Strong-Drive® SDW TRUSS-PLY Screw

Truss-Ply Fastening

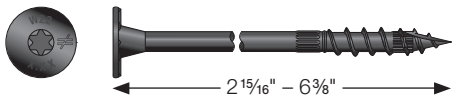
The Strong-Drive SDW Truss-Ply screw is a high-strength structural wood screw specifically designed for fastening multi-ply wood members, such as joining plated trusses and solid-sawn lumber. The SDW installs easily with no predrilling and is available in optimized lengths for fastening 2-, 3- and 4-ply trusses. With the SDW Truss-Ply screw, multi-ply trusses and components can be fastened from one side without requiring the lifting and flipping of heavy assemblies. It is code listed under IAPMO-UES ER-192 and meets 2015 and 2018 IRC® and IBC® code requirements for several common wood framing applications with wood and engineered wood.

Features:

- Large washer head with nibs provides maximum bearing area; stamped with the Simpson Strong-Tie "≠" sign and fastener length for easy identification after installation (0.75" head dia.)
- 6-lobe, T40 drive provides positive engagement that makes the screw easy to drive and improves bit life (replacement driver bit — BIT40T-14)
- Low-profile head results in less interference after installation; makes stacking and sliding members easier and allows installation of hardware and finishes to be virtually flush
- Higher shear values than competitive products enable wider spacing, saving time and money
- Bold thread design provides superior holding power and cinches fastened members together for consistent installation
- SawTooth™ point ensures fast starts, reduced installation torque and eliminates the need for predrilling in most applications
- Retail and mini-bulk packs include one 6-lobe, T-40 driver bit; bulk packs include two driver bits

Codes/Standards: IAPMO-UES ER-192; City of L.A. RR25906, State of Florida FL13975

For Technical Data and Loads, see Technical Supplement
US Patent: 9,523,383



E-Coat® Coating

Size (in.)	Thread Length (in.)	Typical Application[1,2,3]	Retail Pack			Mini-Bulk Bucket		Bulk	
			Fasteners per Pack [5]	Packs Per Master Carton	Model No.	Fasteners per Pack	Model No.	Fasteners per Pack	Model No.
0.220 x 2 15/16	1 7/16	2x/Truss	1	6	SDW22300-R50	250	SDW22300MB	950	SDW22300
0.220 x 4 3/8	1 7/16	2x/Truss desert	1	4	SDW22438-R50	200	SDW22438MB	600	SDW22438
0.220 x 4 5/8	1 7/16	2x/Truss	1	4	SDW22458-R50	200	SDW22458MB	600	SDW22458
0.220 x 6	1 7/16	2x/Truss desert	1	4	SDW22600-R50	200	SDW22600MB	500	SDW22600
0.220 x 6 3/8	1 7/16	2x/Truss	1	4	SDW22638-R50	200	SDW22638MB	500	SDW22638

1. Typical screw application key: 2x/Truss = Solid sawn dimensional lumber and plated wood trusses. 2x Truss Desert = Solid sawn dimensional lumber and plated wood trusses in desert environments (scant lumber).
2. If assembly is less than or equal to 4 9/16" thick, use the SDW22438.
3. If assembly is less than or equal to 6 3/16" thick, use the SDW22600.
4. Replacement driver bit: BIT40T-134.
5. Master carton quantities: 50.

Strong-Drive® SDWS LOG Screw

Log Home Construction and General Interior Applications

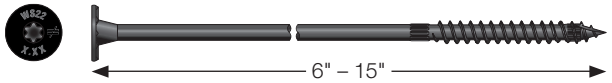
The Strong-Drive SDWS Log screw is a structural wood screw available in longer lengths and is designed for log-home construction and general interior applications. These 0.220"- and 0.195"-diameter structural fasteners require less torque to install than comparable fasteners. The large diameter head pulls logs down easily, eliminating the need to use extra washers. It is code listed under IAPMO-UES ER-192 and meets 2015 and 2018 IRC® and IBC® code requirements for several common wood framing applications.

Features:

- SawTooth™ point ensures fast starts, reduces installation torque and eliminates the need for predrilling in most applications
- Low-profile head design makes countersinking easy (0.75" head dia.)
- Serrated thread reduces log splitting and damage
- Large washer head with nibs provides maximum bearing area
- 6-lobe, T40 drive provides positive engagement that makes the screw easy to drive and improves bit life (replacement driver bit — BIT40T-134)
- Size Identification on all SDWS screw heads

Codes/Standards: IAPMO-UES ER-192

For Technical Data and Loads, see Technical Supplement
US Patent: 9,523,383



E-Coat Coating

Size (in.)	Thread Length (in.)	Flagged Fasteners		Retail Pack			Mini-Bulk	
		Fast. per Pack	Model No.	Fast. per Pack	Packs Per Master Carton	Model No.	Fast. per Pack	Model No.
0.195 x 6	2 3/4	1	SDWS19600-RP1	50	6	SDWS19600-R50	250	SDWS19600
0.195 x 7 1/2	2 3/4	1	SDWS19712-RP1	50	6	SDWS19712-R50	250	SDWS19712
0.220 x 8	2 3/4	1	SDWS22800-RP1	50	6	SDWS22800-R50	250	SDWS22800
0.220 x 9	2 3/4	1	SDWS22900-RP1	50	6	SDWS22900-R50	250	SDWS22900
0.220 x 10	2 3/4	1	SDWS221000-RP1	50	6	SDWS221000-R50	250	SDWS221000
0.220 x 11	2 3/4	1	SDWS221100-RP1	50	6	SDWS221100-R50	250	SDWS221100
0.220 x 12	2 3/4	1	SDWS221200-RP1	50	6	SDWS221200-R50	250	SDWS221200
0.220 x 15	2 3/4	1	SDWS221500-RP1	50	6	SDWS221500-R50	250	SDWS221500

Replacement driver bit: BIT40T-134.

