SAFETY AND CONSTRUCTION PRECAUTIONS

I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed.

Avoid Accidents by Following these Important Guidelines:
1. Brace and nail each I-joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bridging at joint ends. When I-joists are applied continuously over interior supports and a load-bearing wall is planned at the location, blocking will be required at the interior support.
2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent I-joist follower or building.
3. Temporary bracing or struts must be at least 1’ minimum, at least 8 feet long and spaced no more than 8 feet on center, and must be secured with a minimum of two 8d’s braced to the top surface of each I-joist. Nail the bracing to a lateral restraint at the end of each bay. Lay ends of adjoining bracing over at least two I-joists.
4. On short spanning, temporary, or permanent, can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.
5. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.

1. Always install I-joists at least 18 inches on center.
2. Always nail I-joists to the framing members.
3. If I-joists are applied to bearing walls, the first 4 feet of I-joists at the end of the bay shall be braced and sheathed.

STORAGE AND HANDLING GUIDELINES

1. Bundle wrap can be slippery when wet. Avoid walking on wrapped bundles.
2. Store, stack, and handle I-joists vertically and level only.
3. Always stack and handle I-joists in the upright position only.
4. Do not store I-joists in direct contact with the ground and/or pavers.
5. Protect I-joists from weather, and use spacers to separate bundles.

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1. Always stack and handle I-joists in the upright position only.
2. Do not handle I-joists in a horizontal orientation.
3. Never use or try to repair a damaged I-joist.

NORDIC STRUCTURES

TIGHT JOINTS

1. Tight joint, no gap
2. Tight joint, no gap

FLANGE WIDTHS

1. 2-1/2
2. 3-1/2
3. 5-1/2

FLANGE THICKNESS

1. 3/8
2. 7/16
3. 1-1/2

WEB STIFFENERS

1. Connect web stiffeners to I-joists at intervals of not more than 48 inches on center.
2. Connect web stiffeners to I-joists at intervals of not more than 48 inches on center.

INSTALLATION GUIDE

ENGINEERED WOOD PRODUCTS

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WEB STIFFENERS

1. Connect web stiffeners to I-joists at intervals of not more than 48 inches on center.
2. Connect web stiffeners to I-joists at intervals of not more than 48 inches on center.
1. Installation of Nordic I-joists shall be as shown in details 1a.
2. Except for cutout to length, I-joist flanges should never be cut, drilled or notched.
3. Install I-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment.
4. Concentrated loads should only be applied to the top surface of the top flange. Concentrated loads should not be suspended from the bottom flange with the exception of light loads, such as ceiling fans or light fixtures.
5. I-joists must be protected from the weather prior to installation.
6. I-joists must not be used in applications where they will be permanently exposed to weather, or will reach a moisture content of 20 percent or greater, such as in swimming pool or hot tub areas. They must not be installed where they will remain in direct contact with concrete or masonry.
7. End bearing length must be at least 1-3/4 inch. For multiple span joists, intermediate bearing length must be at least 3-1/2 inches.
8. Ends of floor joists shall be restrained to prevent rotation. Use rim board or joist blocking panels.
9. I-joists installed beneath bearing walls perpendicular to the joists shall have full-depth blocking panels, rim board, or squashing blocks (captive blocks) to transfer gravity loads from above the floor system to the wall or foundation below.
10. For I-joists installed directly beneath bearing walls parallel to the joists or used as rim board or blocking panels, the minimum allowable vertical load using a single I-joist is 2,000 lbf, and 4,000 lbf if double I-joists are used.
11. Continuous lateral support of the I-joist's compression flange is required to prevent rotation and buckling. In simple span uses, lateral support of the top flange is normally supplied by the floor sheathing. In multiple-span or cantilever applications, bracing of the I-joist's bottom flange is also required at interior supports of multiple-span joists, and at the end support next to the cantilever extension. The ends of all cantilever extensions must be laterally braced as shown in details 3, 4 or 5.
12. Nails installed in flange face or edge shall be spaced in accordance with the applicable building code requirements or approved building plans, but should not be closer than those specified on page 3.3 of the Nordic Joint Technical Guide (NJT-95).
13. Details show only typename-specific fastener requirements. For other fastener requirements, see the applicable building code.

