



### FREESTANDING WALL

RECON CAPSTONE = 550 lbs (4 ft wide) or 138 plf  
 RECON FREESTANDING BLOCK = 1448 lbs (4 ft wide) or 362 plf

#### FREESTANDING WALL SAMPLE CALCULATION

Overturning factor of safety  
 $FS_{ot} = M_r / M_o > 1.50$   
 and  
 Eccentricity (e) must be within the middle third of leveling pad.  
 $e < B/6$

Wind Load = 15 psf x 86.5 in x (1 ft / 12 in) = 108 plf  
 Post Load = 50 plf (IBC)

#### **Check Overturning and Eccentricity over a 1 foot length of wall**

Resisting Moment =  $(138 \text{ lb} \times 12" + 5 \times 362 \text{ lb} \times 12") \times (1 \text{ ft} / 12 \text{ in}) = 1948 \text{ lb-ft}$

Overturning Moment =  $[108 \text{ lb} \times (40.25 \text{ in} + 6 \text{ in}) + 50 \text{ lb} \times (42 \text{ in} + 6 \text{ in})] \times (1 \text{ ft} / 12 \text{ in}) = 616 \text{ lb-ft}$

$FS_{ot} = M_r / M_o = 1948 \text{ lb-ft} / 616 \text{ lb-ft} = 3.16 > 1.50 \text{ OK}$

Eccentricity

$e = B / 2 - (M_r - M_o) / \text{SumVertical}$

where

$B = 2 \text{ ft}$

$\text{SumVertical} = 1 \times 138 \text{ plf} + 5 \times 362 \text{ plf} = 1948 \text{ plf}$

$e = 2 \text{ ft} / 2 - (1948 \text{ lb-ft} - 616 \text{ lb-ft}) / (138 \text{ lb} + 5 \times 362 \text{ lb}) = 0.32 \text{ ft}$

$e = 0.32 \text{ ft} < B/6 = 2 \text{ ft} / 6 = 0.33 \text{ ft OK}$

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## RECON FREESTANDING WALLS

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