

## Fire Protection of Floors, FP-Nordic-01

The purpose of this technical note is to provide a solution for fire protection of floors for compliance with the National Building Code (NBC). The following fire resistance design is an alternative to the 2-by-10 dimensional lumber, with demonstrated equivalent fire performance.

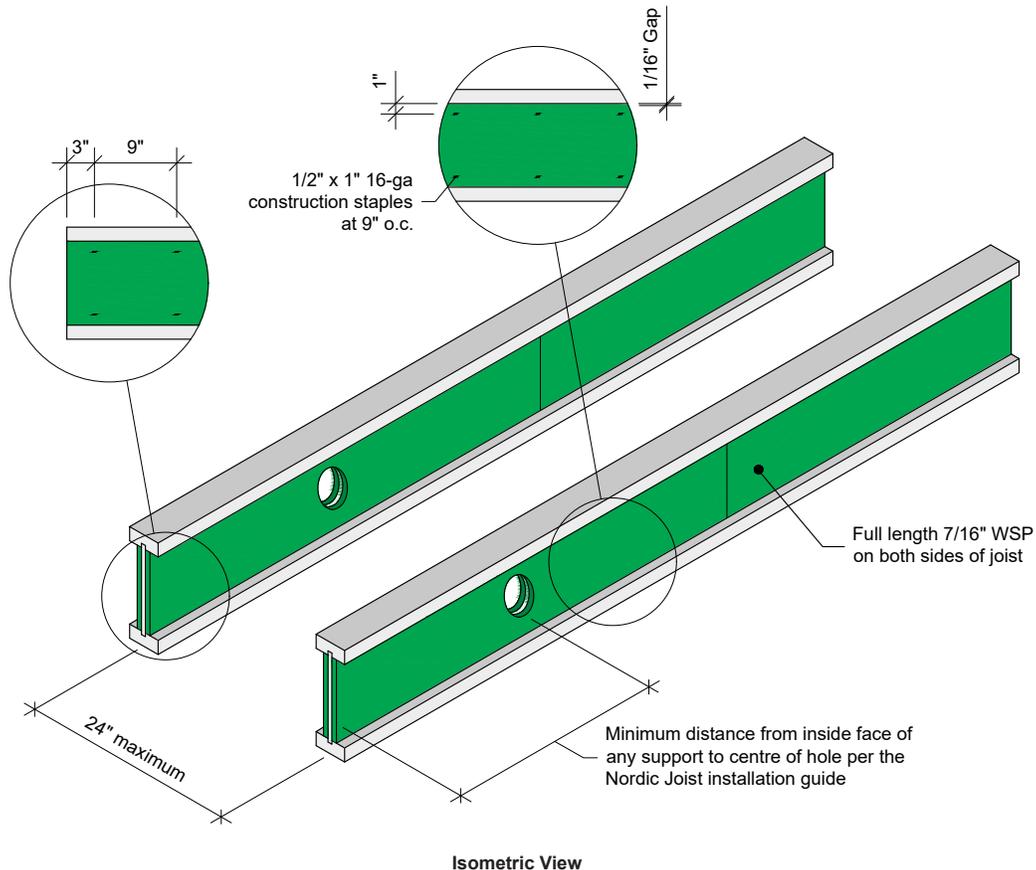
This technical note only applies to:

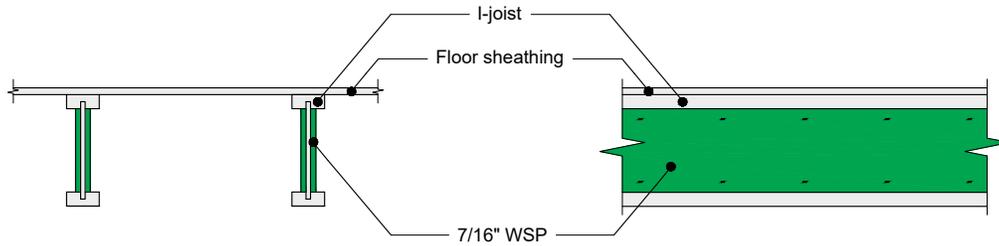
1. NI-20 (depths of 9-1/2 and 11-7/8 inches), NI-40x (depths of 9-1/2, 11-7/8 and 14 inches), NI-60 (depths of 9-1/2, 11-7/8, 14 and 16 inches) and NI-80 (depths of 9-1/2, 11-7/8, 14 and 16 inches) I-joists.

