Strong-Drive®
WSV SUBFLOOR Screw
For Subfloor and Sheathing Applications

Drive more,
squeak less

Drive Faster with
Up to 25% Less Torque

(800) 999-5099
strongtie.com
Now in 1¾", 2", 2½" and 3" lengths

Simpson Strong-Tie has re-engineered its popular subfloor screws to reduce driving force and increase installation speed. The new Strong-Drive® WSV Subfloor screw has been developed for fastening subfloor sheathing to wood and I-joist framing using the Quik Drive® auto-feed screw driving system.

- Redesigned point and thread pattern provide easy starts and up to 25% less torque¹ — which leads to faster driving.²
- Less installation torque also means less wear on tools.
- Deep 6-lobe recess and ribbed underhead provide secure bit retention and clean countersinking.
- The holding power of WSV screws reduces the gaps between the joist and subfloor that cause floor squeaks.
- WSV screws can be easily backed out, allowing for future access to floor cavities.

The ideal replacement for 8d and 10d nails

The Strong-Drive WSV Subfloor screws are the only fasteners to be dual-evaluated per ICC-ES AC233 and ICC-ES AC120. Tests of single fasteners and full-scale diaphragms indicate that the WSV Subfloor screws have lateral, shear and withdrawal characteristics that exceed those of 10d common nails. Wood-frame diaphragms tested with WSV Subfloor screws meet or exceed the strength and stiffness of wood-frame diaphragms built with 10d common nails.

Features

1. Test data shows the Strong-Drive WSV Subfloor screw requires up to 25% less driving torque in single-material LVL.
2. The redesigned WSV thread pattern will result in 20% faster screw installations.

AdvanTech® is a registered trademark of Huber Engineered Woods.
“See” the Difference on the Jobsite

The WSV screw gives visual confirmation of a secure joist connection by countersinking, while “shot-in” power-driven fasteners or hand-driven nails look the same whether or not they hit the joist. Missed fasteners could result in floor flexing that can cause squeaking in other parts of the structure and reduced diaphragm load capacity.

“Hear” the Difference over Time

Squeaking of newly installed floors can result in callbacks (expensive travel, labor, materials) and possibly a damaged reputation. Fastening subflooring with WSV screws, rather than power-driven fasteners or hand-driven nails, provides the power necessary to pull together joists and plywood (or WSP sheathing), eliminating gaps, holding the materials firm, and thereby reducing squeaks.
### WSV — Allowable Shear Loads for DFL/SP and SPF/HF

<table>
<thead>
<tr>
<th>Size (in.)</th>
<th>Model No.</th>
<th>Diameter (in.)</th>
<th>Thread Length (in.)</th>
<th>Reference Shear (lb.) for 1½&quot; Side Member Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DFL/SP</td>
</tr>
<tr>
<td>#9 x 2½</td>
<td>WSV212S</td>
<td>0.13</td>
<td>2.0</td>
<td>93</td>
</tr>
<tr>
<td>#9 x 3</td>
<td>WSV3S</td>
<td>0.13</td>
<td>2.2</td>
<td>102</td>
</tr>
</tbody>
</table>

1. Table values are based on attachment of a 1½" side member to a 1½" main member of the same species and grade.
2. Table values are based on the 2018 NDS, \( C_0 = 1.0 \). Values shall be multiplied by all applicable factors, such as duration of load, etc., except where noted.
3. Lumber specific gravities and equivalent specific gravities for engineered wood products: DFL/SP=0.50, SPF/HF=0.42.

### WSV — Allowable Pull-Through and Withdrawal for Wood Structural Panels and Lumber

<table>
<thead>
<tr>
<th>Size (in.)</th>
<th>Model No.</th>
<th>Thread Length (in.)</th>
<th>Reference Allowable Pull-Through (lb.)</th>
<th>Minimum Nominal Panel Thickness (in.)</th>
<th>Minimum Thickness (in.)</th>
<th>Reference Allowable Withdrawal Load</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OSB/Plywood Rated Sheathing, Exposure 1</td>
<td>DFL/SP W</td>
<td>SPF/SP W</td>
</tr>
<tr>
<td>#9 x 1½</td>
<td>WSV134S</td>
<td>1.20</td>
<td>66</td>
<td>7/16, 15/32, 19/32, 23/32</td>
<td>1 1/2, 1 1/2</td>
<td>123, 147, 98, 117</td>
</tr>
<tr>
<td>#9 x 2</td>
<td>WSV2S</td>
<td>1.45</td>
<td>66</td>
<td></td>
<td></td>
<td>128, 155, 99, 144</td>
</tr>
<tr>
<td>#9 x 2½</td>
<td>WSV212S</td>
<td>2.00</td>
<td>96</td>
<td></td>
<td></td>
<td>128, 256, 117, 233</td>
</tr>
<tr>
<td>#9 x 3</td>
<td>WSV3S</td>
<td>2.20</td>
<td>109</td>
<td></td>
<td></td>
<td>141, 311, 121, 266</td>
</tr>
</tbody>
</table>

1. Use the lower of the pull-through or withdrawal values to determine axial design value.
2. Screws must be installed normal to the side grain of the wood main member with the screw axis at a 90° angle to the wood fibers.
3. Lumber specific gravities and equivalent specific gravities for engineered wood products: DFL/SP=0.50, SPF/HF=0.42.
4. Withdrawal values, \( W \), are in pounds per inch of the thread penetration in to the main member. \( W_{\text{max}} \) is the maximum reference withdrawal value.
5. Allowable loads are shown at the wood load duration factor of \( C_0 = 1.0 \). Loads may be increased for load duration up to \( C_0 = 1.6 \).
1¾"–3" WSV Fasteners Meet Code Requirements
As listed in ICC-ES ESR-1472, WSV screws meet requirements for the 2015 and 2018 International Building Code (IBC) and International Residential Code (IRC). The evaluation report recognized uses of WSV screws include the following applications:

