

September 10, 2022

Subject: Use of Pinkwood I-joists in Wind and Seismic Regions

Dear Sir/Madam,

When considering the use of Pinkwood brand I-joists for use in wind or seismic regions in which Douglas Fir is typically specified, the following items assure compliance with specifications outlined in National Design Specification (NDS).

1. Horizontal Diaphragm Fastening in SPF:

Pinkwood I-joists are manufactured with Spruce Pine Fir (SPF) top and bottom flanges for all joist series and depths. For wood sheathing horizontal diaphragm attachment to Pinkwood I-joists, the attached Alternate Nailing Schedule may be used for single row nail spacing into the SPF flange. The tabulated nail spacing is based on the yield limit equations referenced in (NDS). **See Appendix A for Alternate Nail Spacing.**

2. Minimum Flange Thickness for Nail Penetration:

While other manufacturers have adjusted their flange thickness to as little as 1-1/8", Pinkwood I-joists are manufactured with a minimum **1-1/2"** flange thickness. This flange thickness meets the 'Minimum Nail Bearing Length in Framing Member' as specified in NDS SDPWS Table 4.2A. The NDS minimum penetration depth of the nail into the flange is **1-3/8"** for 8d nails and **1-1/2"** for 10d nails. Although the latest version of NDS 2018 provides for Special Design Considerations when using prefabricated wood I-joists, no adjustment has been published within NDS to change the minimum nail penetration into the framing member. Generally, the potential use any roof or floor framing members should be reviewed for compliance with NDS specifications.

If you have any questions, feel free to contact me.

Regards,

Daniel A. Bartlett, PE



Appendix A

Alternate Nailing Schedule

Horizontal Wood Diaphragms

Common Nail Size	Min. Actual Panel Thickness (in.) ⁴	Min. Nominal Width of Framing Member (in.)	Specified Single Row	
			Nail Spacing For Douglas Fir Larch (DFL) Framing Member (in.) ^{1,2}	Alternate Single Row Nail Spacing For Spruce Pine Fir (SPF) Framing Member (in.) ^{1,2,3}
8d	15/32	2	6.0	5.5
	15/32	3	4.0	3.5
	15/32	3	2.5	2.0
	15/32	3	2.0	1.5
10d	19/32	2	6.0	5.5
	19/32	3	4.0	3.5
	19/32	3	2.5	2.0
	19/32	3	2.0	1.5

Footnotes:

1. Framing member shall be min. 3x or greater for nail spacing 2.0" o.c. or less.
2. The schedule complies with diaphragm shear capacities from NDS Table 4.2A and Table 4.2C for Blocked and Unblocked Structural Panel Diaphragms. (NDS SDPWS)
3. Adjustments for fastener shear capacity are made based on yield limit equations of NDS 12.3 and the specific gravity of lumber species from NDS Table 12.3.2A.
4. 10d nail spacing noted in this schedule applies to floor sheathing panel thicknesses of 19/32", 23/32", and 1-1/8".

