

Structural and General Fastening

Strong-Drive® SWD DOUBLE-THREADED™ Screw

Structural Wood and Engineered Wood Connections

Code listed for structural applications, the SWD™ has a low-profile head and exterior-grade coating for corrosion resistance. Like other solutions from Simpson Strong-Tie, the SWD is widely available and backed by our expert service and support.

Designed for strength and speed, the Strong-Drive SWD Double-Threaded screw ideal for securing two wood members together on exterior, structural jobs. Fasten a variety of connections, such as: beam to post, beam to joist, knee bracing, guardrail to post, roof to wall, purlin to truss and pole barn configurations with ease.

Codes/Standards: IAPMO UES ER-262

For more information: see p. 65, C-F-2025 *Fastening Systems* catalog

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.



Allowable Shear Loads

Model No.	Thread Length (in.)	DFL/SP Allowable Shear Loads (lb.)					SPF/HF Allowable Shear Loads (lb.)				
		Wood Side Member Thickness (in.)					Wood Side Member Thickness (in.)				
		¾	1½	3½	5½	7½	¾	1½	3½	5½	7½
SWD18212DBB	1½	134	156	—	—	—	109	103	—	—	—
SWD18312DBB	1¾	134	220	—	—	—	109	159	—	—	—
SWD18614DBB	2½	134	220	325	—	—	109	159	225	—	—
SWD22812DBB	3¾	163	220	325	450	—	112	155	225	290	—
SWD221034DBB	4¾	163	220	325	430	300	112	155	225	330	275

- Screws shall be installed straight into the side grain of the wood main member with the screw axis at a 90° angle to the wood fibers.
- Tabulated lateral design values 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 shall be multiplied by all applicable adjustment factors from the NDS as referenced in the IBC or IRC. For in-service moisture content greater than 19%, use $C_M = 0.70$ for DFL/SP and $C_M = 0.58$ for SPF/HF.
- Minimum main member thickness shall be equal to the screw length minus the side member thickness.

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Allowable Withdrawal Loads – HF/SPF/DFL/SP

Model No.	Fastener Length (in.)	Thread Length (in.)	Reference Withdrawal Design Value W (lb./in.)		Max. Reference Withdrawal Design Value W _{max} (lb.)	
			DFL/SP	SPF/HF	DFL/SP	SPF/HF
SWD18212DBB	2.50	1½	148	117	165	130
SWD18312DBB	3.50	1¾	148	117	240	190
SWD18614DBB	6.25	2½	190	178	475	445
SWD22812DBB	8.50	3¾	194	194	695	695
SWD221034DBB	10.75	4¼	194	194	695	695

1. Tabulated reference withdrawal design values, W, is in pounds per inch of the thread penetration into the main member.
2. Tabulated reference withdrawal design values is in pounds where the entire thread length shall penetrate into the main member.
3. Tabulated max. reference withdrawal design values, W_{max} 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 shall be multiplied by all applicable adjustment factors from the NDS as referenced in the IBC or IRC. For in-service moisture content greater than 19 percent use C_M = 0.70.
4. Screws shall be installed through the side member straight into the side grain of the wood main member with the screw axis at a 90° angle to the wood fibers.
5. End-grain factor of 0.65 shall be applied when installed into the end grain of the member.

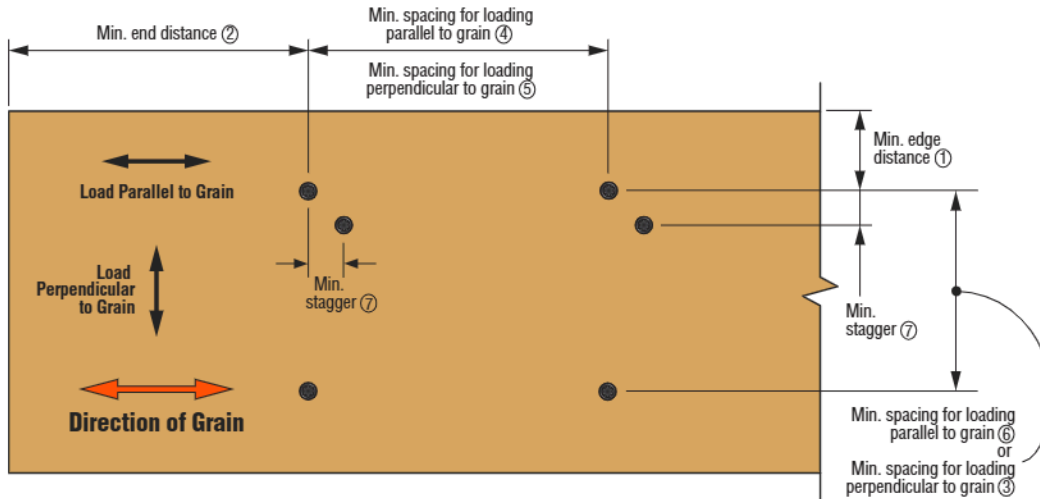
Allowable Pull-Through Loads – HF/SPF/DFL/SP

Model No.	Fastener Length (in.)	Thread Length (in.)	Max. Reference Pull-Through Design Value, (lb.)					
			2x Side		4x Side		6x Side	
			DFL/SP	SPF/HF	DFL/SP	SPF/HF	DFL/SP	SPF/HF
SWD18212DBB	2.50	1½	175	175	—	—	—	—
SWD18312DBB	3.50	1¾	175	175	—	—	—	—
SWD18614DBB	6.25	2½	175	175	540	—	—	—
SWD22812DBB	8.50	3¾	260	260	590	—	—	—
SWD221034DBB	10.75	4¼	260	260	590	—	695	695

1. Tabulated maximum reference design values is in pounds into the side member.
2. Tabulated maximum reference pull-through design values 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 shall be multiplied by all applicable adjustment factors from the NDS as referenced in the IBC or IRC. For in-service moisture content greater than 19 percent use C_M = 0.70.
3. Screws shall be installed through the side member straight into the side grain of the wood main member with the screw axis at a 90° angle to the wood fibers.

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SWD Screw Spacing Requirements

SWD DOUBLED-THREADED Fastener Spacing Requirements

Condition	Direction of Load to Grain	ID	Minimum Distance or Spacing (in.)	
			SWD18	SWD22
Edge Distance	Perpendicular	①	1	1¼
	Parallel	①	1¼	1¼
End Distance	Perpendicular	②	4	5
	Parallel	②	4	5
Spacing Between Fasteners in a Row	Perpendicular	③	4	5
	Parallel	④	4	5
Spacing Between Rows of Fasteners	Perpendicular	⑤	1½	1¾
	Parallel	⑥	1½	1¾
Spacing Between Staggered Rows	Perpendicular or Parallel	⑦	¾	¾

1. For axial loading only, use the following minimum dimensions; for SWD18: end distance = 2.5", edge distance = 1.0", spacing parallel to grain = 1¼", spacing perpendicular to grain = 1.0"; SWD22: end distance = 3.0", edge distance = 1¼", spacing parallel to grain = 2", spacing perpendicular to grain = 1¼".