



P3 JOIST USER GUIDE US 2018



BY  **EACOM**
TIMBER CORPORATION



P3 Joist	02
P3 Joist Labeling Example	02
Storage and Handling.....	03
Safety Precautions	03
Selecting a P3 Joist	04
Maximum Allowable Spans	05
Allowable Floor Uniform Load Capacities - PJI 40 & 60.....	06
Allowable Floor Uniform Load Capacities - PJI 80 and 90 w/ Web Stiffeners.....	07
Floor Framing and Construction Details	09
Web Stiffener Requirements and Installation Details	13
Cantilever Detail for Balconies.....	14
Cantilever Detail for Vertical Building Offset	15
Cantilever Reinforcement Methods	16
Typical Floor Framing Installation Notes	17
Web Hole Rules and Specifications	17
P3 Joist Typical Holes	18
Typical P3 Joist Roof Framing and Construction Details	19
Allowable Roof Spans - Simple Span	25
Allowable Roof Load Capacities - PJI 40.....	27
Allowable Roof Load Capacities - PJI 60.....	28
Allowable Roof Load Capacities - PJI 80.....	29
Allowable Roof Load Capacities - PJI 80 w/ Web Stiffeners	30
Allowable Roof Load Capacities - PJI 90.....	31
Allowable Roof Load Capacities - PJI 90 w/ Web Stiffeners	32
P3 Joist Design Properties	33
Reaction Capacities for P3 Joist	34
USP Hangers for PJI 40, 60, 80, and 90 Series	35
Simpson Hangers for PJI 40, 60, 80, and 90 Series	36
P3 Products Warranty	37



EACOM

SAULT STE. MARIE

EACOM Timber Corporation is a major Eastern Canadian wood products company formed in 2008. Its head office is located in Montreal, Quebec, with regional offices located in Timmins, Ontario and Val-d'Or, Quebec. In 2010, EACOM acquired Domtar Forest Products Division. As a result, its operations include the manufacturing, marketing and distribution of lumber and wood based value-added products, and the management of forest resources.

EACOM currently owns seven sawmills (5 in Ontario, 2 in Quebec), a remanufacturing facility (Quebec) and an engineered I-Joist plant (Ontario) for a total of 1100 employees. Many of these mills have a long, rich history having been part of their communities for over 100 years.

EACOM has a production capacity of approximately 900 million board feet of lumber and holds Crown logging rights of approximately 3.5 million cubic meters annually.

The Company is committed to investing in strong assets, including healthy forests, advanced technology and talented people.

For more information visit www.eacom.ca.

P3 JOIST

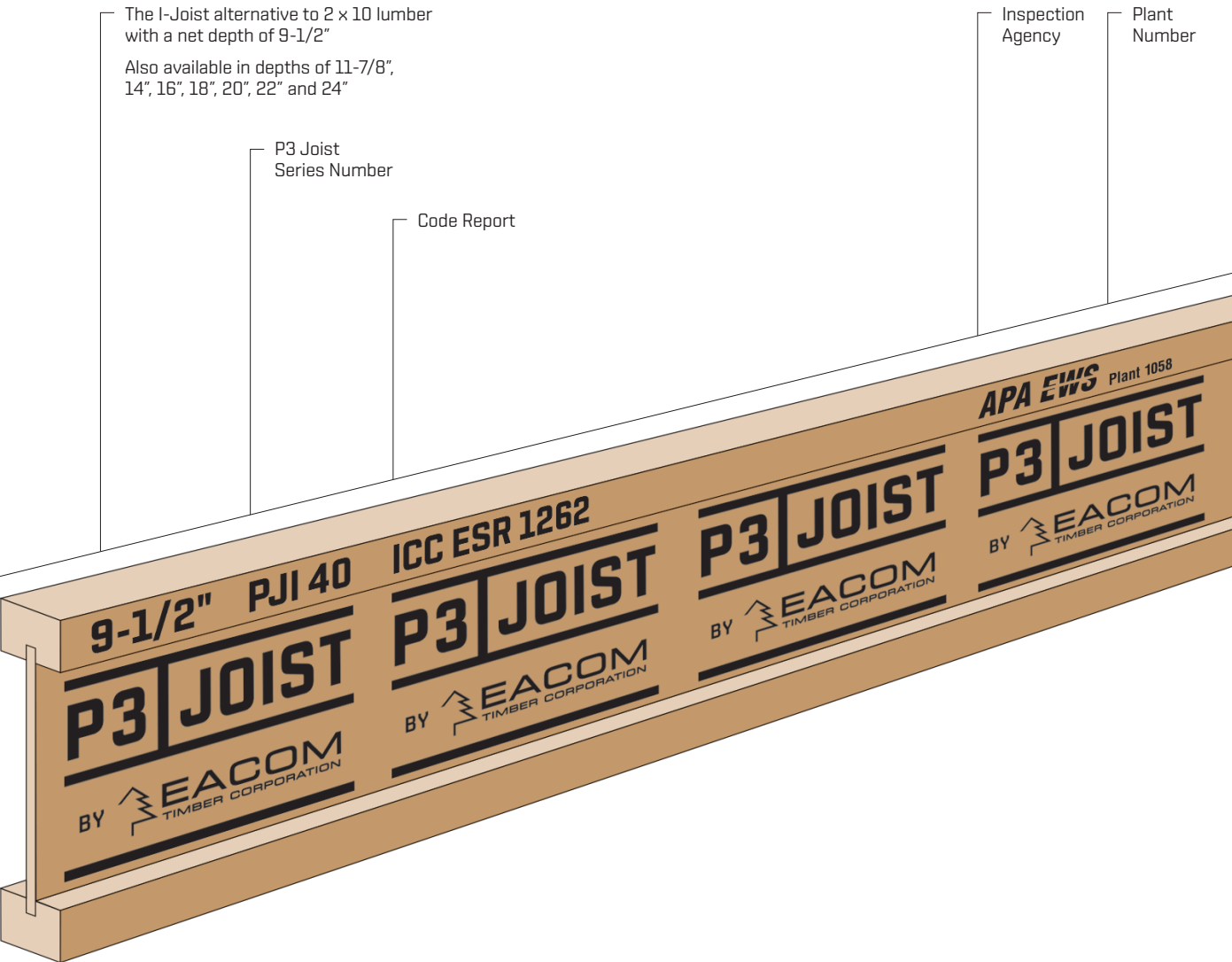
EACOM Timber Corporation has made it easy to make the right choice for residential and non-residential floor and roof joist products. P3 Joist are produced in accordance with EACOM's report ICC ESR - 1262, APA's Product Report L261 and APA's ICC ESR - 1405. P3 Joist are in compliance with the International Building Code (IBC) and the International Residential Code (IRC) editions 2006, 2009 and 2012. All code reports can be downloaded from our website www.eacom.ca.

P3 Joist provide a high performance alternative to dimension lumber joists for floor and roof applications. This guide will help you efficiently use P3 Joist by leading you through the simple steps of product selection, specification, and installation.

The APA trademark signifies that the I-Joist manufacturer is committed to the strict quality standards of Engineered Wood Systems (EWS) - a related corporation of APA - and that P3 Joist are manufactured in conformance with ASTM D5055. APA's rigorous program of quality verification and testing is designed to assure predictable product performance.

This guide explains floor and roof systems. Review by a design professional is required for applications beyond the scope of this document. Simple to specify. Easy to install. Less confusion. P3 Joist are the right choice for residential and non-residential floor and roof construction.

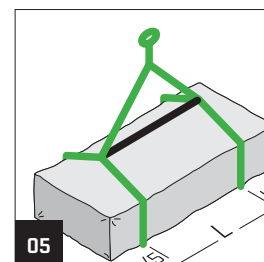
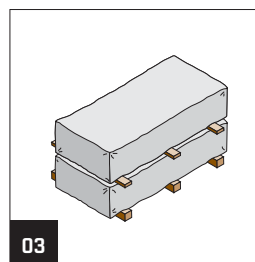
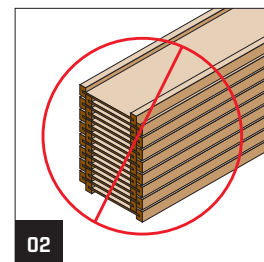
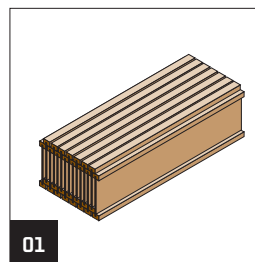
P3 Joist Labeling Example



P3 JOIST (continued)

Storage and Handling Guidelines

1. Store, stack, and handle P3 Joists in a vertical and level position only.
2. Do not store P3 Joists in direct contact with the ground; do not store P3 Joist flatwise.
3. Protect P3 Joists from weather, and use stickers to separate bundles.
4. To protect P3 Joists further from dirt and weather, do not open bundles until time of installation.
5. When lifting P3 Joists with a crane on the job site, take a few simple precautions to prevent damage to the P3 Joists and to prevent injury to your work crew.
 - Lift P3 Joists in bundles as shipped by the supplier.
 - Orient the bundles so that the webs of the P3 Joists are vertical.
 - Lift the bundles at the 5th points, using a spreader bar if necessary.
6. Do not twist or apply loads to the P3 Joists when horizontal.
7. Never use or try to repair a damaged P3 Joists.



