

STEEL STRONG-WALL®: 1st Story Wood Floor Systems



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

MATERIAL & FINISH: See page 10.

⚠ Load tables list values based upon results from the most recent testing and/or calculations and may not match those in current code reports. Where code jurisdictions apply, consult the current reports for applicable load values.

For product data and naming scheme information, see pages 10 and 11.

WOOD 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) 1"x18" Threaded Rods (A36)
18	SSW18-1KT	(2) Coupler Nuts
21	SSW21-1KT	(2) Heavy Hex Nuts
24	SSW24-1KT	Installation Instructions

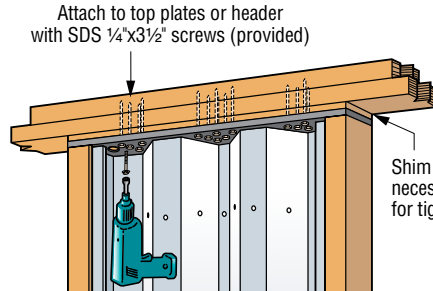
1. Two heavy hex nuts included with each wall.



For a complete set of wall profile drawings, see page 10.



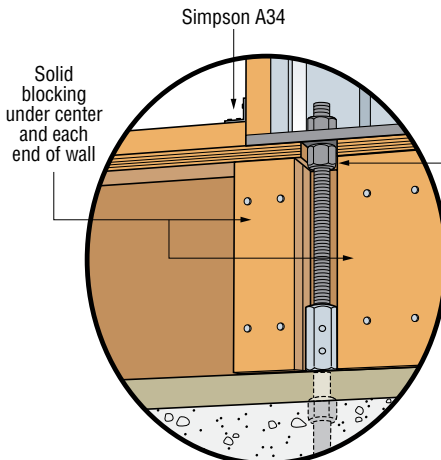
DO NOT cut wall or enlarge existing holes



Shim as necessary for tight fit

SSW Shear Transfer Plate installs with 10d nails into the rim joist and #14 self-drilling screws into the Strong-Wall (Sold separately with SSW_-1KT)

Framing anchor each side by others (Simpson A34 shown)

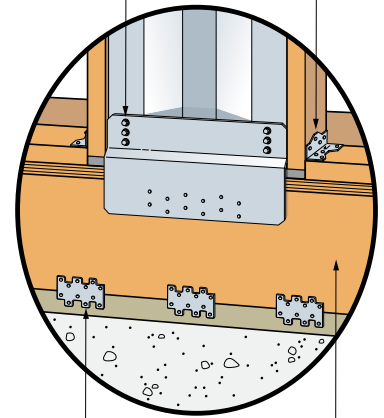


BLOCKING/CONNECTION DETAIL

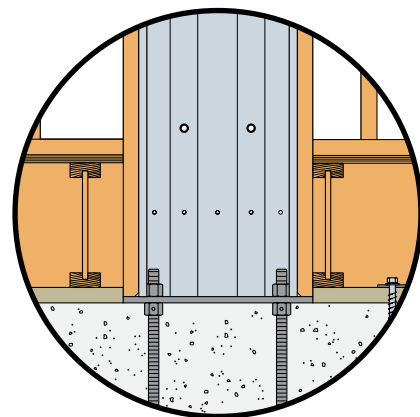
(See detail 10/SSW2 on page 91 for perpendicular blocking where required)

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.

- 1 1/4" wrench/socket required for 3/4" nut.
- 1 5/8" wrench/socket required for 1" nut.



EXTERIOR VIEW OF SHEAR TRANSFER PLATE



ALTERNATE 1ST FLOOR INSTALLATION

Installation for 1st floor wood floor system. Specify taller wall model to allow for floor framing.

CNW Nuts and Threaded Rods (Included with SSW_-1KT)

Simpson A34 each side

Drill 1 3/4" hole to allow for CNW

SSWAB

Foundation Design (size and reinforcement) by others

STEEL STRONG-WALL®: 1st Story Wood Floor Systems

1997 UNIFORM BUILDING CODE AND 2000 INTERNATIONAL BUILDING CODE

Wall Model	Seismic ¹		Wind ²	
	Allowable ASD Shear Load V (lbs)	Drift at Allowable Shear (in)	Allowable ASD Shear Load V (lbs)	Drift at Allowable Shear (in)
SSW12x7	680	0.31	680	0.31
SSW15x7	1790	0.33	1790	0.33
SSW18x7	2225	0.22	2225	0.22
SSW21x7	2795	0.18	2795	0.18
SSW24x7	3260	0.14	3260	0.14
SSW12x8	585	0.39	585	0.39
SSW15x8	1470	0.42	1535	0.43
SSW18x8	2030	0.31	2030	0.31
SSW21x8	2530	0.24	2530	0.24
SSW24x8	3025	0.20	3025	0.20
SSW12x9	510	0.47	520	0.48
SSW15x9	1195	0.47	1360	0.54
SSW18x9	1800	0.38	1800	0.38
SSW21x9	2240	0.30	2240	0.30
SSW24x9	2680	0.24	2680	0.24
SSW12x10	425	0.52	465	0.57
SSW15x10	990	0.52	1220	0.65
SSW18x10	1615	0.46	1615	0.46
SSW21x10	2010	0.36	2010	0.36
SSW24x10	2405	0.29	2405	0.29
SSW15x11	835	0.58	1085	0.77
SSW18x11	1465	0.54	1465	0.54
SSW21x11	1825	0.42	1825	0.42
SSW24x11	2185	0.34	2185	0.34
SSW15x12	705	0.63	915	0.84
SSW18x12	1330	0.63	1340	0.63
SSW21x12	1665	0.50	1665	0.50
SSW24x12	2000	0.41	2000	0.41
SSW18x13	1155	0.68	1235	0.73
SSW21x13	1540	0.58	1540	0.58
SSW24x13	1840	0.47	1840	0.47

