



Engineered
to be Stronger

Strong-Drive®
SDWS TIMBER Screw

Structural Wood-to-Wood Connections Including Ledgers

(800) 999-5099
www.strongtie.com

Strong-Drive® SDWS TIMBER Screw



The Simpson Strong-Tie® Strong-Drive® SDWS **TIMBER** screw is specifically designed for structural wood-to-wood applications, including ledger, and is also ideal for a wide variety of projects where a high-strength attachment is needed. This 0.220" diameter fastener requires less torque to install than comparable fasteners, making it easier to drive, and the corrosion-resistant coating makes it suitable for many interior or exterior applications.

Features:

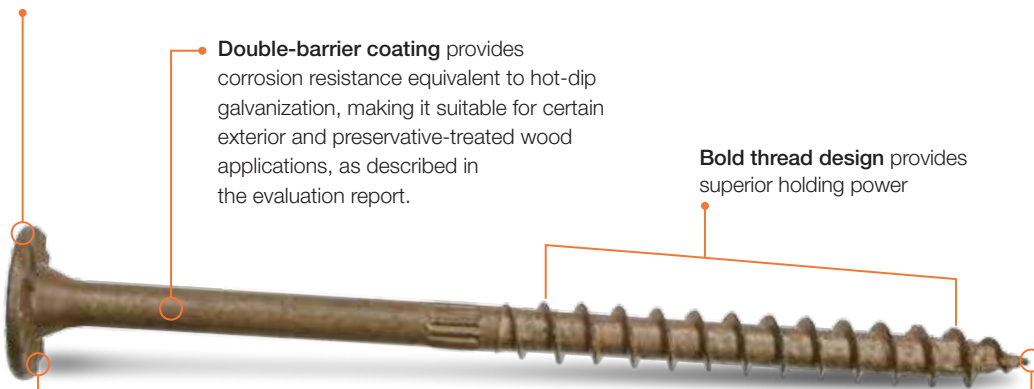
Large washer head provides maximum bearing area (0.75" head dia.)

Double-barrier coating provides corrosion resistance equivalent to hot-dip galvanization, making it suitable for certain exterior and preservative-treated wood applications, as described in the evaluation report.

Bold thread design provides superior holding power

Under-head nibs offer greater control when seating the head

Patented 4CUT™ tip ensures fast starts, reduces installation torque and eliminates the need for pre-drilling in most applications



Size identification on all SDWS screw heads

Codes/Standards: IAPMO-UES ER-192,
State of Florida FL13975

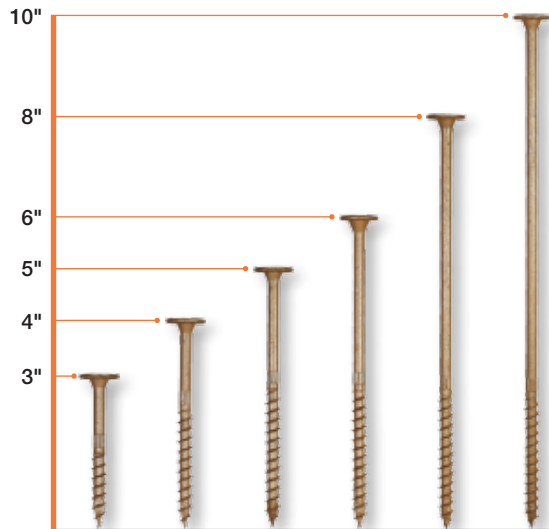
U.S. Patents 5,897,280; 7,101,133



Strong-Drive® SDWS TIMBER Screw



Watch how quickly the SDWS **TIMBER** screw can be installed compared to traditional lag bolts at www.strongtie.com/videolibrary/SDWS.html



0.220 Dia. (in.)



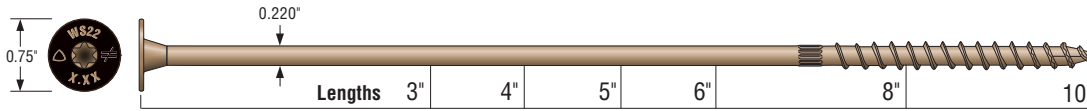
Scan here to watch the video

Retail and mini-bulk packs include one, 6-lobe, T-40 driver bit; bulk packs include two driver bits

Size Dia. x L (in.)	Thread Length (in.)	Retail Clam			Retail Pack			Mini-Bulk		Bulk	
		Fasteners Per Pack	Packs Per Master Carton	Model No.	Fasteners Per Pack	Packs Per Master Carton	Model No.	Fasteners Per Pack	Model No.	Fasteners Per Pack	Model No.
0.220 x 3	1½	12	10	SDWS22300DB-RC12	50	6	SDWS22300DB-R50	250	SDWS22300DBMB	950	SDWS22300DB
0.220 x 4	2¾	12	10	SDWS22400DB-RC12	50	6	SDWS22400DB-R50	250	SDWS22400DBMB	600	SDWS22400DB
0.220 x 5	2¾	12	10	SDWS22500DB-RC12	50	6	SDWS22500DB-R50	250	SDWS22500DBMB	600	SDWS22500DB
0.220 x 6	2¾	12	10	SDWS22600DB-RC12	50	6	SDWS22600DB-R50	250	SDWS22600DBMB	500	SDWS22600DB
0.220 x 8	2¾	12	10	SDWS22800DB-RC12	50	6	SDWS22800DB-R50	250	SDWS22800DBMB	400	SDWS22800DB
0.220 x 10	2¾	12	10	SDWS221000DBRC12	50	6	SDWS221000DB-R50	—	—	250	SDWS221000DB