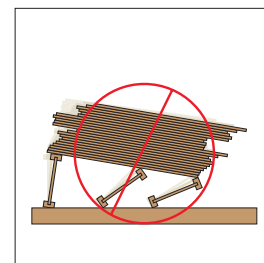
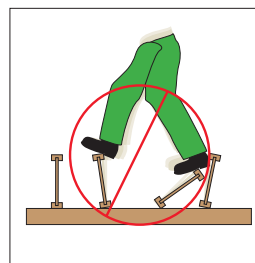
Safety Precautions

WARNING P3 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 P3 Joist as it is installed, using hangers, blocking panels, rim board, and/or cross-bridging at joist ends. When P3 Joists are applied continuously over interior supports and a load-bearing wall is planned at the location, blocking will be required at the interior supports.
2. When the building is completed, the floor sheathing will provide lateral support for the top flanges of the P3 Joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent P3 Joist rollover or buckling.
 - Temporary bracing or struts must be 1 x 4" minimum, at least 8' long, spaced no more than 8' on center, and secured with a minimum of two 8d nails fastened to the top surface of each P3 Joist. Nail bracing to a lateral restraint at the end of each bay. Lap ends of adjoining bracing over at least two P3 Joists.
 - Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4' of the P3 Joist at the end of the bay.
3. For cantilevered P3 Joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.
4. Install and nail permanent sheathing to each P3 Joist before placing loads on the floor system. Then, stack building materials over beams or walls only.
5. For temporary construction loads such as dry wall stacking, see APA Publication J735A [Temporary Construction Loads Over I-Joist Roofs].

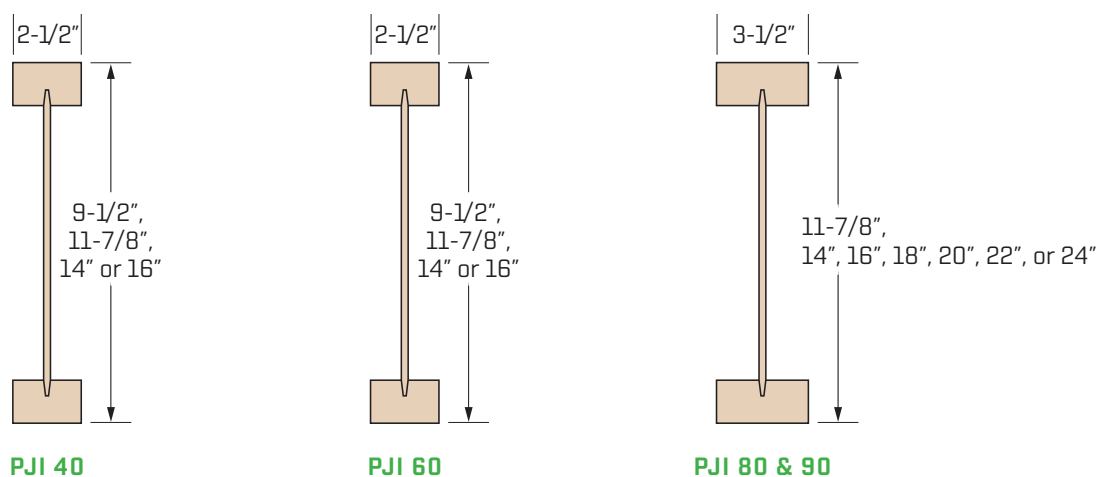
Failure to follow applicable building codes and span ratings, failure to use allowable hole sizes and locations, or failure to use web stiffeners when required can result in serious accidents. Follow these installation guidelines carefully.



Selecting a P3 JOIST

Product Description

The P3 Joist is an "I"-shaped engineered wood structural member designed for use in residential and non-residential floor and roof construction. P3 Joist are prefabricated using SPF MSR lumber flanges and OSB web, which are bonded together with exterior-type adhesives. P3 Joist are limited to a L/480 maximum live load deflection for residential and non-residential floor applications. P3 Joist are identified by their depth followed by their series name PJI, and by a designation such as 40 which relates to the joist strength and stiffness. P3 Joist are manufactured to strict tolerances with the following characteristics.



- **Flanges** are MSR 2x3's and 2x4's.
- **Webs** are OSB, and all are classified as Exposure 1 or Exterior and are 3/8" in thickness or greater.
- All P3 Joist are assembled using exterior-type adhesives that meet ASTM D 2559 and ASTM D 7247.
- P3 Joist are available in eight depths: 9-1/2", 11-7/8", 14", 16", 18", 20", 22" and 24".
- P3 Joist of the same depth are manufactured with various flange widths; flange width is an important design consideration when specifying hangers.
- P3 Joist are manufactured up to 64' in length. These lengths are cut to commonly used lengths such as 16' to 36' in 2' increments for jobsite delivery. Check local supplier for availability.

Fire-Resistance-Rated Construction

The APA System Report SR-405D, "Fire Protection of Floors Constructed with Prefabricated Wood I-Joists for Compliance with the International Residential Codes," provides seven fire protective membrane alternatives. These assemblies in SR-405D meet the exemption in R501.3 stating, "or other approved floor assemblies demonstrating equivalent fire performance." The purpose of this document is for fire protection of floors constructed with prefabricated I-Joists when the 2012 IRC Section R501.3 or 2015 IRC Section R302.13 requirements are adopted by the local code jurisdictions.

For Fire-Resistance ratings, typical Sound Transmission Class (STC), and typical Impact Insulation Class (IIC) refer to ICC ESR 1405 Section 4.2.2 or DCA 3 - Fire Rated Wood Floor and Wall Assemblies at www.awc.org.

Allowable Floor Spans

Maximum Allowable Spans

The specific PJI designation needed for your application is easily determined by selecting the span needed and then by choosing the PJI that meets your span, spacing, and uniform loading criteria.

Tables 1 and 1a are for simple or multiple span applications respectively. The use of these tables will provide maximum spans for the indicated spacing and span conditions.

To illustrate the selection of a P3 Joist product, assume a design simple span of 16'-1". For architectural reasons limit the joist depth to 11-7/8" and joist spacing to 19.2" on center. From the 9-1/2" and 11-7/8" entries in Table 1, look down the 19.2" o.c. spacing column. For depths of 9-1/2", select 9-1/2" PJI 60, and from the 11-7/8" depths, notice that any joist designation will work.

The allowable spans in the tables in this user guide indicate the allowable clear span for various joist spacings under typical residential uniform floor loads (40 psf live load and 10 psf dead load) for glued-nailed systems.

In addition, floor sheathing must be field glued to the P3 Joist flanges using approved construction adhesives in order to achieve the P3 Joist allowable spans.

Use of these span tables is limited to uniform load conditions, and P3 floor Joist spans shall not exceed these allowable spans. P3 Joist can be used for other applications such as roofs and ceilings to support line loads or concentrated loads, etc., when properly engineered, using the appropriate design properties in Tables 19 and 20.

NOTES

1. Allowable clear span is applicable to simple-span or multiple-span residential floor construction with a design dead load of 10 psf and a live load of 40 psf. The live load deflection is limited to $L/480$. (L = span length in inches). Spans are based on duration factor (LDF) of 1.0.
2. Spans are based on a composite floor with glue-nailed sheathing meeting the requirements for APA Rated Sheathing STURD-I-FLOOR conforming to PS1 or PS2 with a minimum thickness of 19/32" (40/20 or 20 o.c.) for a joist spacing of 19.2" or less or with a minimum thickness of 23/32" (48/24 or 24 o.c.) for a joist spacing of 24" when floor sheathing is nailed only. Adhesive shall meet APA Specification AFG-01 or ASTM D3498. Spans shall be reduced to 12" when floor sheathing is nailed only.
3. Minimum bearing length shall be 1-3/4" for the end bearings and 3-1/2" for the intermediate bearings.
4. Bearing or web stiffeners are required for all PJI Joist in the span tables if over 16" deep.

TABLE 1 - LDF = 1.0

Allowable Spans for P3 Floor Joist

Simple span only - Glued subfloor* - On center spacing

Maximum floor span [ft]		Glued subfloor					
Load		Series	Depth [in]	On center joist spacing [in]			
Live	Dead			12	16	19.2	24
40	10	PJI 40	9-1/2	18'-0"	16'-5"	15'-6"	14'-6"
			11-7/8	21'-5"	19'-7"	18'-6"	16'-8"
			14	24'-4"	22'-3"	20'-6"	18'-4"
			16	26'-11"	24'-3"	22'-1"	19'-9"
		PJI 60	9-1/2	18'-11"	17'-4"	16'-4"	15'-3"
			11-7/8	22'-7"	20'-8"	19'-6"	18'-2"
			14	25'-9"	23'-6"	22'-2"	20'-8"
			16	28'-6"	26'-0"	24'-7"	22'-10"
		PJI 80	11-7/8	24'-11"	22'-8"	21'-4"	19'-10"
			14	28'-3"	25'-9"	24'-3"	22'-7"
			16	31'-4"	28'-6"	26'-10"	25'-0"
			18	34'-2"	31'-1"	29'-3"	27'-3"
			20	36'-11"	33'-8"	31'-8"	29'-6"
			22	39'-8"	36'-1"	34'-0"	31'-8"
			24	42'-4"	38'-6"	36'-4"	33'-9"
		PJI 90	11-7/8	25'-7"	23'-3"	21'-11"	20'-5"
			14	29'-0"	26'-5"	24'-11"	23'-2"
			16	32'-1"	29'-3"	27'-6"	25'-5"
			18	35'-1"	31'-11"	30'-1"	27'-11"
			20	37'-11"	34'-6"	32'-6"	30'-3"
			22	40'-9"	37'-7"	34'-11"	32'-6"
			24	43'-5"	39'-6"	37'-3"	34'-8"

