Please verify availability with the LP SolidStart Engineered Wood Products distributor in your area prior to specifying these products.
LP® SolidStart® Rim Board

An integral part of LP’s framing package, OSB, LSL and cross-ply LVL Rim Board from LP Engineered Wood Products provides strong, cost-effective solutions to your framing needs. Designed to match our LP SolidStart I-Joists, they are available in several depths and thicknesses. LP’s SolidStart Rim Board offers straightforward and quick installation as well as high-strength reliability.

The Role of Rim Board in a Building

LP SolidStart Rim Board fills the space between the sill plate and the bottom wall plate, or between the top plate and bottom plate in multi-story construction. In addition to filling the void, rim board is an integral structural component that transfers both lateral and vertical forces. To function properly, rim board must match the depth of framing members. Traditional solid sawn lumber typically does not match engineered wood I-Joists, which is why LP SolidStart Rim Board is a perfect choice. Even for seemingly similar depths, lumber can shrink leaving it shorter than the I-Joist and useless.

What Makes LP SolidStart Rim Board Different?

LP SolidStart Rim Board is more convenient to use than field ripped Rim because it is precision cut to match the depths of LP SolidStart I-Joists and is manufactured in standard lengths of 12’ and 16.’ Here are just a few of the benefits:

Trouble-Free Workability

- Easy to saw, drill, plane, file or sand with normal carpentry tools
- I-Joist compatible depths save time on the job-site
- Flat surfaces for easy installation of siding
- Precut depths means less inaccuracies and time involved in ripping in the field

Just The Right Size

- Longer lengths may be available for LP SolidStart LSL and LVL
- I-Joist compatible depths for a perfect match

Fire Blocking

- 1” or thicker LP SolidStart Rim Board can be used as an alternate to 23/32” wood structural panel fire blocking
- 1-1/4” or thicker LP Rim Board can be used as an alternate to nominally 2” lumber fire blocking

Materials & Fabrication

LP offers three types of rim board: LP SolidStart OSB Rim Board, fabricated from oriented strand board; LP SolidStart LSL Rim Board, from Laminated Strand Lumber (LSL); and LP SolidStart LVL Rim Board, fabricated from cross-ply Laminated Veneer Lumber (LVL). All three types are precision cut to match the depths of LP SolidStart I-Joists.

Specified Rim Board Weights (PLF)

<table>
<thead>
<tr>
<th>Type</th>
<th>Thickness</th>
<th>Rim Board Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9-1/2”</td>
<td>11-7/8”</td>
</tr>
<tr>
<td>LP OSB</td>
<td>1-1/8”</td>
<td>2.9</td>
</tr>
<tr>
<td>LP LSL</td>
<td>1-1/4”</td>
<td>3.9</td>
</tr>
<tr>
<td>LP LVL (cross ply)</td>
<td>1-1/4”</td>
<td>3.5</td>
</tr>
</tbody>
</table>

The type of rim board you choose will depend on your specific project. OSB rim board comes in smaller thicknesses and is perfect for lower lateral load applications. Use LSL and cross-ply LVL rim board where loads are higher such as in commercial and multi-family structures.

Cross-Ply LVL Rim Board

LP manufactures a cross-ply LVL specifically for use as a rim board. This product differs from other LP LVL in that two veneers are cross-oriented (turned 90°) to provide enhanced vertical load capacity and cupping resistance, and is ripped to the proper depth tolerance. LP SolidStart LVL Rim Board is available in a standard thickness of 1-1/4” and may be custom ordered in thicknesses of 1-1/2” and 1-3/4.”

LP’s cross-ply LVL Rim Board is also the smart choice for mid-rise, wood-framed structures. The cross-oriented veneers resist swelling and shrinking through the depth — an important consideration for multi-story construction. The 1-1/2” and 1-3/4” thicknesses provide a wide nailing surface while the availability of long lengths reduces, and possibly eliminates, joints for continuous lateral load transfer.

Lifetime Limited Warranty

While standard LP LSL and (non-cross-ply) LP LVL products appear to be suited for use as a rim board, there are several reasons why that may not be the best choice, including different tolerances on the finished depth and labeling requirements:

- Rim Board products are ripped slightly taller than an I-Joist to ensure that all vertical load is transferred through the rim board rather than through the I-Joist.
- The thickness of rim board is stamped on the product for easy visual confirmation by a building inspector.

Also, non-cross-ply LVL in general has a relatively low vertical load capacity and, particularly in deeper depths, is more susceptible to cupping compared to LP LSL and cross-ply LP LVL Rim Board.

