

SRD DESIGN CORPORATION

CUSTOMER NAME _____

PROJECT # _____

LOAD CALCULATIONS

DP=(DESIGN PRESSURE) 55
 WW=(WINDOW WIDTH IN.) 60
 WH=(WINDOW HEIGHT IN.) 96
 MRL=(MEETING RAIL LENGTH IN.) 56.5

LA = LOAD AREA
 W1 = STRUCTURAL TEST PRESSURE
 W = DESIGN TEST PRESSURE
 P = PRESSURE
 WDP = WINDOW DESIGN PRESSURE

E= 1.E+07
 K= 0.4

KL= 24.000

L= 56.5
 W= 660
 W1= 990.00
 WDP= 660

C=(CENTROID) 0.952

I_{yy}= 0.321

I_{yy}= 0.229

I_{yy}=

I_{yy}=

I_{yy}=

I (TOTAL) 0.550

LOAD AREA

$$LA = \frac{WW \times (WH \times .5)}{144} - \frac{[(WH \times .5) \times ((WH \times .5) \times .5)]}{144} = LA \text{ SQ. FT.}$$

$$LA = \frac{60 \times (96 \times .5)}{144} - \frac{[(96 \times .5) \times ((96 \times .5) \times .5)]}{144} = 12.00 \text{ SQ. FT.}$$

STRUCTURAL TEST

P = DP X 1.50 = P LBS./SQ. FT.
 P = 55 X 1.50 = 82.5 LBS./SQ. FT.
 W1 = P X LA = W1 LBS.
 W1 = 82.5 X 12 = 990 LBS.

D_{MAX} = DEFLECTION
 S_{MAX} = STRESS
 D_{ALLOWABLE} = DEFLECTION ALLOWED

M_{MAX} DENOMINATOR 6.100

D_{MAX} DENOMINATOR 60.600

CALCULATIONS RUN ON EXTRUSIONS:

1.	1069-E-05
2.	1069-E-06
3.	
4.	
5.	

DESIGN TEST PRESSURE

$$M_{MAX} = \frac{W \times L}{M_{MAX} \text{ DEN.}} = M_{MAX} \text{ LBS./IN.}$$

$$M_{MAX} = \frac{660 \times 56.5}{6.100} = 6,113 \text{ LBS./IN.}$$

$$D_{MAX} = \frac{W \times L^3}{D_{MAX} \text{ DEN.} \times E \times I} = D_{MAX} \text{ IN.}$$

$$D_{MAX} = \frac{660 \times 180,362}{60.600 \times 1.E+07 \times 0.550} = .357 \text{ IN.}$$

$$S_{MAX} = \frac{M_{MAX} \times C}{I} = S_{MAX} \text{ PSI}$$

$$S_{MAX} = \frac{6,113 \times 0.952}{0.550} = 10,581 \text{ PSI}$$

$$D_{ALLOW} = \frac{L}{175} = D_{ALLOW}$$

$$D_{ALLOW} = \frac{56.5}{175} = .323$$

STRUCTURAL TEST PRESSURE

$$M_{MAX} = \frac{W1 \times L}{M_{MAX} \text{ DEN.}} = M_{MAX} \text{ LBS./IN.}$$

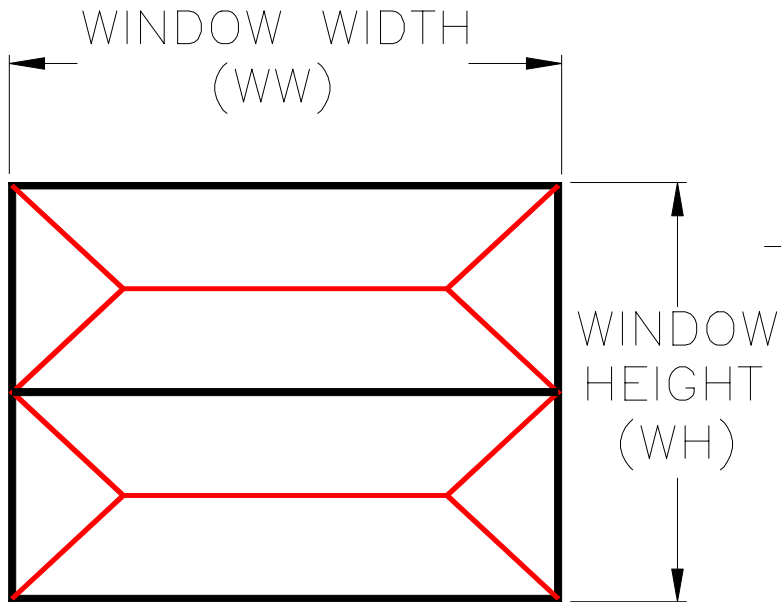
$$M_{MAX} = \frac{990.00 \times 56.5}{6.100} = 9,170 \text{ LBS./IN.}$$

$$D_{MAX} = \frac{W1 \times L^3}{D_{MAX} \text{ DEN.} \times E \times I} = D_{MAX} \text{ IN.}$$

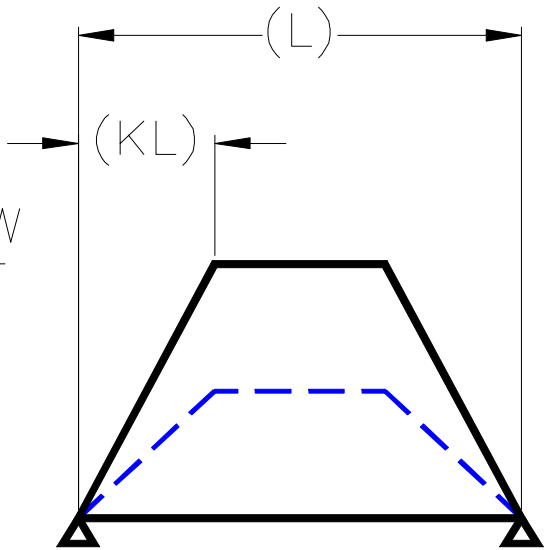
$$D_{MAX} = \frac{990.00 \times 180,362}{60.600 \times 1.E+07 \times 0.550} = .536 \text{ IN.}$$

$$S_{MAX} = \frac{M_{MAX} \times C}{I} = S_{MAX} \text{ PSI}$$

$$S_{MAX} = \frac{9,170 \times 0.952}{0.550} = 15,872 \text{ PSI}$$



ELEVATION



TRAPEZOIDAL LOAD