*For other type floor assemblies, please contact EACOM at www.eacom.ca.
SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 psf = 47.88 Pa

TABLE 1A - LDF = 1.0

Allowable Spans for P3 Floor Joist

Multiple span only - Glued subfloor* - On center spacing

Maximum floor span [ft]		Glued subfloor					
Load		Series	Depth [in]	On center joist spacing [in]			
Live	Dead			12	16	19.2	24
40	10	PJI 40	9-1/2	19'-7"	17'-11"	16'-4"	14'-7"
			11-7/8	23'-5"	20'-5"	18'-7"	16'-7"
			14	25'-11"	22'-5"	20'-5"	18'-3"
			16	27'-11"	24'-2"	22'-0"	19'-8"
		PJI 60	9-1/2	20'-8"	18'-10"	17'-9"	16'-6"
			11-7/8	24'-8"	22'-6"	21'-2"	19'-7"
			14	28'-0"	25'-7"	24'-1"	19'-9"
			16	31'-1"	28'-4"	24'-9"	19'-9"
		PJI 80	11-7/8	27'-1"	24'-8"	23'-3"	21'-7"
			14	30'-10"	28'-0"	26'-5"	23'-11"
			16	34'-2"	31'-1"	29'-3"	23'-11"
			18	37'-3"	33'-10"	31'-11"	29'-5"
			20	40'-3"	36'-8"	34'-6"	31'-0"
			22	43'-3"	39'-4"	36'-4"	31'-5"
			24	46'-2"	41'-6"	37'-10"	31'-5"
		PJI 90	11-7/8	27'-11"	25'-4"	23'-10"	21'-10"
			14	31'-8"	28'-9"	27'-1"	23'-11"
			16	35'-0"	31'-10"	29'-11"	25'-11"
			18	38'-3"	34'-9"	32'-9"	30'-5"
			20	41'-5"	37'-8"	35'-5"	31'-5"
			22	44'-5"	40'-5"	38'-0"	31'-5"
			24	47'-5"	43'-1"	39'-3"	31'-5"

Allowable Floor Uniform Load Capacities

TABLE 2 - LDF = 1.0
P3 Floor Joist — PJI 40
Allowable Uniform Loads (PLF)

Clear Joist Span (ft.)	9-1/2"		11-7/8"		14"		16"	
	Live load	Total load	Live load	Total load	Live load	Total load	Live load	Total load
	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240
6		281		325		325		325
7		242		280		280		280
8		212		246		246		246
9		189		219		219		219
10		170		197		197		197
11	153	155		179		179		179
12	118	133		165		165		165
13	93	113		151		152		152
14	75	98	128	131		141		141
15	61	85	104	114		132		132
16	51	75	86	100		124		124
17	42	67	72	89	105	117		117
18	36	60	61	79	89	104		110
19	30	53	52	71	76	94		103
20	26	48	45	64	65	85	89	93
21		44	39	59	56	77	77	84
22		39	34	53	49	70	67	77
23		34	29	49	43	64	58	70
24		30	26	45	38	59	52	65
25		27		41	34	54	46	60
26				38	30	50	41	55
27				36	27	47	36	51
28				33		43	33	48
29				30		40	29	44
30				27		38	27	42
31						35		39



TABLE 3 - LDF = 1.0
P3 Floor Joist — PJI 60
Allowable Uniform Loads (PLF)

Clear Joist Span (ft.)	9-1/2"		11-7/8"		14"		16"	
	Live load	Total load	Live load	Total load	Live load	Total load	Live load	Total load
	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240
6		281		325		325		325
7		242		280		280		280
8		212		246		246		246
9		189		219		219		219
10		170		197		197		197
11		155		179		179		179
12	141	142		165		165		165
13	112	131		152		152		152
14	90	122		141		141		141
15	73	114	125	132		132		132
16	60	104	103	124		124		124
17	51	92	86	117		117		117
18	43	82	73	110	107	110		110
19	36	73	62	98	92	104		104
20	31	62	53	89	79	99		99
21	27	54	46	81	68	95	93	95
22		47	40	74	59	90	81	90
23		41	35	67	52	83	71	86
24		36	31	62	46	76	63	83
25		32	28	55	41	70	55	80
26		29		49	36	65	49	76
27		26		44	32	60	44	71
28				39	29	56	40	66
29				35	26	52	36	61
30				32		47	32	57
31				29		43	29	54



Allowable Floor Uniform Load Capacities (continued)

TABLE 4 - LDF = 1.0

P3 Floor Joist — PJI 80

Allowable Uniform Loads (PLF)

Clear Joist Span (ft.)	11-7/8"		14"		16"	
	Live load	Total load	Live load	Total load	Live load	Total load
	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240
6		359		393		393
7		309		338		338
8		271		297		297
9		241		264		264
10		218		238		238
11		198		217		217
12		182		199		199
13		168		184		184
14		156		171		171
15		146		160		160
16		137		150		150
17	119	129		141		141
18	101	122		133		133
19	86	115	125	126		126
20	74	110	108	120		120
21	64	104	93	114		114
22	56	100	81	109		109
23	49	95	71	104	97	104
24	43	86	63	100	85	100
25	38	76	56	96	76	96
26	34	68	50	92	67	92
27	30	60	44	85	60	89
28	27	54	40	79	54	86
29		49	36	72	49	83
30		44	32	65	44	80
31		40	29	59	40	76
32		36	27	53	36	71
33		33		49	33	66
34		30		45	30	61



TABLE 5 - LDF = 1.0

P3 Floor Joist — PJI 80 with Web Stiffeners

Allowable Uniform Loads (PLF)

Clear Joist Span (ft.)	18"		20"		22"		24"	
	Live load	Total load	Live load	Total load	Live load	Total load	Live load	Total load
	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240
12		263		263		263		263
13		243		243		243		243
14		225		225		225		225
15		210		210		210		210
16		197		197		197		197
17		185		185		185		185
18		175		175		175		175
19		166		166		166		166
20		158		158		158		158
21		150		150		150		150
22		143		143		143		143
23		137		137		137		137
24	121	132		132		132		132
25	107	126		126		126		126
26	95	121	120	121		121		121
27	85	117	108	117		117		117
28	76	112	96	112		112		112
29	69	105	87	108	107	108		108
30	62	98	78	105	97	105		105
31	56	92	71	101	88	101		101
32	51	86	65	95	80	98	97	98
33	47	81	59	89	73	95	88	95
34	43	76	54	84	67	92	81	92
35	39	72	49	80	61	87	74	90
36	36	68	45	75	56	82	68	87
37	33	64	42	71	52	78	63	85
38	30	61	39	67	48	74	58	80

Allowable Floor Uniform Load Capacities (continued)

TABLE 6 - LDF = 1.0

P3 Floor Joist — PJI 90

Allowable Uniform Loads (PLF)

Clear Joist Span (ft.)	11-7/8"		14"		16"	
	Live load	Total load	Live load	Total load	Live load	Total load
	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240
12		182		199		213
13		168		184		197
14		156		171		183
15		146		160		171
16		137		150		160
17		129		141		151
18		122		133		142
19	104	115		126		135
20	89	110		120		128
21	77	104	112	114		122
22	67	100	98	109		116
23	59	95	85	104		111
24	52	92	75	100	102	107
25	46	88	66	96	90	102
26	41	81	59	92	80	98
27	36	73	53	89	71	95
28	33	65	47	86	64	91
29	29	59	43	83	58	88
30	27	53	38	81	52	85
31	24	48	35	78	47	83
32	22	44	32	76	43	80
33	20	40	29	73	39	78
34	18	36	26	71	36	71
35	17	33	24	48	33	65
36	15	31	22	45	30	60
37	14	28	21	41	28	55
38	13	26	19	38	26	51

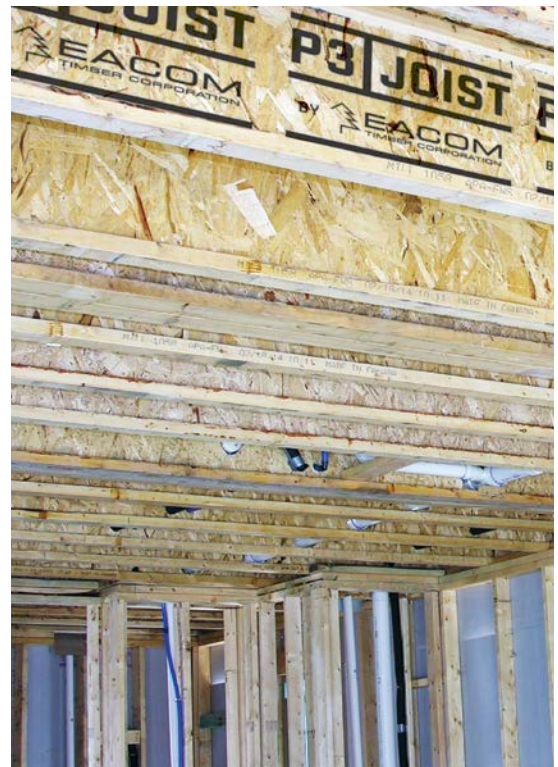


TABLE 7 - LDF = 1.0

P3 Floor Joist — PJI 90 With Web Stiffeners

Allowable Uniform Loads (PLF)

