Attachment of Residential Deck Ledgers to the Side of Metal Plate Connected Wood Floor Truss Systems – 60 psf Deck Live Load

Structural Building Components Association (SBCA)

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<table>
<thead>
<tr>
<th>Joist Span</th>
<th>Connection Details</th>
<th>8' to 10'</th>
<th>10' to 12'</th>
<th>12' to 14'</th>
<th>14' to 16'</th>
<th>16' to 18'</th>
</tr>
</thead>
<tbody>
<tr>
<td>½&quot; x 6&quot; lag screw with 1532&quot;, max., wood structural sheathing</td>
<td>On-center Spacing of Fasteners (in.)</td>
<td>16</td>
<td>85</td>
<td>85</td>
<td>85</td>
<td>85</td>
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<tr>
<td>½&quot; diameter bolt with 1532&quot;, max., wood structural sheathing</td>
<td></td>
<td>32</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>85</td>
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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.

Table 1: Deck Ledger Connection to Side of MPCW Floor Ladder Frame with 4x4 Vertical Webs Spaced at 16" o.c., Max.1,2,3

(Deck Live Load = 60 psf, Deck Dead Load = 10 psf, Snow Load < 60 psf)
Attachment of Residential Deck Ledger to Metal Plate Connected Wood Truss Floor Systems – 60 psf Side Connection

**Detail 1.1**

**WALL SECTION**

- Staggered 2-1/2" x 1-1/2" lag screws with washers 1-1/2" x 60D bolt with nut and washers (see installation section of report for minimum corrosion resistance requirements). Install one fastener through centerline of each 6x6 vertical truss and anchor keyblock for the spacing requirements provided below and in tables 3 & 4. Take care to fasteners do not damage ledger with connector plates at top and bottom chord joints.

- Max 1/2" thick wood structural panel sheathing fastened per building code.

- Exfiltration flashing and regular metal sill plate are not shown for clarity.

- 1-1/4" long 2-3/4" SPF MHK keyblock at each keyblock location. Center keyblock length 4-1/2" at each keyblock with 3-16d (1 1/4") nails, see keyblock detail.

- Metal plate, connected wood floor truss @ 24" o.c. center, maximum

- Note: If vertical webs in ladder frame are only 1-ply 2x6, instead of 4x4 lumber, do not attach ledger to 2x4 vertical web members. Install keyblocks (see keyblock detail below) at the required spacing indicated in tables 3 & 4.

**Placement of Lag Screws and Bolts in Ledger**

Refer to tables 3 & 4.

**Detail 1.2**

**Detail 1.3**

**Key-Block Detail for Ledger Attached to Side of Floor Ladder Frame**

**Detail 1.4**

**Keeper-Block Detail for Ledger Attached to Side of Floor Ladder Frame**
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 5/16”.
   
   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 (ie, 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 devise, etc.) 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.