Strong-Drive® SDWS TIMBER Screw

General Load Information



Allowable Shear Loads – Douglas Fir-Larch and Southern Pine Lumber

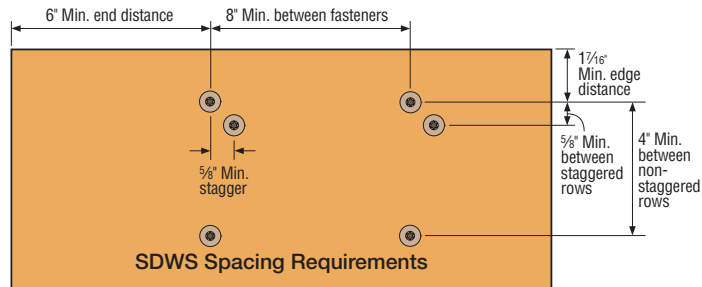
Size Dia. x L (in.)	Model No.	Thread Length (in.)	Wood Side Member Thickness (in.)								
			1.5	2	2.5	3	3.5	4	4.5	6	8
DF/SP Allowable Shear Loads (lbs.)											
0.220 x 3	SDWS22300DB	1½	255	—	—	—	—	—	—	—	—
0.220 x 4	SDWS22400DB	2¾	405	405	305	—	—	—	—	—	—
0.220 x 5	SDWS22500DB	2¾	405	405	360	360	325	—	—	—	—
0.220 x 6	SDWS22600DB	2¾	405	405	405	405	365	365	355	—	—
0.220 x 8	SDWS22800DB	2¾	405	405	405	405	395	395	395	395	—
0.220 x 10	SDWS221000DB	2¾	405	405	405	405	395	395	395	395	395

See footnotes (1-5) in adjacent table.

Allowable Shear Loads – Spruce-Pine-Fir and Hem-Fir Lumber

Size Dia. x L (in.)	Model No.	Thread Length (in.)	Wood Side Member Thickness (in.)								
			1.5	2	2.5	3	3.5	4	4.5	6	8
SPF/HF Allowable Shear Loads (lbs.)											
0.220 x 3	SDWS22300DB	1½	190	—	—	—	—	—	—	—	—
0.220 x 4	SDWS22400DB	2¾	385	285	215	—	—	—	—	—	—
0.220 x 5	SDWS22500DB	2¾	405	290	290	290	195	—	—	—	—
0.220 x 6	SDWS22600DB	2¾	405	365	365	365	310	310	210	—	—
0.220 x 8	SDWS22800DB	2¾	405	365	365	365	310	310	280	280	—
0.220 x 10	SDWS221000DB	2¾	405	365	365	365	310	310	280	280	280

- All applications are based on full penetration into the main member. Full penetration is the screw length minus the side member thickness.
- Allowable loads are shown at the wood load duration factor of $C_D = 1.0$. Loads may be increased for load duration per the building code up to a $C_D = 1.6$. Tabulated values must be multiplied by all applicable adjustment factors per the NDS.
- Minimum fastener spacing requirements to achieve table loads: 6" end distance, 1¼" edge distance, 5/8" between staggered rows of fasteners, 4" between non-staggered rows and 8" between fasteners in a row.
- For in-service moisture content greater than 19%, use $C_M = 0.7$.
- Loads are based on installation into the side grain of the wood with the screw axis perpendicular to the face of the member.



Allowable Withdrawal Loads – Douglas Fir-Larch, Southern Pine, Spruce-Pine-Fir and Hem-Fir Lumber

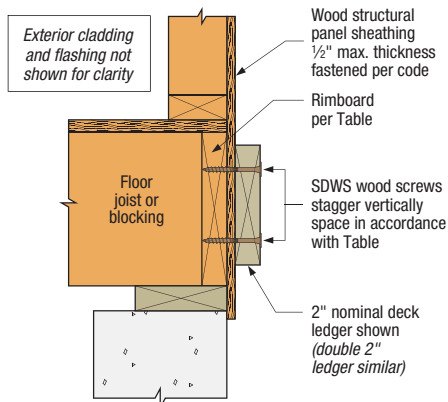
Model No.	Fastener Length (in.)	Thread Length (in.)	Reference Withdrawal Design Value, W (lbs./in.)		Max. Reference Withdrawal Design Value, W_{Max} (lbs.)	
			DF/SP Main Member	HF/SPF Main Member	DF/SP Main Member	HF/SPF Main Member
SDWS22300DB	3	1½	164	151	245	225
SDWS22400DB	4	2¾	179	160	425	380
SDWS22500DB	5	2¾	214	187	590	495
SDWS22600DB	6	2¾	214	187	590	495
SDWS22800DB	8	2¾	214	187	590	495
SDWS221000DB	10	2¾	214	187	590	495

- The tabulated reference withdrawal design value, W, is in pounds per inch of the thread penetration into the side grain of the main member.
- The tabulated reference withdrawal design value, W_{Max} , is in pounds where the entire thread length is embedded in the side grain of the main member.
- Tabulated reference withdrawal design values, W and W_{Max} , are shown at a $C_D = 1.0$. Loads may be increased for load duration per the building code up to a $C_D = 1.6$. Tabulated values must be multiplied by all applicable adjustment factors from the NDS as referenced in the IBC or IRC.
- Embedded thread length is that portion held in the main member including the screw tip.
- Values are based on the lesser of withdrawal from the main member or pull-through of a 1½" side member.
- For in-service moisture content greater than 19%, use $C_M = 0.7$.

