Strong-Drive®
SDWC TRUSS Screw

Truss/Rafter-to-Plate and Stud-to-Plate Connections

The Strong-Drive SDWC Truss screw provides a stud-to-bottom plate or stud-to-top plate connection as well as fastening trusses and rafters to top plates. The full-threaded shank engages the entire length of the fastener, providing a secure connection. The SDWC is tested in accordance with ICC-ES AC233 (screw) and AC13 (wall assembly and roof-to-wall assembly) for uplift and lateral loads between wall plates and vertical wall framing and between the top plate and the roof rafters or trusses. It is code listed under IAPMO-UES ER-262 and meets 2015 and 2018 IRC® and IBC® code requirements for several common wood framing applications.

For safe and easy installation, use the Quik Stik™ rafter and truss fastening system.

Features:

- Fully-threaded shank engages the entire length of the fastener, providing a secure connection between the roof and wall framing members
- Cap-style head countersinks fully into the double top plate to avoid interference with drywall or finish trades
- Wide tolerance on installation angle makes it easy to install the SDWC correctly
- Can be installed from inside the structure, eliminating exterior work on the upper stories and enhancing job safety
- 6-lobe, T30 driver bit provides positive engagement that makes the screw easy to drive and improves bit life (replacement driver bit — BIT30T-2-RC3)
- Fastening can be performed before or after exterior sheathing is applied for added flexibility
- Metal installation guide tool (included) to help ensure proper installation
- Orange color for easy inspection
- Type-17 point for faster starts and easier driving
- SDWC15450 is recognized for use in chemically treated wood as described in the evaluation report

Codes/Standards: IAPMO-UES ER-262, State of Florida FL13975

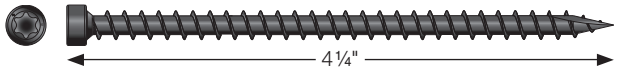
For Technical Data and Loads, see Technical Supplement

SDWC15450-KT and SDWC15600-KT contains:

- (50) Strong-Drive SDWC screws
- (1) Matched-tolerance driver bit (Part no. BIT30T-2-RC3; also sold separately)
- (1) Metal installation guide tool
  - SDWC-GUIDE (for SDWC15600 only; also sold separately)

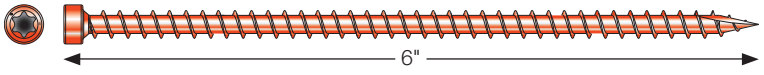
SDWC15450B-KT and SDWC15600B-KT contains:

- (500) Strong-Drive SDWC screws
- (2) Matched-tolerance driver bits (Part no. BIT30T-2-RC3; also sold separately)
- (2) Metal installation guide tools
  - SDWC-GUIDE (for SDWC15600 only; also sold separately)



E-Coat® Coating

Size (in.)	Thread Length (in.)	Retail Pack			Mini-Bulk Bucket	
		Fast. per Pack	Retail Per Master Carton	Model No.	Fast. per Bucket	Model No.
0.152 x 4½	4¼	50	6	SDWC15450-KT	500	SDWC15450B-KT



Clear Zinc Coating (with Orange Topcoat)

Size (in.)	Thread Length (in.)	Retail Pack			Mini-Bulk Bucket	
		Fast. per Pack	Retail Per Master Carton	Model No.	Fast. per Bucket	Model No.
0.152 x 6	5¾	50	6	SDWC15600-KT	500	SDWC15600B-KT

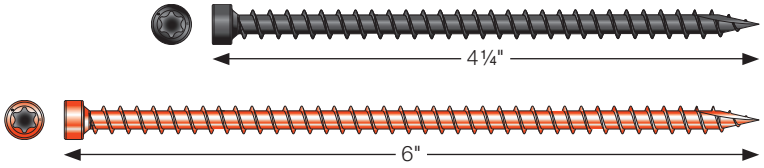
Strong-Drive® SDWC TRUSS Screw

Rafter/Truss-to-Plate and Stud-to-Plate Connections

The SDWC screw is tested in accordance with ICC-ES AC233 (screw) and AC13 (wall assembly and roof-to-wall assembly) for uplift and lateral loads between wall plates and vertical wall framing and between the top plate and the roof rafters or trusses. SDWC15450 is recognized for use in chemically treated wood as described in the evaluation report.

Codes/Standards: IAPMO-UES ER-262, State of Florida FL13975

For more information, see pp. 84-85, C-F-2019 Fastening Systems Catalog



SDWC — Allowable Shear Loads — DFL, SP, SPF

Size (in.)	Model No.	Thread Length (in.)	Nominal Member Thickness (in.)		Reference Allowable Shear Loads (lb.)					
			Side Member	Main Member	Z_{para}[4]			Z_{perp}[5]		
					SP	DFL	SPF	SP	DFL	SPF
0.15 x 4½	SDWC15450	4¼	2x (Face)	2x (End grain)	—	—	—	225	205	190
0.15 x 6	SDWC15600	5¾	(2)2x (Face)	2x (Edge)	245	240	180	240	240	240
			2x (Face)	2x (End grain)	—	—	—	225	205	190
			(2)2x (Face)	2x (End grain)	—	—	—	225	225	190

1. Allowable loads are shown at the wood load duration factor of C_D = 1.0. Loads may be increased for load duation up to a C_D = 1.6.
2. Tabulated values must be multiplied by all applicable adjustment factors per the NDS.
3. The main and side members shall be sawn lumber or structural composite lumber with a specific gravity or equivalent specific gravity 0.42 to 0.55.
4. Z_{para} — Parallel-to-grain loading in the side member and perpendicular-to-grain loading in the main member.
5. Z_{perp} — Perpendicular-to-grain loading in the side member and perpendicular-to-grain loading in the main member, except for 2x (edge) where main member is loaded parallel to grain.
6. The connection conditions of this table are for specific intended applications. Reference lateral design values for all other shear connections are calculated following the NDS.

SDWC — Allowable Withdrawal and Pull-Through Loads — DFL, SP, SPF

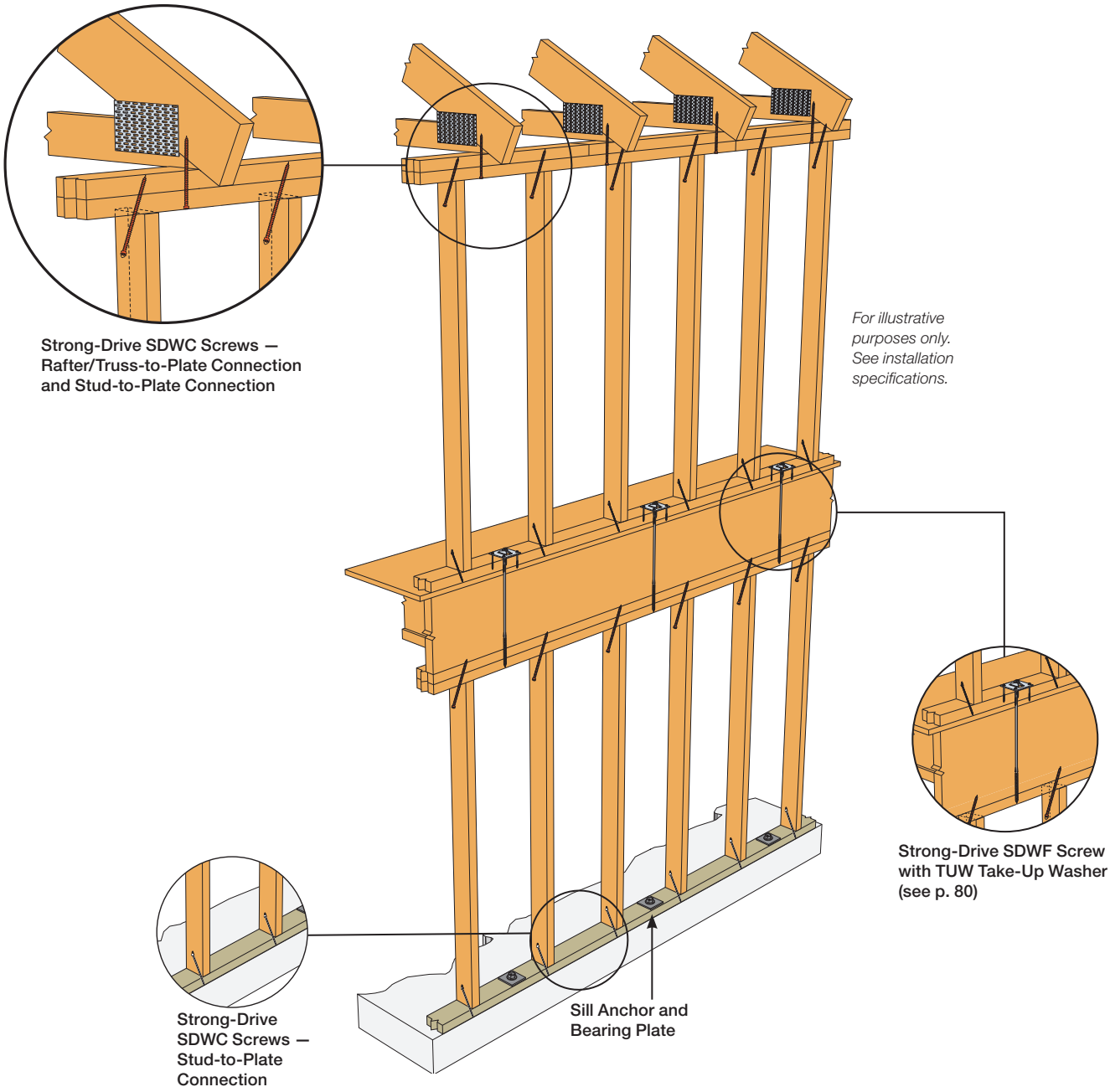
Size (in.)	Model No.	Thread Length (in.)	Nominal Main Member Thickness (in.)	Reference Allowable Withdrawal Loads (lb./in.)			Reference Allowable Pull-Through Loads (lb./in.)		
				SP	DFL	SPF	SP	DFL	SPF
0.15 x 4½	SDWC15450	4¼	2x (Edge)	250	230	150	—	—	—
			2x (End Grain)	200	140	100	210	180	175
0.15 x 6	SDWC15600	5¾	2x (Face)	210	180	120	255	195	160
			(2) 2x (Face)	220	200	160	240	225	190

