

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

STEEL STRONG-WALL® TWO-STORY DESIGN EXAMPLE

Example: Cold-Formed Steel Two-Story Wall Design

Given:

2006 IBC, Wind, $f'_c = 2500$ psi

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

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

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

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

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

STEP 1 – Select First-Story Wall (See tables on page 48)

$M_{\text{base}} = (650 \text{ lbs.} \times 18 \text{ ft.}) + (650 \text{ lbs.} \times 9 \text{ ft.}) = 17,550$ ft-lbs.

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

Select S/SSW18x9X-STK

$M_{\text{allow}} = 21,480$ ft-lbs. > 17,550 ft-lbs. **OK**

STEP 2 – Check Second-Story Wall

Using the Second-Story Wall Table on page 48, check the capacity of an 8-foot wall with the same width as the First-Story Wall selected in Step 1:

Select S/SSW18x8X

$V_{\text{allow}} = 1,275$ lbs. > 650 lbs. **OK**

>>> Use S/SSW18x8X over S/SSW18x9X-STK

Specify height when ordering “X” and “X-STK” models

