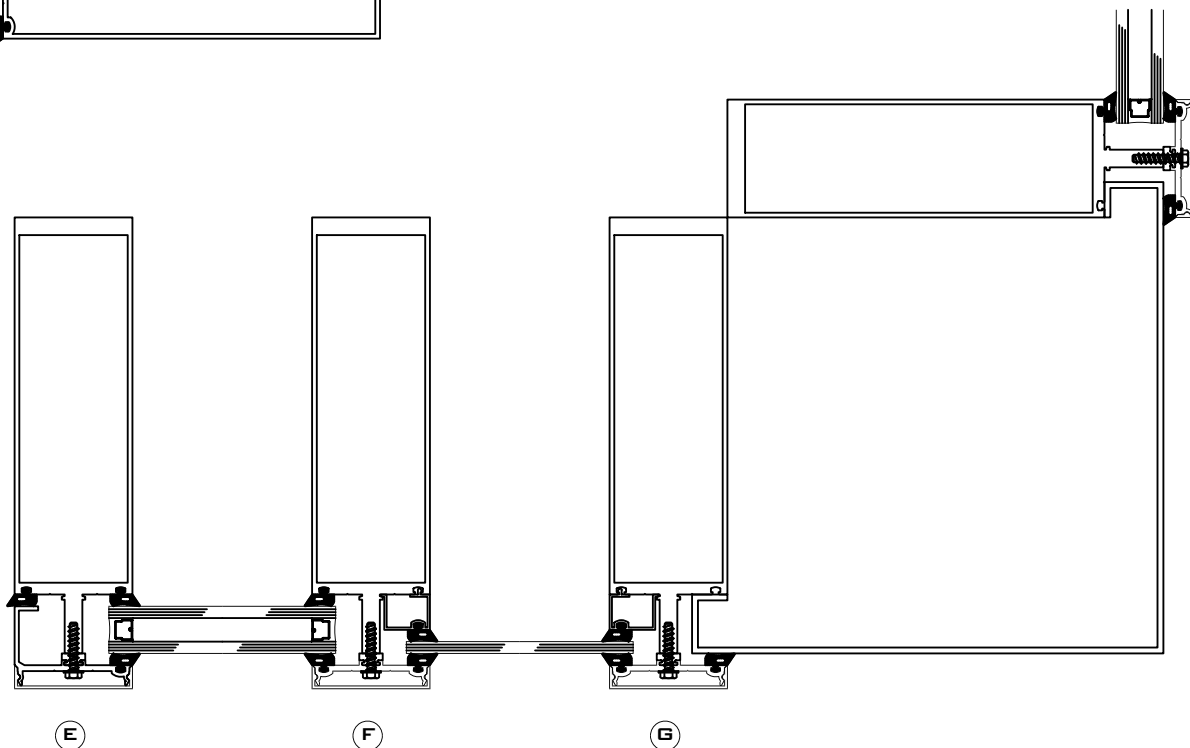
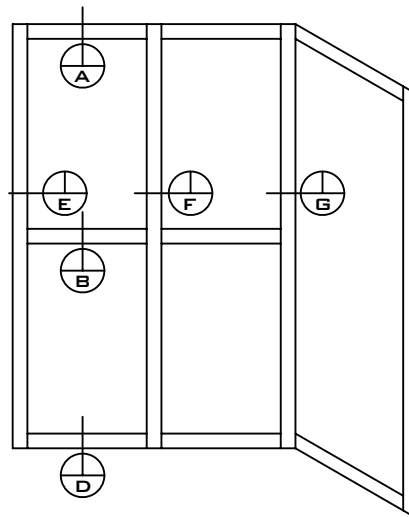
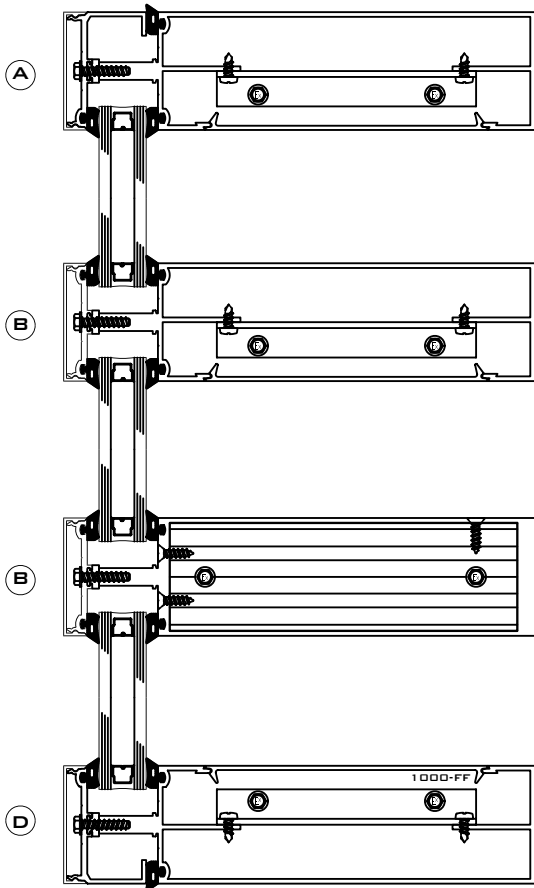