1. Allowable loads are shown at the wood load duration factor of C_D = 1.0. Loads may be increased for load duation up to a C_D = 1.6.
2. Tabulated values must be multiplied by all applicable adjustment factors per the NDS.
3. The reference withdrawal and pull-through values are in pounds per inch of the thread penetration into the main member and a minimum 1½" thick side member, respectively.

Strong-Drive® SDWC **TRUSS** Screw (cont.)

Continuous Load Path Considerations with the SDWC

Building codes require that structures are designed to create a continuous load path. Forces must be transferred from their point of application to the building elements that are designed to resist them. For example, when uplift forces act on a roof, the roof must be tied to the wall, and the wall must be tied to the foundation or the wall below. The SDWC Truss screws can be used to make all of the connections in the load path from the rafter/truss to top plate, top plate to stud, and stud to bottom plate. As an alternate, structural sheathing designed for uplift can be used for the load path from the wall top plate to the wall bottom plate. If Simpson Strong-Tie metal connectors are used to connect the top plate to the wall framing, they should be on the same side as the SDWC Truss screw that makes the rafter/truss-to-top plate connection. The sheathing and connector fasteners must not interfere with the SDWC Truss screw.



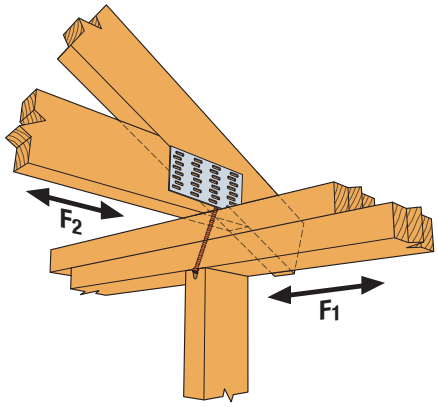
Strong-Drive®
SDWC **TRUSS** Screw
for Rafter/Truss-to-Top Plate Connections

SDWC — Allowable Roof-to-Wall Connection Loads – DFL, SP, SPF, HF – Single-Screw Connections

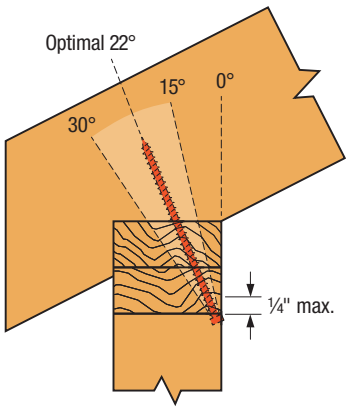
Size (in.)	Model No.	Thread Length (in.)	Allowable Loads (lb.)					
			DFL/SP			SPF/HF		
			Uplift	F_1	F_2	Uplift	F_1	F_2
0.152 x 6	SDWC15600	5¾	615	130	225	485	115	190

1. Loads have been increased for wind and earthquake (C_D=1.6); no further increases allowed. Reduce when other loads govern.
2. Allowable loads are for an SDWC installed per the 'Recommended' or 'Optional' installation instructions. The SDWC is to be installed through a double 2x top plate into a minimum 2x4 truss or rafter.
3. An SDWC screw may be used in each ply of two- or three-ply rafters or trusses. The allowable uplift load for each screw shall be multiplied by 0.90, but may be limited by the capacity of the plate or the connection between the top plate to the framing below. SDWC screws in multi-ply assemblies must be spaced a minimum of 1½" o.c.
4. Screws are shown installed on the interior side of the wall. Installations on the exterior side of the wall are acceptable when the rafter or truss overhangs the top plates a minimum of 3½".
5. For Uplift Connection Load Path, the designer shall verify complete continuity of the uplift load path.
6. When a screw is loaded simultaneously in more than one direction, the allowable load must be evaluated using the unity equation: (Design Uplift ÷ Allowable Uplift) + (Design F1 ÷ Allowable F1) + (Design F2 ÷ Allowable F2) ≤ 1.0. The three terms in the unity equation represent the possible generated force directions. The number of terms that must be considered for simultaneous loading is the sole discretion of the Designer and depends on the method of calculating wind forces and the utilization of the screws within the structural system.
7. Table loads do not apply to trusses with end-grain bearing.
8. Top plate, stud and top plate splice fastened per applicable Building Code.

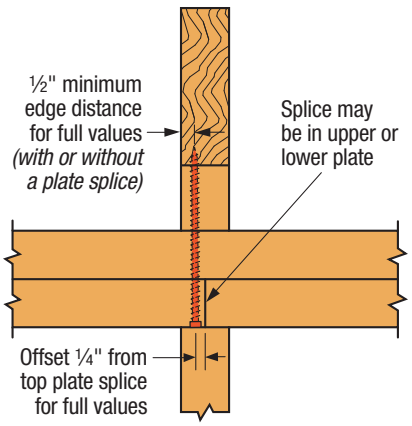
Typical Roof-to-Wall Connection



Typical SDWC Installation — Truss Aligned with Stud or Over Header
(offset truss similar)

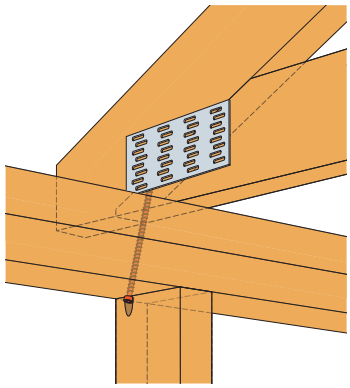


Installation Angle Limit

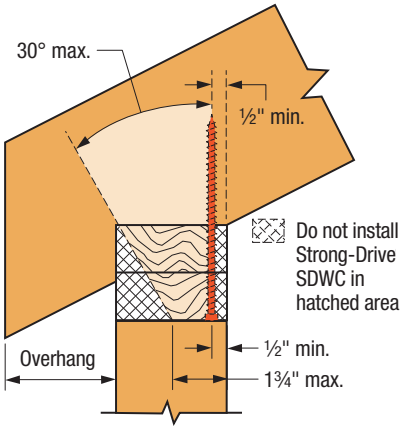


Strong-Drive® SDWC TRUSS Screw for Rafter/Truss-to-Top Plate Connections (cont.)