For proper temporary bracing of wood I-joists and placement of temporary construction loads, see APA Technical Note: Temporary Construction Loads over I-Joists and Floors, Form T2720.
2. Cantilevered joists must be properly sized to support all design loads. Refer to table 4.1 of the Nordic Joist Technical Guide (NS-GT3).

Notes:
1. Cantilevered joists must be properly sized to support all design loads. Refer to table 4.1 of the Nordic Joist Technical Guide (NS-GT3).
2. Blocking is required along the cantilever support.
3. Refer to detail 6c for holes in lateral-restraint-only blocking panels.

CANTILEVER – BALCONIES

5b

Notes:
1. Cantilevered joists must be properly sized to support all design loads. Refer to table 4.1 of the Nordic Joist Technical Guide (NS-GT3).
2. Blocking is required along the cantilever support.
3. Refer to detail 6c for holes in lateral-restraint-only blocking panels.

CANTILEVER – VERTICAL BUILDING OFFSET

4b

Notes:
1. Blocking is required along the cantilever support.
2. To be inserted only when no I-joist reinforcement is required.
3. Blocking is required along the cantilever support.
4. Refer to detail 6c for holes in lateral-restraint-only blocking panels.

SHORT CANTILEVER – VERTICAL BUILDING OFFSET

3c

Notes:
1. The balcony shall be constructed in accordance with Section 1102.3.1 of the 2018 International Building Code (IBC) and the 2018 International Residential Code (IRC). The balcony, whether used as a horizontal or vertical extension of a structure, shall be designed, installed, and inspected in accordance with Section 1102.3.1 of the 2018 IBC and Section 107.2.5 of the 2018 IRC.
2. The balcony shall be constructed in accordance with Section 1102.3.1 of the 2018 International Building Code (IBC) and the 2018 International Residential Code (IRC). The balcony, whether used as a horizontal or vertical extension of a structure, shall be designed, installed, and inspected in accordance with Section 1102.3.1 of the 2018 IBC and Section 107.2.5 of the 2018 IRC.

Notes:
1. The above detail is applicable only to single-family residential construction, and when the cantilever is loaded by uniform floor loads (e.g., wind or snow loading).
2. Cantilevered joists must be properly sized and supported design loads. Refer to table 4.1 of the Nordic Joist Technical Guide (NS-GT3).
3. Blocking is required along the cantilever support.
4. Refer to detail 6c for holes in lateral-restraint-only blocking panels.

For short cantilevers with reinforcements, detail 4 apply except for the length of the overlap, or refer to NB-DCI / NS-GT3.
1. The distance between the inside edge of the support and the centerline of a mechanical system, therefore minimizing the depth of the floor system.

2. I-joist top and bottom flanges must never be cut, notched or otherwise damaged. Slightly rounding the corners or pre-drilling corners is a good method to minimize damage to the flanges.

3. The maximum depth of a duct chase opening that can be cut into an I-joist or rim board shall be equal to the thickness of the I-joist minus 1/4 inch. In no case should the depth of a duct chase opening exceed 2 inches. Duct chase openings shall be centered on the middle of the web.

4. All openings shall be cut in accordance with the restrictions listed above and as illustrated in Table 6.2.

5. Limit one maximum-size duct chase opening per span.

6. Where more than one hole is necessary, the distance between adjacent holes shall equal the diameter of the largest hole that is necessary to cut the width of the rectangular flange or twice the diameter of the largest circular flange, and each shall be cut in the same manner as described in Table 6.2.

7. Holes of greater size may be permitted subject to verification.

8. A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it does not exceed the clear distance between the flanges of the I-joist minus 1 inch. Maximum of 1/4 inch of blocking panel should always be maintained between the top or bottom of the opening and the adjacent flange.