Clear Joist Span (ft.)	18"		20"		22"		24"	
	Live load	Total load	Live load	Total load	Live load	Total load	Live load	Total load
	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240	Defl. L/480	Defl. L/240
12		263		263		263		263
13		243		243		243		243
14		226		226		226		226
15		211		211		211		211
16		187		198		198		198
17		186		186		186		186
18		176		176		176		176
19		166		166		166		166
20		158		158		158		158
21		150		150		150		150
22		144		144		144		144
23		137		137		137		137
24	132	132		132		132		132
25	117	126		126		126		126
26	104	122		122		122		122
27	93	117	117	117		117		117
28	83	113	105	113		113		113
29	75	109	94	109		109		109
30	68	105	85	105	105	105		105
31	61	102	77	102	95	102		102
32	56	99	70	99	87	99		99
33	51	96	64	96	79	96	96	96
34	46	93	59	93	72	93	88	93
35	43	85	54	90	66	90	80	90
36	39	78	49	88	61	88	74	88
37	36	72	45	85	56	85	68	85
38	33	66	42	82	52	83	63	83

NOTES FOR TABLES 2, 3, 4, 5, 6, and 7

1. Live Load column limits deflection to L/480; Total Load column limits deflection to L/240.
2. Values represent the most restrictive of simple span or multiple span conditions.
3. Values are for I-Joists spaced at a maximum of 24" on center.
4. Tables assume a minimum end bearing length of 1-3/4" and a minimum interior bearing length of 3-1/2".
5. Web stiffeners are not required for the joists in tables 2, 3, and 4. Web stiffeners are required for all joists at each support in Table 5 and Table 7.

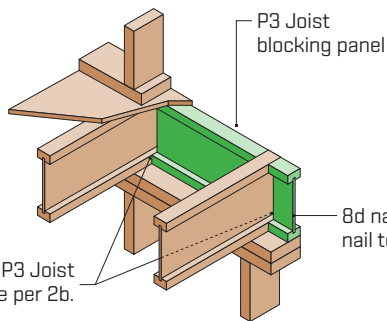
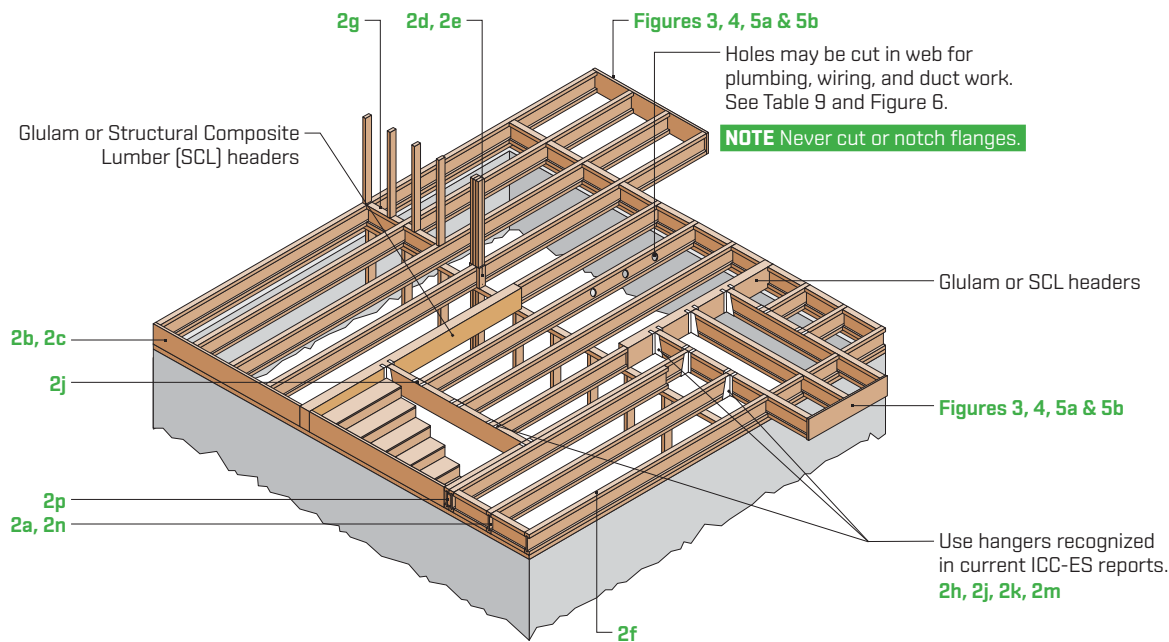
JOIST SIZING

1. Select desired joist depth (column).
2. Select desired span (row).
3. Check BOTH Live Load and Total Load columns.
4. If Live Load column is blank, Total Load capacity governs.

Floor Framing and Construction Details

FIGURE 1
Typical P3 Floor Joist Framing and Construction Details

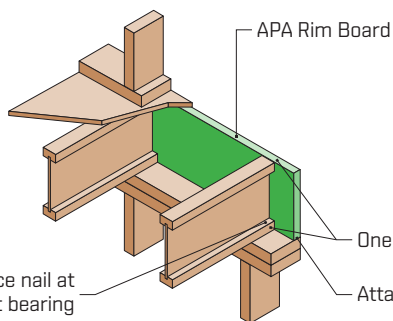
All nails shown in the details below are assumed to be common nails unless otherwise noted. 10d box nails (0.128 x 3") may be substituted for 8d common (0.131 x 2-1/2") as shown in details. Individual components are not shown to scale for clarity.



Blocking Panel or Rim Joist	Uniform Vertical Load Transfer Capacity* (plf)
P3 Joist (9-1/2" - 18")	2000

*The uniform vertical load capacity is limited to a joist depth of 18" or less and is based on the normal (10-yr) load duration. It shall not be used in the design of a bending member such as joist, header, or rafter. For concentrated vertical load transfer capacity, see 2d.

2a **BLOCKING PANEL AT END SUPPORT DETAIL**



Blocking Panel or Rim Joist	Uniform Vertical Load Transfer Capacity* (plf)
1-1/8" APA Rim Board Plus	4850
1-1/8" APA Rim Board	4400
1" APA Rim Board	3300

*The uniform vertical load capacity is limited to Rim Board depth of 18" or less and is based on the normal (10-yr) load duration. It shall not be used in the design of a bending member such as joist, header, or rafter. For concentrated vertical load transfer capacity, see 2d.

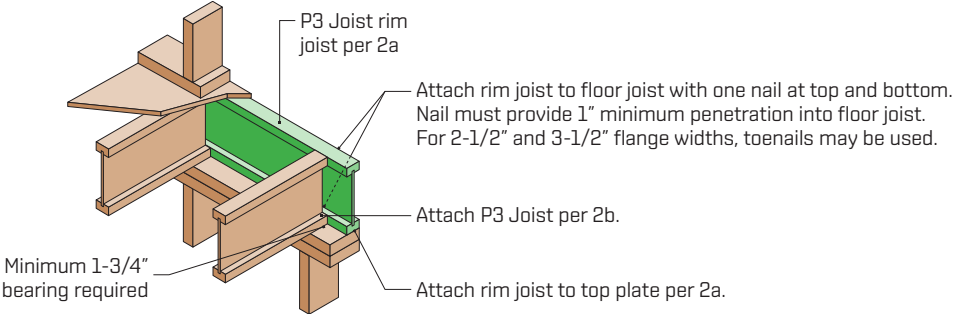
2b **RIM BOARD DETAIL**

To avoid splitting flange, start nails at least 1-1/2" from end of P3 Joist. Nails may be driven at an angle to avoid splitting of bearing plate.

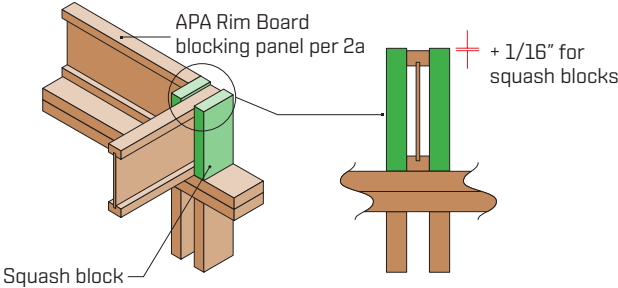
FIGURE 1 (CONTINUED)

Typical P3 Floor Joist Framing and Construction Details

All nails shown in the details below are assumed to be common nails unless otherwise noted. 10d box nails [0.128 x 3"] may be substituted for 8d common [0.131 x 2-1/2"] as shown in details. Individual components are not shown to scale for clarity.