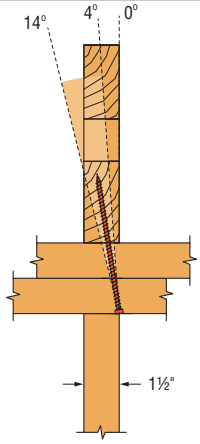
Optional Roof-to-Wall Connections



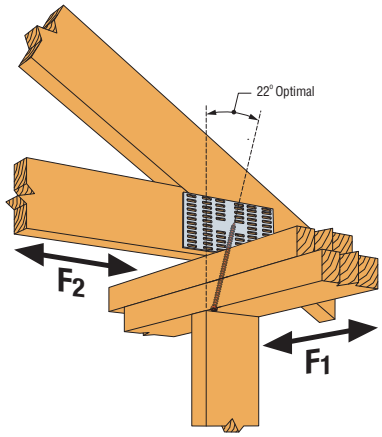
Optional SDWC Installation — Wide-Face Installation Shown



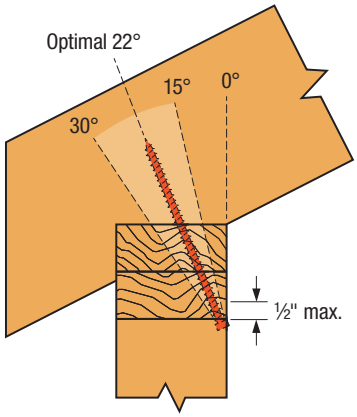
Allowable Installation Range
(rafter/truss offset from stud only)



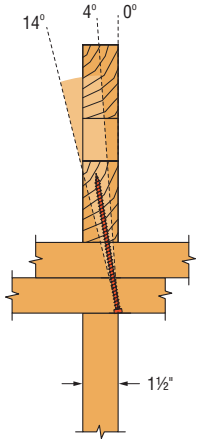
Allowable Installation Range
(front view)



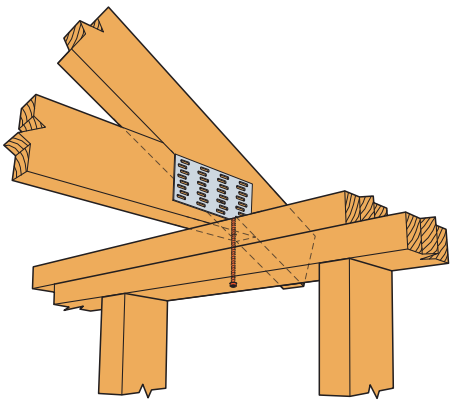
Optional SDWC Truss Screw Installation — Truss Aligned with Stud
(rafter aligned with stud similar)



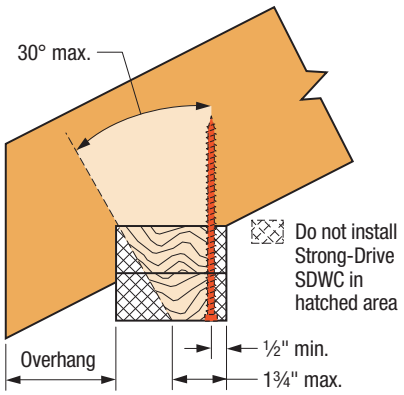
Installation Angle Limit
(side view)



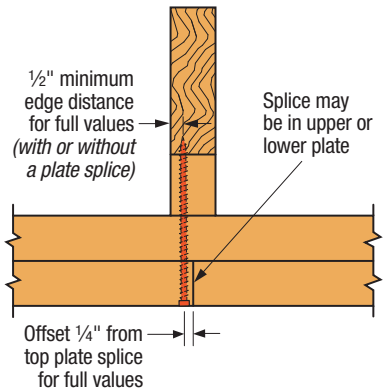
Installation Angle Limit
(front view)



Optional SDWC Installation — Truss Offset from Stud



Allowable Installation Range
(truss offset from stud only)



Min. Edge Distance for Top Plate Splice

Strong-Drive® SDWC TRUSS Screw for Rafter/Truss-to-Top Plate Connections (cont.)

SDWC Rafter/Truss-to-Top Plate Connections Utilizing Two-Screw Configurations

Allowable loads for the SDWC Truss screws when installed from the underside of the top plate and from the face of the rafter/truss using a two-screw configuration per the detail configurations shown on the next page.

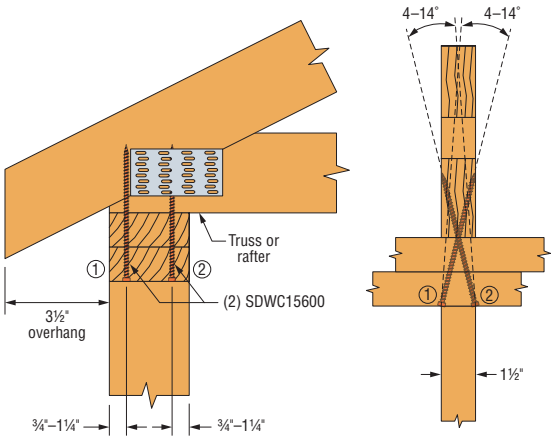
SDWC – Allowable Loads for Rafter/Truss-to-Top Plate Two-Screw Connections (See configuration illustrations on next page)

Configuration	Size (in.)	Model No.	Thread Length (in.)	Quantity Required	Allowable Loads (lb.)					
					DFL/SP			SPF/HF		
					Uplift	F_1	F_2	Uplift	F_1	F_2
A	0.152 x 6	SDWC15600	5¾	2	1,200	685	995	1,045	495	670
B					1,195	680	925	1,195	405	680
C					905	535	790	850	330	595
D					1,115	645	920	960	385	610

1. Loads have been increased for wind and earthquake loading (C_D=1.6) with no further increase allowed; reduce where other loads govern.
2. For Uplift Connection Load Path, the designer shall verify complete continuity of the uplift load path.
3. When cross-grain tension cannot be avoided, supplemental reinforcement shall be considered by the Designer.
4. The SDWC screws shall not interfere with other fasteners or truss plates. Where truss plates must be penetrated for Configuration D, a Truss Designer approval is required in accordance with ANSI/TPI 1-2007/2014, Section 7.5.3.4 and 8.9.2. To predrill through truss plate, use a ⅛" drill bit.
5. The metal installation guide provided with the screw is angled at 22.5° and can be used for Configurations C and D; proper installation angles for all configurations are the responsibility of the installer.
6. SDWC screws must be offset min. ¼" from top plate splices for full values.
7. Loads assume minimum overhang of 3½".
8. When a screw is loaded simultaneously in more than one direction, the allowable load must be evaluated using the unity equation: (Design Uplift ÷ Allowable Uplift) + (Design F1 ÷ Allowable F1) + (Design F2 ÷ Allowable F2) ≤ 1.0. The three terms in the unity equation represent the possible generated force directions. The number of terms that must be considered for simultaneous loading is the sole discretion of the Designer and depends on the method of calculating wind forces and the utilization of the screws within the structural system.
9. An SDWC screw may be used in each ply of two- or three-ply rafters or trusses. The allowable uplift load for each screw shall be multiplied by 0.90, but may be limited by the capacity of the plate or the connection between the top plate to the framing below. SDWC screws in multi-ply assemblies must be spaced a minimum of 1½" o.c.

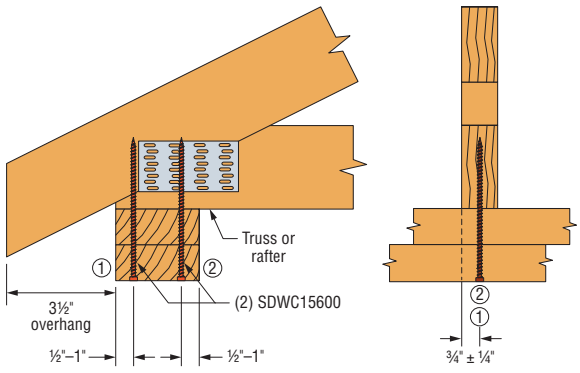
Strong-Drive® SDWC TRUSS Screw for Rafter/Truss-to-Top Plate Connections (cont.)