9. All holes shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Table 6.2. The sides of square holes or longest sides of rectangular holes should not be overcut. Slightly rounding corners or pre-drilling corners is a good method to minimize damage to the flanges.

10. Limit three maximum-size holes per span.

**TABLE 6.1 - LOCATION OF WEB HOLES**

<table>
<thead>
<tr>
<th>Simple or multiple span</th>
<th>Minimum distance from inside face of any support to center of hole (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>12 - 3/4</td>
</tr>
<tr>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>10</td>
<td>12</td>
</tr>
</tbody>
</table>

**Notes:**
1. Minimum distances are based on the applicability of the code and the limitations of the glulam manufacturer.
2. The maximum allowable hole size is determined by the blocking panel manufacturer.
3. The top and bottom flanges of an I-joist blocking panel must never be cut, notched or otherwise damaged.
4. Holes must be centered in the blocking horizontally.
5. White oak holes in the blocking, red oak holes may be used provided the span is not over 200 linear feet, depending on species or permitting criteria.
6. All holes must be cut to a smooth finish in accordance with the limitations listed above.

**TABLE 6.2 - LOCATION OF DUCT CHASE OPENINGS**

<table>
<thead>
<tr>
<th>Minimum distance from face of support to center of opening (in)</th>
<th>Duct chase opening length (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 - 3/4</td>
<td>6</td>
</tr>
<tr>
<td>10 - 3/4</td>
<td>8</td>
</tr>
<tr>
<td>10 - 3/4</td>
<td>10</td>
</tr>
<tr>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

**Notes:**
1. Never drill, cut or notch the flanges, or over-cut the web.
2. Holes in web should be cut with a sharp saw.
3. All holes shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Table 6.2.
4. The sides of square holes or longest sides of rectangular holes should not be overcut. Slightly rounding corners or pre-drilling corners is a good method to minimize damage to the flanges.

**INSTALLING THE NAIL-GLUED FLOOR SYSTEM**

1. Rip or cut material on bed - Use rip or saw cuts on carry-over and 4x6's only. Caution: The hooked tail速度快 must be avoided. A 30% increase in the kerf size of an 8x8 is recommended over that of a 1x4.

2. Apply continuous line of glue (about 1/4-inch diameter) to the top flange of a single I-joist. Apply a winding pattern on wide webs, such as with double I-joists.

3. Lay the first panel with tongue side to the web, and-notch panel. This protects the tongue of the next panel from damage when placed atop a subfloor and underlayment.

4. Drive a 2-inch nail through the opening to secure the panel to the subfloor, or drive a nail through the opening to secure the panel to the subfloor. Closer nail spacing may be required by some codes, or for diaphragm construction.

**RIM BOARDS**

1. Use only solid, clear, or laminated sapwood. Do not use knots, shakes, or splits.

2. Two boards per row are recommended for joist spacing of 4 feet or less. The top and bottom flanges of an I-joist blocking panel must never be cut, notched or otherwise damaged.

3. Holes in web should be cut with a sharp saw.

4. All holes shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Table 6.2.

5. The sides of square holes or longest sides of rectangular holes should not be overcut. Slightly rounding corners or pre-drilling corners is a good method to minimize damage to the flanges.

6. All holes must be cut to a smooth finish in accordance with the limitations listed above.

**APF Rated Stock/Floor Finisher Schedules**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Minimum joint thickness</th>
<th>Maximum board length (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4/32</td>
<td>12</td>
</tr>
<tr>
<td>B</td>
<td>5/32</td>
<td>14</td>
</tr>
<tr>
<td>C</td>
<td>6/32</td>
<td>15</td>
</tr>
</tbody>
</table>

**Notes:**
1. The minimum thickness listed for use with I-joists.
2. Note: Special conditions may impose high traffic and concentrated loads that require construction in excess of the minimum shown.