STEEL STRONG-WALL®: Two-Story Stacked on Concrete Foundations

STEEL STRONG-WALL® TWO-STORY DESIGN EXAMPLE

Example: Standard Two-Story Wall Design

Given:

2006 IBC, Wind, f'_c = 2500 psi

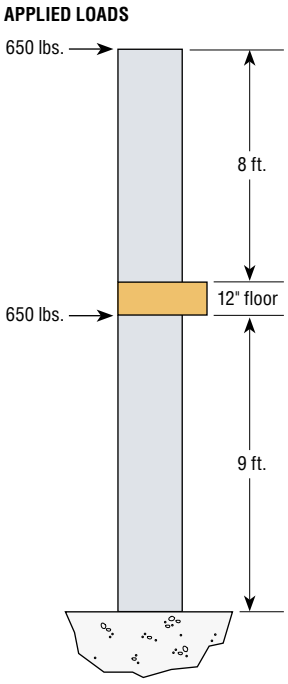
$V_{2nd\text{-}story\ wall}$ = 650 lbs.

$V_{1st\text{-}story\ wall}$ = 650 lbs.

V_{total} = 650 lbs. + 650 lbs. = 1,300 lbs.

M_{allow} = Allowable ASD Base Moment (ft-lbs.) *(See Two-Story Stacked Tables)*

V_{allow} = Allowable ASD Shear Load V (lbs.) *(See Two-Story Stacked Tables)*



STEP 1 – Select First-Story Wall *(See tables on page 27)*

M_{base} = (650 lbs. x 18 ft.) + (650 lbs. x 9 ft.) = 17,550 ft-lbs.

Using First-Story Wall Table, select a 9-foot wall with $M_{allow} \geq M_{base}$

Select SSW18x9-STK

M_{allow} = 22,685 ft-lbs. > 17,550 ft-lbs. **OK**

STEP 2 – Check Second-Story Wall

Using the Second-Story Wall Table on page 27, check the capacity of an 8-foot wall with the same width as the First-Story Wall selected in Step 1:

Select SSW18x8

V_{allow} = 1,315 lbs. > 650 lbs. **OK**

››› Use SSW18x8 over SSW18x9-STK