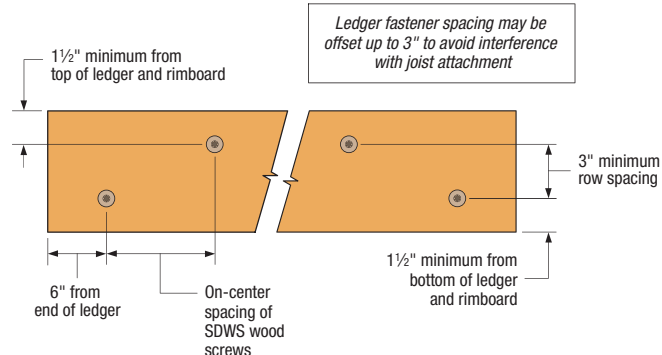
On-Center Spacing

Loading Condition	Nominal Ledger Size	Screw Model No.	Rim Board Material and Minimum Size	Maximum Deck Joist Span						
				Up to 6 ft.	Up to 8 ft.	Up to 10 ft.	Up to 12 ft.	Up to 14 ft.	Up to 16 ft.	Up to 18 ft.
				Maximum On-Center Spacing of Fasteners (in.)						
40 psf Live 10 psf Dead	2x	SDWS22400DB	1" OSB	14	10	8	7	6	5	5
			1" LVL							
			1 1/8" OSB	16	12	10	8	7	6	5
			1 5/16" LVL							
			1 1/4" LSL							
2x SP, DF – 2x SPF, HF	22	16	13	11	9	8	7			
60 psf Live 10 psf Dead	2x	SDWS22400DB	1" OSB	10	7	6	5	4	4	—
			1" LVL							
			1 1/8" OSB	12	9	7	6	5	4	4
			1 5/16" LVL							
			1 1/4" LSL							
2x SP, DF – 2x SPF, HF	15	12	9	8	7	6	5			
40 psf Live 10 psf Dead	2-2x	SDWS22500DB	1" OSB	15	12	9	8	7	6	5
			1" LVL							
			1 1/8" OSB	16	12	10	8	7	6	5
			1 5/16" LVL							
			1 1/4" LSL							
2x SP, DF – 2x SPF, HF	16	12	10	8	7	6	5			
60 psf Live 10 psf Dead	2-2x	SDWS22500DB	1" OSB	11	8	7	6	5	4	4
			1" LVL							
			1 1/8" OSB	12	9	7	6	5	4	4
			1 5/16" LVL							
			1 1/4" LSL							
2x SP, DF – 2x SPF, HF	12	9	7	6	5	4	4			

- SDWS screw spacing values are equivalent to 2009 IRC Table R502.2.2.1. and 2012 IRC Table R507.2. The table above also provides SDWS screw spacing for a wider range of materials commonly used for rimboards, and an alternate loading condition as required by some jurisdictions.
- Solid-sawn rimboards shall be Spruce-Pine-Fir, Hem-Fir, Douglas Fir-Larch, or Southern Pine species. Ledger shall be Hem-Fir, Douglas Fir-Larch, or Southern Pine species.
- Fastener spacings are based on the lesser of single fastener ICC-ES AC233 testing of the Strong-Drive® SDWS screw with a safety factor of 5.0 or ICC-ES AC13 ledger assembly testing with a safety factor of 3.0. Spacing includes NDS wet service factor adjustment.
- Multiple ledger plies shall be fastened together per code independent of the SDWS screws.
- Screws shall be placed at least 1 1/2" from the top or bottom of the ledger or rimboard, 6" from the end of the ledger with 3" between rows and spaced per the table. End screws shall be located near the bottom of the ledger (see figure). For end distances between 2" and 6", use 50% of the load and 50% of the table spacing between the end screw and the adjacent screw. For end distances between 2" and 4", pre-drill using a 5/32" drill bit.
- Structural sheathing between the ledger and band shall be a maximum of 1/2" thick and fastened per code.



