NEW!

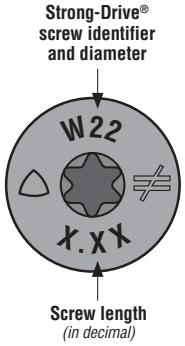
SDW Strong-Drive® Structural Wood Screws

SIMPSON Strong-Tie®

A Fastening Solution for Multi-Ply Truss Assemblies and Engineered-Lumber Applications

The Simpson Strong-Tie® Strong-Drive® SDW wood screw is a 0.22" diameter, high-strength structural wood screw specifically designed for fastening multi-ply wood members, such as joining plated trusses, engineered-lumber products and solid-sawn lumber. The SDW installs easily with no pre-drilling and is available in optimized lengths for fastening 2-, 3- and 4-ply trusses or 1¾" engineered lumber, such as structural composite lumber (SCL).

With the SDW screw, multi-ply trusses and beams can be fastened from one side without requiring the lifting and flipping of heavy assemblies. The large, flush head eases the handling of assembled girders and simplifies the installation of finishes or structural connectors. Each SDW head is stamped with the Simpson Strong-Tie "No Equal" sign and the fastener length for easy identification after installation.



Strong-Drive® SDW Structural Wood Screws Provide An Easy-to-Use, Cost-Effective Solution

- Low-profile head 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 screw spacing, saving time and money
- Patented 4CUT™ tip has a square core and serrated threads to provide fast starts, reduce installation torque and make driving easier with no pre-drilling
- Bold thread design firmly cinches plies together for consistent installation
- Deep, 6-lobe T-40 recess reduces cam-out, making driving easier
- Under head nibs provide the installer with greater installation control when the head meets the wood surface
- Optimal screw lengths provide maximum penetration while preventing the tip from protruding out the back of the member
- Ability to penetrate multi-ply trusses from only one side eliminates the need for truss flipping
- Available in retail, mini-bulk and bulk quantities to suit user needs

SDW Strong-Drive® Structural Wood Screws

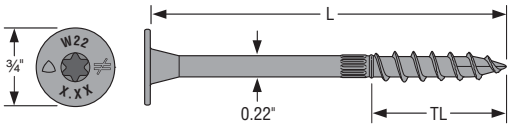
U.S. Patents 5,897,280; 7,101,133 and patent pending

MATERIAL: Heat-treated carbon steel

FINISH: Black E-coat™

WARNING: Industry studies show that hardened fasteners can experience performance problems in wet or corrosive environments. Accordingly, the SDW wood screws should only be used in dry, interior and non-corrosive environments.

T-40 Bit
(included)



INSTALLATION

- SDW screws install best with a low-speed ½" drill and a T-40 6-lobe bit. The matched bit included with the screws is recommended for best results.
- No pre-drilling is typically required. SDW screws may be installed through metal truss plates as approved by the Truss Designer, provided the requirements of ANSI/TPI 1-2007 Section 8.9.2 are met *(pre-drilling 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 DESIGNER:

1. Single-fastener shear loads for Tables 1-4, and withdrawal loads in this section, are based on testing per ICC-ES AC233. Allowable withdrawal load for DF/SP/SCL is 200 pounds per inch (lbs./in.) and for SPF/HF withdrawal is 150 lbs/in. Total allowable withdrawal load is based on actual thread penetration 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 of 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 exceptions in Table 5.
4. Maximum fastener spacing is recommended to not exceed 24" on-center except as approved by a qualified Designer.
5. For structural composite lumber (SCL = LVL, PSL or LSL) loads, assume an equivalent Specific Gravity of 0.50 or higher.
6. Tabular loads in this document are based on the capacity of the Simpson Strong-Tie® SDW22 fasteners. The capacity of the multi-ply assembly must be checked by a qualified Designer.