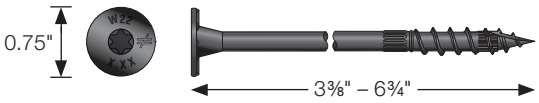
Strong-Drive®
SDW **TRUSS-PLY** and **EWP-PLY** Screws

Truss-Ply Fastening, Multi-Ply Wood Members, Engineered-Lumber Products and Solid-Sawn Lumber

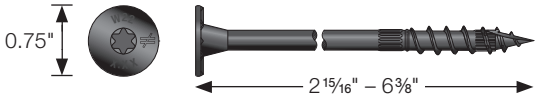
Codes/Standards: IAPMO-UES ER-192, City of L.A. RR25906, State of Florida FL13975

US Patent 9,523,383

For more information, see pp. 82–83, C-F-2019 Fastening Systems Catalog



SDW EWP-PLY Screw



SDW TRUSS-PLY Screw

Installation:

- SDW screws install best with a low-speed ½" drill motor and a T-40 6-lobe bit. The matched bit included with the screws is recommended for best results.
- Predrilling is typically not required. SDW screws may be installed through metal truss plates as approved by the truss designer, provided the requirements of ANSI/TPI 1-2014 Section 8.9.2 are met (predrilling required through the plate using a maximum of 5⁄32" bit).
- Screw heads that are countersunk flush to the wood surface are acceptable if the screw has not spun out.
- Individual screw locations may be adjusted up to 3" to avoid conflicts with other hardware or to avoid lumber defects.

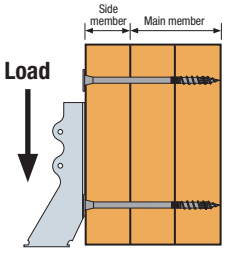
Notes to the Designer:

1. Allowable loads are based on testing per ICC-ES AC233. Maximum allowable withdrawal load for DFL/SP/SCL is 200 lb. and for SPF/HF withdrawal is 150 lb. where the entire thread length is engaged into the main member.
2. Allowable loads in tables are shown at the load duration factor of C_D = 1.00 and shall be multiplied by all applicable adjustment factors per the NDS. Loads may be increased for load duration per the building code up to a C_D = 1.6.
3. Minimum fastener spacing requirements: 6" end distance, 1 7/16" edge distance, ⅝" between staggered rows of fasteners, 4" between non-staggered rows of fasteners and 6" between fasteners in a row. Note the application drawing in the middle of p. 92.
4. Maximum fastener spacing is recommended not to exceed 24" on-center except as approved by a qualified Designer.
5. Structural composite lumber (SCL = LVL, PSL or LSL) having a minimum 0.8E designation for lateral and withdrawal loading shall have an equivalent specific gravity of 0.50 minimum for lateral and 0.42 for withdrawal loading.
6. Tabular loads in this document are based on the capacity of the Simpson Strong-Tie® SDW fasteners. The capacity of the multi-ply assembly must be checked by a qualified Designer.
7. For a top-loaded, solid sawn 2x, multi-ply assembly that is evenly loaded across the entire assembly width, the recommended fastener detail is two rows of SDW screws where the spacing between fasteners in a row is 32". For a top-loaded, SCL (1¾") multi-ply assembly that is evenly loaded across the entire assembly width, the recommended spacing between SDW screws in a row is 24" o.c.; use two rows for up to 18"-deep members and three rows for members deeper than 18".

SDW TRUSS-PLY — Allowable Shear Loads — DFL, SP, SPF, HF Lumberand 2x Truss Loaded on Head Side

Assembly	Model No.	Nominal Screw Length (in.)	Thread Length (in.)	Nominal Side Member Thickness (in.)	Main Member Penetration[1] (in.)	Reference DFL/SP Allowable Shear (lb.)	Reference SPF/HF Allowable Shear (lb.)
Two-ply 2x/truss	SDW22300	2 15/16	1 7/16	1½	1⅜	325	255
Three-ply 2x/truss desert	SDW22438	4⅜	1 7/16	1½	2⅞	400	325
Three-ply 2x/truss	SDW22458	4⅝	1 7/16	1½	2⅞	400	325
Four-ply 2x/truss desert	SDW22600	6	1 7/16	1½	4½	400	340
Four-ply 2x/truss	SDW22638	6⅜	1 7/16	1½	4½	400	340

1. For minimum penetration into main (outermost) member of 1⅛", use 235 lb. for DFL/SP and 210 lb. for SPF/HF.

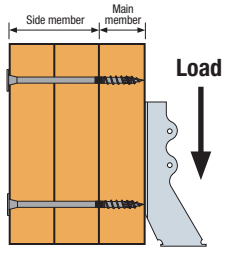


Loaded on Head Side
(three-ply assembly shown – other configurations similar)

SDW TRUSS-PLY — Allowable Shear Loads — DFL, SP, SPF, HF Lumber and 2x Truss Loaded on Point Side

Assembly	Model No.	Nominal Screw Length (in.)	Thread Length (in.)	Nominal Side Member Thickness (in.)	Main Member Penetration[1] (in.)	Reference DFL/SP Allowable Shear (lb.)	Reference SPF/HF Allowable Shear (lb.)
Two-ply 2x/truss	SDW22300	2 15/16	1 7/16	1½	1⅜	325	255
Three-ply 2x/truss desert	SDW22438	4⅜	1 7/16	3	1⅜	275	255
Three-ply 2x/truss	SDW22458	4⅝	1 7/16	3	1⅜	275	255
Four-ply 2x/truss desert	SDW22600	6	1 7/16	4½	1⅜	275	255
Four-ply 2x/truss	SDW22638	6⅜	1 7/16	4½	1⅜	275	255

1. For minimum penetration into main member of 1⅛", use 235 lb. for DFL/SP and 210 lb. for SPF/HF.



Loaded on Point Side
(three-ply assembly shown – other configurations similar)

Strong-Drive® SDW TRUSS-PLY and EWP-PLY Screws (cont.)

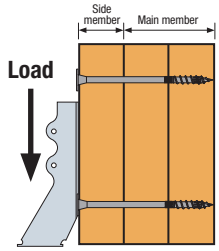
Lumber Fastening in Dry Climates

The highlighted regions on this map may experience drier conditions which can result in reduced lumber thickness (scant lumber) due to wood shrinkage. To help ensure optimum thread penetration into the main (outermost) member without excessive protrusion, Simpson Strong-Tie® offers the 4⅜" and 6" lengths of the SDW screw, which are sized for the thinner members common in these "desert" climates. It is the responsibility of the Truss Manufacturer or contractor/installer to determine the appropriate fastener length for any given application. See tables and footnotes for minimum required penetration.