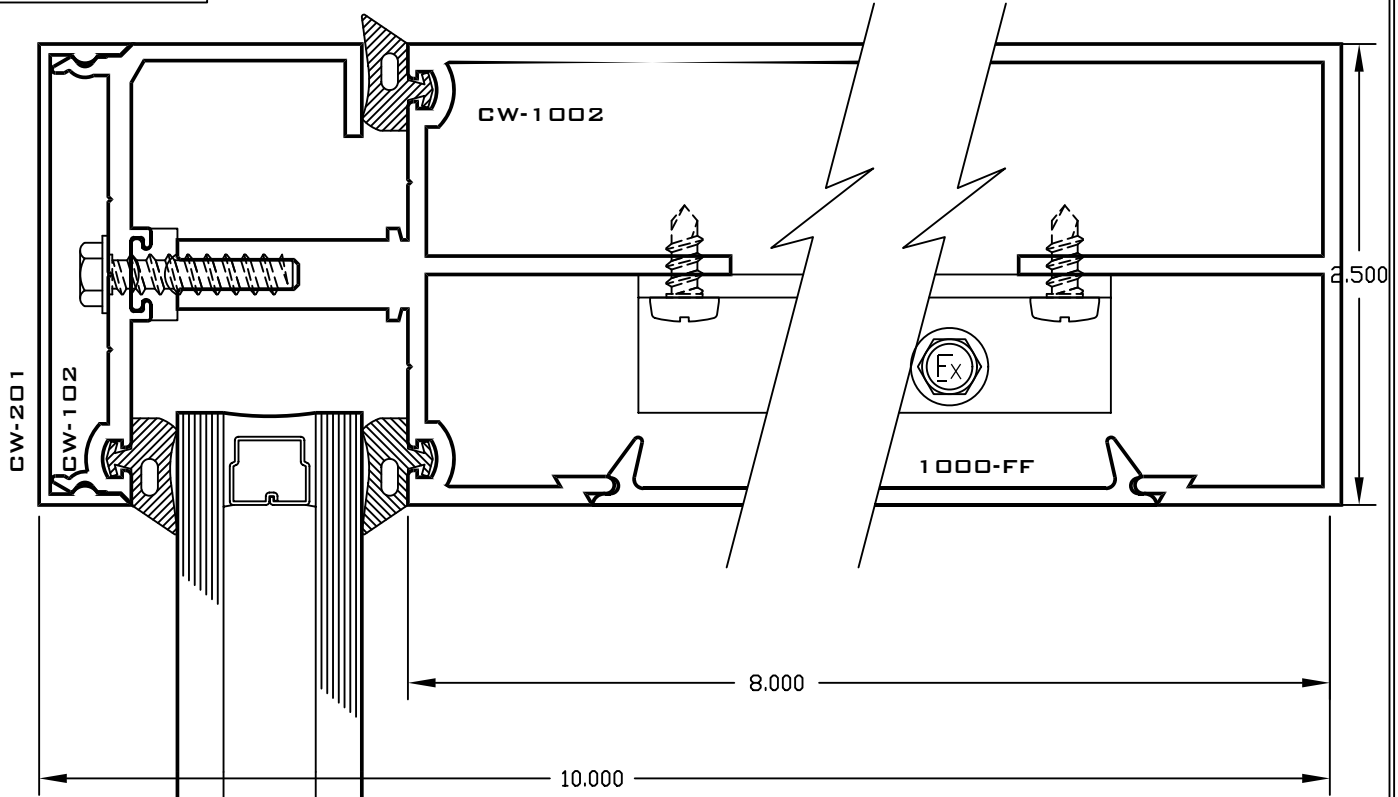
PLCW-1000 SERIES

2 1/2" x 10"