1. For seismic design using R = 5.5 per 1997 UBC or R = 6.0 for 2000 IBC.

2. May also be used for seismic design using R = 4.4 per 1997 UBC.

3. Loads applicable to designs using the ASD alternate basic load combinations of the 1997 UBC and 2000 IBC.

For designs per the ASD basic load combinations, use the 2003/2006 IBC Load Tables.

4. Minimum ASTM A36 anchor bolts required 1st Story Wood Floor installations.

See pages 38-41 for SSWAB anchor bolt information and anchorage solutions.

5. Loads are applicable to 1st Story Wood Floor installations supported on minimum 2500-psi concrete.

6. Anchor rod tension at design shear load can be determined using the following formula:

$$T = \frac{V \times h}{B} - P/2, \text{ where: } T = \text{Anchor rod tension force (lbs.)}$$

V = Design shear load (lbs.)

h = Strong-Wall height per page 11 (in.)

P = Applied axial load (lbs)

B = Anchor bolt centerline dimension per page 41 (in.)

7. Allowable shear loads assume a maximum first floor joist depth of 12". For allowable shear load with 14"-16" joists, multiply table values by 0.91 for SSW12 models, and 0.93 for all other SSW widths.

8. Loads based on a 1000 lbs. total axial load acting on the entire panel in combination with the shear load.

For shear loads at 2000 lbs. axial load, multiply table values by 0.93 for SSW12 models, and 0.96 for all other SSW widths.

STEEL STRONG-WALL®: 1st Story Wood Floor Systems

2003 AND 2006 INTERNATIONAL BUILDING CODE

Wall Model	Seismic ¹		Wind	
	Allowable ASD Shear Load V (lbs)	Drift at Allowable Shear (in)	Allowable ASD Shear Load V (lbs)	Drift at Allowable Shear (in)
SSW12x7	515	0.23	515	0.23
SSW15x7	1370	0.25	1370	0.25
SSW18x7	1815	0.18	1815	0.18
SSW21x7	2100	0.13	2100	0.13
SSW24x7	2450	0.10	2450	0.10
SSW12x8	445	0.29	445	0.29
SSW15x8	1175	0.33	1175	0.33
SSW18x8	1555	0.23	1555	0.23
SSW21x8	1940	0.18	1940	0.18
SSW24x8	2320	0.15	2320	0.15
SSW12x9	395	0.36	395	0.36
SSW15x9	1040	0.41	1040	0.41
SSW18x9	1380	0.29	1380	0.29
SSW21x9	1720	0.23	1720	0.23
SSW24x9	2055	0.19	2055	0.19
SSW12x10	355	0.43	355	0.43
SSW15x10	915	0.48	935	0.50
SSW18x10	1240	0.35	1240	0.35
SSW21x10	1540	0.27	1540	0.27
SSW24x10	1845	0.22	1845	0.22
SSW15x11	810	0.56	850	0.59
SSW18x11	1125	0.41	1125	0.41
SSW21x11	1400	0.32	1400	0.32
SSW24x11	1675	0.26	1675	0.26
SSW15x12	705	0.63	775	0.69
SSW18x12	1030	0.49	1030	0.49
SSW21x12	1280	0.38	1280	0.38
SSW24x12	1530	0.31	1530	0.31
SSW18x13	950	0.56	950	0.56
SSW21x13	1180	0.44	1180	0.44
SSW24x13	1410	0.36	1410	0.36

- For seismic design using R = 6.5.
- Loads applicable to designs using the ASD basic (Section 1605.3.1) or alternate basic (Section 1605.3.2) load combinations.
- Minimum ASTM A36 anchor bolts required 1st Story Wood Floor installations.
See pages 38-41 for SSWAB anchor bolt information and anchorage solutions.
- Loads are applicable to 1st Story Wood Floor installations supported on minimum 2500-psi concrete.
- Anchor rod tension at design shear load can be determined using the following formula:

$$T = \frac{V \times h}{B} - P/2$$
, where: T = Anchor rod tension force (lbs.)
V = Design shear load (lbs.)
h = Strong-Wall height per page 11 (in.)
P = Applied axial load (lbs)
B = Anchor bolt centerline dimension per page 41 (in.)
- Allowable shear loads assume a maximum first floor joist depth of 12". For allowable shear load with 14"-16" joists, multiply table values by 0.91 for SSW12 models, and 0.95 for all other SSW widths.
- Loads based on a 1000 lbs. total axial load acting on the entire panel in combination with the shear load.
For shear loads at 2000 lbs. axial load, multiply table values by 0.92 for SSW12 and SSW15 models, 0.97 for all other SSW widths.