SDW EWP-PLY — Reference Allowable Shear Loads — LVL, PSL and LSL Loaded on Head Side

Assembly	Model No.	Nominal Screw Length (in.)	Thread Length (in.)	Nominal Side Member Thickness (in.)	Main Member Penetration[1] (in.)	Equivalent Specific Gravity 0.50 Allowable Shear (lb.)	SPF/HF Allowable Shear (lb.)
Two-ply 1¾" SCL	SDW22338	3⅜	1 9/16	1¾	1⅝	400	255
Three-ply 1¾" SCL	SDW22500	5	1 9/16	1¾	3¼	400	325
Four-ply 1¾" SCL	SDW22634	6¾	1 9/16	1¾	5	400	385
Two-ply 3½" SCL	SDW22634	6¾	1 9/16	3½	3¼	400	—

1. For minimum penetration into main (outermost) member of 1½", use 300 lb.

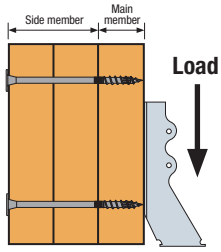


Loaded on Head Side
(three-ply assembly shown — other configurations similar)

SDW EWP-PLY — Reference Allowable Shear Loads — LVL, PSL and LSL Loaded on Point Side

Assembly	Model No.	Nominal Screw Length (in.)	Thread Length (in.)	Nominal Side Member Thickness (in.)	Main Member Penetration[1] (in.)	Equivalent Specific Gravity 0.50 Allowable Shear (lb.)	SPF/HF Allowable Shear (lb.)
Two-ply 1¾" SCL	SDW22338	3⅜	1 9/16	1¾	1⅝	400	255
Three-ply 1¾" SCL	SDW22500	5	1 9/16	3½	1½	300	255
Four-ply 1¾" SCL	SDW22634	6¾	1 9/16	5¼	1½	300	255
Two-ply 3½" SCL	SDW22634	6¾	1 9/16	3½	3¼	400	—

1. For minimum penetration into main member of 1½", use 300 lb.

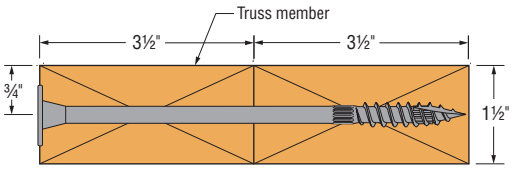


Loaded on Point Side
(three-ply assembly shown — other configurations similar)

SDW EWP-PLY — Allowable Shear Loads — Two-Ply 3x2/4x2 Parallel-Chord Trusses Loaded on Either Side

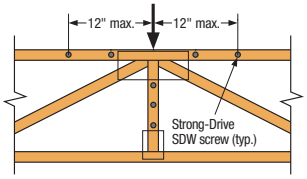
Assembly	Model No.	Nominal Screw Length (in.)	Reference DFL/SP Allowable Shear (lb.)	Reference SPF/HF Allowable Shear (lb.)
Two-ply 3x2 PCT	SDW22500	5	280	200
Two-ply 4x2 PCT	SDW22634	6¾	280	200

1. To transfer uniform or concentrated loads applied to simply supported spans on assembly top chord:
   a. Space screws as required to transfer half the load into the supporting truss.
   b. Minimum screw spacing shall be 4" o.c.
2. To transfer concentrated loads applied to simply supported spans on an assembly top chord or vertical web:
   a. Concentrated loads must be applied at a panel point.
   b. Screws to be installed within 12" of the concentrated load on top-chord assembly
3. Gap between the trusses shall not exceed ⅛".
4. Floor sheathing shall be screwed or nailed to each top-chord ply. (Fastener spacing per the applicable Code requirements, or 12" o.c.)
5. SDW screws shall not be installed in areas where lumber wane exceeds ¼".
6. Hangers on skewed girders:
   a. Hanger loads not exceeding 34" o.c. on a skewed girder (resulting from uniformly spaced joists up to 24" o.c.) may be converted to a uniform load.
   b. For girders with hanger load spacing in excess of 34" o.c. the loads shall be considered as concentrated loads at the applicable locations.
7. Other configurations acceptable when approved by Truss Designer.

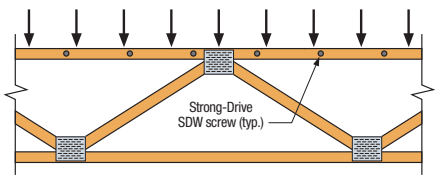


SDW Screw Position in Two-Ply 4x2 Truss
(two-ply 3x2 similar)

Concentrated Load



Uniform Load

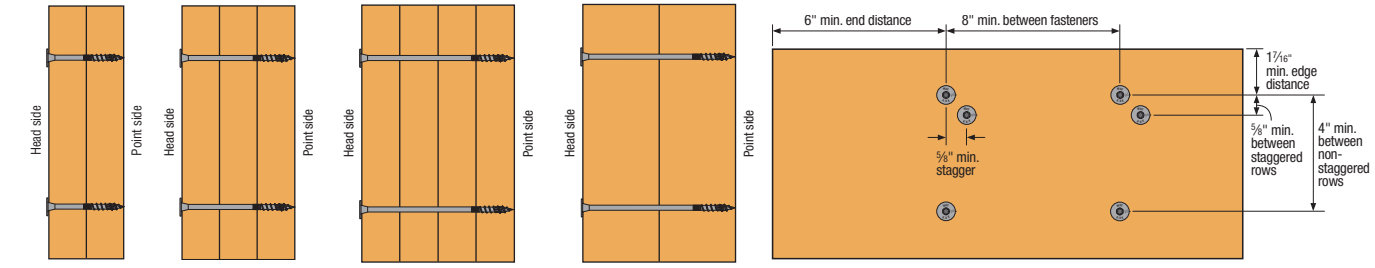


Strong-Drive®
SDW TRUSS-PLY and EWP-PLY Screws (cont.)

SDW TRUSS-PLY — Allowable Uniform Load (plf) Applied to Either Outside Member — Side-Loaded Multi-Ply Assemblies

Multiple Members		Nominal Screw Length (in.)	Loaded Side	Reference DFL/SP						Reference SPF/HF					
				12" o.c.		16" o.c.		24" o.c.		12" o.c.		16" o.c.		24" o.c.	
Assembly	Components			2 Rows	3 Rows	2 Rows	3 Rows	2 Rows	3 Rows	2 Rows	3 Rows	2 Rows	3 Rows	2 Rows	3 Rows
A-W	Two-ply 2x/Truss	2 15/16	Either	1,300	1,950	975	1,465	650	975	1,020	1,530	765	1,150	510	765
B-W	Three-ply 2x/Truss	4⅜ or 4⅝	Head	1,200	1,800	900	1,350	600	900	975	1,465	730	1,095	490	730
			Point	825	1,240	620	930	415	620	765	1,150	575	860	385	575
C-W	Four-ply 2x/Truss	6 or 6⅜	Head	1,065	1,600	800	1,200	535	800	905	1,360	680	1,020	455	680
			Point	735	1,100	550	825	365	550	680	1,020	510	765	340	510

1. Each ply is assumed to carry same proportion of load.
2. Loads may be applied to the head side and point side concurrently provided neither published allowable load is exceeded. (Example: a three-ply DFL assembly with a head side load of 1,300 plf and point side load of 900 plf may be fastened together with 3 rows of SDW at 16" o.c. between fasteners in a row.)
3. When hangers are installed on point side, hanger face fasteners shall be a minimum of 3" long.
4. Tables are based on Main Member Penetration as noted on pp. 90–91.
5. Hanger load spacing on the multi-ply assembly should not exceed 24" o.c. Exception: On a skewed girder, hanger loads up to 34" o.c. (resulting from joists uniformly spaced up to 24" o.c.) may be converted to a uniform load.