Lifetime Limited Warranty

LP SolidStart Engineered Wood Products are backed by a lifetime limited warranty. Visit LPCorp.com or call 1.888.820.0325 for a copy of the warranty.
FACTORED RIM BOARD RESISTANCE

| Material     | Grade | Thickness | Vertical Load Resistance1
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Uniform, dB (psi)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>d ≤ 16</td>
</tr>
<tr>
<td>LP OSB</td>
<td>APA C1/Rim Board</td>
<td>1-1/8&quot;</td>
<td>7339</td>
</tr>
<tr>
<td>LP LSL</td>
<td>1.35E</td>
<td>± 1-1/4&quot;</td>
<td>10004</td>
</tr>
<tr>
<td>LP LVL (cross-ply)</td>
<td>1.3E</td>
<td>± 1-1/4&quot;</td>
<td>10970</td>
</tr>
</tbody>
</table>

NOTES:
1. The Factored Vertical Load Resistance shall not be increased for short-term load duration.
2. The Factored Vertical Load Resistance is based on the resistance of the rim board and may need to be reduced based on the bearing resistance of the supporting wall plate or the attached floor sheathing. Example: The factored bearing resistance for OSB floor sheathing is 487 psi so the bearing resistance of a 1-1/4" x 16" deep rim board would be limited to 7805 psi (487 psi x 1-1/4" x 16).
3. The Factored Vertical Load Resistance is assumed to be applied through a minimum 4-1/2" bearing length (3-stud post).
4. The Factored Vertical Load Resistance is based on a short-term load duration and shall not be increased.
5. The designer shall verify proper bearing for the header.
6. Depths greater than 11-7/8" shall be used with a minimum of two plies, as shown. Depths of 11-7/8" and less may be used as a two-ply header by multiplying the resistance by two.
7. The specified strengths and stiffness are for standard load duration. Bending, Shear and Compression perpendicular-to-grain, shall be adjusted according to code. Modulus of Elasticity shall not be adjusted for load duration.
8. Deflection calculations for LP SolidStart OSB Rim Board need only consider bending deformations (the second half of the above equation may be neglected). The tabulated modulus of elasticity, MOE, is equivalent to the rim board grade in product standard APA PRR-401C.
9. Joints in the rim are not allowed over openings and must be located at least 12" from any opening.
10. LP® SolidStart® LSL or LVL for headers with clear spans longer than 4' or for loads greater than tabulated above. See the Design Values table below.

FACTORED UNIFORM LOADS (PLF) FOR RIM BOARD HEADERS: MAXIMUM 4’ CLEAR SPAN

<table>
<thead>
<tr>
<th>Material</th>
<th>Thickness</th>
<th>Rim Board Depth</th>
<th>9-1/2&quot;</th>
<th>11-7/8&quot;</th>
<th>2-Ply 14&quot;</th>
<th>2-Ply 16&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>LP OSB</td>
<td>1-1/8&quot;</td>
<td>620</td>
<td>915</td>
<td>2410</td>
<td>2980</td>
<td>2-1/2&quot;</td>
</tr>
<tr>
<td>LP LSL</td>
<td>1-1/4&quot;</td>
<td>855</td>
<td>1810</td>
<td>5195</td>
<td>6535</td>
<td>2-1/2&quot;</td>
</tr>
<tr>
<td>LP LVL (cross-ply)</td>
<td>1-1/4&quot;</td>
<td>865</td>
<td>1645</td>
<td>4675</td>
<td>5925</td>
<td>2-1/2&quot;</td>
</tr>
</tbody>
</table>

NOTES:
1. This table is for preliminary design for uniform gravity loads only. Final design should include a complete analysis of all loads and connections.
2. The factored load resistances are for a maximum 4’ clear span with minimum bearings for each end (listed in parentheses) based on the bearing resistance of the rim board. For headers bearing on wood plates, the bearing length may need to be increased based on the ratio of the bearing resistance of the rim board divided by the bearing resistance of the plate species.
3. Structural load is assumed and shall be adjusted according to code.
4. For multiple-ply headers supporting top-loads only, fasten plies together with minimum 2-1/2" nails (common wire or spiral) at a maximum spacing of 12” oc. Use 2 rows of nails for 9-1/2" and 11-7/8”. Use 3 rows for depths 14” and greater. Clinch the nails where possible. For side-loaded multiple-ply headers, refer to the Connection Resistance For Side-Loaded 2-Ply Rim Board Headers table below for the required nailing and the maximum side load that can be applied.
5. Equations for other conditions can be found in engineering references.
6. Deflection calculations for LP SolidStart LSL and LVL shall include both bending and shear deformations.

