Attachment of Residential Deck Ledgers to the Side of Metal Plate Connected Wood Trusses—40 psf Deck Live Load

Structural Building Components Association (SBCA)

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Table 1: Deck Ledger Connection to Side of MPCW Floor Ladder Frame with 4x4 Vertical Webs
Spaced at 16” o.c., Max,

<table>
<thead>
<tr>
<th>Joist Span</th>
<th>&lt;6’ to 8’</th>
<th>8’-1” to 10’</th>
<th>10’-1” to 12’</th>
<th>12’-1” to 14’</th>
<th>14’-1” to 16’</th>
<th>16’-1” to 18’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection Details</td>
<td>On-center Spacing of Fasteners (in.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>½” x 6” lag screw with 15/32”, max., wood structural sheathing</td>
<td>16</td>
<td>16</td>
<td>85</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>½” diameter bolt with 15/32”, max., wood structural sheathing</td>
<td>32</td>
<td>32</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

1. Ledgers shall be flashed in accordance with applicable building code requirements to prevent water from contacting the exposed wood structural sheathing and floor truss.
2. Snow load shall not be assumed to act concurrently with live load.
3. Ledgers must be 2x10 or 2x12 PPT or code-approved decay-resistant lumber with specific gravity, G > 0.43. Truss 4x4 vertical web and key-blocks must have a G > 0.42.
4. Stagger lag screws and bolts as shown in Detail 1.1.
5. Requires key-blocks at 16” o.c., maximum. Attach ledger to each 4x4 vertical web with one (1) fastener and to each key-block with one (1) fastener. Refer to Detail 1.3 for key-block construction and installation information.

(Deck Live Load = 40 psf, Deck Dead Load = 10 psf, Snow Load ≤ 40 psf)
Attachment of Residential Deck Ledger to Metal Plate Connected Wood Truss Floor Systems – 40 psf Side Connection

Detail 1.1

**NOTE**: If vertical webs in ladder frame are only 14-ply 2x4s instead of 4x4 lumber, do not attach ledger to 2x4 vertical web members. Install key-blocks (see Key-block detail below) at the required spacing indicated in Tables 3 & 4.

Detail 1.2

**KEY-BLOCK DETAIL FOR LEDGER ATTACHED TO SIDE OF FLOOR LADDER FRAME**

Detail 1.3

**PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGER**

**Detail 1.4**
DrJ Design Detail

1. **General Notes:**
   1.1. Ledger must be identified by the grade mark of, or certificate of inspection issued by, an approved lumber grading or inspection bureau or agency.
   
   1.2. PPT material must be pressure treated with an approved process in accordance with American Wood Protection Association standards.

2. **Fasteners:**
   2.1. Lag screws and bolts must be installed according to 2012 NDS requirements.
     
     2.1.1. ½" x 6" lag screws
     
     2.1.1.1. Lead holes for the threaded portion must be 9/16".
     
     2.1.1.2. Clearance holes must be ½" and the same depth of penetration as the length of unthreaded shank.
     
     2.1.2. ½"-diameter bolts
     
     2.1.2.1. Holes must be a minimum of 17/32" to a maximum of 9/16".

   2.2. All fasteners used with PPT wood must be hot-dip zinc-coated (i.e., Galvanized steel, Stainless steel, Silicon bronze, Copper).

   2.3. Fasteners must meet ASTM A153, Class D, for fasteners 3/8" diameter and smaller or Class C for fasteners with diameters over 3/8".

   2.4. Lag screws, bolts, nuts and washers are permitted to be mechanically deposited zinc-coated steel with coating weights.

3. **Hardware:**
   3.1. All hardware (e.g., joist hangers, hold-down device) must be galvanized or stainless steel.

   3.2. Hardware hot-dipped prior to fabrication must meet ASTM A653, G-185 coating.

   3.3. Hardware hot-dipped post fabrication must meet ASTM A123.

   3.4. Hardware exposed to saltwater or located within 300' of a saltwater shoreline must be stainless steel grade 304 or 316.

   3.5. Other coated or non-ferrous hardware must be approved by the authority having jurisdiction.