Assembly A-W | Assembly B-W | Assembly C-W | Assembly F-W | Spacing Requirements

SDW EWP-PLY — Reference Allowable Uniform Load (plf) Applied to Either Outside Member — Side-Loaded Multi-Ply LVL, PSL, and LSL Assemblies

Multiple Members		Nominal Screw Length (in.)	Loaded Side	12" o.c.		16" o.c.		24" o.c.	
Assembly	Components			2 Rows	3 Rows	2 Rows	3 Rows	2 Rows	3 Rows
A-W	Two-ply SCL	3⅜	Either	1,600	2,400	1,200	1,800	800	1,200
B-W	Three-ply SCL	5	Head	1,200	1,800	900	1,350	600	900
			Point	900	1,350	675	1,015	450	675
C-W	Four-ply SCL	6¾	Head	1,065	1,600	800	1,200	535	800
			Point	800	1,200	600	900	400	600
F-W	Two-ply 3½" SCL	6¾	Either	1,600	2,400	1,200	1,800	800	1,200

1. Each ply is assumed to carry same proportion of load. Loads may be applied to the head side and point side concurrently provided neither published allowable load is exceeded. (Example: a three-ply assembly with a head side load of 1,300 plf and point side load of 1,000 plf may be fastened together with three rows of SDW at 16" o.c. between fasteners in a row.)
2. When hangers are installed on point side, hanger face fasteners shall be a minimum of 3" long.
3. Tables are based on main member penetration as noted in single-fastener load tables.

Strong-Drive®
SDW **TRUSS-PLY** and **EWP-PLY** Screws (cont.)

Allowable Loads for Side-Loaded Multi-Ply Beam Assemblies per Screw

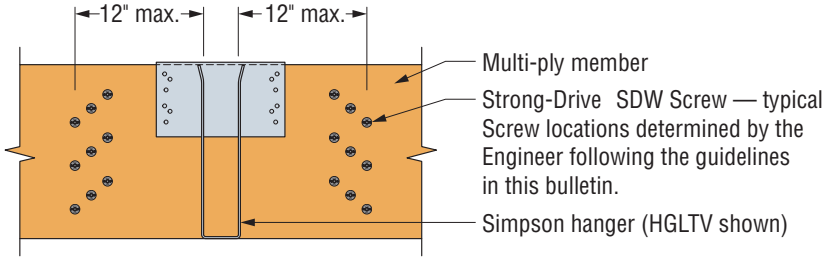
For side-loaded assemblies of structural composite lumber or sawn lumber, allowable loads in a single fastener format can be calculated from the information on p or fastener spacing relative to the side load.

As an example calculation, a three-ply beam or truss is to be fastened where the plies are of the same material and vertically-screw-laminated. The beam or truss is loaded on one face with a 2,400 lb. point load via a face-mount hanger. It is assumed that the face ply carries one-third of the load (800 lb.), and the remaining two-thirds of the load is transferred to the next two plies via the fasteners. The calculation for the allowable load applied to the outside ply of a multi-ply beam or truss is:

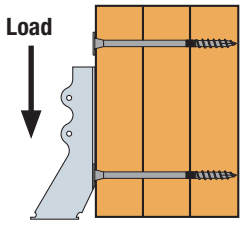
$$P_{allow} = Z \left(\frac{n}{n\text{-}1} \right)$$

P_{allow}	=	*allowable load that can be applied to the outside of the multi-ply truss or beam per fastener*
Z	=	*allowable shear per fastener in SCL or lumber*
n	=	*number of plies*

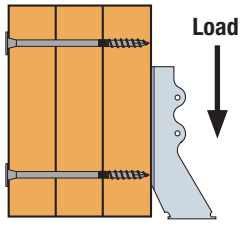
For the SDW EWP-PLY screw assembling SCL and the SDW TRUSS-PLY screw assembling sawn lumber or lumber trusses, the calculation provides the loads shown on p. 94.



Maximum Fastener Spacing from Point Load



Loaded on Head Side
(three-ply assembly shown — other configurations similar)



Loaded on Point Side
(three-ply assembly shown — other configurations similar)

Load Applied to Outside Multi-Ply Beam

Strong-Drive®
SDW TRUSS-PLY and EWP-PLY Screws (cont.)

SDW EWP-PLY — Allowable Loads for Side-Loaded Multi-Ply SCL Assemblies

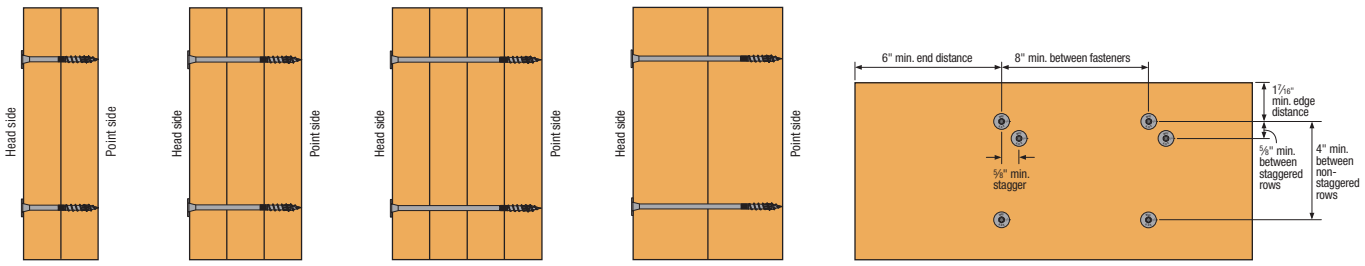
Assembly Illustration	SCL Components (Plies-thickness, in.)	Model No.	Nominal Screw Length (in.)	Reference Allowable Load for Side-Loaded Multi-Ply Truss or Beam per Screw (P_{allow}, lb.)	
				Head Side	Point Side
A-W	(2) 1¾	SDW22338	3⅜	800	800
B-W	(3) 1¾	SDW22500	5	600	450
C-W	(4) 1¾	SDW22634	6¾	533	400
F-W	(2) 3½	SDW22634	6¾	800	800

1. Loads based on equivalent specific gravity of 0.50.
2. Allowable loads include a load duration factor of C_D = 1.00 and may be increased up to C_D = 1.60 per the building code when applicable.
3. SDW EWP-Ply allowable shear loads are from p. 91.
4. Notes to the Designer (p. 90) and Table notes 1–7 (p. 91) are applicable.

