### Design Stresses

<table>
<thead>
<tr>
<th>Grade</th>
<th>Orientation</th>
<th>G Shear Modulus of Elasticity (psi)</th>
<th>E Modulus of Elasticity (ksi)</th>
<th>E_adj Modulus of Elasticity(2) (ksi)</th>
<th>F_b Flexural Stress(2) (psi)</th>
<th>F_t Tension Stress(3) (psi)</th>
<th>F_c Compression Perpendicular to Grain(4) (psi)</th>
<th>F_cll Compression Parallel to Grain (psi)</th>
<th>F_v Horizontal Shear Parallel to Grain (psi)</th>
<th>SG Equivalent Specific Gravity(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3E</td>
<td>Beam/Column</td>
<td>81,250</td>
<td>1.3 x 10^4</td>
<td>660,750</td>
<td>1,700</td>
<td>1,075</td>
<td>680</td>
<td>1,400</td>
<td>400</td>
<td>0.50(6)</td>
</tr>
<tr>
<td></td>
<td>Plank</td>
<td>81,250</td>
<td>1.3 x 10^4</td>
<td>660,750</td>
<td>1,900(7)</td>
<td>1,075</td>
<td>435</td>
<td>1,400</td>
<td>150</td>
<td>0.50(6)</td>
</tr>
<tr>
<td>1.55E</td>
<td>Beam</td>
<td>96,875</td>
<td>1.5 x 10^4</td>
<td>787,815</td>
<td>2,325</td>
<td>1,070(8)</td>
<td>800</td>
<td>2,050</td>
<td>310(9)</td>
<td>0.50(6)</td>
</tr>
<tr>
<td>1.9E</td>
<td>Beam</td>
<td>118,750</td>
<td>1.9 x 10^4</td>
<td>965,710</td>
<td>2,600</td>
<td>1,555</td>
<td>750</td>
<td>2,510</td>
<td>285</td>
<td>0.50(6)</td>
</tr>
<tr>
<td>1.8E</td>
<td>Column</td>
<td>112,500</td>
<td>1.8 x 10^4</td>
<td>914,880</td>
<td>2,400(8)</td>
<td>1,755</td>
<td>425(9)</td>
<td>2,500</td>
<td>190(9)</td>
<td>0.50(6)</td>
</tr>
<tr>
<td>2.0E</td>
<td>Beam</td>
<td>125,000</td>
<td>2.0 x 10^4</td>
<td>1,016,535</td>
<td>2,900</td>
<td>2,025</td>
<td>750</td>
<td>2,900</td>
<td>290</td>
<td>0.50(6)</td>
</tr>
</tbody>
</table>

(1) Reference modulus of elasticity for beam stability and column stability calculations, per NDS 2005.

(2) For 12" depth. For other depths, multiply F_b by the appropriate factor as follows:
- For TimberStrand® LSL, multiply by \[ \frac{12}{d} \]
- For Microllam® LVL, multiply by \[ \frac{12}{d} \]
- For Parallam® PSL, multiply by \[ \frac{12}{d} \]

(3) F_t has been adjusted to reflect the volume effects for most standard applications.

(4) F_c shall not be increased for duration of load.

(5) For lateral connection design only.

(6) Values account for large hole capabilities. See Allowable Holes on page 36.

(9) Values are for plank orientation.

### General Assumptions for iLevel® Trus Joist® Residential Beams

- Lateral support is required at bearing and along the span at 24" on-center, maximum.
- Bearing lengths are based on each product’s bearing stress for applicable grade and orientation.
- All members 7/4" and less in depth are restricted to a maximum deflection of 5/32".
- Beams that are 1/2" x 16" and deeper require multiple plies.
- No camber.
- Tables on pages 8–15 include load reductions applied in accordance with code.

For applications not covered in this brochure, contact your iLevel representative. See pages 38 and 39 for multiple-member beam connections.

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### Product Storage

- Protect product from sun and water
- CAUTION: Wrap is slippery when wet or icy
- Use support blocks at 10’ on-center to keep bundles out of mud and water