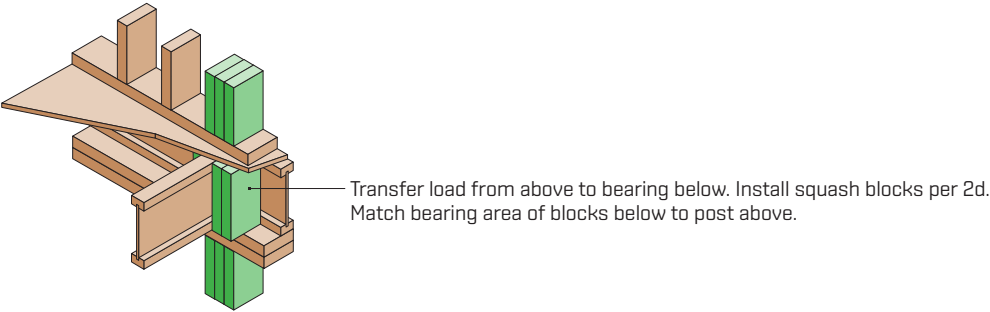
2c P3 JOIST AS RIM JOIST DETAIL



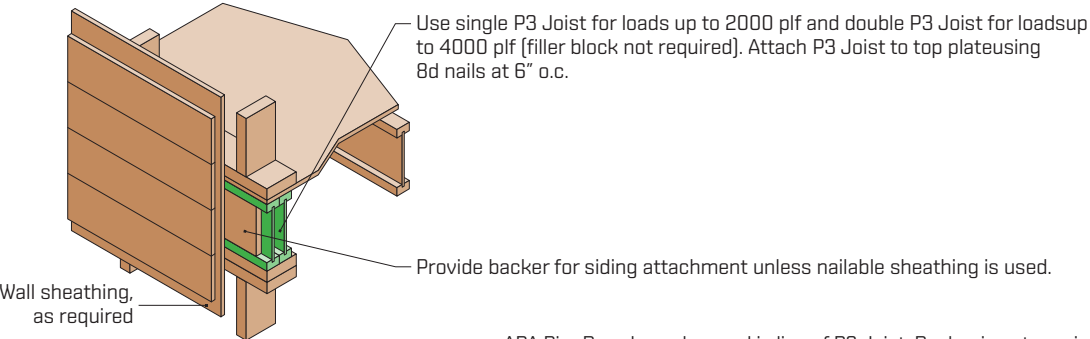
Pair of Squash Blocks	Vertical load transfer capacity per pair of squash blocks (lb)	
	3-1/2" wide	5-1/2" wide
2x lumber	3800	5900
1-1/8" APA Rim Board, Rim Board Plus, or Rated Sturd-I-Floor 48 oc	2600	4000
1" APA Rim Board or Rated Sturd-I-Floor 32 oc	1900	3000

Provide lateral bracing per 2a, 2b, or 2c.

2d SQUASH BLOCK DETAIL



2e LOAD TRANSFER WITH PASS THRU BLOCKING DETAIL



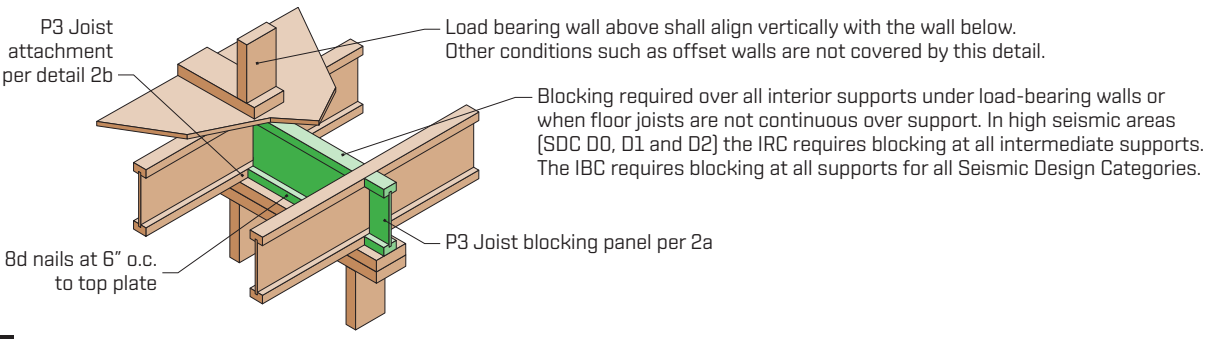
2f PARALLEL END P3 JOIST DETAIL

APA Rim Board may be used in lieu of P3 Joist. Backer is not required when APA Rim Board is used.

FIGURE 1 (CONTINUED)

Typical P3 Floor Joist Framing and Construction Details

All nails shown in the details below are assumed to be common nails unless otherwise noted. 10d box nails [0.128 x 3"] may be substituted for 8d common [0.131 x 2-1/2"] as shown in details. Individual components are not shown to scale for clarity.



2g **BLOCKING PANEL AT INTERIOR SUPPORT DETAIL**

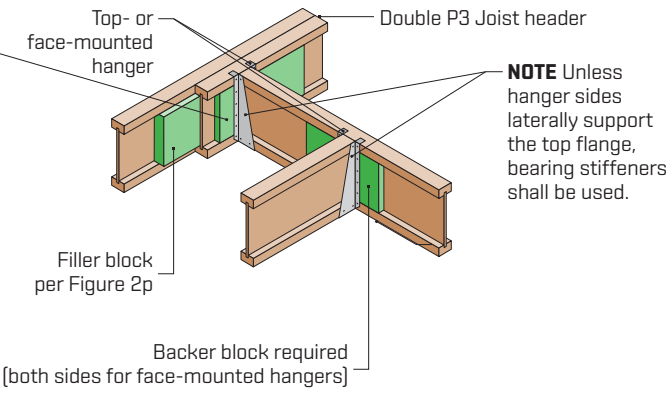
BACKER BLOCK Use if hanger load exceeds 250 lbs. Before installing a backer block to a double P3 Joist, drive 3 additional 10d nails through the webs and filler block where the backer block will fit. Clinch. Install backer tightly to top flange. Use twelve 10d nails, clinched when possible. Maximum capacity for hanger for this detail is 1280 lbs.

BACKER BLOCKS Blocks must be long enough to permit required nailing without splitting.

Flange Width	Material Thickness Required*	Minimum Depth**
2-1/2"	1"	5-1/2"
3-1/2"	1-1/2"	7-1/4"

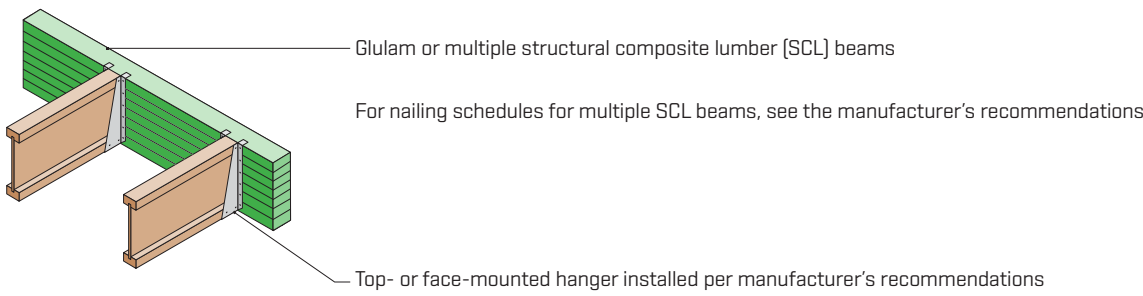
* Minimum grade for backer block material shall be Utility grade SPF (south) or better for solid sawn lumber and shall be Rated Sheathing grade for wood structural panels.

** For face-mount hangers, use net joist depth minus 3-1/4" for joists with 1-1/2" thick flanges.



2h **P3 JOIST WITH BACKER BLOCKS FOR HANGER DETAIL**

For hanger capacity see hanger manufacturer's recommendations. Verify double P3 Joist capacity to support concentrated loads.



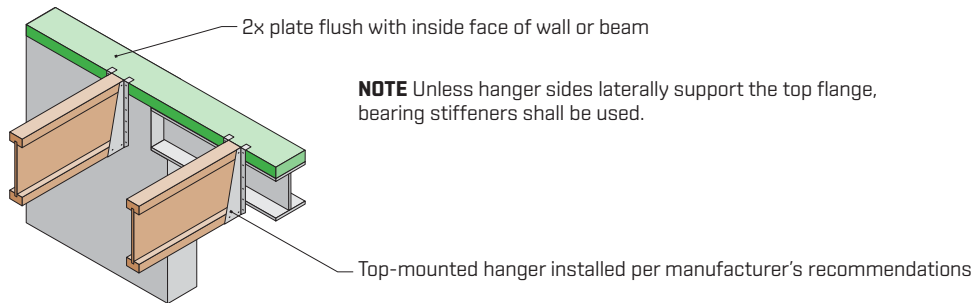
2j **P3 JOIST TO FLUSH BEAM DETAIL**

NOTE Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.

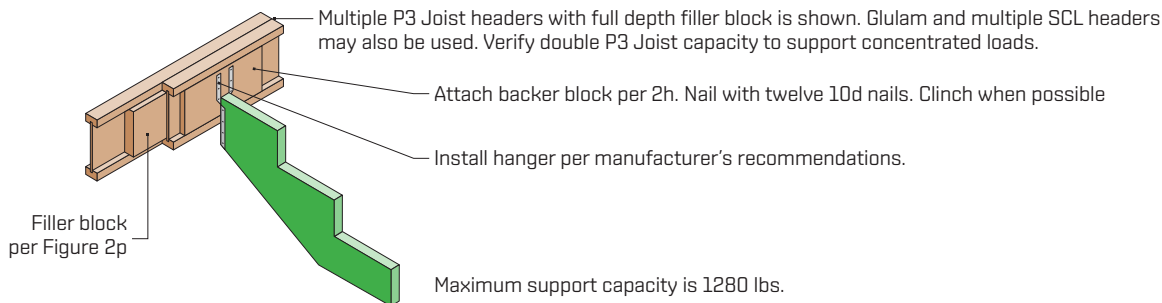
FIGURE 1 (CONTINUED)

Typical P3 Floor Joist Framing and Construction Details

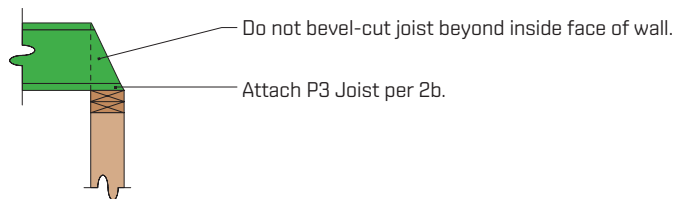
All nails shown in the details below are assumed to be common nails unless otherwise noted. 10d box nails [0.128 x 3"] may be substituted for 8d common [0.131 x 2-1/2"] as shown in details. Individual components are not shown to scale for clarity.