References: APA Product Report PR-S274C and CCMC 13032-R

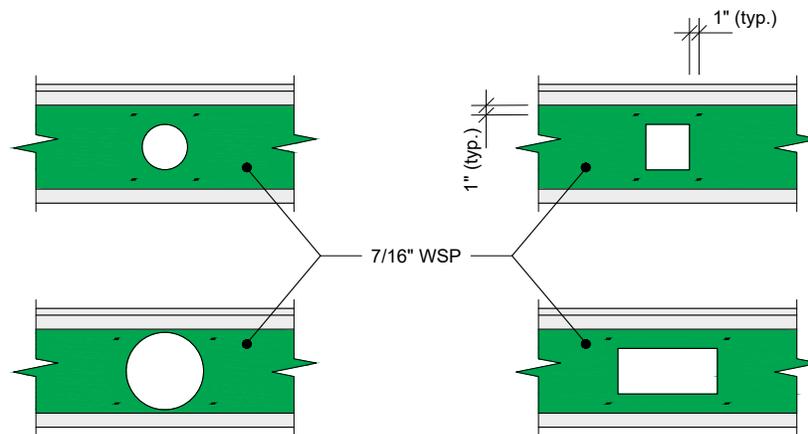
Installation requirements:

- (A) Floor sheathing: Materials and installation in accordance with 2015 NBC Section 9.23.15, Subflooring.
- (B) I-joist: Installation in accordance with the Nordic Joist Installation Guide ([www.nordic.ca](http://www.nordic.ca)). Maximum 24 inches on centre spacing. At each hole location, the 7/16 inch or thicker wood structural panels shall be cut with the web hole on both sides of the I-joist to allow the passage of a wire, pipe, or duct, in accordance with the web hole requirements permitted in the installation guide.
- (C) Wood structural panel (WSP) for web protection: Minimum 7/16 inch thickness. The WSP shall continuously cover the entire length of the I-joist web on both sides, including at bearing and cantilever, and for I-joist blocking panels. The panel-to-panel joints shall be tight with a joint gap of 1/16 inch (1.6 mm) or less and not required to be finished with tape or joint compound. Fasteners: Each WSP shall be fastened with 2 rows of 1/2 inch x 1 inch (12.7 mm x 25.4 mm) 16-gauge construction staples at 9 inches (229 mm) on centre and 1 inch (25.4 mm) from the flange edge. Fasteners may be staggered from top to bottom. At hole location, fasteners shall be installed 1 inch (25.4 mm) from the edge of the hole, top and bottom. An adhesive may be used in addition to the construction staples.
- (D) When required, backer blocks and web stiffeners shall be installed per the details provided on page 3.