Ledger-to-Rim Board Assembly
 (Wood-framed lower floor acceptable, concrete wall shown for illustration purposes)



SDWS Screw Spacing Detail

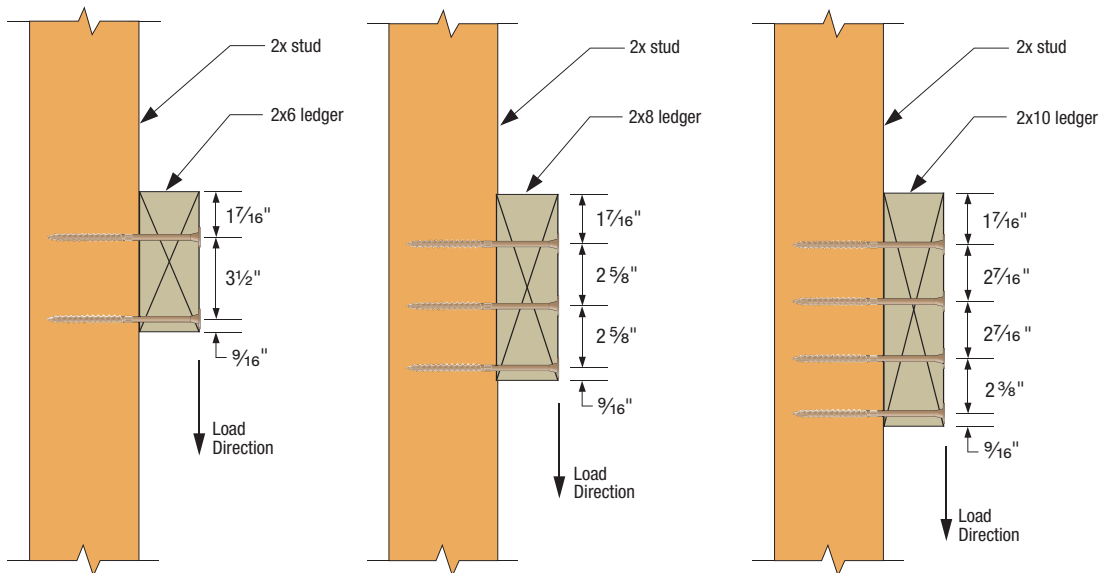
Ledger-to-Stud Applications

The Simpson Strong-Drive® SDWS **TIMBER** screws may be used to attach a ledger to the narrow face of nominal 2x lumber studs according to the following table. Tests and analyses were performed in accordance with ICC-ES Acceptance Criteria AC233.

Allowable Shear Values for Ledger Attachment to Studs

Model	Length (in.)	Ledger Size	Number of Screws per Stud	Allowable Shear Load (lbs.)		
				DF	SPF/HF	SP
SDWS22400DB	4	2x6	2	630	565	785
		2x8	3	890	855	1060
		2x10	4	1040	1040	—

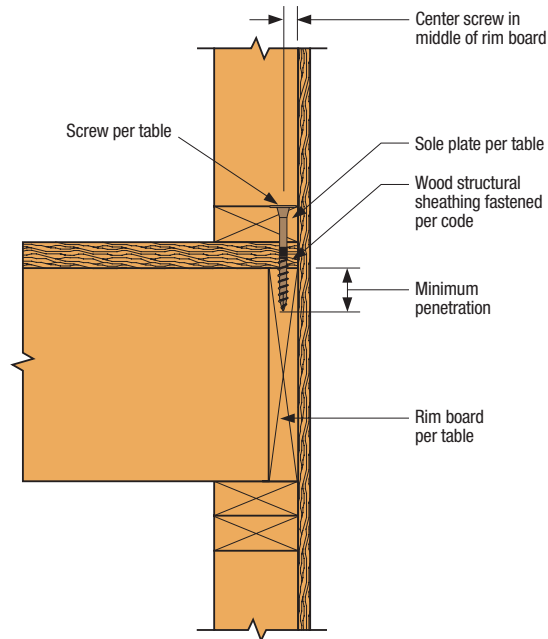
- Allowable loads shall be limited to parallel-to-grain loaded solid sawn main members (minimum 2" nominal). Wood side members shall be loaded perpendicular to grain.
- Allowable loads are based on DF, SPF/HF, and SP wood members having a minimum specific gravity of 0.50, 0.42, and 0.55, respectively. Where the side and main members have different specific gravities, the lower values shall be used.
- Allowable loads are shown at the wood load duration factor of $C_D = 1.00$. Loads may be increased for load duration as permitted by the building code up to a $C_D = 1.60$. All adjustment factors shall be applied per the 2012 National Design Specification (NDS). For in-service moisture content greater than 19%, use $C_M = 0.70$.
- Fasteners shall be centered in the stud and spaced as shown in the figure. The stud minimum end distance is 6" when loaded toward the end and 2 1/2" when loaded away from the end. The ledger end distance is 6" for full values. For ledger end distances between 2" and 6" use 50% of the table loads. For end distances between 2" and 4", pre-drill using a 5/32" bit for SDWS.
- Screws may be installed with an intermediate layer of wood structural panel between the side and main member provided the wood structural panel is fastened to the main member per code and the minimum screw penetration of 2 1/2" into the main member (excluding the wood structural panel) is met. Longer lengths of the screw series may be used.
- For LRFD values, the reference connection design values shall be adjusted in accordance with the NDS, section 10.3.
- For 2x10 SP ledgers, use the number of screws and allowable loads of the 2x8 SP ledger.
- For 2x8 ledgers with 2 screws, use 2x6 values. For 2x10 ledgers with 3 screws, use 2x8 values. Spacings and edge distances shown in the figure are minimum dimensions.
- For loads in the opposite direction from that shown in the figure, use the table values multiplied by: 0.50 for 2 screw connections, 0.67 for 3 screw connections, and 0.75 for 4 screw connections.