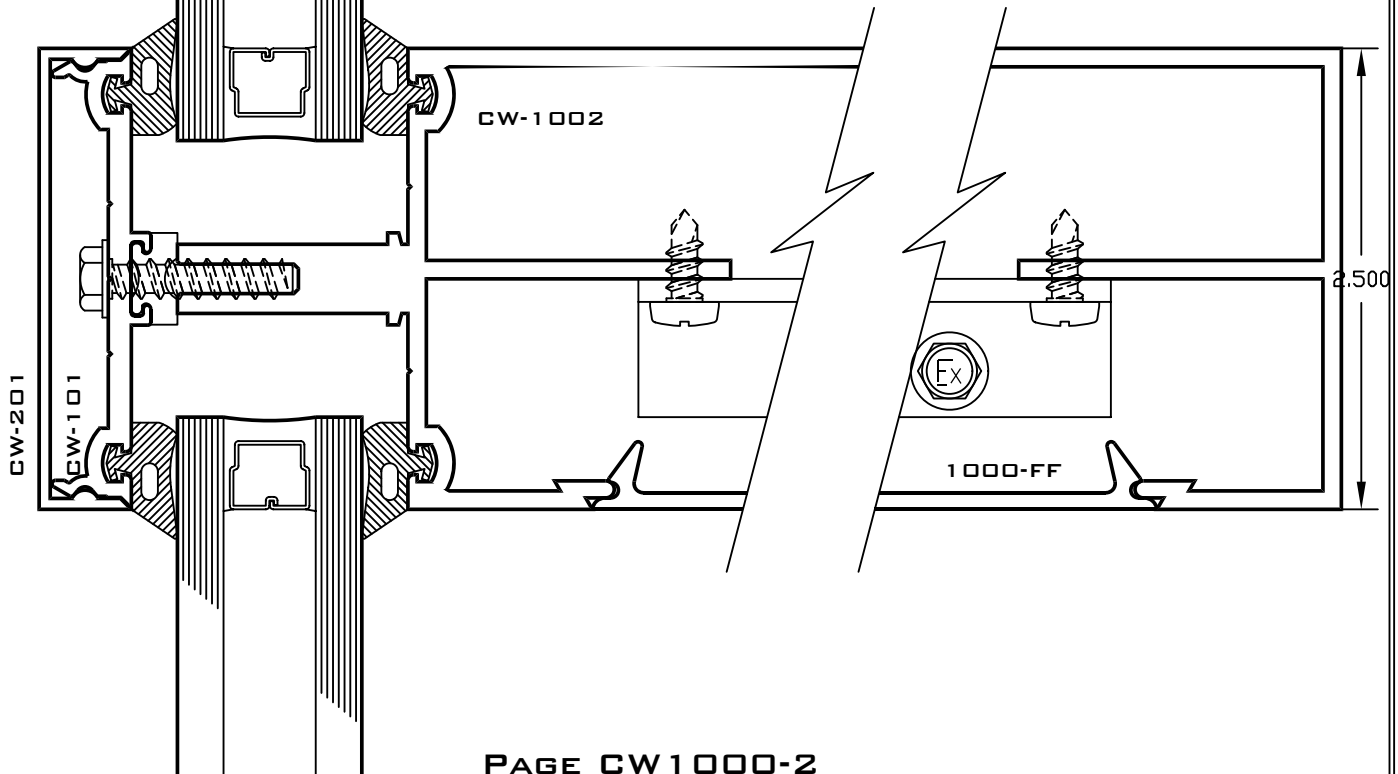
1/4 SCALE



A



B