SDW TRUSS-PLY — Allowable Loads for Side-Loaded Multi-Ply Lumber Assemblies

Assembly Illustration	Assembly Description	Model No.	Nominal Screw Length (in.)	Reference Allowable Load for Side-Loaded Multi-Ply Assembly per Screw (P_{allow}, lb.)			
				DFL/SP		SPF/HF	
				Head Side	Point Side	Head Side	Point Side
A-W	Two-ply 2x/truss	SDW22300	2 15/16	650	650	510	510
B-W	Desert Three-ply 2x/truss	SDW22438	4⅜	600	410	485	380
B-W	Three-ply 2x/truss	SDW22458	4⅝	600	410	485	380
C-W	Desert Four-ply 2x/truss	SDW22600	6	530	365	450	340
C-W	Four-ply 2x/truss	SDW22638	6⅜	530	365	450	340

1. Loads based on specific gravity of 0.50 for DFL/SP and 0.42 for SPF/HF.
2. Allowable loads include a load duration factor of C_D = 1.00 and may be increased up to C_D = 1.60 per the building code when applicable.
3. SDW Truss-Ply allowable shear loads are from p. 90.
4. Notes to Designer (p. 90) and Table notes 1–5 (p. 92) are applicable.



Assembly A-W **Assembly B-W** **Assembly C-W** **Assembly F-W** **Spacing Requirements**

Beam Assembly Descriptions

Strong-Drive® SDW TRUSS-PLY and EWP-PLY Screws (cont.)

SDW-Built-Up Column Assemblies

Built-up column assemblies shown in this section determine the *Column Stability Coefficient*, K_f, when fastened using SDW Truss-Ply screws. For use with Section 15.3.2 of the 2015 and 2018 NDS, the table provides Strong-Drive SDW Truss-Ply screw substitution information to replace nails or bolts in built-up columns per Section 15.3.3 and 15.3.4 of NDS. Tabulated compression values using these coefficients are listed on pp. 96–97 for common conditions.

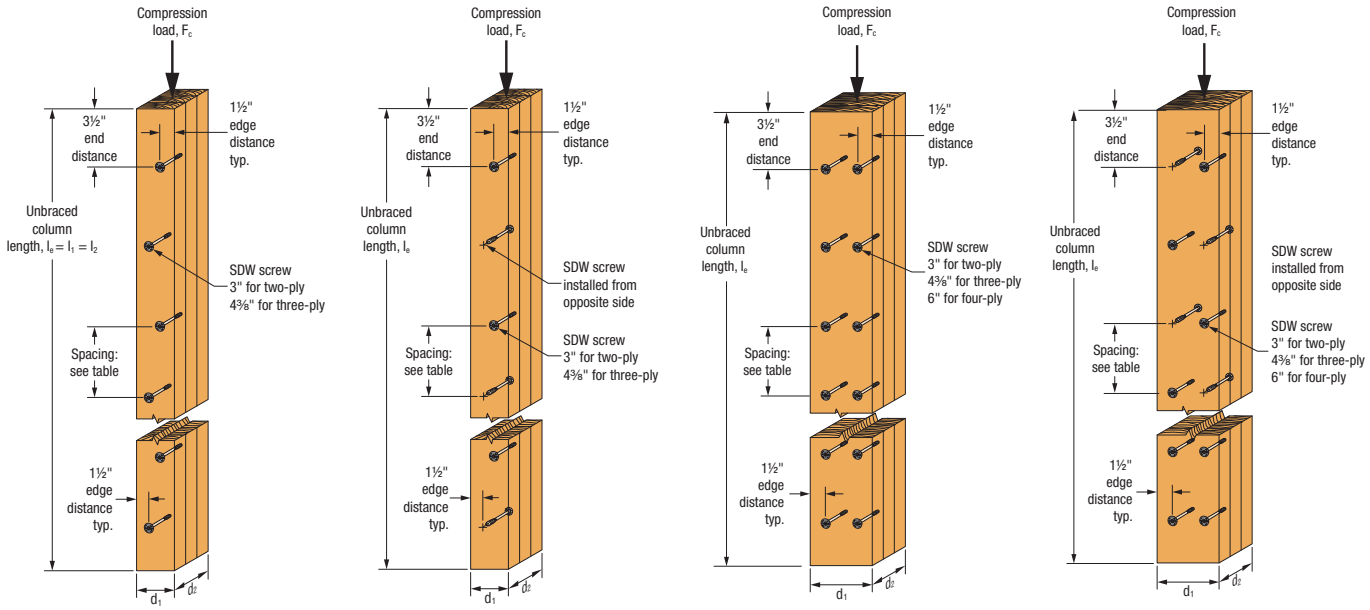
Design Parameters for Built-Up Columns using SDW Truss-Ply screws:

- K_f = 0.60 for SDW installed on one side
- K_f = 0.70 for SDW installed on both sides
- $l_e/d \leq 50$
- Each lamination (ply) has a rectangular cross-section and is at least 1½" thick
- All laminations have same face width, d_1
- Faces of adjacent laminations are in contact
- All laminations are full length
- Number of laminations: 2 to 4

SDW TRUSS-PLY Screw Substitution Table for NDS Specifications

No. of Plies	Minimum Nominal Lumber Size (in.)	NDS Specification				SDW Truss-Ply Screw Substitution			
		Fastener[1]	NDS Reference	Installation	Spacing (in.)	Model No.	Description	Installation	Spacing (in.)
2	2 x 4	10d common	Figure 15C	Both sides	6	SDW22300	0.22" dia. X 3"-long screw	One side	6
								Both sides	8
3	2 x 4	30d common	Figure 15C	Both sides	8	SDW22438	0.22" dia. X 4⅜"-long screw	One side	8
								Both sides	9
	2 x 6							One side	9
								Both sides	10
4	2 x 6	½" bolts	Figure 15D	One side	8	SDW22600	0.22" dia. X 6"-long screw	One side	7
								Both sides	8

1. 10d common: 0.148" dia. X 3" long nail.
2. 30d common: 0.207" dia. X 4½" long nail.
3. ½" bolts: ½" bolts with a washer between the wood and the bolt head and between the wood and the nut.