DESIGN VALUES (SPECIFIED STRESS DESIGN - PSI)

<table>
<thead>
<tr>
<th>Material</th>
<th>Grade</th>
<th>Thickness</th>
<th>Bending, f_b</th>
<th>Modulus of Elasticity, E (ksi)</th>
<th>Shear, f_s (psi)</th>
<th>Compression Perpendicular-to-Grain, f_c (ksi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LP OSB</td>
<td>APA-Rated Rim Board</td>
<td>1-1/8&quot;</td>
<td>1112</td>
<td>0.55</td>
<td>760</td>
<td>1365</td>
</tr>
<tr>
<td>LP LSL</td>
<td>1.35E</td>
<td>± 1-1/4&quot;</td>
<td>1324</td>
<td>1.30</td>
<td>465</td>
<td>1238</td>
</tr>
<tr>
<td>LP LVL (cross-ply)</td>
<td>1.3E</td>
<td>± 1-1/4&quot;</td>
<td>1324</td>
<td>1.30</td>
<td>465</td>
<td>1238</td>
</tr>
</tbody>
</table>

NOTES:
1. LP SolidStart LSL, LVL and OSB Rim Board shall be designed for dry-use conditions only. Dry-use applies to products installed in dry, covered and well ventilated interior conditions in which the equivalent average moisture content in lumber will not exceed 15% nor a maximum of 19%. Adjustments for high temperature are beyond the scope of this guide.
2. The specified strengths and stiffnesses are for standard load duration. Bending, Shear and Compression perpendicular-to-grain, shall be adjusted according to code. Modulus of Elasticity shall not be adjusted for load duration.
3. The specified strengths and stiffnesses are for members supporting loads applied parallel to the wide face ("edge" or "beam" orientation).
4. The specified Bending, f_b, for LP SolidStart OSB Rim Board has been adjusted to account for volume for clear spans up to 4’. Do not use for clear spans over 4’.
5. The specified Bending, f_b, for LP SolidStart LVL is tabulated for a standard 12” depth. For depths other than 12”, multiply f_b by (12/depth)^0.25. For depths less than 3-1/2”, multiply f_b by 1.379.
6. Deflection calculations for LP SolidStart LSL, LVL shall include both bending and shear deformations. Equations for other conditions can be found in engineering references.
7. Deflection calculations for LP SolidStart OSB Rim Board need only consider bending deformations (the second half of the above equation may be neglected). The tabulated modulus of elasticity, MOE, is the “apparent” MOE and includes an approximation of the effects of shear deformations. LP SolidStart LSL and LVL Rim Board used as headers shall be a minimum of two plies for depths greater than 11-7/8” for 1-1/4" and 1-1/2" rim board and greater than 14” for 1-3/4” rim board. All depths may be used as a multiple-ply header if required. Design the header as a single ply based on the tabulated allowable design stresses above and multiply by the number of plies. All plies must be toe-nailed to the plate. Fasten the floor sheathing to the top of each ply to provide proper lateral support for each ply.
8. Joints in the rim are not allowed over openings and must be located at least 12” from any opening.
9. Refer to the “APA Performance Rated Rim Boards - Limit States Design” (Form No. D340 CA) for additional information including uniform load resistance for smaller openings.
10. Use LP® SolidStart® LSL or LVL for headers with clear spans longer than 4’ or for loads greater than tabulated above. See the Design Values table below.

CONNECTION RESISTANCE FOR SIDE-LOADED 2-PLY RIM BOARD HEADERS (PLF)

<table>
<thead>
<tr>
<th>Material</th>
<th>Thickness</th>
<th>Minimum Nail Size</th>
<th>3 Rows of Nails at 6&quot; oc</th>
<th>4 Rows of Nails at 6&quot; oc</th>
<th>5 Rows of Nails at 6&quot; oc</th>
<th>6 Rows of Nails at 6&quot; oc</th>
</tr>
</thead>
<tbody>
<tr>
<td>LP OSB</td>
<td>1-1/8&quot;</td>
<td>2-1/2&quot;</td>
<td>1280</td>
<td>1707</td>
<td>2134</td>
<td>2561</td>
</tr>
<tr>
<td>LP LVL and LP LVL (cross-ply)</td>
<td>1-1/4&quot;</td>
<td>2-1/2&quot;</td>
<td>1280</td>
<td>1707</td>
<td>2134</td>
<td>2561</td>
</tr>
</tbody>
</table>