SDWC Rafter/Truss-to-Top Plate Two-Screw Connections



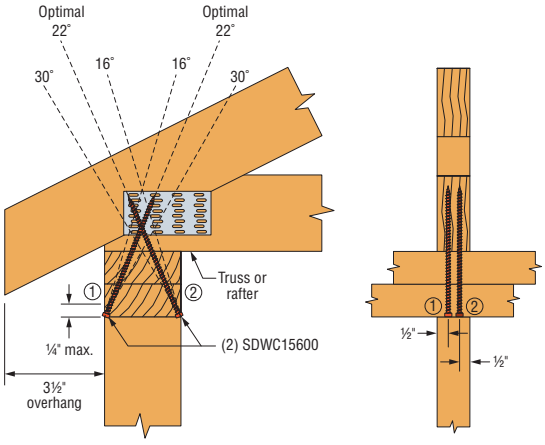
Configuration A:
Truss Aligned with Stud
Install through Top Plate into Rafter/Truss

Both screws installed at a 4°–14° angle, offset ¾"–1¼" from opposite edges of the top plate.



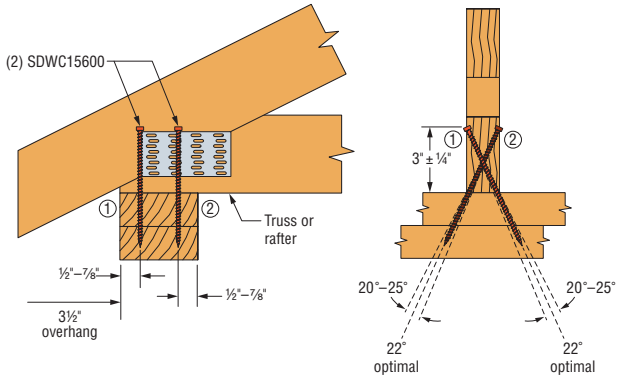
Configuration B:
Truss Offset from Stud
Install through Top Plate into Rafter/Truss

Both screws installed vertically ±5° into the center of the rafter/truss from the underside of the top plate, ½" – 1" from opposite edges of the top plate.



Configuration C:
Install through Top Plate into Rafter/Truss

Both screws installed at a 16°–30° angle, offset ½" from the opposite edges of rafter/truss. Use metal installation guide included in screw kits for optimal 22° installation.



Configuration D:
Install Rafter/Truss to Top Plate

Both screws installed at a 20°-25° angle with a ½" – ⅞" offset from the opposite edges of top plate 3" ± ¼" above top plate. Use metal installation guide included in screw kits for optimal 22° installation. To predrill through truss plates, use a ⅛" drill bit.

Strong-Drive® SDWC **TRUSS** Screw for Pre-Engineered Top-of-Wall Assemblies

SDWC Pre-Engineered Top-of-Wall Assemblies for Continuous Uplift Load Path for SPF or Better Wood Framing

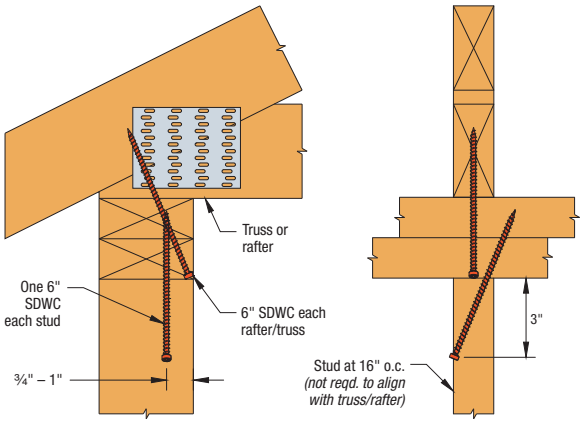
The Strong-Drive SDWC TRUSS Screw is designed to fasten roof rafters/trusses to wall plates and wall plates to studs. When used to connect rafters/trusses to top plates, a second connection from top plates to the studs below is necessary in order to maintain a continuous load path as would be required for any connection method. This table provides allowable uplift loads for the five pre-engineered top-of-wall assemblies shown on the next page. These assemblies have been designed and tested to provide a continuous load path from the rafter/truss to the studs in the wall below and account for any reductions that may result from top plate rotation due to eccentric loading. The continuous load path from the bottom of the stud to the supporting structure is by others.

SDWC — Allowable Uplift Load for Pre-Engineered Top-of-Wall Assemblies

Wall Assembly	Rafter/Truss Connection to Top Plates	Top Plate Connection to Studs at 16" On Center[4]	Allowable Rafter/Truss Uplift Load (lb.)					
			2x4 SPF Framing			2x6 SPF Framing		
			Rafter/Truss Spacing			Rafter/Truss Spacing		
			12	16	24	12	16	24
A	1 – SDWC15600	1 – SDWC15600	385	485	485	385	485	485
B		2 – SDWC15600	485	485	485	485	485	485
C		1 – SDWC15600	305	410	485	305	410	485
D		1 – SDWC15600	120	160	240	120	160	240
E		WSP per Designer[3]	145	195	290	105	140	210

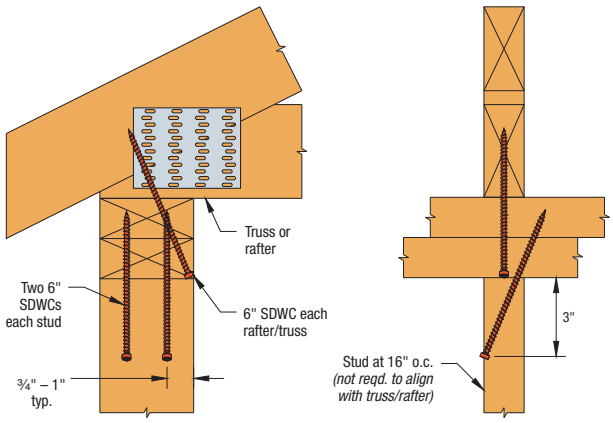
1. Allowable loads apply to SPF (G=0.42) or better wood framing.
2. Uplift loads have been increased for wind loading (C_D=1.6) with no further increases allowed; reduce where other loads govern.
3. Wood structural panel (WSP) sheathing used in Wall Type E must be designed and constructed to resist uplift in accordance with the American Wood Council's 2008 or 2015 Special Design Provisions for Wind and Seismic standard.
4. As indicated in table header, studs spaced at 16" o.c. for all assemblies.

Strong-Drive® SDWC **TRUSS** Screw for Pre-Engineered Top-of-Wall Assemblies (cont.)