2k P3 JOIST WITH TOP MOUNT HANGER DETAIL



2m STAIR STRINGER TO P3 JOIST DETAIL



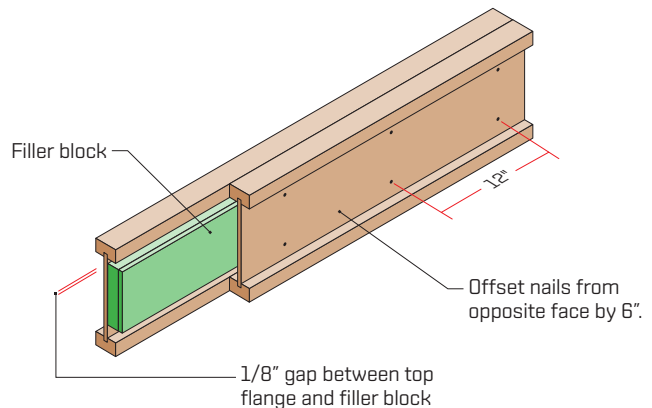
2n BEVEL-CUT P3 JOIST DETAIL

NOTE Blocking is required at bearing for lateral support. Not shown for clarity

Flange Width	Net Depth	Filler Block Size
2-1/2"	9-1/2"	2-1/8" x 6"
	11-7/8"	2-1/8" x 8"
	14"	2-1/8" x 10"
	16"	2-1/8" x 12"
3-1/2"	11-7/8"	3" x 8"
	14"	3" x 10"
	16"	3" x 12"
3-1/2"	18"	3" x 14"
	20"	3" x 16"
	22"	3" x 18"
	24"	3" x 20"

NOTES

1. Support back of I-Joist web during nailing to prevent damage to web/flange connection.
2. Leave a 1/8" gap between top of filler block and bottom of top I-Joist flange.
3. Filler block is required between joists for full length of span.
4. Nail joists together with two rows of 10d nails at 12" o.c. (clinched when possible) on each side of the double P3 Joist. Total of 4 nails per foot required. If nails can be clinched, only 2 nails per foot are required.
5. The maximum load that may be applied to one side of the double joist using this detail is 620 lbs./ft.



2p DOUBLE P3 JOIST CONSTRUCTION DETAIL

Minimum Nailing Requirements for Web Stiffeners

Stiffener Size and Nailing Requirement

Joist Dept	2-1/2" Wide Flange 8d [2-1/2"] nails	3-1/2" Wide Flange 10d [3"] nails
9-1/2"	4	-
11-7/8"	4	4
14"	4	4
16"	4	4
18"	-	6
20"	-	6
22"	-	8
24"	-	8
Minimum Stiffener	1" x 2-5/16" [width]	1-1/2" x 2-5/16" [width]

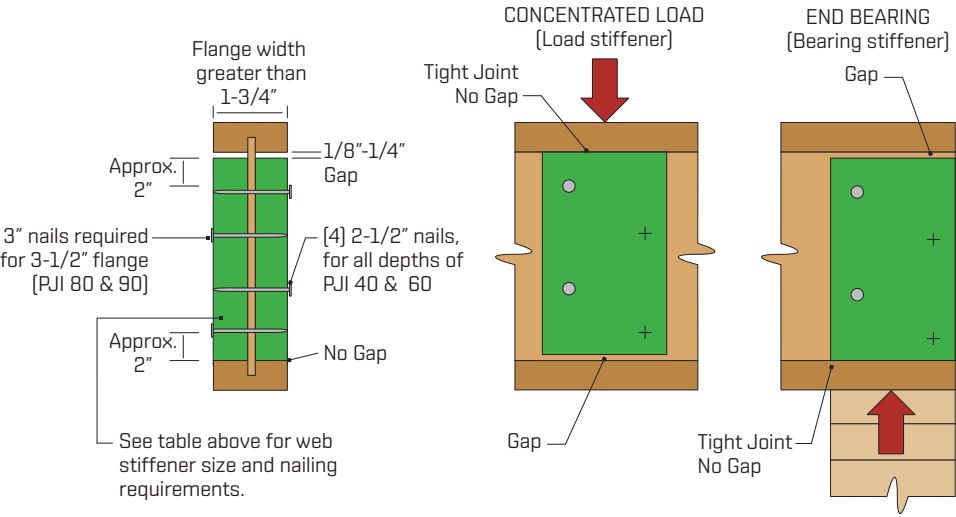
1. Web stiffeners are required:
- When sides of the hangers do not laterally brace the top flange of each P3 Joist;

• When P3 Joists are designed to support concentrated loads greater than 1580 lbs. that are applied to the P3 Joists top flange between supports. In these applications only, the gap between the web stiffener and the flange shall be at the bottom flange;

• For all engineered applications with end-reactions greater than 1580 lbs.
A design analysis must be performed for all engineered applications with end-reactions greater than 1580 lbs.
2. When used at end bearings, install web stiffeners tightly against the bottom flange of the P3 Joist. Leave a minimum 1/8" gap between the top of the stiffener and the bottom of the top flange. See Figure 2.
3. Web stiffeners may be supplied by the distributor for field installation or may be cut in the field as required.

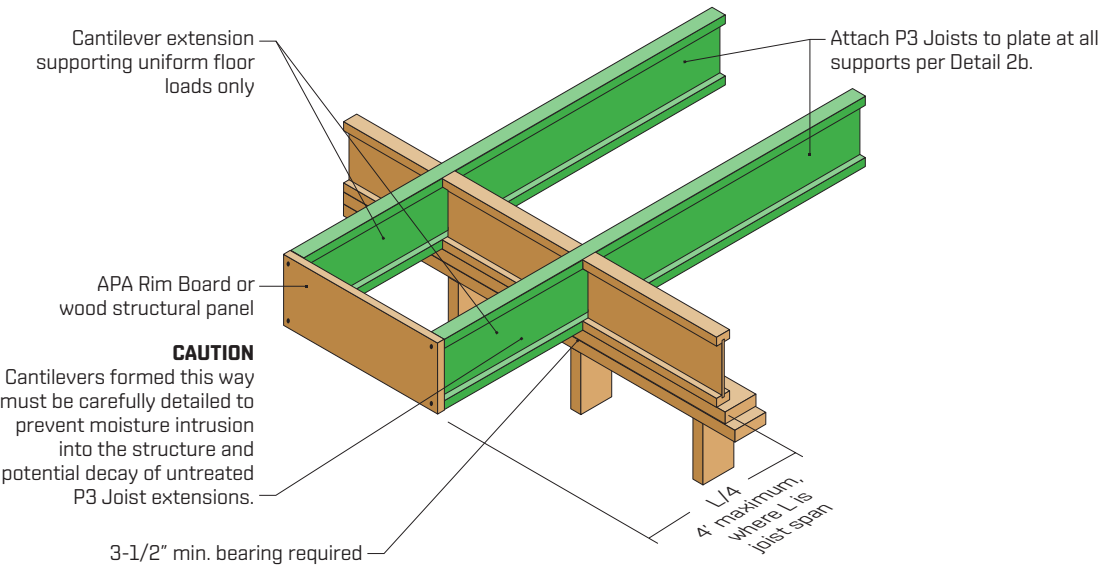
Web Stiffener Installation Details

FIGURE 2



Cantilever Details for Interior Balconies (No Wall Load)