Product Information

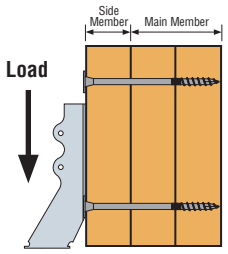
Model No.[2,3]	Head Stamp Length	Nominal Screw Length (L) (in)	Typical Application[1]	Thread Length (TL) (in)	Retail Box[3] Quantity (1 Bit)	Retail Boxes/ Carton	Mini-Bulk Bucket Quantity[2] (1 Bit)	Bulk Bucket Quantity (2 Bits)
SDW22300	3.00	2⅞	2x/Truss	1 7⁄16	50	6	250	950
SDW22338	3.37	3⅜	SCL	1 9⁄16	50	6	250	900
SDW22438[4]	4.37	4⅜	2x/Truss Desert	1 7⁄16	50	4	200	600
SDW22458[4]	4.62	4⅝	2x/Truss	1 7⁄16	50	4	200	600
SDW22500	5.00	5	SCL/3x2PCT	1 9⁄16	50	4	200	600
SDW22600[5]	6.00	6	2x/Truss Desert	1 7⁄16	50	4	200	500
SDW22638[5]	6.37	6⅜	2x/Truss	1 7⁄16	50	4	200	500
SDW22634	6.75	6¾	SCL/4x2PCT	1 9⁄16	50	4	200	500

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)*.
   SCL = 1¾" plies of structural-composite lumber.
   SCL/3x2PCT = 1¾" plies of structural-composite lumber or double 3x2 parallel-chord trusses.
   SCL/4x2PCT = 1¾" or 3½" plies of structural-composite lumber or double 4x2 parallel-chord trusses.
2. To order mini-bulk buckets add the letters MB to the model number, e.g. SDW22458MB.
3. To order retail pack boxes add "-R50" to the model number, e.g. SDW22458-R50.
4. If assembly is less than or equal to 4 9⁄16" thick, use the SDW22438.
5. If assembly is less than or equal to 6 3⁄16" thick, use the SDW22600.

Table 1 – Single Fastener Shear Loads for Solid Sawn and 2x Truss Loaded on Head Side

Assembly	Model No.	Nominal Screw Length (L) (in)	Thread Length (TL) (in)	Nominal Side Member Thickness (in)	Main Member Penetration (in)	DF/SP Allowable Shear (lbs)	SPF/HF Allowable Shear (lbs)
2-ply 2x/Truss	SDW22300	2⅞	1 7⁄16	1½	1⅜[1]	325	255
3-ply 2x/Truss Desert	SDW22438	4⅜	1 7⁄16	1½	2⅞	400	325
3-ply 2x/Truss	SDW22458	4⅝	1 7⁄16	1½	2⅞	400	325
4-ply 2x/Truss Desert	SDW22600	6	1 7⁄16	1½	4½	400	340
4-ply 2x/Truss	SDW22638	6⅜	1 7⁄16	1½	4½	400	340

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



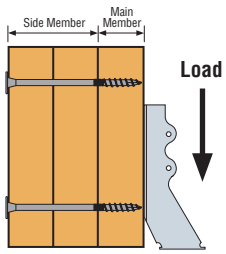
Loaded on Head Side
(3-ply assembly shown – other configurations similar)

SDW Strong-Drive® Structural Wood Screws

Table 2 – Single Fastener Shear Loads for Solid Sawn and 2x Truss Loaded on Tip Side

Assembly	Model No.	Nominal Screw Length (L) (in)	Thread Length (TL) (in)	Nominal Side Member Thickness (in)	Main Member Penetration (in)	DF/SP Allowable Shear (lbs)	SPF/HF Allowable Shear (lbs)
2-ply 2x/Truss	SDW22300	2⅞	1⅞16	1½	1⅜[1]	325	255
3-ply 2x/Truss Desert	SDW22438	4⅜	1⅞16	3	1⅜[1]	275	255
3-ply 2x/Truss	SDW22458	4⅝	1⅞16	3	1⅜[1]	275	255
4-ply 2x/Truss Desert	SDW22600	6	1⅞16	4½	1⅜[1]	275	255
4-ply 2x/Truss	SDW22638	6⅜	1⅞16	4½	1⅜[1]	275	255