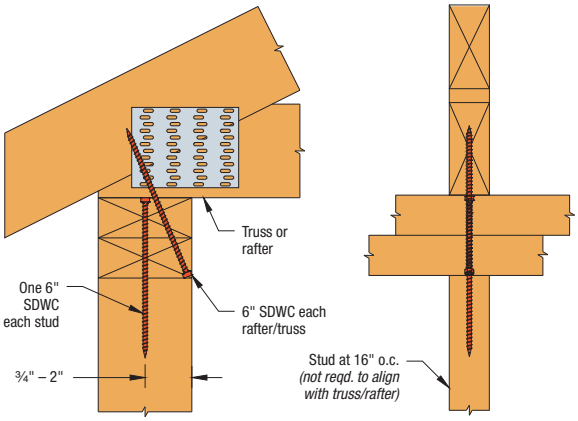
Wall Assembly A

One SDWC as Angled Stud Screw



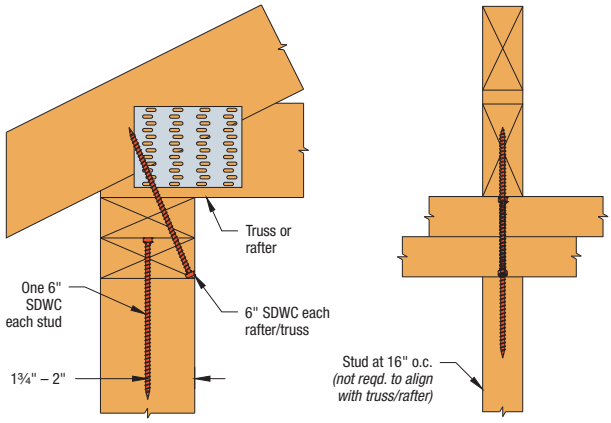
Wall Assembly B

Two SDWC as Angled Stud Screw



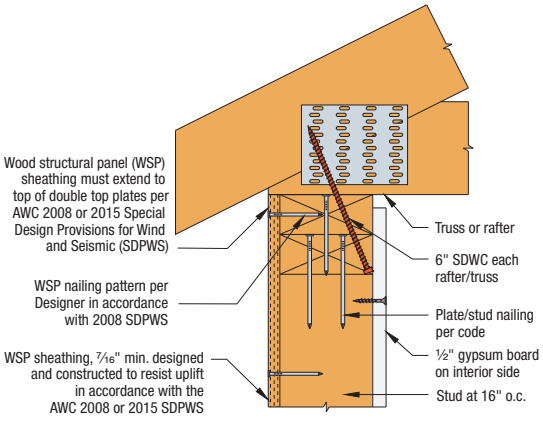
Wall Assembly C

One SDWC as Vertical Stud Screw Through Both Plates



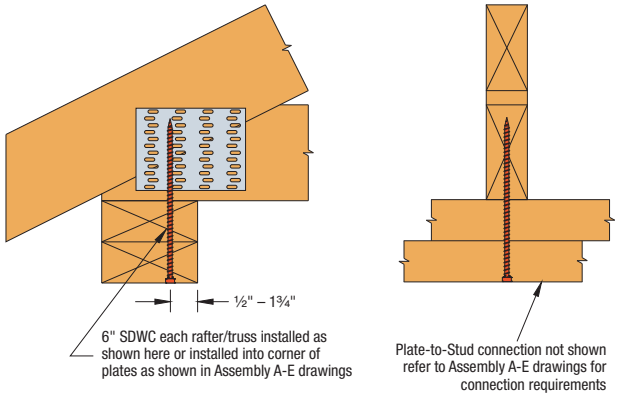
Wall Assembly D

One SDWC as Vertical Stud Screw Through Lower Plates



Wall Assembly E

WSP Designed for Uplift



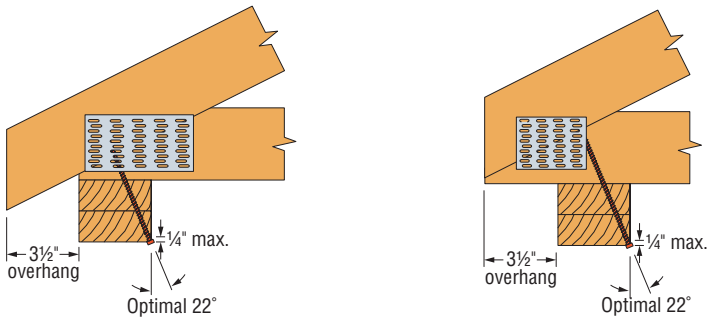
Rafter/Truss Offset from Stud

Strong-Drive® SDWC TRUSS Screw for Energy Heel Truss-to-Top Plate Connections

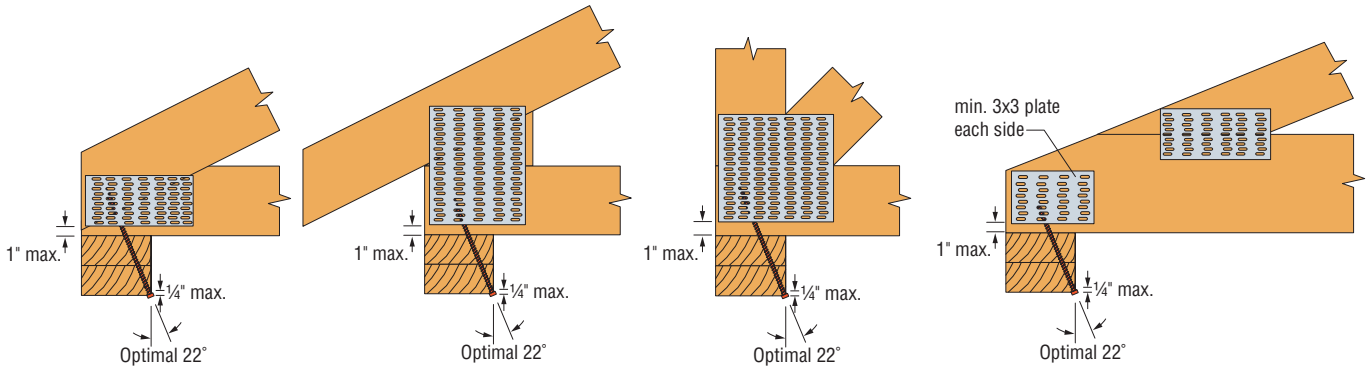
Allowable Roof-to-Wall Single-Screw Connection Loads for Raised-Heel/Energy-Heel Trusses and Trusses with No Overhangs

Allowable roof-to-wall connection loads published for the Simpson Strong-Tie® SDWC Truss screw (SDWC15600) are based on a minimum 3½" overhang as shown in the figures below. The following allowable roof-to-wall single-screw connection loads for truss heel configurations that do not meet the minimum overhang requirement, such as a standard heel with no overhang, or a raised-heel condition where the screw only penetrates into the truss bottom chord and the bottom chord does not extend past the top plate.

Testing was performed in accordance with ICC-ES AC233 Annex A, Section A3.0 (*Acceptance Criteria for Alternate Dowel-Type Threaded Fasteners, Approved 2015*) to evaluate the effects of no overhang, with and without truss plates in the region of the SDWC Truss screw. The resulting allowable loads for these conditions are provided in the following table. To achieve the allowable load for the "No Overhang — Reinforced" condition, truss plates must be located as shown in the figures below; otherwise, the allowable load for "No Overhang — Unreinforced" shall be used. Except as noted, all other installation information regarding the SDWC screws for rafter/truss-to-top plate connections as specified in the current *Fastening Systems* catalog shall apply.



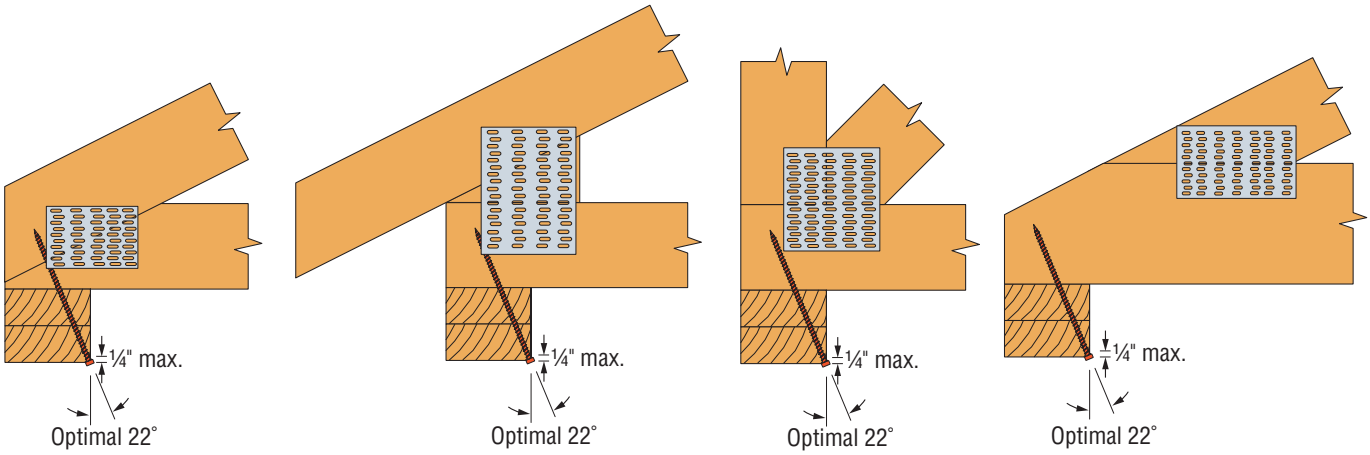
Standard Installation (with minimum 3½" overhang)



Installation with No Overhang — Reinforced

Note: Truss plates must be located no greater than ¼" or 2" from end of chord on 2x4 or 2x6 or larger walls, respectively.

Strong-Drive® SDWC **TRUSS** Screw for Energy Heel Truss-to-Top Plate Connections (cont.)



