Strong-Drive® SDWH TIMBER-HEX Screw

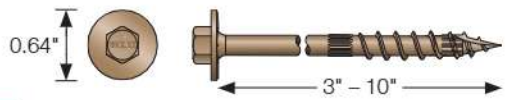
Structural Wood-to-Wood Connections Including Ledgers, Indoor/Outdoor Projects

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

Codes/Standards: IAPMO UES ER-192 (including City of LA Supplement), State of Florida FL13975

US Patent 9,523,383

For more information, see p. 61, C-F-2023 *Fastening Systems* catalog



SDWH Timber-Hex Screw — Allowable Shear Loads — Douglas Fir–Larch and Southern Pine Lumber

Length (in.)	Model No.	Thread Length (in.)	Reference DFL/SP Allowable Shear Loads (lb.)								
			Wood Side Member Thickness (in.)								
			1.5	2	2.5	3	3.5	4	4.5	6	8
3	SDWH19300DB	1½	285	—	—	—	—	—	—	—	—
4	SDWH19400DB	2⅜	370	300	300	—	—	—	—	—	—
6	SDWH19600DB	2¾	370	265	265	265	265	245	245	—	—
8	SDWH19800DB	2¾	370	265	265	265	265	265	260	245	—
10	SDWH191000DB	2¾	370	265	265	265	265	265	260	260	245

See footnotes below.

SDWH Timber-Hex Screw — Allowable Shear Loads — Spruce-Pine-Fir and Hem-Fir Lumber

Length (in.)	Model No.	Thread Length (in.)	Reference SPF/HF Allowable Shear Loads (lb.)								
			Wood Side Member Thickness (in.)								
			1.5	2	2.5	3	3.5	4	4.5	6	8
3	SDWH19300DB	1½	230	—	—	—	—	—	—	—	—
4	SDWH19400DB	2⅜	330	235	195	—	—	—	—	—	—
6	SDWH19600DB	2¾	350	265	265	265	265	215	180	—	—
8	SDWH19800DB	2¾	350	265	265	265	265	265	215	215	—
10	SDWH191000DB	2¾	350	265	265	265	265	265	250	250	215

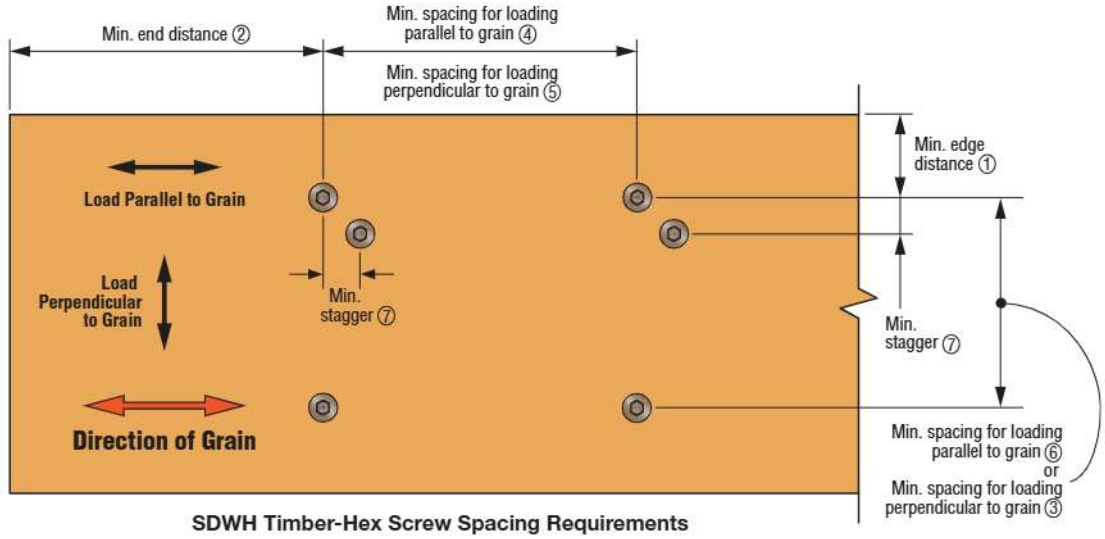
1. All applications are based on full penetration into the main member. Full penetration is the screw length minus the side member thickness.
2. Allowable loads are shown at the wood load duration factor of C_D = 1.0. Loads may be increased for load duration per the building code up to a C_D = 1.6. Tabulated values must be multiplied by all applicable adjustment factors per the NDS.
3. For minimum fastener spacing requirements for both side and main members, see the Spacing Requirements Figure and Table on the next page.
4. For in-service moisture content greater than 19%, use C_M = 0.7.
5. Loads are based on installation into the side grain of the wood with the screw axis perpendicular to the face of the member.

