

# WOOD STRONG-WALL®: Raised-Floor Walls

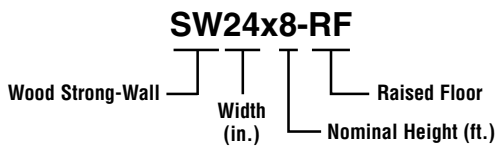
Raised-floor (-RF) walls are designed and tested for installation on top of raised wood floor systems. All second-story applications must use the raised-floor models. Raised-floor walls are compatible with both solid-sawn lumber and I-joist floor systems. Simpson Strong-Tie® Strong-Drive® screws (SDS) pre-installed in both the top and bottom of the wall allow for fast installation to the top plate and floor framing elements.

Raised-floor walls are code listed for use on the second floor of wood light-frame construction. Simpson Strong-Tie recommends the Simpson Strong-Tie® Takeup Device, (SW-TUD1KT), be used at the 2nd floor to compensate for wood shrinkage and settlement due to dead load.

First-story walls of a two-story application may be either standard or raised-floor walls.

**CODES:** ICC-ES ESR-1267; City of L.A. RR 25427

## NAMING SCHEME



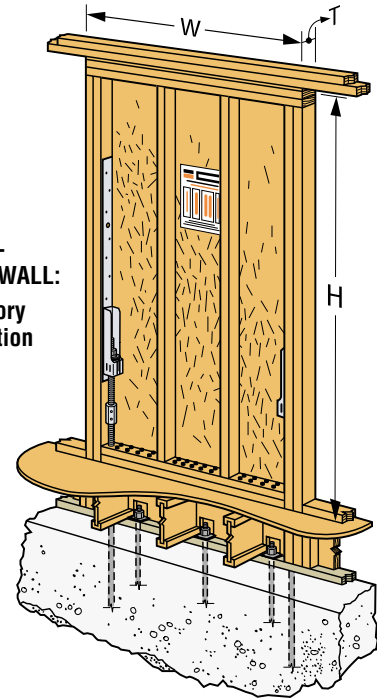
## RAISED-FLOOR STRONG-WALL PRODUCT DATA

Model No.	W (in)	H (in)	T (in)	Number of Fasteners in Top of Wall	Number of Fasteners in Bottom of Wall	Holdown Anchor Bolts (1st Story) <sup>1</sup>		Holdown Anchor Rods (2nd Story) <sup>2</sup>	
						Qty.	Model	Qty.	Dia.
SW18x8-RF	18	93¼	3½	9-SDS ¼"x6"	13-SDS ¼"x6"	2	SWAB7/8	2	7/8"
SW24x8-RF	24	93¼	3½	12-SDS ¼"x6"	16-SDS ¼"x6"	2	SWAB7/8	2	7/8"
SW32x8-RF	32	93¼	3½	16-SDS ¼"x6"	20-SDS ¼"x6"	2	SWAB7/8	2	7/8"
SW48x8-RF	48	93¼	3½	24-SDS ¼"x6"	28-SDS ¼"x6"	2	SWAB7/8	2	7/8"
SW18x9-RF	18	105¼	3½	9-SDS ¼"x6"	13-SDS ¼"x6"	2	SWAB7/8	2	7/8"
SW24x9-RF	24	105¼	3½	12-SDS ¼"x6"	16-SDS ¼"x6"	2	SWAB7/8	2	7/8"
SW32x9-RF	32	105¼	3½	16-SDS ¼"x6"	20-SDS ¼"x6"	2	SWAB7/8	2	7/8"
SW48x9-RF	48	105¼	3½	24-SDS ¼"x6"	28-SDS ¼"x6"	2	SWAB7/8	2	7/8"
SW24x10-RF	24	117¼	3½	12-SDS ¼"x6"	16-SDS ¼"x6"	2	SWAB7/8	2	7/8"
SW32x10-RF	32	117¼	3½	16-SDS ¼"x6"	20-SDS ¼"x6"	2	SWAB7/8	2	7/8"
SW48x10-RF	48	117¼	3½	24-SDS ¼"x6"	28-SDS ¼"x6"	2	SWAB7/8	2	7/8"