One Side **Both Sides** **One Side** **Both Sides**

2X4 Built-Up Column **2X6 Built-Up Column**

Multi-Ply Fastening

Allowable Compression Capacity for Built-Up Columns

Lumber		Fastener			Allowable Compression Capacity Parallel to Grain, F_c' (lb.)																				
Size	No. of Plies	Model No.	Spacing	Installation	Floor (100)					Snow (115)					Roof (125)					Wind/Seismic (160)				
					Unbraced Length, ℓ_e (ft.)					Unbraced Length, ℓ_e (ft.)					Unbraced Length, ℓ_e (ft.)					Unbraced Length, ℓ_e (ft.)				
					8	9	10	11	12	8	9	10	11	12	8	9	10	11	12	8	9	10	11	12
Southern Pine No. 2																									
2x4	2	SDW22300	6	One side	2,405	1,935	1,585	1,320	1,115	2,435	1,950	1,595	1,325	1,120	2,445	1,955	1,600	1,330	1,120	2,480	1,975	1,610	1,335	1,125
				Both sides	2,810	2,255	1,850	1,540	1,300	2,840	2,275	1,860	1,545	1,305	2,855	2,285	1,865	1,550	1,310	2,890	2,305	1,880	1,560	1,315
	3	SDW22438	8	One side	7,145	5,960	4,995	4,225	3,610	7,395	6,105	5,085	4,285	3,650	7,525	6,180	5,130	4,315	3,670	7,835	6,360	5,240	4,385	3,715
				Both sides	7,930	6,430	5,295	4,430	3,755	8,060	6,505	5,345	4,460	3,775	8,130	6,545	5,370	4,475	3,785	8,290	6,640	5,430	4,515	3,810
	4	SDW22600	6	One side	10,575	8,575	7,065	5,905	5,005	10,750	8,675	7,125	5,945	5,030	10,840	8,725	7,160	5,970	5,045	11,055	8,855	7,235	6,020	5,080
			8	Both sides	10,575	8,575	7,065	5,905	5,005	10,750	8,675	7,125	5,945	5,030	10,840	8,725	7,160	5,970	5,045	11,055	8,855	7,235	6,020	5,080
2x6	2	SDW22300	6	One side	3,770	3,035	2,485	2,070	1,750	3,815	3,055	2,500	2,080	1,760	3,835	3,070	2,510	2,085	1,760	3,890	3,100	2,530	2,100	1,770
				Both sides	4,400	3,540	2,900	2,415	2,040	4,450	3,565	2,920	2,430	2,050	4,475	3,580	2,925	2,435	2,055	4,535	3,620	2,950	2,450	2,065
	3	SDW22438	8	One side	11,120	9,300	7,815	6,615	5,655	11,530	9,540	7,960	6,710	5,720	11,745	9,665	8,035	6,760	5,750	12,250	9,955	8,215	6,875	5,830
				Both sides	12,975	10,850	9,115	7,720	6,600	13,450	11,130	9,285	7,830	6,675	13,700	11,275	9,375	7,885	6,710	14,290	11,615	9,585	8,025	6,805
	4	SDW22600	8	One side	20,575	18,380	16,200	14,180	12,400	22,215	19,490	16,920	14,655	12,720	23,130	20,080	17,300	14,900	12,885	25,515	21,545	18,215	15,490	13,275
				Both sides	24,005	21,445	18,895	16,545	14,470	25,915	22,735	19,740	17,100	14,840	26,990	23,430	20,185	17,385	15,035	29,765	25,140	21,250	18,070	15,490
2x8	2	SDW22300	6	One side	4,955	3,990	3,270	2,725	2,305	5,015	4,020	3,290	2,740	2,315	5,045	4,040	3,305	2,750	2,320	5,115	4,085	3,330	2,765	2,330
				Both sides	5,780	4,655	3,815	3,180	2,690	5,850	4,690	3,840	3,195	2,700	5,885	4,715	3,855	3,205	2,705	5,970	4,765	3,885	3,225	2,720
	3	SDW22438	8	One side	14,505	12,170	10,245	8,685	7,430	15,070	12,500	10,445	8,815	7,520	15,360	12,670	10,550	8,885	7,565	16,065	13,075	10,800	9,045	7,675
				Both sides	16,920	14,200	11,950	10,135	8,670	17,580	14,585	12,185	10,285	8,775	17,920	14,780	12,310	10,365	8,825	18,740	15,255	12,600	10,550	8,955
	4	SDW22600	8	One side	26,540	23,825	21,080	18,510	16,225	28,735	25,325	22,070	19,165	16,665	29,970	26,140	22,595	19,505	16,895	33,215	28,155	23,855	20,315	17,435
				Both sides	30,965	27,795	24,590	21,595	18,930	33,520	29,550	25,750	22,360	19,445	34,970	30,495	26,360	22,755	19,710	38,750	32,845	27,830	23,705	20,340
Spruce-Pine-Fir No. 1/No. 2																									
2x4	2	SDW22300	6	One side	2,385	1,925	1,575	1,315	1,110	2,415	1,940	1,590	1,320	1,115	2,430	1,950	1,595	1,325	1,120	2,465	1,970	1,605	1,335	1,125
				Both sides	2,785	2,245	1,840	1,535	1,295	2,820	2,265	1,850	1,540	1,305	2,835	2,275	1,860	1,545	1,305	2,880	2,300	1,875	1,555	1,315
	3	SDW22438	8	One side	6,955	5,850	4,930	4,185	3,580	7,235	6,015	5,030	4,250	3,625	7,380	6,095	5,080	4,280	3,645	7,730	6,300	5,205	4,360	3,700
				Both sides	7,830	6,375	5,260	4,405	3,735	7,980	6,460	5,315	4,440	3,760	8,055	6,500	5,340	4,460	3,775	8,235	6,610	5,405	4,500	3,805
	4	SDW22600	6	One side	10,445	8,495	7,015	5,875	4,985	10,640	8,610	7,085	5,920	5,015	10,740	8,670	7,120	5,945	5,030	10,980	8,810	7,210	6,000	5,070
			8	Both sides	10,445	8,495	7,015	5,875	4,985	10,640	8,610	7,085	5,920	5,015	10,740	8,670	7,120	5,945	5,030	10,980	8,810	7,210	6,000	5,070
2x6	2	SDW22300	6	One side	3,735	3,010	2,470	2,060	1,745	3,785	3,040	2,490	2,075	1,755	3,810	3,055	2,500	2,080	1,755	3,870	3,090	2,520	2,095	1,765
				Both sides	4,360	3,515	2,885	2,405	2,035	4,415	3,545	2,905	2,420	2,045	4,445	3,565	2,915	2,425	2,050	4,515	3,605	2,940	2,445	2,060
	3	SDW22438	8	One side	10,780	9,100	7,690	6,535	5,605	11,240	9,370	7,855	6,645	5,675	11,480	9,510	7,945	6,700	5,710	12,060	9,850	8,150	6,835	5,800
				Both sides	12,575	10,615	8,970	7,625	6,535	13,115	10,935	9,165	7,750	6,620	13,395	11,100	9,265	7,815	6,665	14,070	11,490	9,505	7,970	6,770
	4	SDW22600	8	One side	19,335	17,500	15,600	13,780	12,130	21,035	18,700	16,410	14,320	12,495	22,010	19,355	16,835	14,600	12,685	24,600	20,995	17,875	15,270	13,130
				Both sides	22,555	20,420	18,200	16,075	14,155	24,540	21,815	19,140	16,705	14,580	25,675	22,580	19,640	17,030	14,795	28,700	24,495	20,850	17,815	15,320
2x8	2	SDW22300	6	One side	4,900	3,955	3,250	2,715	2,295	4,965	3,995	3,275	2,730	2,305	5,000	4,015	3,290	2,735	2,315	5,085	4,065	3,320	2,760	2,325
				Both sides	5,715	4,615	3,790	3,165	2,680	5,795	4,660	3,820	3,185	2,690	5,835	4,685	3,835	3,195	2,700	5,935	4,745	3,870	3,220	2,715
	3	SDW22438	8	One side	13,980	11,860	10,050	8,565	7,350	14,625	12,240	10,285	8,715	7,450	14,960	12,440	10,410	8,790	7,505	15,775	12,910	10,695	8,980	7,630
				Both sides	16,310	13,835	11,730	9,990	8,575	17,060	14,280	12,000	10,165	8,695	17,455	14,510	12,145	10,260	8,755	18,405	15,060	12,480	10,475	8,900
	4	SDW22600	8	One side	24,725	22,510	20,175	17,900	15,810	26,990	24,140	21,290	18,650	16,320	28,300	25,040	21,885	19,045	16,585	31,835	27,315	23,335	19,985	17,210
				Both sides	28,850	26,265	23,540	20,885	18,445	31,490	28,165	24,840	21,760	19,040	33,020	29,210	25,530	22,215	19,350	37,140	31,865	27,225	23,315	20,080