Allowable Shear Values for Sole-to-Rim Connections

Size (in.)	Model No.	Sole Plate Nominal Size	Minimum Penetration into Rim Board (in.)	Allowable Loads (lbs.)							
				2x DF/SP Rim Board		2x SPF/HF Rim Board		1 1/4" Min. LVL Rim Board		1 1/4" Min. LSL Rim Board	
				DF/SP Sole Plate	SPF/HF Sole Plate	DF/SP Sole Plate	SPF/HF Sole Plate	DF/SP Sole Plate	SPF/HF Sole Plate	DF/SP Sole Plate	SPF/HF Sole Plate
0.220 x 4	SDWS22400DB	2x	1.75	345	295	295	295	275	275	275	275
0.220 x 5	SDWS22500DB	2x	2	345	295	295	295	275	275	275	275
0.220 x 6	SDWS22600DB	2x or 3x	2	345	295	295	295	275	275	275	275

1. Allowable loads are based on testing per ICC-ES AC233 and are limited to parallel-to-grain loading.
2. Allowable loads are shown at the wood load duration factor of $C_D = 1.00$. Loads may be increased for load duration by the building code up to a $C_D = 1.60$.
3. Minimum spacing of the SDWS is 6" o.c., minimum end distance is 6", and minimum edge distance is 5/8".
4. Wood structural panel up to 2 3/8 in. for the SDWS22400DB or 1-1/8 in. for SDWS22500DB and SDWS22600DB is permitted between the sole plate and the rim board provided the wood structural panel is fastened to the rim board per code and the minimum penetration of the screw into the rim board is met.
5. A double 2x sole plate is permitted provided the members of the sole plate are independently fastened per the code and the minimum screw penetration per the table is met.





Ledger-to-Stud Connections With Gypsum Board Interlayer(s)

The Strong-Drive® SDWS **TIMBER** Screw may be installed through one or two layers of 5/8" gypsum board. This layer of gypsum is to be located between the side member and main member for a standard connection and between the ledger and sheathing of a ledger connection. See the tables below for the required screw lengths and allowable loads for these applications. Loads are derived from assembly testing based on ICC-ES AC233.

Douglas Fir-Larch and Southern Pine Lumber Allowable Single Shear Loads with ONE or TWO Layers of 5/8" Gypsum Board

	Size Dim. XL (in.)	Model	Thread Length (in.)	Wood Side Member Thickness (in.)								
				1.5	2.0	2.5	3.0	3.5	4.0	4.5	6.0	8.0
				DF/SP Allowable Shear Loads (lbs.)								
ONE Layer	0.220 x 4	SDWS22400DB	2.375	265	—	—	—	—	—	—	—	—
	0.220 x 5	SDWS22500DB	2.75	265	265	235	—	—	—	—	—	—
	0.220 x 6	SDWS22600DB	2.75	265	265	265	265	235	—	—	—	—
	0.220 x 8	SDWS22800DB	2.75	265	265	265	265	255	255	255	—	—
	0.220 x 10	SDWS221000DB	2.75	265	265	265	265	255	255	255	255	—
TWO Layers	0.220 x 4	SDWS22400DB	2.375	—	—	—	—	—	—	—	—	—
	0.220 x 5	SDWS22500DB	2.75	265	265	—	—	—	—	—	—	—
	0.220 x 6	SDWS22600DB	2.75	265	265	265	265	—	—	—	—	—
	0.220 x 8	SDWS22800DB	2.75	265	265	265	265	255	255	255	—	—
	0.220 x 10	SDWS221000DB	2.75	265	265	265	265	255	255	255	255	—

See notes below

Spruce-Pine-Fir and Hem-Fir Lumber Allowable Single Shear Loads with ONE or TWO Layers of 5/8" Gypsum Board

	Size Dim. XL (in.)	Model	Thread Length (in.)	Wood Side Member Thickness (in.)								
				1.5	2.0	2.5	3.0	3.5	4.0	4.5	6.0	8.0
				SPF/HF Allowable Shear Loads (lbs.)								
ONE Layer	0.220 x 4	SDWS22400DB	2.375	250	—	—	—	—	—	—	—	—
	0.220 x 5	SDWS22500DB	2.75	260	190	190	—	—	—	—	—	—
	0.220 x 6	SDWS22600DB	2.75	260	235	235	235	200	—	—	—	—
	0.220 x 8	SDWS22800DB	2.75	260	235	235	235	200	200	180	—	—
	0.220 x 10	SDWS221000DB	2.75	260	235	235	235	200	200	180	180	—
TWO Layers	0.220 x 4	SDWS22400DB	2.375	—	—	—	—	—	—	—	—	—
	0.220 x 5	SDWS22500DB	2.75	260	190	—	—	—	—	—	—	—
	0.220 x 6	SDWS22600DB	2.75	260	235	235	235	—	—	—	—	—
	0.220 x 8	SDWS22800DB	2.75	260	235	235	235	200	200	180	—	—
	0.220 x 10	SDWS221000DB	2.75	260	235	235	235	200	200	180	180	—

- All applications are based on full penetration (6D) into the main member.
- Allowable loads are shown at the wood load duration factor of $C_D = 1.0$. Loads may be increased for load duration per the building code up to a $C_D = 1.6$. Tabulated values must be multiplied by all applicable adjustment factors per the NDS.
- Minimum fastener spacing requirements: 6" end distance, 1 7/16" edge distance, 5/8" between staggered rows of fasteners, 4" between non-staggered rows of fasteners and 8" between fasteners in a row. See page 4.
- For in-service moisture content greater than 19% use $C_M = 0.7$.
- Gypsum board must be attached as required per the building code.