FIGURE 3



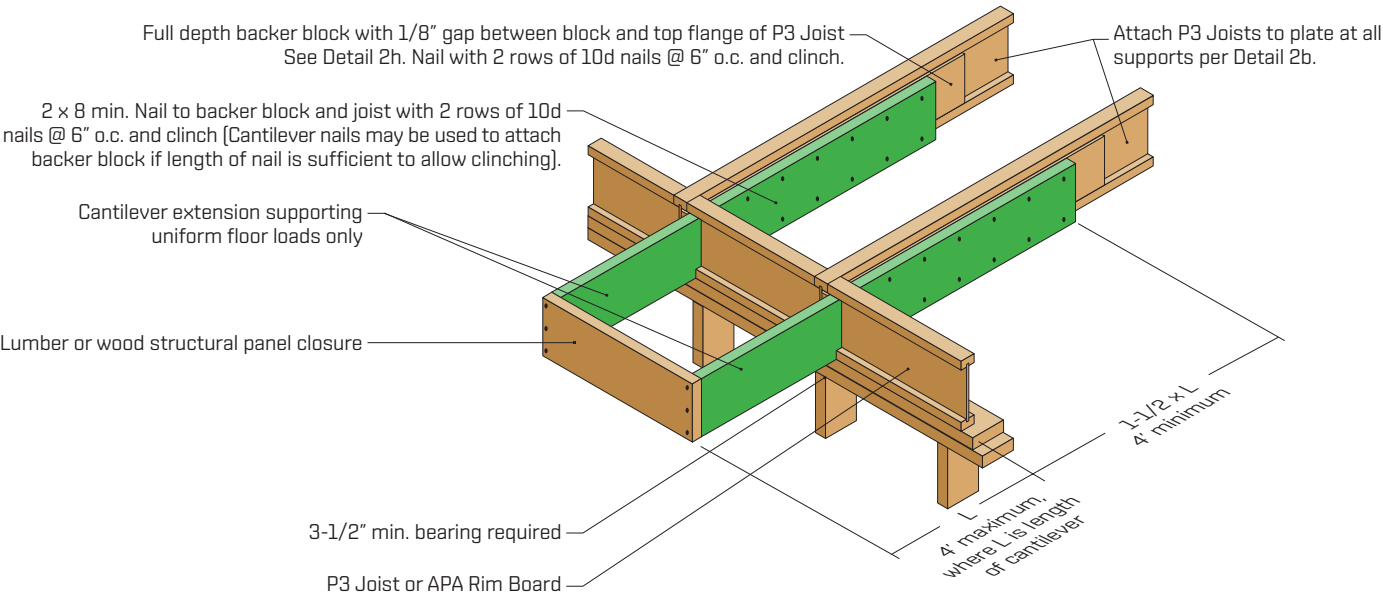
Balconies may be constructed by using either continuous P3 Joists (Figure 3) or by adding lumber extensions (Figure 4) to the P3 Joist. Continuous P3 Joist cantilevers are limited to one-fourth the adjacent span when supporting uniform loads only. For applications supporting concentrated loads at the end of the cantilever such as a wall, see Figures 5a and 5b.

Unless otherwise engineered, cantilevers are limited to a maximum of 4' when supporting uniform loads only. Blocking is required at the cantilever support as shown.

Uniform floor load shall not exceed 40 psf live load and 10 psf dead load. The balcony load shall not exceed 60 psf live load and 10 psf dead load.

Lumber Cantilever Details For Balconies (No Wall Load)

FIGURE 4



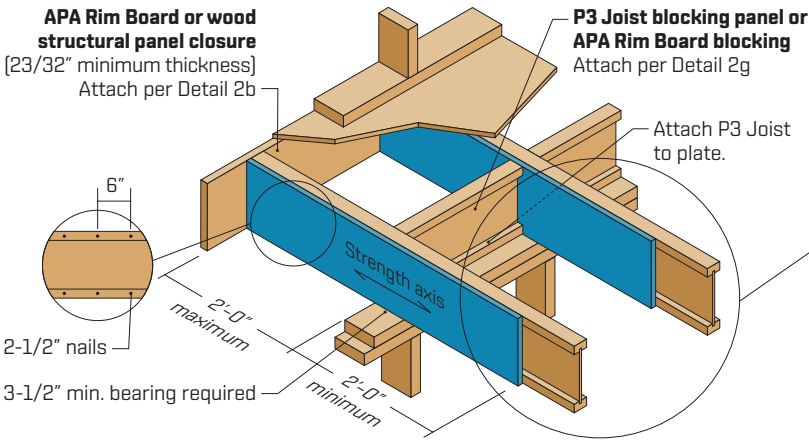
NOTES All nails shown in the details above are assumed to be common nails unless otherwise noted. Individual components are not shown to scale for clarity.

Cantilever Detail for Vertical Building Offset (Concentrated Wall Load)

FIGURE 5A

Method 1

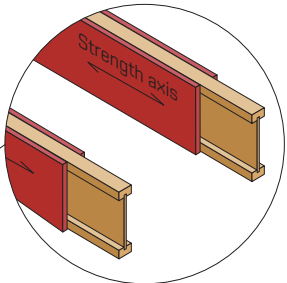
Sheathing Reinforcement One Side



Method 2

Sheathing Reinforcement Two Sides

Use same installation as Method 1, but reinforce both sides of the P3 Joist with sheathing or APA Rim Board.



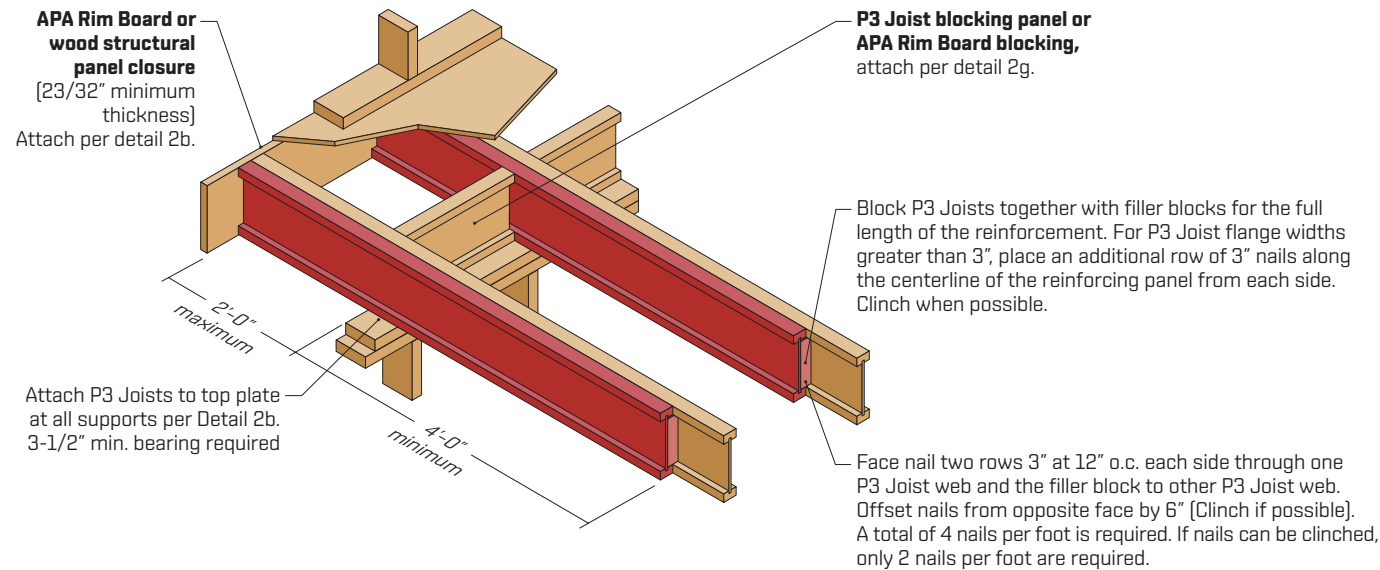
Use nailing pattern shown for Method 1 with opposite face nailing offset by 3".

NOTE APA RATED SHEATHING 48/24 (minimum thickness 23/32") required on sides of joist. Depth shall match the full height of the joist. Nail top and bottom flange with 2-1/2" nails at 6" o.c. Install with face grain running horizontally. Attach P3 Joist to plate at all supports per Detail 2b.

P3 Joists may also be used in cantilever applications, supporting a concentrated load applied to the end of the cantilever such as with a vertical building offset. For cantilever-end concentrated load applications that require reinforcing based on Table 8, the cantilever is limited to 2' maximum. In addition, blocking is required along the cantilever support and is required for 4' on each side of the cantilever area. Subject to the roof loads and layout (see Table 8), three methods of reinforcing are allowed in load bearing cantilever applications: reinforcing sheathing applied to one side of the P3 Joist (Method 1), reinforcing sheathing applied to both sides of the P3 Joist (Method 2), or double P3 Joist (Figure 5b).

FIGURE 5B

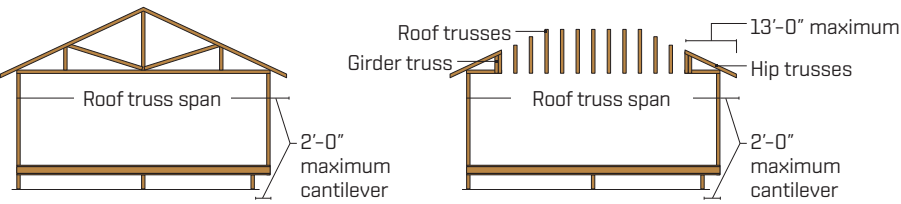
Double P3 Joist



NOTES All nails shown in the details above are assumed to be common nails unless otherwise noted. Individual components are not shown to scale for clarity.

Cantilever Details for Vertical Building Offset (Concentrated Wall Load)

FIGURE 5C



See Table below for P3 Joist reinforcement requirements at cantilever.

For hip roofs with the hip trusses running parallel to the cantilevered floor joists, the P3 Joist reinforcement requirements for a span of 26 ft. shall be permitted to be used.