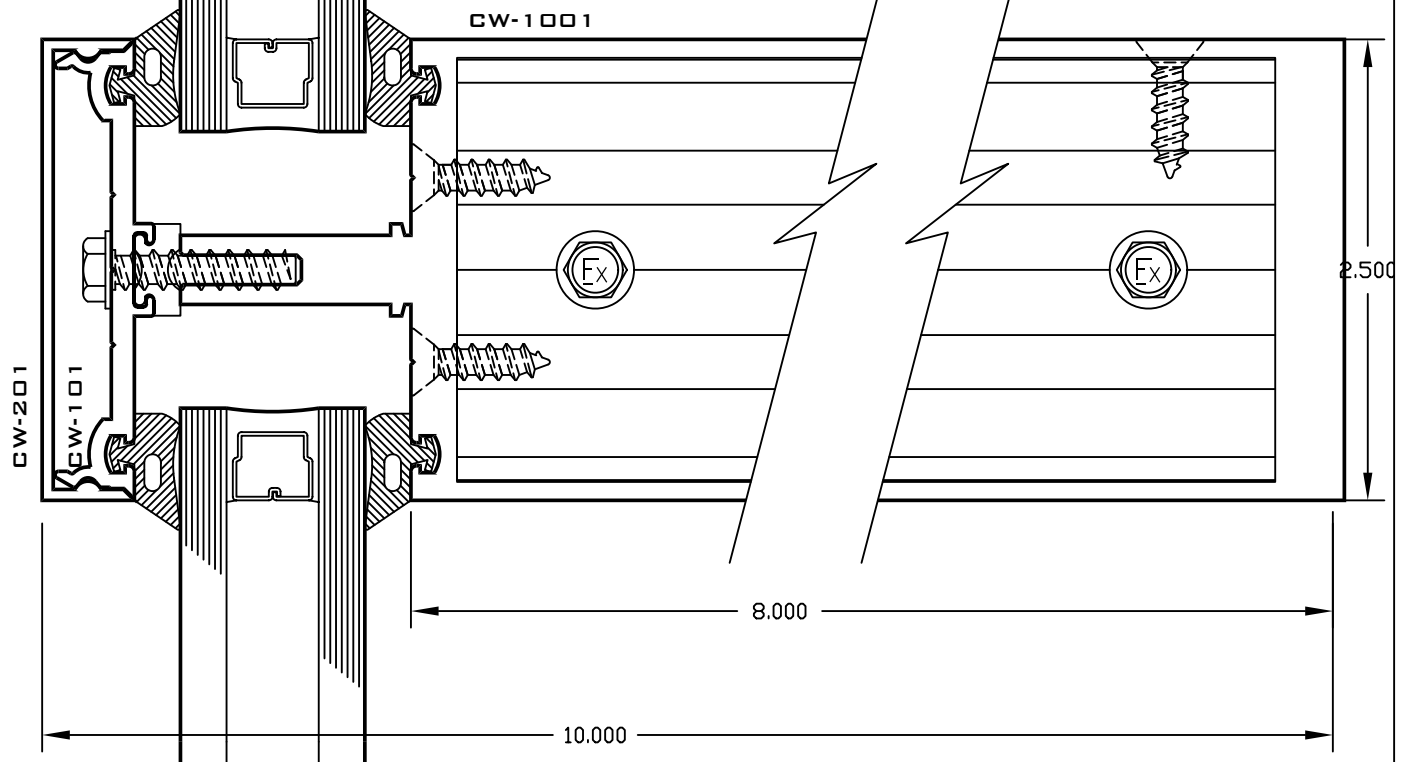
PLCW-1000 SERIES

2 1/2" x 10"