- Substitute for 8d and 10d common nails in horizontal diaphragms per AWC SDPWS 2015, Tables 4.2A, 4.2C, and 4.2D; IBC 2018 and 2015, Table 2304.10.1, and IRC 2018 and 2015, Table R602.3(1).
- Code prescribed connections per IBC 2018 and 2015, Table 2304.10.1 and IRC 2015 and 2018, Table R602.3(1).
- Horizontal and diagonally-sheathed lumber diaphragms per AWC SDPWS 2015, Table 4.2D.
- Prescriptive sheathing applications in IRC 2018 and 2015, Table R602.3(1), and in structures regulated by the IRC where the engineered design is submitted in accordance with IRC R301.1.3.

Guidelines for Fastening Diaphragms Without Glue
The design of wood floor systems constructed with wood structural panel (WSP) sheathing fastened to framing considers the diaphragm performance of the system as presented in the IBC and IRC (as affected by framing, sheathing thickness, sheathing layout and fastening), and may also consider the composite action of the sheathing with the framing system (composite action is the combined stiffness of the joist with the sheathing). The framing systems can be grouped into two classes: (1) sawn lumber and parallel-chord wood trusses, and (2) wood I-joists. WSV screws may be used as alternate fasteners to common nails in each floor class subject to certain constraints.

For Diaphragms with a Framing System that Is Sawn Lumber or Parallel-Chord Wood Trusses
Simpson Strong-Tie WSV screws may be used as one-for-one substitutes for 10d common and smaller nails that are specified for horizontal diaphragm design in accordance with AWC SDPWS 2015 and IBC and IRC 2015 and 2018.*

For Diaphragms with Wood I-Joist Framing Systems
I-joist manufacturers use the extra stiffness resulting from composite action when developing allowable floor joist span tables. Therefore, I-joist floor span tables generally assume glued-nailed construction.

1. For floor systems designed or intended to be glued-nailed:
   - WSV screws may be substituted one-for-one for common nails, without glue, provided the maximum allowable I-joist span is reduced by 12" compared to the I-joist manufacturer's glued-nailed spans. The screws shall have at least 1¼" penetration into the I-joist flange (or full penetration for flanges less than 1¼" thick).
   - Where glue is used with the screws, no reduction in span is required.
   - Check with the I-joist manufacturer for any additional diaphragm requirements.

2. For floor systems designed or intended to be nailed-only:
   - WSV screws may be substituted one-for-one for common nails, with no reduction in span, provided at least 1¼" penetration into the I-joist flange is achieved (or full penetration for flanges less than 1¼" thick).
   - Check with the I-joist manufacturer for any additional diaphragm requirements.

* Simpson Strong-Tie has not evaluated diaphragm performance in relation to the blocking/adhesive/vibration/span criteria of the National Building Code of Canada.
**Strong-Drive® WSV SUBFLOOR Screw**

Drive More, Squeak Less

**Strong-Drive® WSV SUBFLOOR Screw (Collated for Quik Drive® Systems)**

<table>
<thead>
<tr>
<th>Size</th>
<th>Length (in.)</th>
<th>Head Diameter (in.)</th>
<th>Point Type</th>
<th>Drive Type</th>
<th>Contractor Pack</th>
</tr>
</thead>
<tbody>
<tr>
<td>#9</td>
<td>1¼</td>
<td>0.333</td>
<td>Sharp</td>
<td>6-Lobe</td>
<td>2,000 WSV134S</td>
</tr>
<tr>
<td>#9</td>
<td>2</td>
<td>0.333</td>
<td>Sharp</td>
<td>6-Lobe</td>
<td>2,000 WSV2S</td>
</tr>
<tr>
<td>#9</td>
<td>2½</td>
<td>0.333</td>
<td>Sharp</td>
<td>6-Lobe</td>
<td>1,500 WSV212S</td>
</tr>
<tr>
<td>#9</td>
<td>3</td>
<td>0.333</td>
<td>Sharp</td>
<td>6-Lobe</td>
<td>1,000 WSV3S</td>
</tr>
</tbody>
</table>

Each kit includes BITTX25 driver bit.

**Save Time, Save Money, Save Your Back!**
**Faster Installation Speeds, Consistent Performance and Reduced Worker Fatigue**

The Quik Drive PRO250G2 Subfloor System is the ideal choice for driving collated Strong-Drive WSV Subfloor screws. Stand-up driving allows for improved labor-savings, less user fatigue and better consistency.

**The PRO250G2 Subfloor System Includes:**
- PRO250G2 Subfloor Attachment
- Extension for stand-up driving
- Quiver for keeping collated screws at your fingertips
- Rugged tool case
- Choice of DeWalt® or Makita® screwdriver motors
- Limited lifetime warranty (see strongtie.com/warranty for more information)

<table>
<thead>
<tr>
<th>System Motor Options</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DeWalt 2,500 rpm screwdriver motor</td>
<td>PRO250G2D25K</td>
</tr>
<tr>
<td>Makita 2,500 rpm screwdriver motor</td>
<td>PRO250G2M25K</td>
</tr>
<tr>
<td>Makita 3,500 rpm screwdriver motor</td>
<td>PRO250G2M35K</td>
</tr>
</tbody>
</table>

This flier is effective until December 31, 2021, and reflects information available as of September 1, 2019. This information is updated periodically and should not be relied upon after December 31, 2021. Contact Simpson Strong-Tie for current information and limited warranty or see strongtie.com.