Strong-Drive®
SDWH TIMBER-HEX Screw (cont.)

SDWH Timber-Hex Screw — Allowable Withdrawal Loads — Douglas Fir–Larch, Southern Pine, Spruce-Pine-Fir and Hem-Fir Lumber

Length (in.)	Model No.	Length (in.)	Thread Length (in.)	Reference Withdrawal Design Value, W (lb./in.)		Max. Reference Withdrawal Design Value, W_{max} (lb.)	
				DFL and SP Main Member	HF and SPF Main Member	DFL and SP Main Member	HF and SPF Main Member
3	SDWH19300DB	3	1½	177	120	265	180
4	SDWH19400DB	4	2⅜	192	147	455	350
6	SDWH19600DB	6	2¾	197	164	545	445
8	SDWH19800DB	8	2¾	197	164	545	445
10	SDWH191000DB	10	2¾	197	164	545	445

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



SDWH Timber-Hex Screw Spacing Requirements

SDWH Timber-Hex Screw Spacing Requirements

Condition	Direction of Load to Grain	ID	Minimum Distance or Spacing (in.)
Edge Distance	Perpendicular	①	1 7/16
	Parallel	①	1 7/16
End Distance	Perpendicular	②	6
	Parallel	②	6
Spacing Between Fasteners in a Row	Perpendicular	③	4
	Parallel	④	8
Spacing Between Rows of Fasteners	Perpendicular	⑤	4
	Parallel	⑥	4
Spacing Between Staggered Rows	Perpendicular or Parallel	⑦	⅝

1. For axial loading only, use the following minimum dimensions: end distance = 2¾", edge distance = 1⅛", spacing parallel to grain = 2", spacing perpendicular to grain = 1⅛".

Strong-Drive®
SDWH TIMBER-HEX Screw with Gypsum Board Interlayer(s)

The Strong-Drive SDWH Timber-Hex screw may be installed with one or two layers of ⅝" gypsum board. This layer of gypsum is to be located between the side member and the main member for a standard connection. See table for the required screw lengths and allowable loads for these applications. Loads are derived from assembly testing based on ICC-ES AC233.

SDWH Timber-Hex Screw — Douglas Fir–Larch and Southern Pine Lumber Allowable Single Shear Loads with One Layer of ⅝" Gypsum Board

Length (in.)	Model No.	Thread Length (in.)	Reference DFL/SP Allowable Shear Loads (lb.)								
			Wood Side Member Thickness (in.)								
			1.5	2.0	2.5	3.0	3.5	4.0	4.5	6.0	8.0
4	SDWH19400DB	2.375	240	—	—	—	—	—	—	—	—
6	SDWH19600DB	2.77	240	170	170	170	170	—	—	—	—
8	SDWH19800DB	2.77	240	170	170	170	170	170	170	—	—
10	SDWH191000DB	2.77	240	170	170	170	170	170	170	170	—

See notes on following page.

SDWH Timber-Hex Screw — Douglas Fir–Larch and Southern Pine Lumber Allowable Single Shear Loads with Two Layers of ⅝" Gypsum Board

Length (in.)	Model No.	Thread Length (in.)	Reference DFL/SP Allowable Shear Loads (lb.)								
			Wood Side Member Thickness (in.)								
			1.5	2.0	2.5	3.0	3.5	4.0	4.5	6.0	8.0
4	SDWH19400DB	2.375	—	—	—	—	—	—	—	—	—
6	SDWH19600DB	2.77	240	170	170	170	—	—	—	—	—
8	SDWH19800DB	2.77	240	170	170	170	170	170	170	—	—
10	SDWH191000DB	2.77	240	170	170	170	170	170	170	170	—

See notes on following page.

