

GENERAL INFORMATION

General Information Applicable to Nordic Designs

Nordic Engineered Wood fire design listings are based on, and supported by, proprietary test reports which have been reviewed and evaluated by Intertek. The test reports further define proprietary design details which make these listings applicable only to the specified products manufactured by Nordic Engineered Wood.

The following fire resistant assembly designs are listed in accordance with ASTM-E119 08a (Fire Tests of Building Construction and Materials), CAN/ULC-S101-07 (Standard Methods of Fire Endurance Tests of Building Construction and Materials), NFPA-251 (Fire Tests of Building Construction and Materials), UBC-7-1 (1997) (formerly UBC-43-1), (Uniform Building Code Standard).

1. FLOOR TOPPING: Subject to design and project limitations, these systems may be augmented with a lightweight floor topping mix containing perlite or vermiculite aggregate, or a proprietary gypsum based topping.

2. SUB-FLOORING: Sub-floor panels to conform to one of the following:

Material	Canadian Standard	U.S. Standard
Douglas Fir Plywood	CAN/CSA-0121	PS-1-07 Grp 1 struct.
Softwood Plywood	CAN/CSA-0151	PS-1-07 Grp III C-D
Poplar Plywood	CAN/CSA-0153	PS-1-07 Grp III C-D
Waferboard & Strandboard (OSB)	CAN-0437.0	
Sheathing	CAN/CSA - 0325.0	PS-2-04

NOTE: All panel products are to be produced with adhesive qualified as interior use/exterior grade (exposure 1) or better.

Unless otherwise noted, panels are T & G, maximum width 48" with long dimensions installed perpendicular to joists. End joists are staggered Minimum 24" and butted over joists.

Unless otherwise noted, Minimum nominal thickness of sub-flooring is:

<u>Maximum Joists Spacing (in/mm)</u>	<u>Plywood & O-2 Grade Waferboard and Strandboard (in/mm)</u>	<u>Waferboard and Strandboard R-1 & O-1 Grade (in/mm)</u>
16 (400)	5/8 (15.9)	5/8 (15.9)
19.2 (500)	3/4 (19.0)	3/4 (19.0)
24 (600)	3/4 (19.0)	3/4 (19.0)

3. SUB-FLOORING FASTENING: Minimum length of fastener for sheathing and subfloor attachment for thickness from 5/8" (15.9mm) to 3/4" (19mm) thick is: a) Common or Spiral Nail: 2" (51mm) (Canada); 8d (0.131" dia. x 2.5" long) (US) b) Ring Thread Nail: 1-3/4" (45mm) (Canada); 6d (0.120" dia. x 2" long) (US) Nail spacing shall be 6" (150mm) OC along butt edges of panel and 12" (300mm) (Canada) and 10" (US) OC along intermediate supports.

4. STRUCTURAL MEMBERS: Listed fire designs are based on systems designed for structural and functional performance in accordance with Nordic procedures. All designs are tested in unrestrained configuration. Joists have a minimum depth of 9-1/4" and spaced up to a maximum of 24" OC for floor/ceiling systems. The following products are eligible for use in the designs. Limitations are indicated in individual designs. All of the joist products stated below are eligible for use in Table A-9.10.3.1.B. of the National Building Code of Canada 2005, as follows;

- A) No fire resistance rating; Assemblies F3, F4, F12, F13, F16 and F17
- B) 45 Minute fire resistance; Assemblies F5, F8, F10, F14, F18, and F20
- C) 60 Minute fire resistance; Assemblies F6, F7, F8, F9, F10, F11, F14, F15, F19, F20 and F21

<u>Series</u>	<u>Depths (inches)</u>
NI-20	9-1/4, 9-1/2, 11-1/4, 11-7/8
NI-40	9-1/2, 11-7/8, 14, 16
NI-40x	9-1/4, 9-1/2, 11-1/4, 11-7/8, 14, 16
NI-60	9-1/2, 11-7/8, 14, 16, 18
NI-70	9-1/2, 11-7/8, 14, 16
NI-80	9-1/4, 9-1/2, 11-1/4, 11-7/8, 14, 16
NI-80x	18, 20, 22, 24
NI-90x	11-7/8, 14, 16

5. RESILIENT CHANNEL: Can be used in all cases, directly applied to joists. Minimum requirements is 26 gauge galvanized steel. Unless otherwise noted, maximum spacing is 24" OC, perpendicular to joists and fastened to each joist with one 1-1/4" Type S drywall screw. Double rows of furring channels at each gypsum wall board joint (at least 3" apart), such that each board end rests on its own channel. These additional channels shall extend to the next joist on each side of the board edges.

6. GYPSUM BOARD: All Gypsum Board is listed 5/8" (15.9mm) Type X, unless otherwise noted. In certain cases, as noted, it may be specific proprietary type with other designations identified in conjunction with the manufacturer's name. Maximum width is 48" and unless otherwise noted, all exposed joints are taped and finished with two additional coats of joint compound. Screw heads are covered with two coats of joint compound.

7. Blocking: Where required, I-joist sections may be used for blocking, fastened to top and bottom chords of joists, and to be spaced at 7' OC maximum.

8. INSULATION: All batts are to be placed between bottom joist flanges and supported by metal furring channels. In assemblies where metal furring channels are not utilized, support insulation batts on nominal 1" x 3" wood furring strips spaced 16" OC along the top side of the bottom flange. Equivalent methods that retain insulation above joist bottom flange are acceptable. All butt joints shall be over furring channels.

Items that may be added to the assemblies to increase IIC Ratings

- a) Adding a second 5/8" sub-floor.....adds 2 points
- b) Adding 5/8" sub-floor plus 1/16" building paper.....adds 3 points
- c) Adding Vinyl floor covering.....adds 2 points
- d) Adding Hardwood floor covering.....adds 2 points
- e) Adding Carpet and Underlay.....adds 20 points