Ledger-to-Stud Connections With Gypsum Board Interlayer(s) (cont.)

2009 and 2012 IRC Compliant Spacing for a Sawn Lumber
Ledger to Rim Board with ONE or TWO Layers of 5/8" Gypsum Board

Loading Condition	Ledger Size	Screw Model No.	Rimboard Material and Minimum Size	Maximum Deck Joist Span						
				Up to 6 ft.	Up to 8 ft.	Up to 10 ft.	Up to 12 ft.	Up to 14 ft.	Up to 16 ft.	Up to 18 ft.
				Maximum on-center spacing of fasteners (in.)						
40 psf Live 10 psf Dead	2x	For ONE Layer of Gypsum Board use: SDWS22400DB For TWO Layers of Gypsum Board use: SDWS22500DB	1" OSB 1" LVL	13	10	8	6	6	5	4
			1 1/8" OSB 1 5/16" LVL 1 1/4" LSL	15	11	9	8	7	6	5
			2x SP, DFL 2x SPF, HF	20	15	12	10	9	8	7
60 psf Live 10 psf Dead	2x	For ONE Layer of Gypsum Board use: SDWS22400DB For TWO Layers of Gypsum Board use: SDWS22500DB	1" OSB 1" LVL	9	7	6	5	4	—	—
			1 1/8" OSB 1 5/16" LVL 1 1/4" LSL	11	8	7	5	5	4	4
			2x SP, DFL 2x SPF, HF	14	11	9	7	6	5	5
100 psf Live 10 psf Dead	2x	For ONE Layer of Gypsum Board use: SDWS22400DB For TWO Layers of Gypsum Board use: SDWS22500DB	1" OSB 1" LVL	6	4	4	—	—	—	—
			1 1/8" OSB 1 5/16" LVL 1 1/4" LSL	8	6	5	4	—	—	—
			2x SP, DFL 2x SPF, HF	9	7	5	5	4	—	—
40 psf Live 10 psf Dead	2-2x	For ONE or TWO Layers of Gypsum Board use: SDWS22600DB	1" OSB 1" LVL	14	11	9	7	6	5	5
			1 1/8" OSB 1 5/16" LVL 1 1/4" LSL	15	11	9	8	7	6	5
			2x SP, DFL 2x SPF, HF	15	11	9	8	7	6	5
60 psf Live 10 psf Dead	2-2x	For ONE or TWO Layers of Gypsum Board use: SDWS22600DB	1" OSB 1" LVL	10	8	6	5	5	4	—
			1 1/8" OSB 1 5/16" LVL 1 1/4" LSL	11	8	6	5	5	4	4
			2x SP, DFL 2x SPF, HF	11	8	6	5	5	4	4
100 psf Live 10 psf Dead	2-2x	For ONE or TWO Layers of Gypsum Board use: SDWS22600DB	1" OSB 1" LVL	7	5	4	—	—	—	—
			1 1/8" OSB 1 5/16" LVL 1 1/4" LSL	7	5	4	—	—	—	—
			2x SP, DFL 2x SPF, HF	7	5	4	—	—	—	—