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

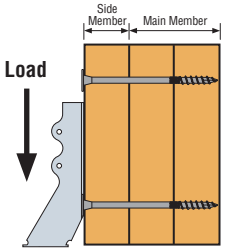


Loaded on Tip Side
(3-ply assembly shown – other configurations similar)

Table 3 – Single Fastener Shear Loads for LVL, PSL and LSL Loaded on Head Side

Assembly	Model No.	Nominal Screw Length (L) (in)	Thread Length (TL) (in)	Nominal Side Member Thickness (in)	Main Member Penetration (in)	Allowable Shear (lbs)
2-ply 1¾ SCL	SDW22338	3⅜	1⅜16	1¾	1⅝[1]	400
3-ply 1¾ SCL	SDW22500	5	1⅜16	1¾	3¼	400
4-ply 1¾ SCL	SDW22634	6¾	1⅜16	1¾	5	400
2-ply 3½ SCL	SDW22634	6¾	1⅜16	3½	3¼	400

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

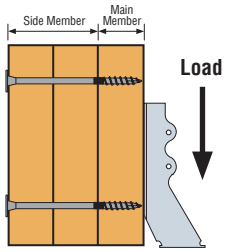


Loaded on Head Side
(3-ply assembly shown – other configurations similar)

Table 4 – Single Fastener Shear Loads for LVL, PSL and LSL Loaded on Tip Side

Assembly	Model No.	Nominal Screw Length (L) (in)	Thread Length (TL) (in)	Nominal Side Member Thickness (in)	Main Member Penetration (in)	Allowable Shear (lbs)
2-ply 1¾ SCL	SDW22338	3⅜	1⅜16	1¾	1⅝[1]	400
3-ply 1¾ SCL	SDW22500	5	1⅜16	3½	1½	300
4-ply 1¾ SCL	SDW22634	6¾	1⅜16	5¼	1½	300
2-ply 3½ SCL	SDW22634	6¾	1⅜16	3½	3¼	400

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

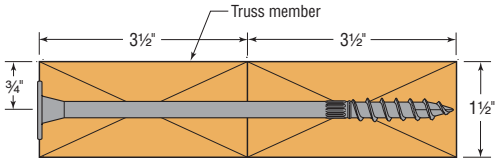


Loaded on Tip Side
(3-ply assembly shown – other configurations similar)

Table 5 – Single Fastener Shear Loads for Two-Ply 3x2/4x2 Parallel-Chord Trusses Loaded on Either Side

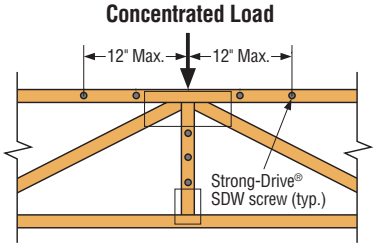
Assembly	Model No.	Nominal Screw Length (L) (in)	DF/SP Allowable Shear (lbs)	SPF/HF Allowable Shear (lbs.)
2-ply 3x2 PCT	SDW22500	5	280	200
2-ply 4x2 PCT	SDW22634	6¾	280	200

1. To transfer uniform 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 the panel joints.
   b. Screws to be installed within 12" of the concentrated load on top-chord assembly
3. Gap between the trusses shall not exceed ⅛" o.c.
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 as long as approved by Truss Designer.

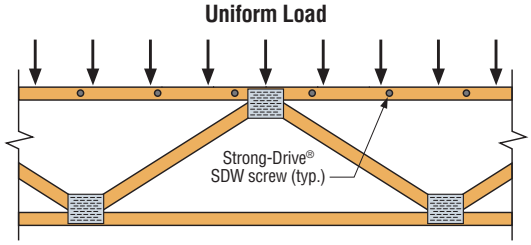


SDW Screw Position in 2-Ply 4x2 Truss
(2-ply 3x2 similar)