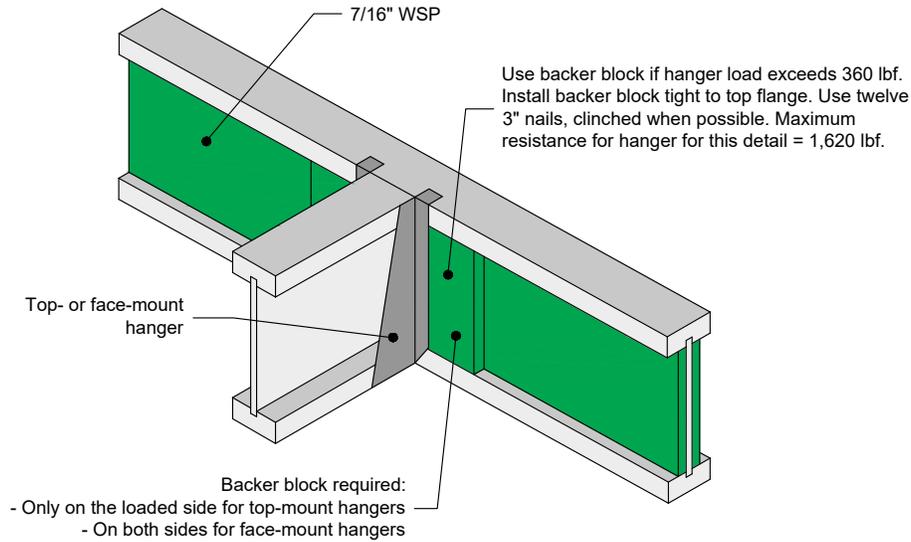
**Wood Structural Panel for Web Protection**



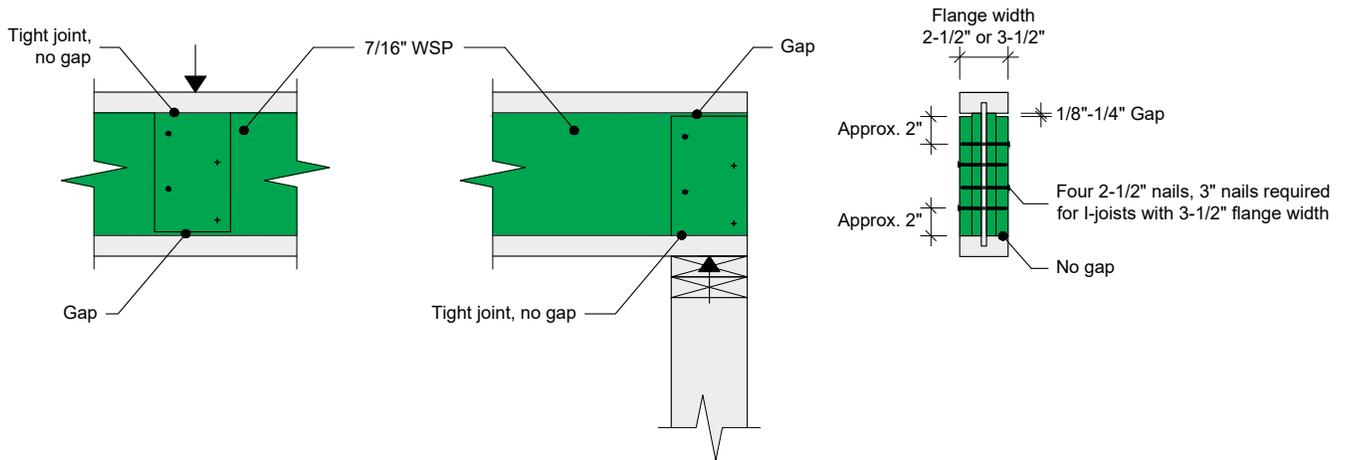
**Installation Requirements at Web Holes**

**Notes:**

- (a) Portions of floor assembly can be unprotected when complying with the following:
  - 1) The aggregate area of the unprotected portions shall not exceed 80 square feet.
  - 2) Fire block in accordance with 2015 NBC shall be installed along the perimeter of the unprotected portion to separate the unprotected portion from the remainder of the floor assembly.
- (b) Insulation may be required for energy code compliance purposes. Check with the local building official for specific jurisdictional requirements.
- (c) Penetrations or openings for ducts, vents, electrical outlets, lighting, devices, luminaires, wires, speakers, drainage, piping and similar openings or penetrations shall be permitted.



**Installation of Backer Blocks**  
(Detail 1h – modified)



**Concentrated Load**  
(Load Stiffener)

**End Bearing**  
(Bearing Stiffener)

**Installation of Web Stiffeners**  
(Detail 2 – modified)