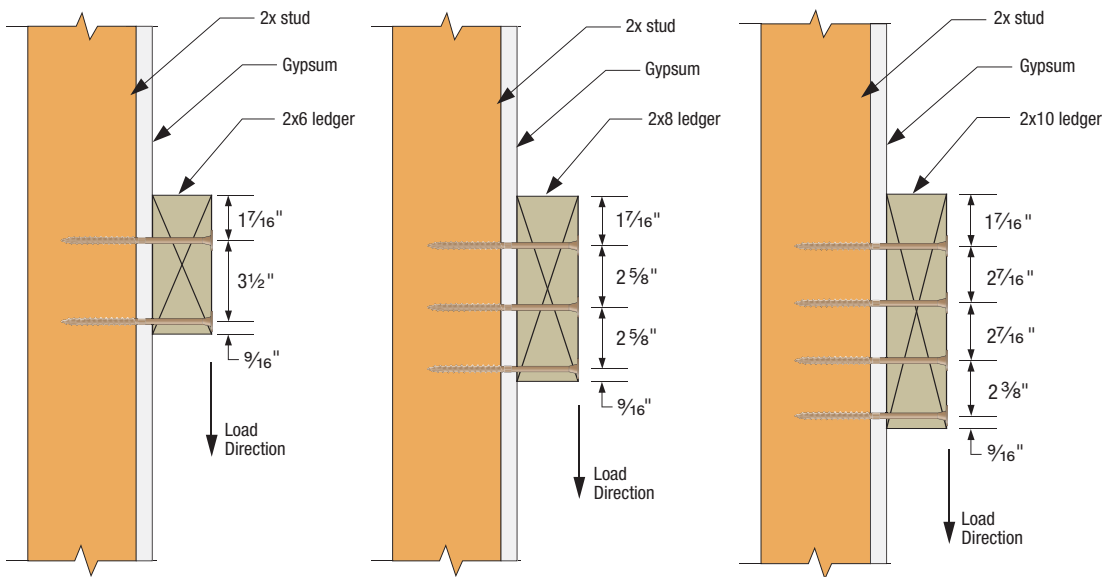
- Solid-sawn rim board shall be Spruce-Pine-Fir, Hem-Fir, Douglas Fir-Larch, or Southern Pine species. Ledger shall be Hem-Fir, Douglas Fir-Larch, or Southern Pine species.
- Fastener spacings are based on the lesser of single fastener ICC-ES AC233 testing of the Strong-Drive® SDWS screw with a safety factor of 5.0 or ledger assembly testing based on ICC-ES AC13 with a factor of safety of 3.0. Spacing does NOT include NDS wet service factor adjustment.
- Multiple ledger plies shall be fastened together per code independent of the SDWS screws.
- SDWS screw spacing values are equivalent to 2009 IRC Table R502.2.2.1 and 2012 IRC Table R507.2. The table also provides SDWS screw spacing for a wider range of materials commonly used for rimboards, and an alternate loading condition as required by some jurisdictions.
- Screws shall be placed at least 1 1/2" from the top or bottom of the ledger or rim board, 6 inches from the end of the ledger with 3 inches between rows and spaced per Tables 5 and 6. See page 5.
- Structural sheathing between the ledger and the rim board shall be a maximum of 1/2 inch thick and fastened per code.
- Gypsum board must be attached as required per the building code.

Ledger-to-Stud Connections With Gypsum Board Interlayer(s) (cont.)

Allowable Shear Values for Ledger Attachment to Studs with ONE or TWO Layers of Gypsum Board

Model	Length (in.)	Ledger Size (in.)	Number of Screws per Stud	Allowable Shear Load (lbs.)		
				DF	SPF/HF	SP
SDWS22600DB	6	2x6	2	410	365	510
		2x8	3	580	555	690
		2x10	4	675	675	—

- Allowable loads shall be limited to parallel-to-grain loaded solid sawn main members (minimum 2" nominal). Wood side members shall be loaded perpendicular to grain.
- Allowable loads are based on DF, SPF/HF, and SP wood members having a minimum specific gravity of 0.50, 0.42, and 0.55, respectively. Where the side and main members have different specific gravities, the lower values shall be used.
- Allowable loads are shown at the wood load duration factor of $C_D = 1.00$. Loads may be increased for load duration as permitted by the building code up to a $C_D = 1.60$. All applicable adjustment factors shall be applied per the 2012 National Design Specification (NDS).
- Fasteners shall be centered in the stud and spaced as shown in the figure. The ledger minimum end distance is 6". The stud minimum end distance is 6" when the load is toward the end and 2 1/2" when the load is away from the end.
- Screws may be installed with a layer of wood structural panel between the side and main member provided the wood structural panel is fastened to the main member per code and the minimum screw penetration of 2 1/2" into the main member (excluding the wood structural panel) is met. Longer lengths of the screw series may be used.
- For LRFD values, the reference connection design values shall be adjusted in accordance with the NDS, section 10.3.
- For 2x10 SP ledgers, use the number of screws and allowable loads of the 2x8 SP ledger.
- For 2x8 ledgers with 2 screws, use 2x6 values. For 2x10 ledgers with 3 screws, use 2x8 values. Spacings and edge distances shown in the figure are minimum dimensions.
- For loads in the opposite direction from that shown in the figure, use the table values multiplied by: 0.50 for 2 screw connections, 0.67 for 3 screw connections, and 0.75 for 4 screw connections.
- Gypsum board must be attached as required per the building code.
- For ledger end distances between 2" and 6", use 50% of load and pre drill with 3/8" drill bit.



Notes to installer regarding the attachment of ledgers to studs:

The screws must be installed into the middle of the stud with a tolerance of 3/16" either side of center. Various methods can be used to ensure proper placement of the screws in the stud including snapping a chalk line, using a stud finder, or prerocking (attaching only a strip

of gypsum at the ledger location until the ledger is fastened to the studs). If proper screw placement into the stud cannot be achieved in the field, blocking should be installed between studs to receive and support the ledger screws.

Simpson Strong-Tie® Strong-Drive® SDWS TIMBER Screws may be used for installing exterior rigid-foam board insulation over wood structural panel (WSP) sheathing. Each fastener installs through furring strips, rigid-foam board and WSP sheathing into the wood wall stud framing. The fasteners do not typically require pre-drilling. Preservative-treated wood suitable for dry-service (AWPA UC1, UC2, UC3A) and untreated wood may be used depending on the protection needs of the construction. The SDWS products with “DB” in the model number have a double-barrier coating that provides corrosion resistance equivalent to hot-dip galvanization, while the products without “DB” in the model number can only be used in conditions with dry-service and no wood treatment chemicals. The table on page 281 provides recommended spacing for fastening to vertical furring strips through ½" to 6" of rigid foam insulation board into each wall stud. The SDWS22DB and SDWS22 screws were evaluated as alternate threaded fasteners using ICC-ES AC233 and are the subject of IAPMO-UES ER-192. The Strong-Drive SDWS22DB Structural Wood Screws were evaluated for corrosion resistance using ICC-ES AC257.