Concentrated Load



Uniform Load



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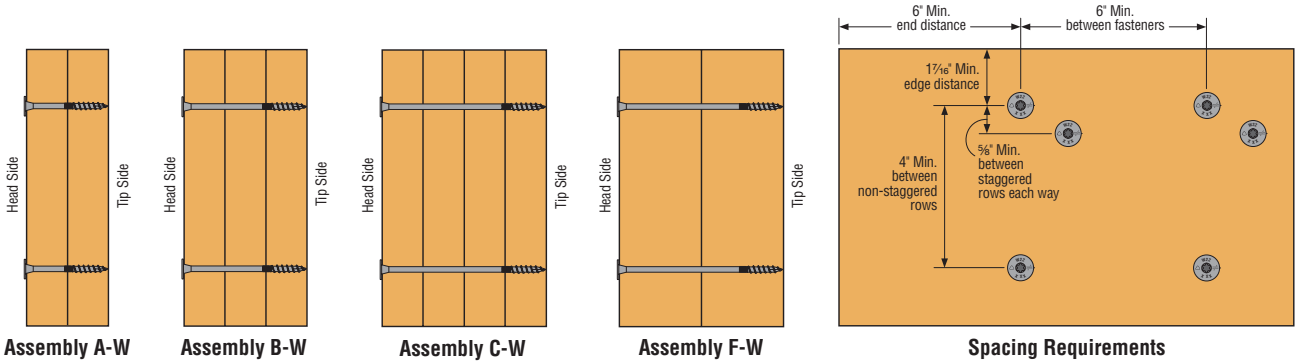

Table 6 – Sideloaded Multi-Ply Assemblies – Allowable Uniform Load Applied to Either Outside Member

Multiple Members		Nominal Screw Length (in)	Loaded Side	DF/SP						SPF/HF					
				SDW @ 12" o.c.		SDW @ 16" o.c.		SDW @ 24" o.c.		SDW @ 12" o.c.		SDW @ 16" o.c.		SDW @ 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	2 -ply 2x/Truss	2⅞	Either	1300	1950	975	1465	650	975	1020	1530	765	1150	510	765
B-W	3 -ply 2x/Truss	4⅜ or 4⅝	Head	1200	1800	900	1350	600	900	975	1465	730	1095	490	730
			Tip	825	1240	620	930	415	620	765	1150	575	860	385	575
C-W	4 -ply 2x/Truss	6 or 6⅜	Head	1065	1600	800	1200	535	800	905	1360	680	1020	455	680
			Tip	735	1100	550	825	365	550	680	1020	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 tip side concurrently provided neither published allowable load is exceeded. *(Example: a 3-ply DF assembly with a head side load of 1300 plf and tip side load of 900 plf may be fastened together with 3 rows of SDW @ 16" o.c.)*
3. When hangers are installed on tip side, hanger face fasteners must be a minimum of 3" long.
4. Tables are based on Main Member Penetration as noted in Tables 1 and 2.
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.

Table 7 – Sideloaded Multi-Ply LVL, PSL and LSL Assemblies – Allowable Uniform Load Applied to Either Outside Member

Multiple Members		Nominal Screw Length (in)	Loaded Side	SDW @ 12" o.c.		SDW @ 16" o.c.		SDW @ 24" o.c.	
Assembly	Components			2 Rows	3 Rows	2 Rows	3 Rows	2 Rows	3 Rows
A-W	2-ply SCL	3⅜	Either	1600	2400	1200	1800	800	1200
B-W	3-ply SCL	5	Head	1200	1800	900	1350	600	900
			Tip	900	1350	675	1015	450	675
C-W	4-ply SCL	6¾	Head	1065	1600	800	1200	535	800
			Tip	800	1200	600	900	400	600
F-W	2- ply SCL	6¾	Either	1600	2400	1200	1800	800	1200

1. Each ply is assumed to carry same proportion of load.
2. Loads may be applied to the head side and tip side concurrently provided neither published allowable load is exceeded. *(Example: a 3-ply assembly with a head side load of 1300 plf and tip side load of 1000 plf may be fastened together with 3 rows of SDW @ 16" o.c.)*
3. When hangers are installed on tip side, hanger face fasteners must be a minimum of 3" long.
4. Tables are based on Main Member Penetration as noted in Tables 3 and 4.