Installation with No Overhang — Unreinforced

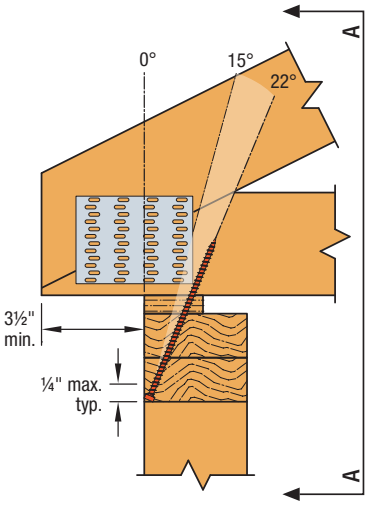
SDWC – Allowable Loads

Model No.	Condition	Allowable Loads SPF/HF/DFL/SP (lb.) (160)		
		Uplift	F_1	F_2
SDWC15600	Standard Installation	485	115	190
	No Overhang – Reinforced	450		
	No Overhang – Unreinforced	280		

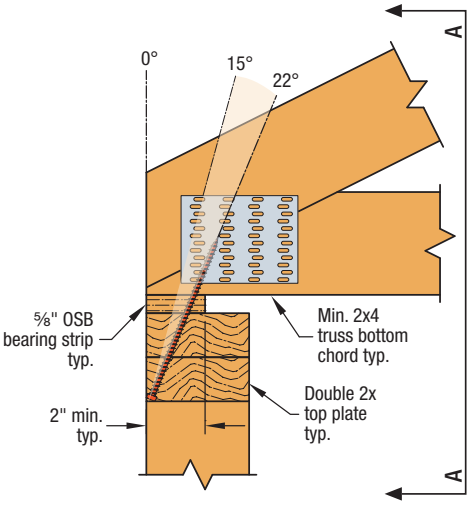
1. Allowable loads apply to SPF (G=0.42) or better wood framing
2. Loads have been increased for wind and earthquake loading (C_D=1.6) with no further increase allowed; reduce where other loads govern.
3. For Uplift Connection Load Path, the Designer shall verify complete continuity of the uplift load path.
4. When cross-grain tension cannot be avoided, supplemental reinforcement shall be considered by the Designer.
5. SDWC screws are shown installed at the optimal 22° angle, installation angles from 15° to 30° are acceptable. Tabulated loads also apply to any of the five approved truss-to-plate installations using the Quik Stik™ Fastening Tool as specified in F-F-QUIKSTIK.
6. SDWC screws must be offset min. ¼" from top plate splices and must have minimum edge distances per p. 57 or F-F-QUIKSTIK.

Strong-Drive®
SDWC **TRUSS** Screw
for Factory-Built Structures Truss-to-Top Plate Connections

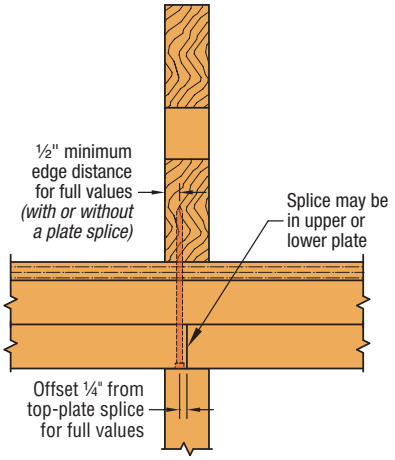
The allowable uplift loads are provided for the Simpson Strong-Tie® SDWC15600 wood screw installed with a ⅝" OSB bearing strip between the truss and top plate.



With Overhang Installation



Without Overhang Installation



Section A-A
Min. Edge Distance for Top Plate Splice

SDWC – Allowable Uplift Loads for Factory-Built Structures

Size (in.)	Model No.	Thread Length (in.)	Allowable Uplift SPF/DFL/SP (lb.) (160)	
			With Overhang	Without Overhang
0.152 x 6	SDWC15600	5¾	415	370

1. Loads have been increased for wind or earthquake (C_D=1.6); no further increase allowed; reduce where other loads govern.
2. Allowable loads apply to spruce-pine-fir, hem-fir, Douglas fir–larch, and southern pine.
3. Allowable loads are for an SDWC installed per the "With Overhang" or "Without Overhang" installation details.
4. SDWC must be installed on the exterior side of the wall.
5. SDWC must be installed at an angle between 10° and 22½°. Guide provided with screws is at 22½°.
6. For Uplift Continuous Load Path, top-plate-to-stud connections must be located on the exterior side of the wall.
7. Table loads do not apply to trusses with end-grain bearing.
8. Top plate, stud, and top plate splice fastened per applicable building code.

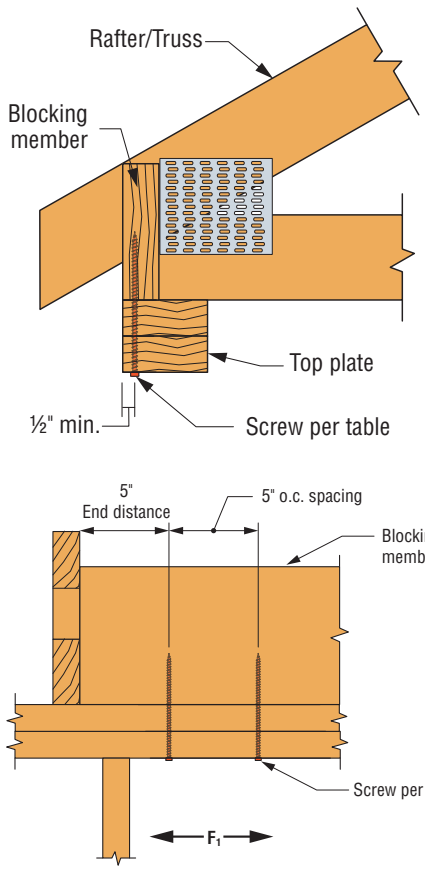
Strong-Drive® SDWC TRUSS Screw for Boundary Blocking-to-Top Plate Connections

The SDWC was tested and evaluated to establish allowable lateral loads bewteen wall plates and boundary members in a roof diaphragm.

SDWC — Allowable Shear Loads (F_1) for Boundary Member/Blocking-to-Wall Connections — DFL, SP, SPF, HF

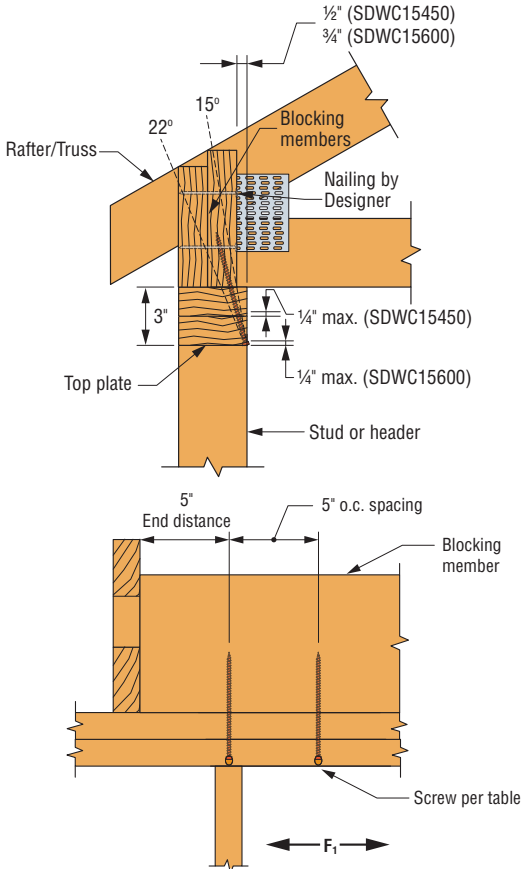
Configuration	Size (in.)	Model No.	Nominal Top Plate Thickness (in.)	Thread Length (in.)	Allowable Loads per Screw (lb.) 2x Boundary Member/Blocking	
					DFL/SP	SPF/HF
					F_1	F_1
A	0.152 x 4½	SDWC15450	(2) 2x	4¼	295	270
B					175	160
A	0.152 x 6	SDWC15600		5¾	540	495
B					440	405

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 = 1.60.
3. Minimum spacing of the SDWC is 5" o.c., minimum end distance is 5", and minimum edge distance or installation angle as shown in configurations A and B.
4. Double top plate is required to be independently fastened per the code.
5. Minimum of (2) SDWC fasteners required per individual boundary member/blocking.
6. For species and grades of framing other than DFL/SP, reduced allowable loads shall be determined by the specific gravity adjustment factor of 1-(0.5 – G); where G is the specific gravity referenced from the NDS.
7. SDWC is driven flush to top plate surface.