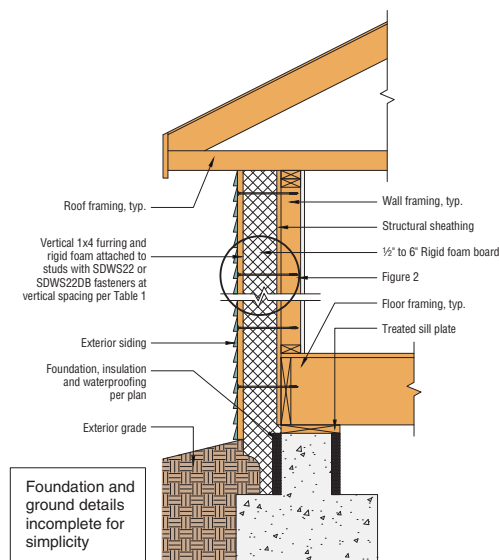


Figure 1: Wall Cross-Section

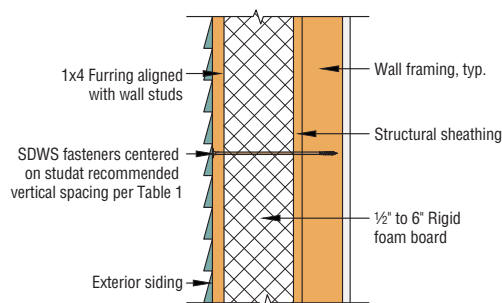


Figure 2: Furring and Rigid Foam Attachment Detail

CAUTION: Fasteners can penetrate wiring, plumbing, and other mechanical systems in exterior walls. All mechanical systems in the exterior wall involved with the fastening shall be mapped before driving screws.

Recommended Vertical Fastener Spacing

Model No.	Size Dia. x L (in.)	Foam Thickness (in.)	Stud Spacing (in.)	Maximum Allowable Cladding Weight to be Supported (psf)		
				≤ 20	25	30
SDWS22400DB	0.220 x 4	½	16	24" o.c.	24" o.c.	24" o.c.
			24			
SDWS22500DB	0.220 x 5	½ to 1¼	16			
			24			
SDWS22600DB	0.220 x 6	1½ to 2	16			
			24			
SDWS22800DB	0.220 x 8	2 to 4	16			
SDWS22800			24			
SDWS221000DB	0.220 x 10	4 to 6	16	18" o.c.	16" o.c.	
SDWS221000			24			

- CAUTION:** Fasteners can penetrate wiring, plumbing, and other mechanical systems in exterior walls. All mechanical systems in the exterior wall involved with the fastening shall be mapped before driving screws.
- Foam sheathing shall have a minimum compressive strength of 15 psi in accordance with ASTM C578 or ASTM C1289.
- Wood wall framing (studs) shall be a minimum of 2" nominal thickness. Wood framing and furring shall be a minimum Spruce-Pine-Fir species with specific gravity of 0.42 or greater. Table assumes furring strip thickness of ¾ in. and full thread embedment in the framing member.
- Wood framing, furring and WSP sheathing shall meet the design requirements in accordance with the applicable building codes. WSP sheathing shall be fastened to the framing as required by the applicable building code.
- Each fastener is capable of resisting 172 lbs of out of plane wind loading ($C_D = 1.60$) with no further increase allowed.
- Spacing recommendations are based on a loading that produced 0.015" of assembly movement with 6" thick rigid foam board insulation.
- Maximum allowable cladding weight shall be the additive weight of furring, cladding including foam insulation, environmental effects (i.e. ice) and other supported materials.
- Metal fasteners conduct heat, and it is recommended that exposed screw heads are covered with foam and sealed.
- Screws shall be installed such that they close gaps between connected components. Furring and sheathing shall provide the required thickness and performance for siding manufacturer installation instructions.

SDWS TIMBER Screw: the Anatomy of Performance

Sinks in to
any great project

Make way for a
smooth finish

We recommend
a test drive

Easy driving
from here on

Start fast with
no pre-drilling

The Strong-Drive® SDWS TIMBER screw is like no other. Its patented tip ensures fast starts, reduces torque and eliminates pre-drilling. The bold thread design provides superior holding power while the large, low-profile head eliminates washers. All of this and a double-barrier coating to resist corrosion – now that's a fastener engineered to perform.

SIMPSON
Strong-Tie

Code Listed: IAPMO UES ER-192

This flier is effective until December 31, 2016, and reflects information available as of August 1, 2014. This information is updated periodically and should not be relied upon after December 31, 2016; contact Simpson Strong-Tie for current information and limited warranty or see www.strongtie.com.

© 2014 Simpson Strong-Tie Company Inc. • P.O. Box 10789, Pleasanton, CA 94588

800-999-5099
www.strongtie.com

F-F-SDWS14 8/14 exp. 12/16