January 1, 2018

Re: Guard Post Height of 42-inch Connection Details with Strong-Drive® SDWS TIMBER Screws

Simpson Strong-Tie previously tested four (4) deck guard post details built with Strong-Drive® Timber structural wood screws (SDWS22DB) in compliance with ICC-ES AC273 (Acceptance Criteria for Handrails and Guards, Approved June 2017). This test criteria requires a 500-pound concentrated ultimate load in an outward direction and a deflection limit at service level (a second load case of a 125 plf uniform load, required in AC273 for guard and handrail system, was not tested as excepted for one- and two-family dwellings in IBC-2015 Section 1607.8.1). The details, for a maximum 36-inch guard post height, are presented in T-F-SDWSGRD16-R.

Based upon additional testing and engineering analysis, the scope of details is now expanded to include 42-inch guard posts.

Installation details apply to the following application:

- Detail A: Interior Post on Band Joist
- Detail B: Interior Post on Corner
- Detail C: Interior Post on Rim Joist with Adjacent Joist
- Detail D: Interior Post on Rim Joist between Joists

Scope of Details:

- Maximum 42" guard post height (height above deck surface)
- Nominal 4x4 guard post, nominal 2x8 minimum rim joist, deck joist and band joist, and nominal 2x8 and 4x4 minimum blockings
- Material:
  - DFL No.2 or better for guard post, joists and blockings or,
  - SP Construction grade or better for guard post and 4x blockings, and SP No.2 or better for Joists and 2x blockings
- Minimum lumber grades are based on adjustments for wet service and 10-minute load duration.

The SDWS22DB is the subject of IAPMO-UES ER-192, and is shown in Figure 1. Table 1 lists the SDWS22DB screw information and total quantity of fasteners required for each guard post detail. The guard post connections and details are shown in Figures 2 and 3, respectively.

![Figure 1. Strong-Drive® SDWS TIMBER Screw (SDWS22DB)](image-url)
Table 1: SDWS22DB Screw Information for Guard Post Details

<table>
<thead>
<tr>
<th>Detail</th>
<th>Model No.</th>
<th>Quantity Required</th>
<th>Length (in.)</th>
<th>Shank Diameter (in.)</th>
<th>Major Diameter (in.)</th>
<th>Minor Diameter (in.)</th>
<th>Thread Length (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>SDWS22500DB</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SDWS22800DB</td>
<td>10</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>SDWS22800DB</td>
<td>16</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>SDWS22500DB</td>
<td>8</td>
<td>5</td>
<td></td>
<td>0.305</td>
<td>0.198</td>
<td>2.75</td>
</tr>
<tr>
<td></td>
<td>SDWS22800DB</td>
<td>6</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>SDWS22500DB</td>
<td>8</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SDWS22800DB</td>
<td>6</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The information in this letter is valid until 12/31/2019 when it will be re-evaluated by Simpson Strong-Tie. Please visit strongtie.com for additional pertinent information. If you have questions or need further assistance regarding this matter, please contact the Simpson Strong-Tie Engineering Department at (800) 999-5099.

Sincerely,

SIMPSON STRONG-TIE COMPANY INC

Figure 2. Plan View of Guard Post Connections
Figure 3. SDWS22DB Guard Post Details (Cont’
Figure 3. SDWS22DB Guard Post Details