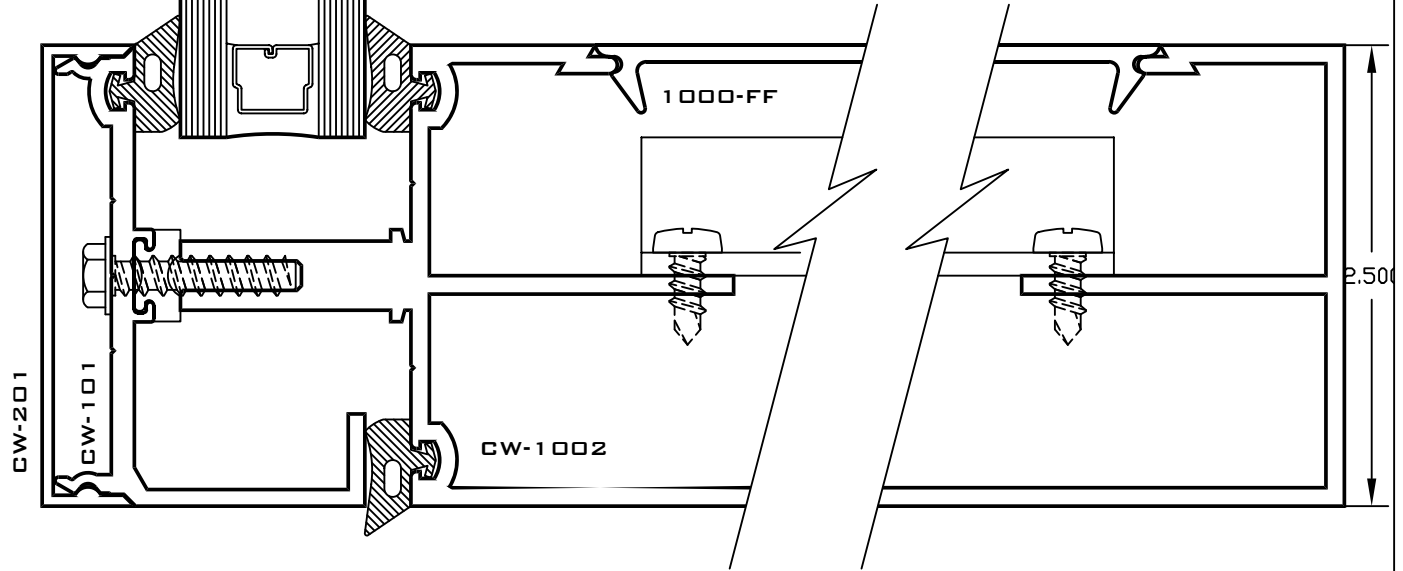
FULL SCALE



B



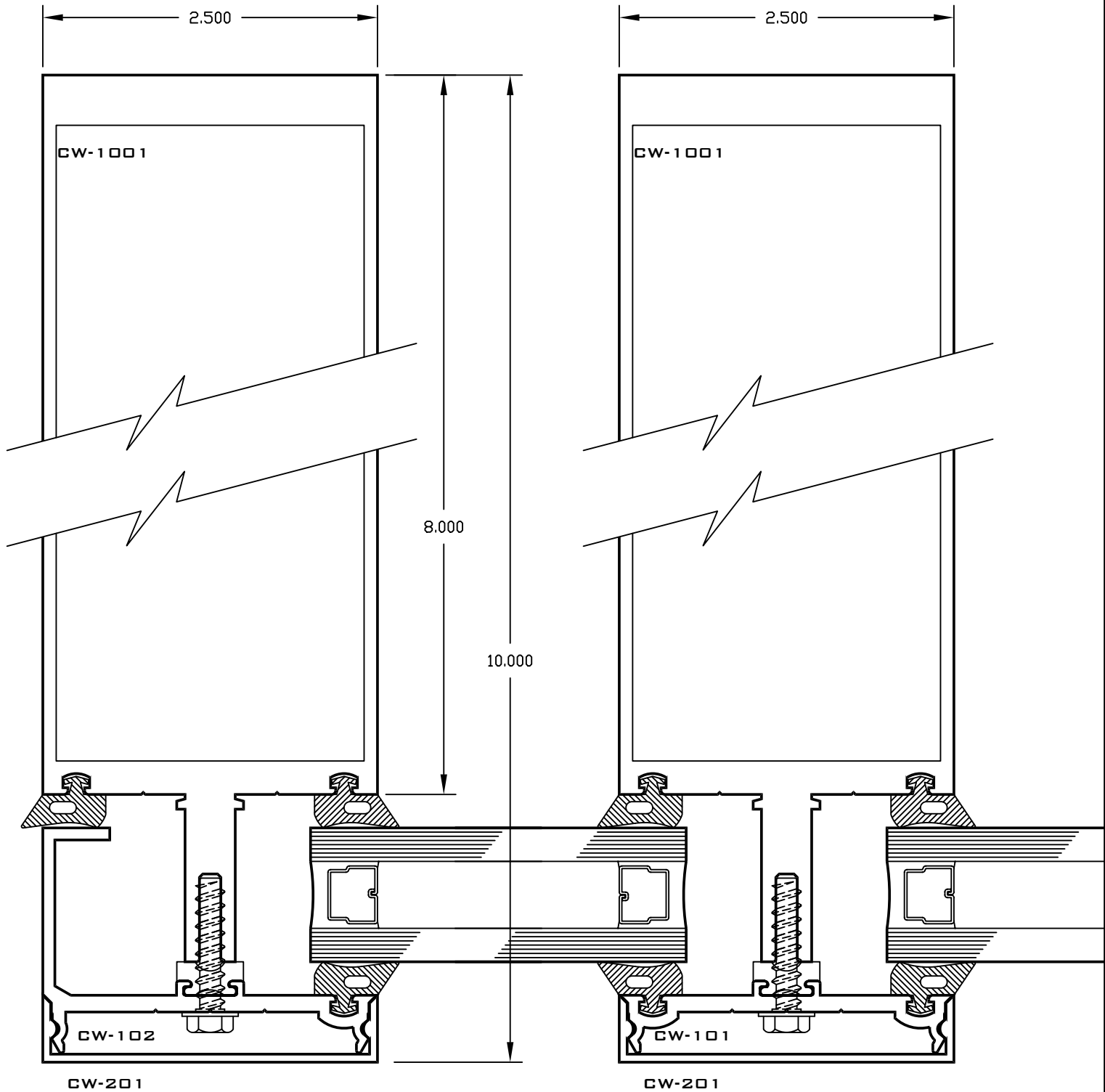
C



PLCW-1000 SERIES

2 1/2" x 10"