1. Adjustment factors: [C_M, C_t, C_i] = 1.0. For C_F refer to NDS, Table 4A.
2. For LRFD, see NDS, Section 4.3.
3. Compression perpendicular to grain has not been evaluated.
4. All SDW screws have an E-coat™. Simpson Strong-Tie® has conducted testing per Acceptance Criteria AC257, showing in dry conditions E-coat performs equivalent to hot-dip galvanized (HDG) coating.
5. For fire retardant treated (FRT) wood, additional reduction factors may need to be applied based on the manufacturer's recommendations.
6. The column capacities are evalutaed for column being completely unbraced in both strong and weak axis. $l_e = l_1 = l_2$.

Multi-Ply Fastening

Allowable Compression Capacity for Built-Up Columns

Lumber		Fastener			Allowable Compression Capacity Parallel to Grain, F_c' (lb.)																					
Size	No. of Plies	Model No.	Spacing	Installation	Floor (100)					Snow (115)					Roof (125)					Wind/Seismic (160)				
					Unbraced Length, ℓ_e (ft.)					Unbraced Length, ℓ_e (ft.)					Unbraced Length, ℓ_e (ft.)					Unbraced Length, ℓ_e (ft.)				
					8	9	10	11	12	8	9	10	11	12	8	9	10	11	12	8	9	10	11	12
Douglas-Fir Larch No. 2																										
2x4	2	SDW22300	6	One side	2,725	2,190	1,795	1,495	1,265	2,755	2,210	1,810	1,505	1,270	2,770	2,220	1,815	1,510	1,275	2,810	2,245	1,830	1,520	1,280
				Both sides	3,175	2,555	2,095	1,745	1,475	3,215	2,580	2,110	1,755	1,485	3,235	2,590	2,115	1,760	1,485	3,280	2,615	2,135	1,770	1,495
	3	SDW22438	8	One side	7,990	6,695	5,635	4,775	4,085	8,295	6,875	5,745	4,845	4,130	8,455	6,970	5,800	4,880	4,155	8,835	7,185	5,935	4,970	4,215
				Both sides	8,950	7,270	6,000	5,020	4,255	9,110	7,365	6,055	5,055	4,280	9,190	7,410	6,085	5,075	4,295	9,390	7,530	6,160	5,125	4,330
	4	SDW22600	6	One side	11,930	9,695	7,995	6,695	5,675	12,145	9,820	8,075	6,745	5,710	12,255	9,880	8,115	6,770	5,725	12,520	10,035	8,210	6,835	5,770
			8	Both sides	11,930	9,695	7,995	6,695	5,675	12,145	9,820	8,075	6,745	5,710	12,255	9,880	8,115	6,770	5,725	12,520	10,035	8,210	6,835	5,770
2x6	2	SDW22300	6	One side	4,260	3,435	2,815	2,350	1,985	4,315	3,465	2,835	2,360	1,995	4,340	3,480	2,845	2,370	2,000	4,405	3,520	2,870	2,385	2,010
				Both sides	4,970	4,005	3,285	2,740	2,320	5,035	4,040	3,310	2,755	2,330	5,065	4,060	3,320	2,765	2,335	5,140	4,105	3,350	2,780	2,345
	3	SDW22438	8	One side	12,385	10,425	8,790	7,465	6,390	12,890	10,720	8,975	7,580	6,470	13,155	10,875	9,065	7,640	6,510	13,790	11,240	9,290	7,785	6,610
				Both sides	14,450	12,160	10,255	8,710	7,455	15,040	12,510	10,470	8,845	7,550	15,345	12,685	10,580	8,915	7,595	16,085	13,115	10,840	9,085	7,710
	4	SDW22600	8	One side	22,435	20,225	17,960	15,820	13,895	24,350	21,555	18,850	16,410	14,295	25,440	22,280	19,320	16,715	14,500	28,315	24,085	20,455	17,445	14,985
				Both sides	26,170	23,595	20,955	18,455	16,215	28,405	25,145	21,990	19,145	16,675	29,675	25,990	22,540	19,500	16,915	33,035	28,095	23,860	20,355	17,485
2x8	2	SDW22300	6	One side	5,590	4,510	3,705	3,090	2,615	5,665	4,555	3,730	3,105	2,625	5,705	4,575	3,745	3,115	2,635	5,795	4,630	3,780	3,140	2,650
				Both sides	6,525	5,260	4,320	3,605	3,050	6,610	5,310	4,350	3,625	3,065	6,655	5,340	4,370	3,635	3,070	6,760	5,400	4,410	3,660	3,090
	3	SDW22438	8	One side	16,075	13,590	11,495	9,780	8,385	16,780	14,010	11,755	9,945	8,495	17,150	14,225	11,885	10,030	8,555	18,035	14,740	12,200	10,235	8,690
				Both sides	18,755	15,855	13,415	11,410	9,785	19,580	16,345	13,710	11,605	9,915	20,010	16,595	13,865	11,700	9,980	21,045	17,195	14,235	11,940	10,140