Configuration A

Between Studs — Vertical Installation (±5°)



Configuration B

Aligned with Studs — Angle Installation (15° – 22°)

Note: *Screw not aligned with stud/header, use vertical installation as shown in Configuration A (Configuration B load applied).*

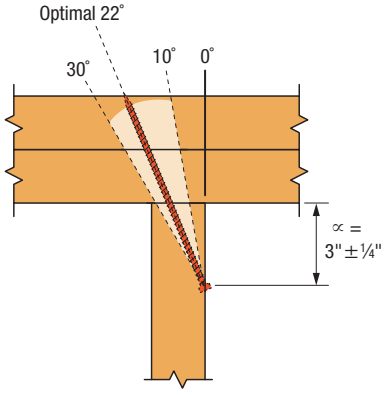
Strong-Drive® SDWC TRUSS Screw for Wide Face of Stud-to-Plate Connections

SDWC — Allowable Loads for Wide Face of Stud-to-Plate Connections – DFL, SP, SPF, HF

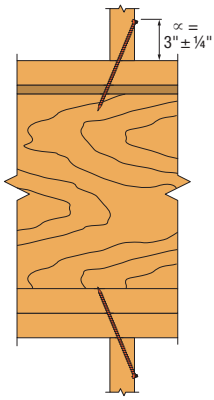
Size (in.)	Model No.	No. of Screws Installed	Thread Length (in.)	Nominal Plate Thickness (in.)	Allowable Loads (lb.)			
					DFL/SP		SPF/HF	
					Uplift	F_2	Uplift	F_2
0.152 x 4½	SDWC15450	1	4¼	2x	360	215	310	153
		2			690	390	595	280
		3			1,035	585	895	420
0.152 x 6	SDWC15600	1	5¾	2x	450	189	310	153
		2			865	345	595	280
		3			1,295	515	895	420
0.152 x 6	SDWC15600	1	5¾	(2) 2x	590	177	510	152
		2			1,135	320	980	275
		3			1,700	485	1,470	415

1. Loads have been increased for wind and earthquake loading (C_D = 1.6) with no further increases allowed; reduce where other loads govern.
2. Allowable loads are for SDWC installed per the installation instructions.
3. The SDWC15450 is to be installed through the face of 2x stud into a single 2x bottom plate over a concrete/masonry foundation.
4. The SDWC15600 is to be installed through the face of 2x stud into a single 2x bottom plate over a wood floor system.
5. The SDWC15600 is to be installed through the face of 2x stud into a double 2x top or bottom plate.
6. Double-top plates shall be fastened together as required by applicable code.
7. When a screw is loaded simultaneously in more than one direction, the allowable load must be evaluated using the unity equation: (Design Uplift ÷ Allowable Uplift) + (Design F1 ÷ Allowable F1) + (Design F2 ÷ Allowable F2) ≤ 1.0. The three terms in the unity equation represent the possible generated force directions. The number of terms that must be considered for simultaneous loading is the sole discretion of the Designer and depends on the method of calculating wind forces and the utilization of the screws within the structural system.

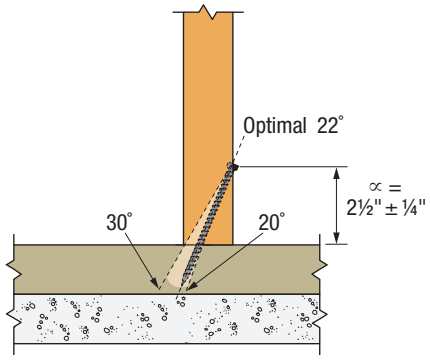
Stud-to-Plate Connections



Stud-to-Top Plate Connection
(this application requires SDWC15600)

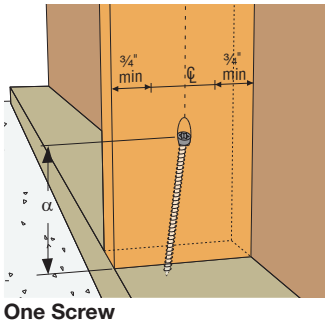


Stud-to-Bottom Plate Connection Over Wood Floor
(this application requires SDWC15600)

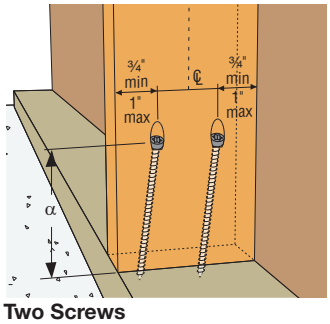


Stud-to-Bottom Plate Connection Over Concrete/Masonry Foundation
(this application requires SDWC15450)

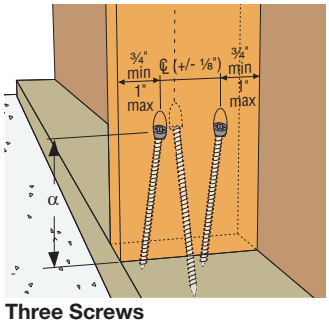
Spacing Requirements



One Screw
One fastener driven in wide face of 2x4, 2x6 or 2x8; maintain minimum edge distance of ¾".



Two Screws
Two fasteners driven into same wide face of 2x4, 2x6 or 2x8. Maintain minimum edge distance of ¾" and maximum edge distance of 1" for proper spacing between fasteners.



Three Screws
Two fasteners driven into same wide face of 2x4, 2x6 or 2x8. Maintain minimum edge distance of ¾" and maximum edge distance of 1" for proper spacing between fasteners.

One fastener driven within ⅛" of centerline of 2x4, 2x6 or 2x8 on OPPOSITE wide face.

Strong-Drive® SDWC TRUSS Screw for Narrow Face of Stud-to-Plate Connections

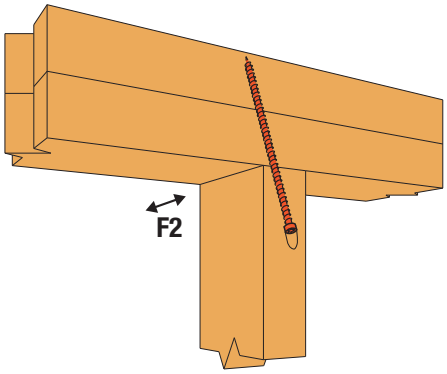
The Strong-Drive SDWC Truss screw provides an easy-to-install, high-capacity solution for stud-to-bottom plate or stud-to-top plate(s) connections. This table provides additional allowable load information for the SDWC screws when installed through the narrow face of the stud. The allowable loads are for SDWC screws installed per the details shown on the next page.

SDWC — Allowable Loads for Narrow Face of Stud-to-Plate Connections

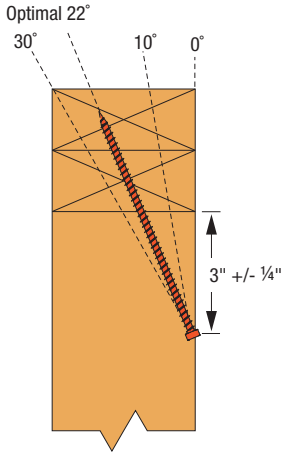
Type of Connection	Size (in.)	Model No.	Quantity Required	Thread Length (in.)	Nominal Plate Thickness (in.)	Allowable Loads (lb.)			
						DFL/SP		SPF/HF	
						Uplift	F2	Uplift	F2
1	0.152 x 6	SDWC15600	1	5¾	(2) 2x	590	170	510	145
2	0.152 x 6	SDWC15600	1	5¾	2x	450	155	310	135
3	0.152 x 4½	SDWC15450	1	4¼	2x	295	150	255	130

1. Loads have been increased for wind and earthquake (C_D=1.6). No further increase is allowed; reduce when other loads govern.
2. The SDWC15600 is to be installed through the narrow face of 2x stud into a single 2x bottom plate over a wood floor system.
3. The SDWC15450 is to be installed through the narrow face of 2x stud into a single 2x bottom plate over a concrete/masonry foundation.
4. Double-top plates shall be fastened together as required by applicable Code.
5. When a screw is loaded simultaneously in more than one direction, the allowable load must be evaluated using the unity equation: (Design Uplift ÷ Allowable Uplift) + (Design F1 ÷ Allowable F1) + (Design F2 ÷ Allowable F2) ≤ 1.0. The three terms in the unity equation represent the possible generated force directions. The number of terms that must be considered for simultaneous loading is the sole discretion of the Designer and depends on the method of calculating wind forces and the utilization of the screws within the structural system.
6. One SDWC screw per stud maximum when installed in the narrow face of the stud. Where the SDWC screws are installed on multiple adjacent studs, the minimum spacing between screws must be 1½". The allowable uplift load for each screw shall be multiplied by 0.90, but may be limited by the capacity of the plate.
7. For Uplift Continuous Load Path, connections in the same area (i.e., truss to plate connector and plate to stud connector) must be on the same side of the wall.