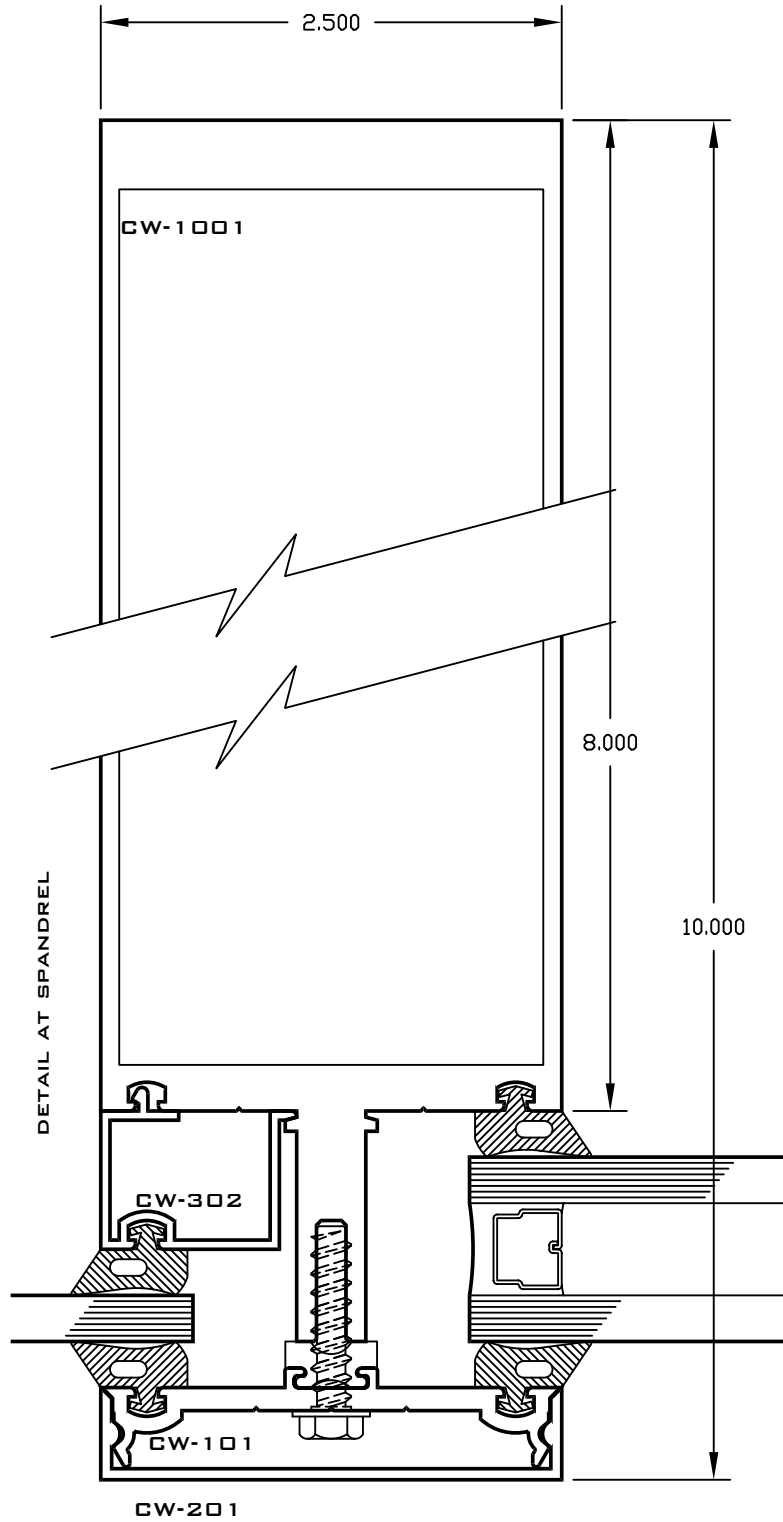
FULL SCALE



E

F

PLCW-1000 SERIES
2 1/2" x 10"
FULL SCALE



F

wind load design

Mullion deflection is limited per AAMA TIR-A11-04
deflection is limited to L/175 for spans up to 13'-6"
and L/240 for spans beyond 13'-6"

allowable stress for 6063-T6 aluminum alloy = 15000 p.s.i.
allowable stress for A-36 steel = 21600 p.s.i.

maximum deflection was based on the following equation:

$$\Delta = \frac{5WL^3}{384EI}$$

maximum bending moment was based on the following equation:

$$M = \frac{WL}{8}$$

assumptions:

W = total uniform load

L = length of mullion between anchors

E = 10×10^6 p.s.i.