SDWH Timber-Hex Screw — Spruce-Pine-Fir and Hem-Fir Lumber Allowable Single Shear Loads with One Layer of ⅝" Gypsum Board

Length (in.)	Model No.	Thread Length (in.)	Reference SPF/HF Allowable Shear Loads (lb.)								
			Wood Side Member Thickness (in.)								
			1.5	2.0	2.5	3.0	3.5	4.0	4.5	6.0	8.0
4	SDWH19400DB	2.375	215	—	—	—	—	—	—	—	—
6	SDWH19600DB	2.77	230	170	170	170	170	—		—	—
8	SDWH19800DB	2.77	230	170	170	170	170	170	140	—	—
10	SDWH191000DB	2.77	230	170	170	170	170	170	165	165	—

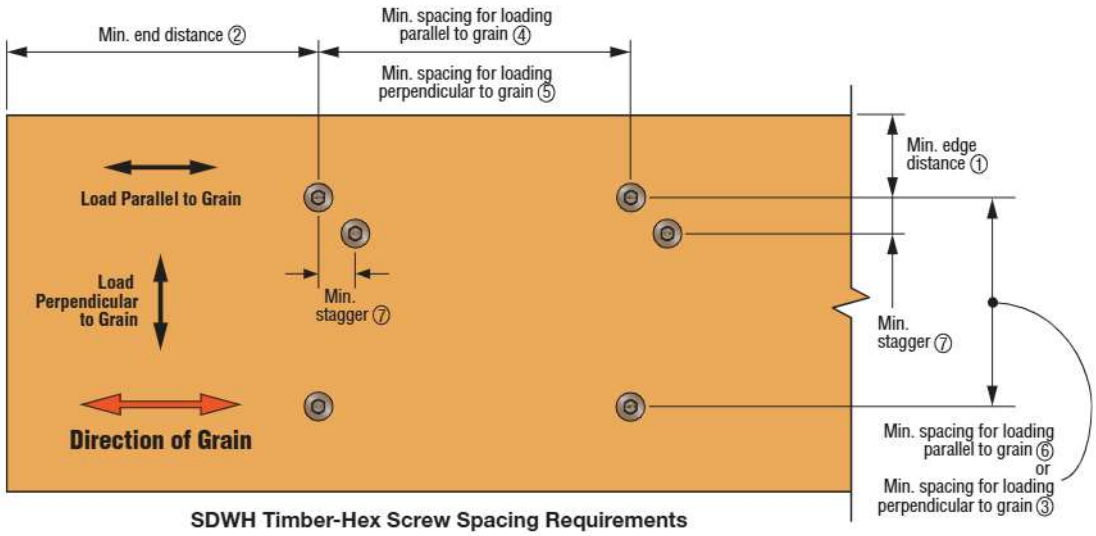
See notes on following page.

Strong-Drive®
SDWH TIMBER-HEX Screw with Gypsum Board Interlayer(s) (cont.)

SDWH Timber-Hex Screw — Spruce-Pine-Fir and Hem-Fir Lumber Allowable Single Shear Loads with Two Layers of ⅝" Gypsum Board

Length (in.)	Model No.	Thread Length (in.)	Reference SPF/HF Allowable Shear Loads (lb.)								
			Wood Side Member Thickness (in.)								
			1.5	2.0	2.5	3.0	3.5	4.0	4.5	6.0	8.0
4	SDWH19400DB	2.375	215	—	—	—	—	—	—	—	—
6	SDWH19600DB	2.77	230	170	170	170	—	—	—	—	—
8	SDWH19800DB	2.77	230	170	170	170	170	170	140	—	—
10	SDWH191000DB	2.77	230	170	170	170	170	170	165	165	—

1. All applications are based on full penetration which equals fastener length minus side member thickness.
2. Allowable loads are shown at the wood load duration factor of C_D = 1.0. Loads may be increased for load duration per the building code up to a C_D = 1.6. Tabulated values must be multiplied by all applicable adjustment factors per the NDS.
3. For minimum fastener spacing requirements for both side and main members, see the Spacing Requirements Figure and Table below.
4. For in-service moisture content greater than 19%, use C_M = 0.7.
5. Gypsum board must be attached as required per the building code.



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	Parallel	⑥	4
Spacing Between Staggered Rows	Perpendicular or Parallel	⑦	⅝

1. For axial loading only, use the following minimum dimensions: end distance = 2¾", edge distance = 1⅛", spacing parallel to grain = 2", spacing perpendicular to grain = 1⅛".