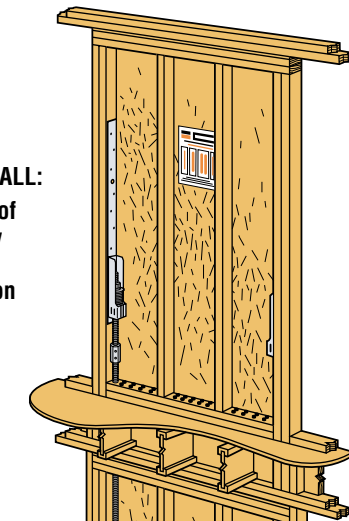
1. High-strength 7/8" diameter anchorage may be required for two-story applications when anchorage uplift force exceeds 13,000 lbs.

2. All-thread rod not supplied with raised-floor walls. Minimum ASTM A36 required. Designer must specify if high-strength all-thread rod is required, depending on load.

**RAISED-FLOOR WALL:**  
First-Story Application

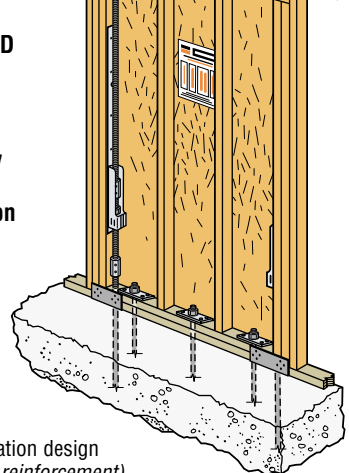


**RAISED-FLOOR WALL:**  
Top Wall of Two-Story Stacked Installation



**STANDARD WALL:**  
Bottom Wall of Two-Story Stacked Installation

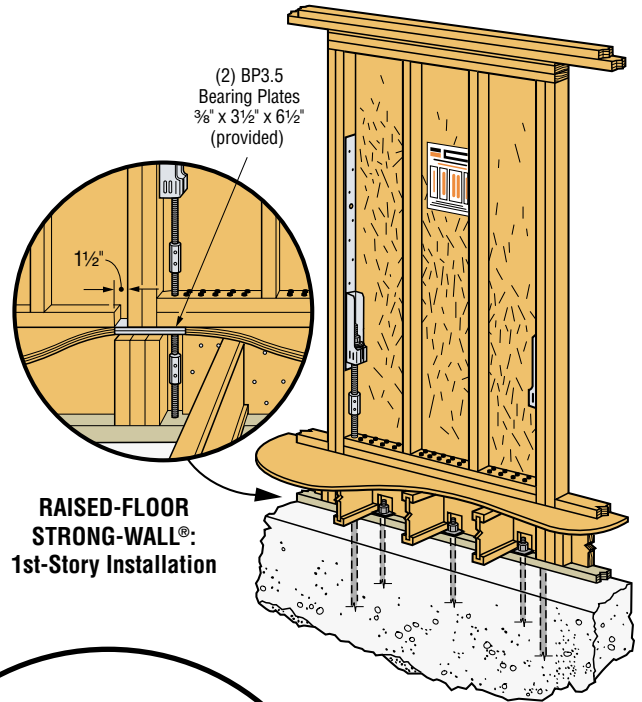
Foundation design  
(size and reinforcement)  
by Designer