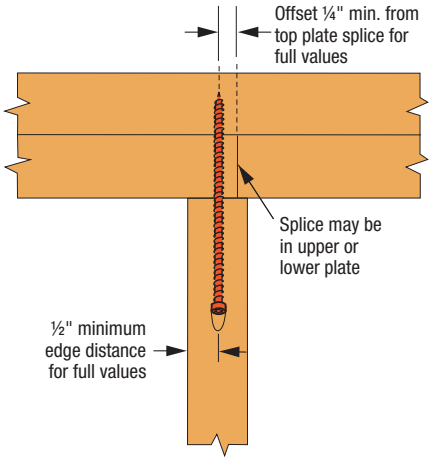
Strong-Drive®
SDWC **TRUSS** Screw
for Narrow Face of Stud-to-Plate Connections (cont.)



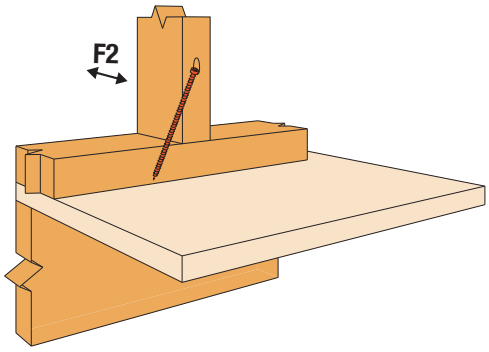
1 **Narrow Face of Stud-to-Top Plate Connection**
(this application requires SDWC15600)



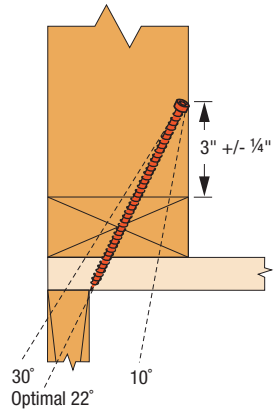
Installation Angle Range



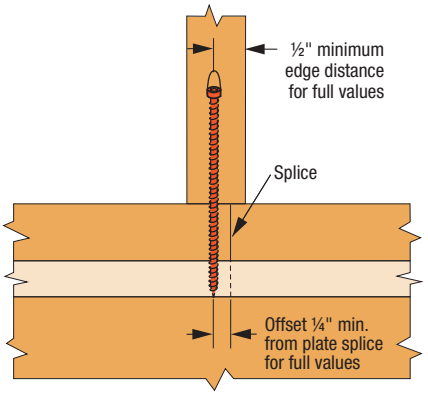
Min. Edge Distance and Splice Offset Requirements



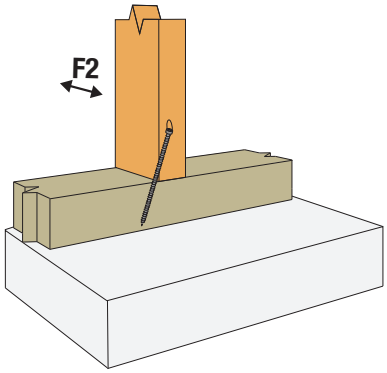
2 **Narrow Face of Stud-to-Bottom Plate Connection Over Wood Floor**
(SDWC15600 shown)



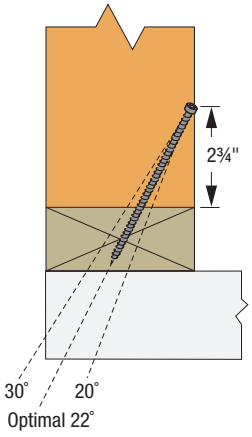
Installation Angle Range



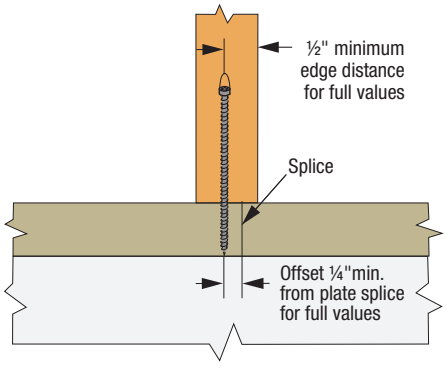
Min. Edge Distance and Splice Offset Requirements



3 **Narrow Face of Stud-to-Bottom Plate Connection Over Masonry/Concrete Foundation**
(the application requires SDWC15450)



Installation Angle Range



Min. Edge Distance and Splice Offset Requirements

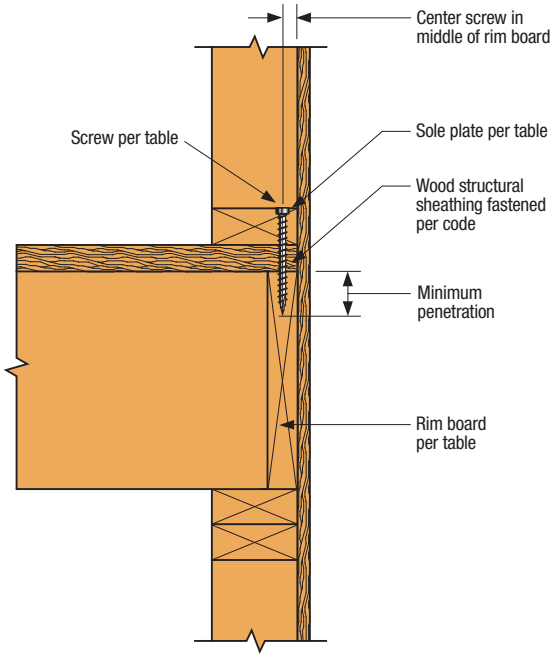
Strong-Drive® SDWC TRUSS Screw

For more information, see p. 84, C-F-2019 Fastening Systems Catalog

SDWC — Allowable Shear Loads for Sole-to-Rim Connections

Size (in.)	Model No.	Nominal Sole Plate Thickness (in.)	Minimum Penetration into Rim Board (in.)	Reference Allowable Loads (lb.) per Screw							
				2x DFL/SP Rim Board		2x SPF/HF Rim Board		1¼" Min. LVL Rim Board		1¼" Min. LSL Rim Board	
				DFL/SP Sole Plate	SPF/HF Sole Plate	DFL/SP Sole Plate	SPF/HF Sole Plate	DFL/SP Sole Plate	SPF/HF Sole Plate	DFL/SP Sole Plate	SPF/HF Sole Plate
0.152 x 4.5	SDWC15450	2x	2.25	235	205	205	205	255	225	275	215
0.152 x 6	SDWC15600	2x, 3x, (2)-2x	2.25	235	205	205	205	255	225	275	215

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 SDWC is 6" o.c., minimum end distance is 6", and minimum edge distance is ⅝".
4. Wood structural panel up to 1⅛" thick is permitted between the sole plate and rim board provided it 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 and/or top plate is permitted provided it is independently fastened per the code and the minimum screw penetration per the table is met.
6. Minimum rim board height shall be 9¼" when using fasteners for sole plate and top plate fastening.
7. Sole-to-rim load can be achieved without a wall below.



Sole-to-Rim Board Assembly
(Other fasteners not shown for clarity)