DEMISING WALL

DEMISING WALL, HIGH IMPACT DOOR OPENING FRAMING

ASSUME C6x8.2 CHANNEL FOR JAMBS & HEADER, $F_y = 50$ KSI

$A = 2.40\ IN^2$, $I = 13.1\ IN^4$, $S_x = 4.38\ IN^3$, $r_x = 2.34\ IN$

LOOK @ JAMB, $L = 10'$, $l = 120''$

ASSUME WEIGHT OF DOOR LEAF = 100# = 10#/LF
ASSUME 750 # POINT LOAD APPLIED @ 5'-0"
DEFLECTION = $l/240$

$$R_1 = \frac{(750 \times 5) + (10 \times 10 \times 5)}{10} = 425\ \# = R_2$$

$$M_{5.0} = (425 \times 5) - (10 \times 5 \times 2.5) = 2000\ ft\text{-}\# = 2\ ft\text{-}K$$

$$F_b = 0.60 F_y = 0.60 \times 50 = 30\ KSI$$

$$\text{REQUIRED } S_x = \frac{M}{F_b} = \frac{2 \times 12}{30} = 0.8\ IN^3 < 4.38\ IN^3 \therefore OK$$

$$\frac{l}{240} = \frac{120}{240} = 0.5''$$

$$\frac{4M}{l} = \frac{4 \times (2 \times 12)}{120} = 0.8\ K$$

RESURGAM. CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
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