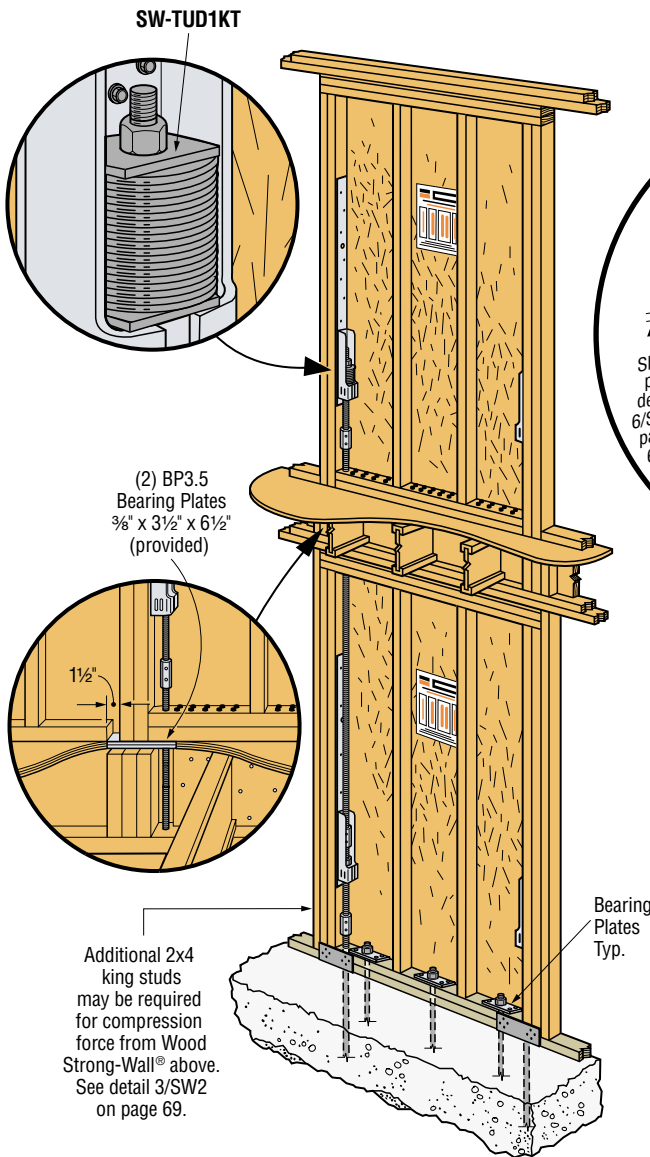
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## INSTALLATION

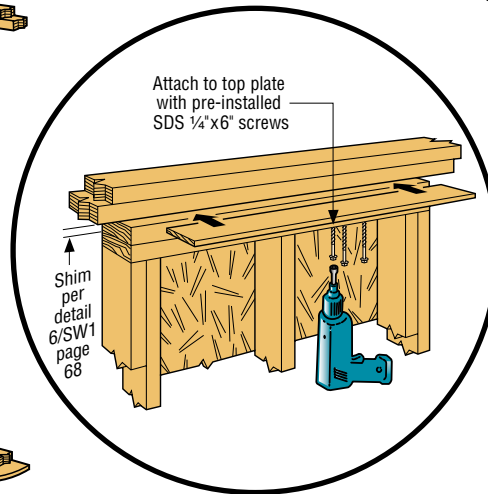
- Drilling or cutting holes in Wood Strong-Wall® is not allowed except as shown on pages 74-75 and the Allowable Hole Chart attached to each wall.
- Typical shim thickness between the Strong-Wall and top plates or header is 7/8" or less using Simpson Strong-Tie® Strong-Drive® 1/4"x6" screws (SDS). For additional shim thickness, see detail 7/SW1 on page 68.
- For holdowns, per ASTM standards, anchor bolt nuts should be finger-tight plus 1/8 to 1/2 turn with a hand wrench, with consideration given to possible future wood shrinkage. Care should be taken to avoid over-torquing the nut, an impact wrench should not be used.
- All raised-floor walls require 1 1/2" or 3" end distance from corner for end post bearing plate.
- Subfloor must be cut out for end post bearing plates in raised-floor and 2nd-story installations. Additional bearing plates available for 1 1/8" subfloor.
- Walls may also be used in 2x6 wall framing. Install the sheathing side at the exterior wall line and add furring to the interior framing side.
- The SW-TUD1KT take-up device is recommended for 2nd-story installations in order to compensate for wood shrinkage and settlement due to dead load.