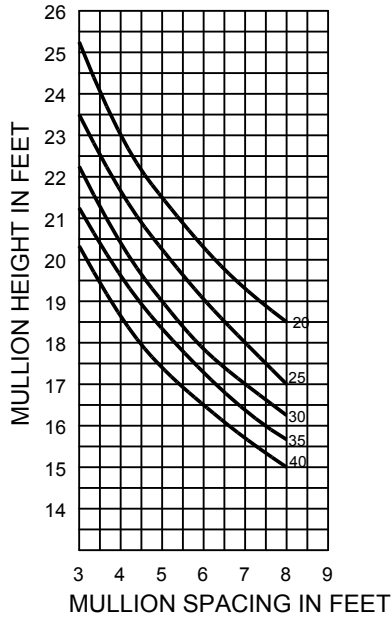
I = moment of inertia of the mullion

M = maximum bending moment

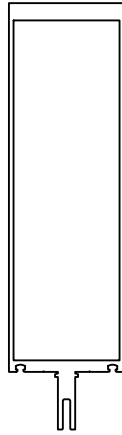
* mullions are assumed to have equal size glass lights each side

check with local code requirements for acceptance of AAMA TIR-A11

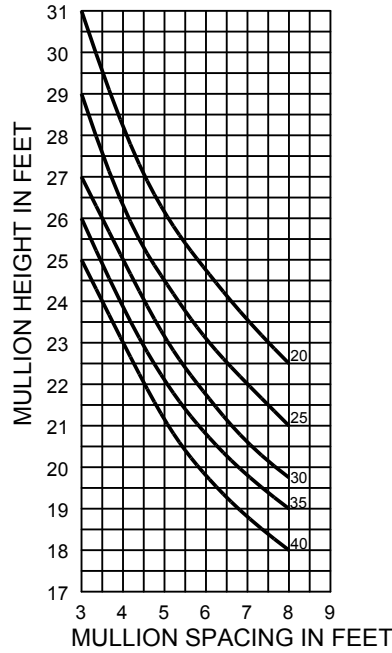
CW-1001



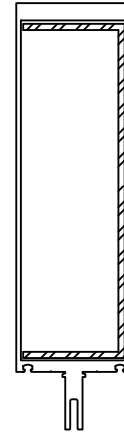
$I_{xx} = 36.547 \text{ IN}^4$
 $S_{xx} = 7.132 \text{ IN}^3$



CW-1001 with 2.2 x 7.25 x 10g steel reinforcing



$I_{xx} = 68.201 \text{ IN}^4$



CURVE REPRESENTATION

- A = 20 P.S.F.
- B = 25 P.S.F.
- C = 30 P.S.F.
- D = 35 P.S.F.
- E = 40 P.S.F.

