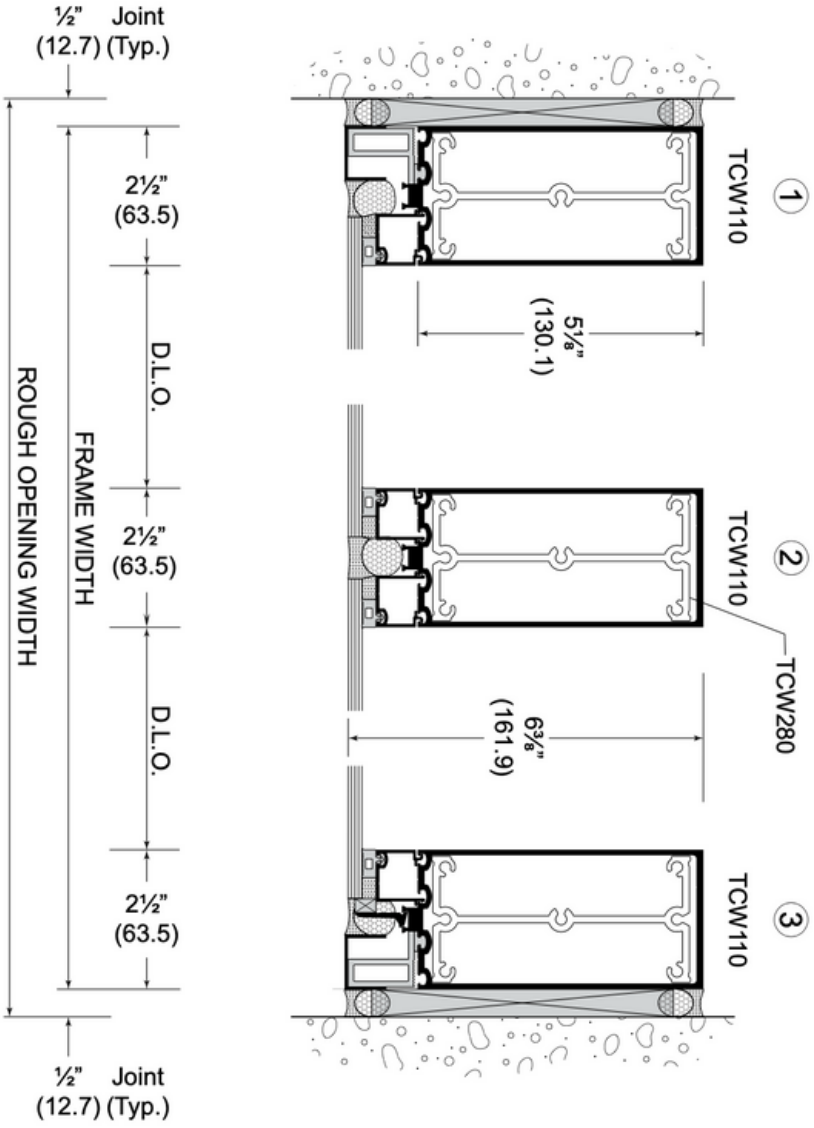


Structural Silicone Glazed

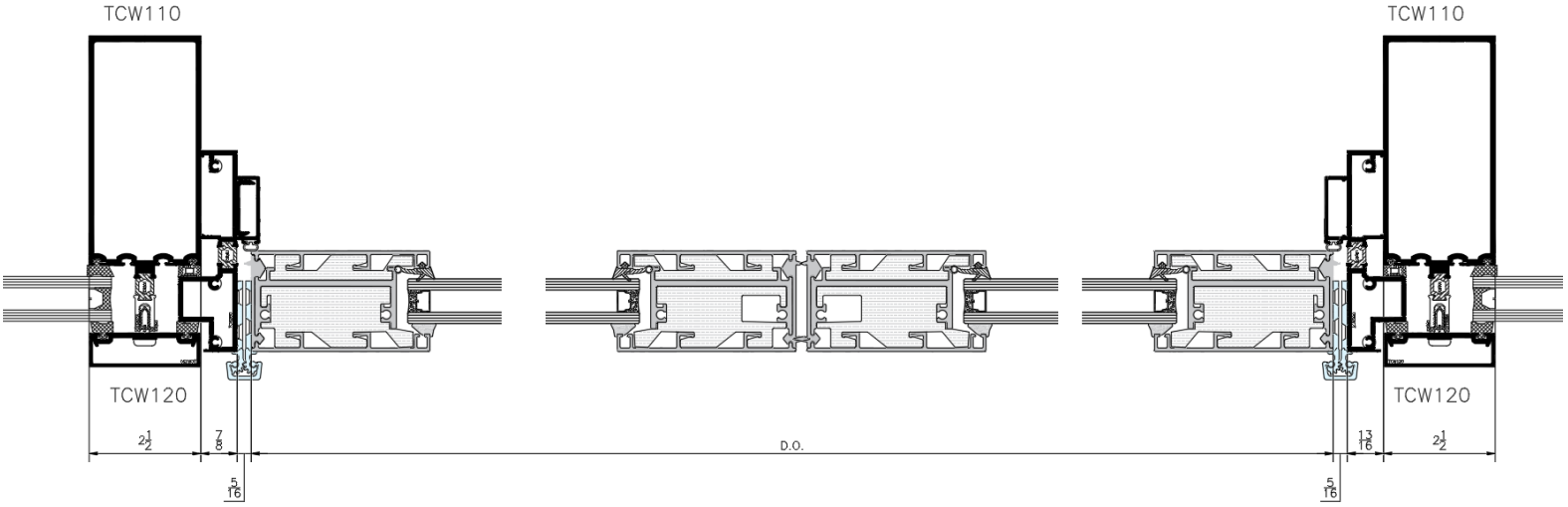
1/4” (6) HORIZONTAL TRANSITION GLAZING



TYPICAL ELEVATION



Structural Silicone Glazed
VERTICAL DOOR FRAMING



Structural Silicone Glazed

HORIZONTAL DOOR FRAMING