**RAISED-FLOOR STRONG-WALL®: 1st-Story Installation**



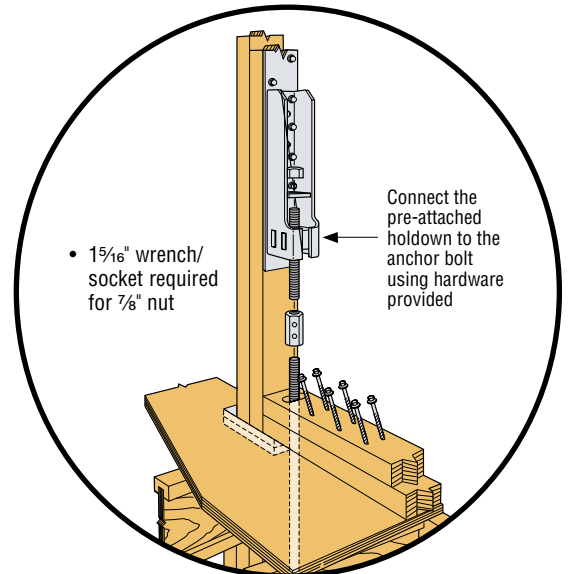
**RAISED-FLOOR STRONG-WALL®: 2nd-Story Installation**



**TOP-OF-WALL CONNECTION**



**CAUTION:**  
Drilling or cutting holes in Wood Strong-Wall® is not allowed except as shown on pages 74-75 and the Allowable Hole Chart attached to each wall.



**BOTTOM-OF-WALL INSTALLATION**

## WOOD STRONG-WALL®: Raised-Floor Walls

## FIRST-STORY WALLS ON WOOD FLOOR – 2006 INTERNATIONAL BUILDING CODE®

MODEL NO.	Seismic		Wind	
	Allowable ASD Shear Load V (lbs)	Drift at Allowable Shear (in)	Allowable ASD Shear Load V (lbs)	Drift at Allowable Shear (in)
SW18x8-RF	835	0.41	1080	0.53
SW24x8-RF	1210	0.39	1640	0.53
SW32x8-RF	1790	0.39	2330	0.53
SW48x8-RF	2715	0.31	4320	0.53
SW18x9-RF	680	0.37	910	0.60
SW24x9-RF	965	0.40	1270	0.60
SW32x9-RF	1505	0.38	2090	0.60
SW48x9-RF	2550	0.35	3770	0.60
SW24x10-RF	900	0.40	1175	0.67
SW32x10-RF	1500	0.45	2015	0.67
SW48x10-RF	2215	0.36	3220	0.67

See footnotes below.

## SECOND-STORY WALLS – 2006 INTERNATIONAL BUILDING CODE®

MODEL NO.	Seismic		Wind	
	Allowable ASD Shear Load V (lbs)	Drift at Allowable Shear (in)	Allowable ASD Shear Load V (lbs)	Drift at Allowable Shear (in)
SW18x8-RF	750	0.37	1000	0.53
SW24x8-RF	1095	0.39	1455	0.53
SW32x8-RF	1595	0.40	2115	0.53
SW48x8-RF	2510	0.39	3340	0.53
SW18x9-RF	600	0.33	810	0.60
SW24x9-RF	935	0.38	1245	0.60
SW32x9-RF	1360	0.39	1805	0.60
SW48x9-RF	2310	0.41	3055	0.60
SW24x10-RF	810	0.37	1080	0.67
SW32x10-RF	1320	0.46	1730	0.67
SW48x10-RF	2005	0.41	2660	0.67

1. For plywood shear panel, add "P" to model name (e.g. SW24x8P), and multiply the table loads by 0.88.
2. All Raised-Floor walls require 1½" minimum end distance from corner for end post bearing plate.  
See details 3/SW2 and 4/SW2 on page 69.
3. Typical shim thickness between the Strong-Wall® and top plates or header is 7/8" or less using Simpson Strong-Tie® Strong-Drive® ¼"x6" screws (SDS). For additional shim thickness, see detail 7/SW1 on page 68.
4. See allowable vertical load table on page 47 for Wood Strong-Wall maximum compression and tension capacities.
5. Allowable shear capacities must be reduced as limited by anchor bolt capacities for installations on CMU.
6. Uplift forces may be calculated using the following formula:

$$\text{Uplift} = \frac{\text{Shear} \times \text{Height}}{\text{Width} - 5.25'}$$

For stacked conditions, evaluate cumulative overturning for anchorage at the base of first-floor wall.  
See page 48 for SWAB anchorage solutions.