dead load design

horizontal mullion deflection is limited to L/360 or 1/8" (whichever is less)
curves represent limitations based on 2 point loads, equal in magnitude
both located at 1/8 or 1/4 point of the horizontal mullions length

allowable stress for 6063-T6 aluminum alloy = 15000 p.s.i.
allowable stress for A-36 steel = 21600 p.s.i.

maximum deflection was based on the following equation:

$$\Delta = \frac{Pa}{24EI} (3L^2 - 4a^2)$$

maximum bending moment was based on the following equation:

$$M = Pa$$

assumptions:

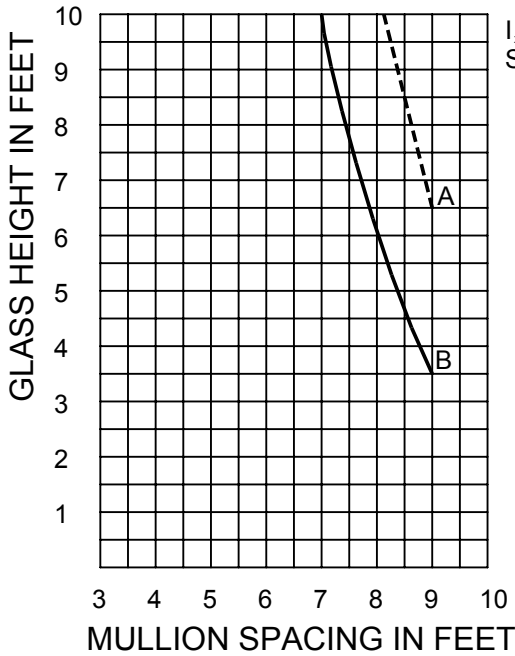
P = 1/2 glass weight

a = 1/4 or 1/8 point of span (in inches)

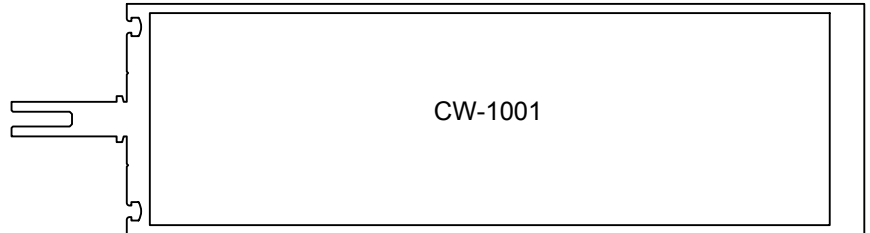
E = 10×10^6 p.s.i.

I = moment of inertia of the mullion

L = length of horizontal mullion



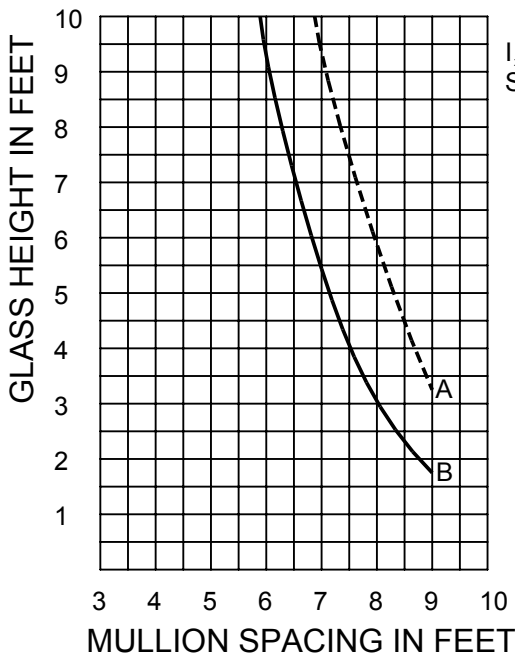
$I_{xx} = 2.892 \text{ IN}^4$
 $S_{xx} = 2.313 \text{ IN}^3$



CURVE REPRESENTATION

A (- - - - -) = 1/8 PTS.

B (———) = 1/4 PTS.



$I_{xx} = 1.520 \text{ IN}^4$
 $S_{xx} = 0.975 \text{ IN}^3$

