

Steel Strong-Wall® Cold-Formed Steel 1st-Story Floor Systems

Steel Strong-Wall panels designed for use on concrete foundations can be used with cold-formed steel floor systems by extending the anchor bolts and installing compression nuts and stud blocking below the wall.

Material and Finish: See p. 286

For product data and naming scheme information, see p. 286.

CFS First-Floor Wall Connection Kit

Wall Width (in.)	Model No.	Contents
12	SSW12-1KT	(1) Shear-transfer plate (with #14 self-drilling screws)
15	SSW15-1KT	(2) ¾" or 1" x 18" threaded rods
18	SSW18-1KT	F1554 Grade 36
21	SSW21-1KT	(2) Coupler nuts
24	SSW24-1KT	(2) Heavy hex nuts
		Installation instructions

1. Two heavy hex nuts included with each wall.



For a complete set of wall profile drawings, see p. 286.



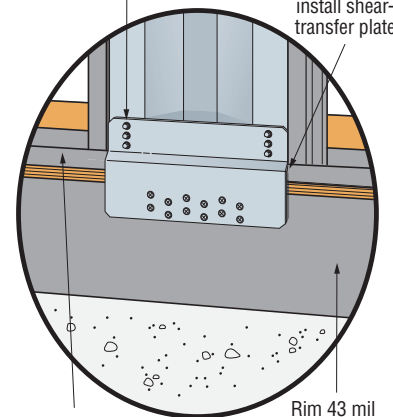
DO NOT
cut wall or
enlarge
existing holes

Shear-Transfer Plate Fasteners for Raised-Floor Applications

Strong-Wall Width	Fastener #14 Screws	Quantity #10 Screws
12" wall	4	6
15" wall	4	10
18" wall	6	12
21" wall	6	16
24" wall	7	18

SSW Shear-Transfer Plate installs with #10 self-drilling screws (Quik Drive TRSD34S1016 recommended, not provided) into the rim and #14 self-drilling screws into the Strong-Wall® (included with SSW__-1KT)

Clip sill track as required to install shear-transfer plate



(3) #8 self-drilling screws min. sill track to rim each side.

Exterior View of Shear-Transfer Plate

(3) #8 self-drilling screws min. sill track to rim each side

Place Steel Strong-Wall® panel over the anchor bolts and secure with heavy hex nuts (provided). Snug tight fit required, do not use an impact wrench.

- 1¼" wrench/socket required for ¾" nut
- 1½" wrench/socket required for 1" nut

CNW nuts and threaded rods (included with SSW__-1KT)

Shear transfer by Designer

SSWAB

Foundation Design (size and reinforcement) by Designer

Cold-Formed Steel 1st-Story Floor System

U.S. Patent 8,281,551; Canadian Patent 2,489,845

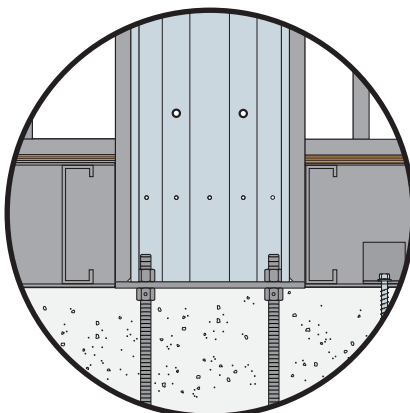
(3) #8 self-drilling screws min. sill track to rim each side

CFS stud blocking 33 mil (20 ga.) min. each side of anchor rod at each end of wall

Drill/notch subfloor to allow nut to sit flush with underside of wall (notching of rim will be required)

Perpendicular floor framing at 2'-0" o.c. maximum (not shown for clarity) or install full-depth joist blocking within 6" of each end of panel where floor framing is parallel.

Blocking/Connection Detail



Alternate 1st-Floor Installation

Specify taller wall model to allow for floor framing and use load values for installation on concrete; see pp. 286–287.

Steel Strong-Wall® Cold-Formed Steel 1st-Story Floor Systems

2015 International Building Code®

S/SSW Model	Seismic ²			Wind		
	Allowable ASD Shear Load V (lb.)	Drift at Allowable Shear (in.)	Anchor Tension at Allowable Shear ⁴ (lb.)	Allowable ASD Shear Load V (lb.)	Drift at Allowable Shear (in.)	Anchor Tension at Allowable Shear ⁴ (lb.)
S/SSW12x8	435	0.40	6,135	435	0.40	6,135
S/SSW15x8	1,050	0.42	11,010	1,150	0.46	12,060
S/SSW18x8	1,525	0.36	12,075	1,525	0.36	12,075
S/SSW21x8	1,900	0.29	12,085	1,900	0.29	12,085
S/SSW24x8	2,270	0.24	12,065	2,270	0.24	12,065
S/SSW12x9	390	0.47	6,185	390	0.47	6,185
S/SSW15x9	900	0.48	10,605	1,025	0.54	12,080
S/SSW18x9	1,355	0.42	12,055	1,355	0.42	12,055
S/SSW21x9	1,690	0.34	12,080	1,690	0.34	12,080
S/SSW24x9	2,020	0.28	12,065	2,020	0.28	12,065
S/SSW15x10	785	0.53	10,270	925	0.63	12,100
S/SSW18x10	1,220	0.48	12,050	1,220	0.48	12,050
S/SSW21x10	1,520	0.39	12,060	1,520	0.39	12,060
S/SSW24x10	1,820	0.32	12,065	1,820	0.32	12,065

1. Loads are applicable to 1st-Story Cold-Formed Steel Raised-Floor installations supported on concrete or masonry foundations using the ASD basic (Section 1605.3.1) or the alternative basic (Section 1605.3.2) load combinations. Load values include evaluation of anchor rod compression capacity and do not require further evaluation by the Designer.
2. For seismic designs based on the 2015 IBC using $R = 6.5$. For other codes, use the seismic coefficients corresponding to light-frame bearing walls with wood structural panels or sheet steel panels.
3. Minimum standard-strength anchor bolts required. See pp. 296–303 for SSWAB anchor bolt information and anchorage solutions. Tabulated anchor tension loads assume no resisting axial load. Anchor rod tension at design shear load and including the effect of axial load may be determined using the Strong-Wall Selector™ software or the following equation:
 $T = [(V \times h) / B] - P/2$, where: T = Anchor rod tension load (lb.)
 V = design shear load (lb.)
 h = Strong-Wall® height per page 146 (in.)
 P = applied axial load (lb.)
 B = Anchor bolt centerline dimension (in.)
 (6 $\frac{7}{8}$ " for S/SSW12, 9 $\frac{1}{4}$ " for S/SSW15, 12 $\frac{1}{4}$ " for S/SSW18, 15 $\frac{1}{4}$ " for S/SSW21, and 18 $\frac{1}{4}$ " for S/SSW24)
4. Allowable shear loads assume a maximum first-floor joist depth of 12".
5. Allowable shear loads are based on 1,000 lb. total uniformly distributed axial load acting on the entire panel in combination with the shear load. For allowable shear loads at 2,000 lb. uniformly distributed axial load, multiply table values by 0.92 for S/SSW12x models, and 0.96 for other S/SSW widths.
6. Top-of-wall screws for the S/SSW shall be approved $\frac{1}{4}$ " or #14 self-drilling screws with a minimum nominal shear strength (P_{ss}) of 2,000 lb. Top of panel shall be connected to a minimum 43 mil (18 ga.) thick steel member typical.