

Structural and General Fastening

Strong-Drive® DWP WOOD SS Screw

High- to Severe-Exposure Wood Decking Applications, Indoor/Outdoor Projects

The #12 and #14 Strong-Drive DWP Wood SS flat-head screws are structural fasteners that have been tested in accordance with ICC-ES Acceptance Criteria AC233 and are load rated for shear, pull-through and withdrawal resistance. They are a great solution for exterior structural connections, such as on docks, boardwalks and decks near water or where they will be exposed to high or severe corrosion.

For more information, see p. 71, C-F-2023 Fastening Systems catalog



DWP WOOD SS Screw — Allowable Shear Loads

Size x Length (in.)	Model No.	Thread Length (in.)	Reference DFL/SP Allowable Shear Loads (lb.)							Reference SPF/HF Allowable Shear Loads (lb.)						
			Side Member Thickness (in.)							Side Member Thickness (in.)						
			1.5	2	2.5	3	3.5	4	4.5	1.5	2	2.5	3	3.5	4	4.5
#12 x 2½	T12250WP, S12250WP	2.0	140	—	—	—	—	—	—	105	—	—	—	—	—	—
#12 x 3	T12300WP, S12300WP	2.2	185	—	—	—	—	—	—	135	—	—	—	—	—	—
#12 x 3½	T12350WP, S12350WP	2.5	205	190	—	—	—	—	—	160	160	—	—	—	—	—
#12 x 4	T12400WP, S12400WP	2.8	205	205	205	—	—	—	—	160	160	160	—	—	—	—
#12 x 4½	T12450WP, S12450WP	3.2	205	205	205	205	—	—	—	160	160	160	160	—	—	—
#12 x 5	T12500WP, S12500WP	3.5	205	205	205	205	205	—	—	160	160	160	160	160	—	—
#12 x 6	T12600WP	4.0	205	205	205	205	205	180	180	160	160	160	160	160	150	150
#14 x 3	T14300WP	2.1	220	—	—	—	—	—	—	170	—	—	—	—	—	—
#14 x 3½	T14350WP, S14350WP	2.3	230	220	—	—	—	—	—	180	180	—	—	—	—	—
#14 x 4	T14400WP, S14400WP	2.8	230	220	220	—	—	—	—	180	180	175	—	—	—	—
#14 x 5	T14500WP	3.5	230	220	220	220	220	—	—	180	180	175	175	165	—	—
#14 x 6	T14600WP	4.2	230	220	220	220	210	210	210	180	180	175	175	165	165	165

- All applications are based on full penetration into the main member. Full penetration is the screw length minus the side member thickness.
- 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.
- For in-service moisture content greater than 19%, use $C_M = 0.7$.
- The tabulated loads are applicable to Type 305 and Type 316 stainless-steel flat-head screw model numbers.
- Loads are based on installation into the side grain of the wood with the screw axis perpendicular to the face of the member.
- Minimum fastener spacing requirements to achieve loads: 6" end distance, 1½" edge distance.
- The above loads are based on tests of connections with main and side members of the same species.

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Strong-Drive® DWP WOOD SS Screw (cont.)

DWP WOOD SS Screw — Allowable Withdrawal and Pull-Through Loads

Size x Length (in.)	Model No.	Thread Length (in.)	Head Diameter (in.)	Allowable Screw Tension Loads (lb.)	Reference Withdrawal Loads, W (lb./in.)		Reference Pull-Through Loads for 1½" Side Member, W _H (lb.)	
					DFL/SP	SPF/HF	DFL/SP	SPF/HF
#12 x 2½	T12250WP, S12250WP	2.0	0.44	605	130	100	180	150
#12 x 3	T12300WP, S12300WP	2.2						
#12 x 3½	T12350WP, S12350WP	2.5						
#12 x 4	T12400WP, S12400WP	2.8						
#12 x 4½	T12450WP, S12450WP	3.2						
#12 x 5	T12500WP, S12500WP	3.5						
#12 x 6	T12600WP	4.0						
#14 x 3	T14300WP	2.1	0.46	775	145	100	200	155
#14 x 3½	T14350WP, S14350WP	2.3						
#14 x 4	T14400WP, S14400WP	2.8						
#14 x 5	T14500WP	3.5						
#14 x 6	T14600WP	4.2						

1. The tabulated allowable screw tension value is the tensile strength of the steel screw and may not be multiplied by any adjustment factors.
2. The tabulated reference withdrawal design value, W, is in pounds per inch of the thread penetration into the side grain of the main member.
3. The tabulated reference pull-through design value, P, is the allowable load for the fastener head pull-through for a minimum 1½"-thick side member.
4. Tabulated reference withdrawal and pull-through design values, W and W_H, are shown at a load duration factor, C_D = 1.0 and a wet service factor, C_M = 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.
5. Embedded thread length is that portion held in the main member including the screw point.
6. For in-service moisture content greater than 19%, use C_M = 0.7.
7. For #12 screws subject to axial loading only, use the following minimum dimensions: end distance = 2¾", edge distance = 1", spacing parallel to grain = 1½", spacing perpendicular to grain = 1".
8. For #14 screws subject to axial loading only, use the following minimum dimensions: end distance = 2¾", edge distance = 1½", spacing parallel to grain = 2", spacing perpendicular to grain = 1½".