	4	SDW22600	8	One side	28,710	26,035	23,245	20,565	18,125	31,270	27,850	24,475	21,385	18,680	32,740	28,845	25,130	21,815	18,965	36,670	31,350	26,715	22,840	19,650
				Both sides	33,495	30,375	27,120	23,990	21,145	36,480	32,490	28,555	24,950	21,795	38,195	33,650	29,315	25,450	22,125	42,780	36,575	31,165	26,645	22,925
Hem-Fir No. 2																										
2x4	2	SDW22300	6	One side	2,235	1,795	1,465	1,220	1,030	2,260	1,805	1,475	1,225	1,035	2,270	1,810	1,480	1,230	1,035	2,295	1,830	1,490	1,235	1,040
				Both sides	2,610	2,095	1,710	1,425	1,205	2,635	2,105	1,720	1,430	1,205	2,645	2,115	1,725	1,435	1,210	2,675	2,130	1,735	1,440	1,215
	3	SDW22438	8	One side	6,775	5,600	4,670	3,940	3,355	6,975	5,715	4,745	3,985	3,385	7,075	5,775	4,780	4,010	3,405	7,320	5,920	4,865	4,065	3,440
				Both sides	7,410	5,985	4,915	4,105	3,475	7,510	6,045	4,955	4,130	3,490	7,565	6,075	4,975	4,140	3,500	7,695	6,150	5,020	4,175	3,520
	4	SDW22600	6	One side	9,875	7,975	6,555	5,475	4,635	10,015	8,060	6,605	5,505	4,655	10,085	8,100	6,630	5,525	4,665	10,260	8,200	6,695	5,565	4,695
			8	Both sides	9,875	7,975	6,555	5,475	4,635	10,015	8,060	6,605	5,505	4,655	10,085	8,100	6,630	5,525	4,665	10,260	8,200	6,695	5,565	4,695
2x6	2	SDW22300	6	One side	3,505	2,810	2,300	1,915	1,620	3,540	2,830	2,315	1,925	1,625	3,555	2,840	2,320	1,930	1,625	3,600	2,870	2,335	1,940	1,635
				Both sides	4,090	3,280	2,685	2,235	1,890	4,130	3,305	2,700	2,245	1,895	4,150	3,315	2,705	2,250	1,900	4,200	3,345	2,725	2,265	1,905
	3	SDW22438	8	One side	10,535	8,740	7,300	6,165	5,255	10,865	8,930	7,420	6,240	5,310	11,035	9,030	7,480	6,280	5,335	11,445	9,265	7,625	6,375	5,400
				Both sides	12,290	10,195	8,520	7,190	6,135	12,675	10,420	8,655	7,280	6,195	12,875	10,535	8,730	7,325	6,225	13,350	10,810	8,895	7,435	6,300
	4	SDW22600	8	One side	20,080	17,705	15,430	13,400	11,650	21,510	18,630	16,020	13,780	11,905	22,295	19,120	16,325	13,980	12,040	24,275	20,310	17,060	14,450	12,355
				Both sides	23,430	20,655	18,000	15,630	13,595	25,095	21,735	18,690	16,080	13,890	26,010	22,305	19,050	16,310	14,045	28,320	23,695	19,905	16,860	14,415
2x8	2	SDW22300	6	One side	4,605	3,695	3,025	2,520	2,130	4,650	3,725	3,045	2,535	2,140	4,675	3,740	3,055	2,540	2,145	4,735	3,775	3,075	2,555	2,155
				Both sides	5,370	4,315	3,530	2,940	2,485	5,425	4,345	3,550	2,955	2,495	5,455	4,365	3,565	2,960	2,500	5,525	4,405	3,590	2,980	2,510
	3	SDW22438	8	One side	13,720	11,425	9,570	8,085	6,905	14,185	11,695	9,735	8,195	6,975	14,425	11,830	9,815	8,250	7,015	14,995	12,160	10,020	8,380	7,100
				Both sides	16,005	13,325	11,160	9,435	8,055	16,550	13,640	11,355	9,560	8,140	16,830	13,805	11,455	9,625	8,180	17,495	14,190	11,690	9,775	8,285
	4	SDW22600	8	One side	25,810	22,890	20,050	17,470	15,230	27,745	24,170	20,875	18,010	15,590	28,820	24,850	21,300	18,285	15,775	31,560	26,510	22,330	18,945	16,215
				Both sides	30,115	26,705	23,390	20,385	17,770	32,370	28,195	24,350	21,010	18,190	33,620	28,990	24,850	21,335	18,405	36,820	30,930	26,055	22,105	18,920

1. Adjustment factors: [C_M, C_t, C_i] = 1.0. For C_F refer to NDS, Table 4A.
2. For LRFD, see NDS, Section 4.3.
3. Compression perpendicular to grain has not been evaluated.
4. All SDW screws have an E-coat™. Simpson Strong-Tie® has conducted testing per Acceptance Criteria AC257, showing in dry conditions E-coat performs equivalent to hot-dip galvanized (HDG) coating.
5. For fire retardant treated (FRT) wood, additional reduction factors may need to be applied based on the manufacturer's recommendations.
6. The column capacities are evalutaed for column being completely unbraced in both strong and weak axis. $l_e = l_1 = l_2$.