NOTES:
1. This table represents the factored uniform side-load resistance of the connection for a 2-ply header. The total factored uniform load, including top-load and side-load, shall not exceed the factored uniform load resistance of the header as tabulated above.
2. The tabulated side-load resistance is for standard load duration and shall be adjusted according to code.
3. Use 3 rows of nails for 9-1/2" and 11-7/8"; 4 rows for 14" and 16"; 5 rows for 18" and 20"; 6 rows for 22" and 24" deep rim board.
4. Nails may be either common wire or spiral. The factored resistances are based on spiral nails. Clinch the nails where possible.
5. Headers consisting of more than 2 plies, alternate fastening or higher side loads are possible but require proper design of the connection.
FASTENER VALUES FOR LP SolidStart RIM BOARD

The tabulated Lateral Load Resistance values for LP Rim Board (page 3) are based on the connections specified in the Installation details below. These connections allow for the 3-1/2" nails from the sole plate above into the top edge of the rim, provided the deck nailing is at least 6" oc and the 3-1/2" nails are spaced in accordance with the prescriptive requirements of the code. Decreasing the nail spacing will not necessarily increase the lateral load resistance and may cause splitting. To increase the lateral resistance, other connection details may be designed, such as adding framing anchors nailed to the face of the rim and the edge of the wall. The Fastener Design table below provides information on the equivalent specific gravity for nail, screw, lag and bolt design in accordance with CSA O86 Engineering Design in Wood (Limit States Design). The prescriptive capacities for 1/2" x 4" (min) lag screws are also provided for ledger attachment. The Nailing Requirements table on the right provides guidance on the minimum nail spacing and edge distances. End, edge and spacing distances for screws, nails and bolts shall be as specified in CSA O86.

Refer to CMC reports 13319-R and 11518-R for complete connection information for LP SolidStart LSL and LVL.

NOTE: Material Safety Data Sheets (MSDS) are available online at LPCorp.com or by contacting customer support at 1-888-820-0325.

FASTENER DESIGN

<table>
<thead>
<tr>
<th>Material</th>
<th>Thickness</th>
<th>Equivalent Relative Density</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Withdrawal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edge</td>
</tr>
<tr>
<td>LP OSB</td>
<td>1-1/8&quot;</td>
<td>na</td>
</tr>
<tr>
<td>LP LSL</td>
<td>≥ 1-1/4&quot;</td>
<td>0.46</td>
</tr>
<tr>
<td>LP LVL</td>
<td>≥ 1-1/4&quot;</td>
<td>0.46</td>
</tr>
</tbody>
</table>

NOTES:

1. Fastener design for each connection type listed to the left is standard load duration and shall be adjusted according to code.

2. Fastener spacing, end and edge distance shall be according to code except as specified in the Nailing Requirements tables above.

3. The Equivalent Relative Density shall be used to determine fastener capacities in accordance with CSA O86.

4. The factored 1/2" lag screw resistance assumes a nominal 2x (1-1/2" thick) side member with full penetration into the main member. 1/2" through-bolts may be used in lieu of the lag screw. Proper washers shall be installed.

5. Refer to the “APA Performance Rated Rim Boards - Limit States Design” (Form No. D340 CA) for additional information.

INSTALLATION

DECK TO RIM AND RIM TO PLATE CONNECTIONS

- Nail floor sheathing to rim board with 8d nails at 6" oc.
- Nail wall plate through floor sheathing into rim per code.
- Toe-nail rim board to wall plate with 8d nails at 6" oc.

See T&G Trim Requirements detail and table.

T&G TRIM REQUIREMENTS

Floor Sheathing Thickness | Rim Board Thickness | 1" | 1-1/8" | 1-1/4" | > 1-1/4"
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7/8&quot;</td>
<td>Trim</td>
<td>Trim</td>
<td>Trim Not Required</td>
<td>Trim Not Required</td>
<td></td>
</tr>
<tr>
<td>3-1/2&quot; or 3-1/4&quot;</td>
<td>Trim</td>
<td>Trim</td>
<td>Trim Not Required</td>
<td>Trim Not Required</td>
<td></td>
</tr>
<tr>
<td>≥ 3&quot;</td>
<td>Trim</td>
<td>Trim</td>
<td>Trim Not Required</td>
<td>Trim Not Required</td>
<td></td>
</tr>
<tr>
<td>≥ 2-1/2&quot;</td>
<td>Trim</td>
<td>Trim</td>
<td>Trim Not Required</td>
<td>Trim Not Required</td>
<td></td>
</tr>
</tbody>
</table>

For more information on the full line of LP® SolidStart® Engineered Wood Products or the nearest distributor, visit our web site at LPCorp.com.

Phone: 1-888-820-0325
E-mail: customer.support@LPCorp.com.

LP SolidStart Engineered Wood Products are manufactured at different locations in the United States and Canada. Please verify availability with the LP SolidStart Engineered Wood Products distributor in your area before specifying these products.