Source: APA

Cantilever Reinforcement Methods

TABLE 8
P3 Joist Cantilever Reinforcement Methods Allowed

Joist Depth (in.)	Roof Truss Span (ft)	ROOF LOADINGS											
		TL = 35 psf LL not to exceed 20 psf Joist Spacing (in.)				TL = 45 psf LL not to exceed 30 psf Joist Spacing (in.)				TL = 55 psf LL not to exceed 40 psf Joist Spacing (in.)			
		12	16	19.2	24	12	16	19.2	24	12	16	19.2	24
9-1/2	26	N	N	N	1	N	N	1	2	N	1	2	X
	28	N	N	N	1	N	N	1	2	N	1	2	X
	30	N	N	N	1	N	N	1	2	N	1	2	X
	32	N	N	1	2	N	1	1	X	N	1	2	X
	34	N	N	1	2	N	1	2	X	N	2	X	X
	36	N	N	1	2	N	1	2	X	N	2	X	X
11-7/8	26	N	N	N	1	N	N	1	1	N	1	1	2
	28	N	N	1	1	N	1	1	1	N	1	1	2
	30	N	N	1	1	N	1	1	2	N	1	1	2
	32	N	N	1	1	N	1	1	2	N	1	1	2
	34	N	N	1	1	N	1	1	2	N	1	2	2
	36	N	N	1	1	N	1	1	2	N	1	2	2
14	26	N	N	N	1	N	N	1	2	N	1	2	X
	28	N	N	N	1	N	N	N	1	N	N	1	1
	30	N	N	N	1	N	N	1	1	N	1	1	2
	32	N	N	N	1	N	N	1	1	N	1	1	2
	34	N	N	N	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	1	N	1	1	2
	32	N	N	N	1	N	N	1	1	N	1	1	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	1	N	1	1	2
	32	N	N	N	1	N	N	1	1	N	1	1	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N	N	N	1	N	N	1	2	N	1	2	2
	34	N	N	1	1	N	N	1	2	N	1	1	2
	36	N	N	1	1	N	1	1	2	N	1	1	2
16	26	N	N	N	1	N	N	1	2	N	1	2	2
	28	N	N	N	1	N	N	1	2	N	1	2	2
	30	N	N	N	1	N	N	1	2	N	1	2	2
	32	N											

Typical Floor Framing Installation Notes

1. Installation of P3 Joist shall be in accordance with Figure 1.
2. Except for cutting joist to length, P3 Joist flanges should **NEVER** be cut, drilled, or notched.
3. Concentrated loads should be applied only to the top surface of the top flange. At no time should concentrated loads be suspended from the bottom flange with the exception of light loads such as ceiling fans, light fixtures, etc.
4. P3 Joist must be protected from the weather prior to installation.
5. P3 Joist must not be used in applications where they will be permanently exposed to weather or will reach a moisture content greater than 16% 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.
6. End-bearing length must be at least 1-3/4". For multiple span joists, intermediate bearing length must be at least 3-1/2".
7. Ends of floor joists shall be restrained to prevent rollover. Use Certified Rim Board or P3 Joist blocking panels.
8. P3 Joist installed beneath bearing walls perpendicular to the joists require full depth blocking panels, Certified Rim Board, or squash blocks (cripple blocks) in order to transfer gravity loads from above the floor system to the wall or foundation below. See note 2g page 11.
9. For P3 Joist up to 18" deep installed as rim board directly beneath bearing walls parallel to the joists, the maximum vertical load using a single P3 Joist is 2000 plf and using double P3 Joist is 4000 plf. Full bearing is required under P3 Joist used as rim board.
10. Continuous lateral support of the P3 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 P3 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 Figure 3 or 4.
11. Nails installed perpendicular to the wide face of the flange shall be spaced in accordance with the applicable building code requirements or approved building plans but should not be closer than 2" o.c. per row.
12. Figure 1 details show only P3 Joist-specific fastener requirements. For other fastener requirements, see the applicable building code.
13. For Fire-Resistance ratings, typical Sound Transmission Class (STC), and typical Impact Insulation Class (IIC) refer to ICC ESR 1405 Section 4.2.2 or DCA 3 - Fire Rated Wood Floor and Wall Assemblies at www.awc.org.

Web Hole Rules and Specifications

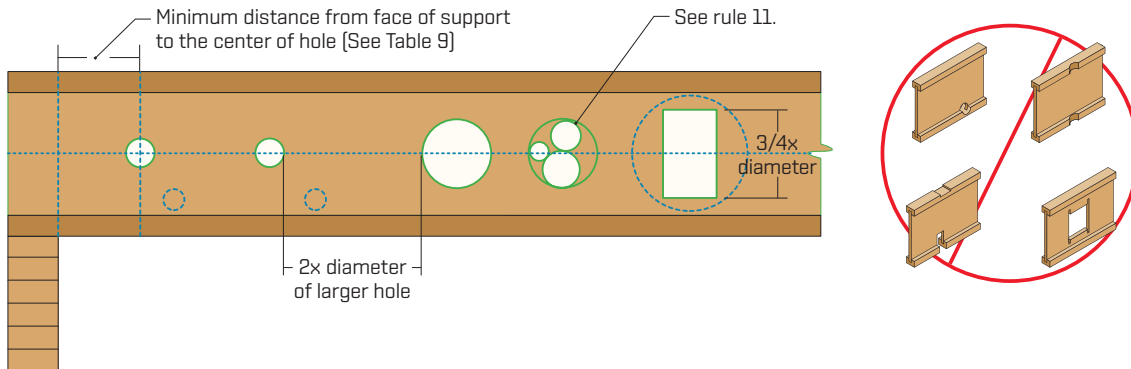
One of the benefits of using P3 Joists in residential floor construction is that holes may be cut in the joist webs to accommodate electrical wiring, plumbing lines, and other mechanical systems, thereby minimizing the depth of the floor system.

Rules for Cutting Holes in P3 Joists

1. The distance between the inside edge of the support and the center line of any hole shall be in compliance with the requirements of Table 9.
2. P3 Joist top and bottom flanges must **NEVER** be cut, notched, or otherwise modified.
3. Whenever possible field-cut holes should be centered on the middle of the web.
4. The maximum size hole that can be cut into a P3 Joist web shall equal the clear distance between the flanges of the P3 Joist minus 1/4". A minimum of 1/8" should always be maintained between the top or bottom of the hole and the adjacent P3 Joist flange.
5. The sides of square holes or longest sides of rectangular holes should not exceed three-fourths of the diameter of the maximum round hole permitted at that location.
6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole **(or twice the length of the longest side of the longest rectangular hole)** and each hole must be sized and located in compliance with the requirements of Table 9.
7. Holes measuring 1-1/2" shall be permitted anywhere in a cantilevered section of a P3 Joist. Holes of greater size may be permitted subject to verification.
8. A 1-1/2" hole can be placed anywhere in the web provided that it meets the requirements of rule 6 above.
9. All holes shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 6.
10. Limit of 3 maximum size holes per span.
11. A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

P3 Joist Typical Holes

FIGURE 6



Cutting the Holes

- **Never** drill, cut, or notch the flange. **Never** over-cut the web.
- Holes in webs should be cut with a sharp saw.
- For rectangular holes avoid over cutting the corners as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the rectangular hole by drilling a 1" diameter hole in each of the 4 corners and then making the cuts between the holes is another good method to minimize damage to I-Joist.

TABLE 9

Location Of Circular Holes In P3 Joist Webs

Simple or Multiple Span for Dead Loads up to 10 psf and Live Loads up to 40 psf^{1,2,3,4}

Joist Depth	Joist	Minimum distance from inside face of any support to center of hole [ft.-in.]															
		Round Hole Diameter [in.]															
		SAF ⁽⁵⁾	2	3	4	5	6	6-1/4	7	8	8-5/8	9	10	10-3/4	11	12	12-3/4
9-1/2"	PJI 40	14'-6"	0'-7"	1'-8"	3'-0"	4'-4"	5'-9"	6'-3"	2	N	1	2	X				
	PJI 60	15'-3"	1'-8"	3'-0"	4'-4"	5'-8"	7'-3"	7'-8"	2	N	1	2	X				
11-7/8"	PJI 40	16'-7"	0'-7"	0'-8"	1'-2"	2'-5"	3'-9"	4'-1"	5'-1"	6'-8"	7'-11"	1	2				
	PJI 60	18'-2"	0'-8"	1'-10"	3'-2"	4'-5"	5'-10"	6'-2"	7'-4"	8'-11"	10'-0"	1	2				
	PJI 80	19'-10"	1'-11"	3'-2"	4'-6"	5'-10"	7'-3"	7'-8"	8'-10"	10'-6"	11'-7"	1	2				
	PJI 90	20'-5"	2'-1"	3'-4"	4'-8"	6'-0"	7'-6"	7'-10"	9'-0"	10'-8"	11'-11"	1	2				
14"	PJI 40	18'-3"	0'-7"	0'-8"	0'-8"	0'-9"	1'-10"	2'-2"	3'-2"	4'-7"	5'-5"	6'-0"	7'-7"	9'-4"			
	PJI 60	19'-9"	0'-7"	0'-8"	0'-8"	1'-7"	3'-2"	3'-6"	4'-9"	6'-6"	7'-8"	8'-4"	10'-4"	11'-11"			
	PJI 80	22'-7"	0'-7"	1'-9"	3'-0"	4'-4"	5'-8"	6'-1"	7'-1"	8'-7"	9'-7"	10'-3"	12'-2"	13'-10"			
	PJI 90	23'-2"	0'-7"	1'-9"	3'-0"	4'-4"	5'-8"	6'-1"	7'-1"	8'-7"	9'-10"	10'-7"	12'-8"	14'-4"			
16"	PJI 40	19'-8"	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-5"	2'-9"	3'-7"	4'-1"	5'-6"	6'-7"	7'-0"	8'-9"	10'-9"
	PJI 60	19'-9"	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	1'-10"	3'-6"	4'-6"	5'-2"	7'-3"	8'-11"	9'-6"	11'-10"	13'-9"
	PJI 80	23'-11"	0'-7"	0'-8"	0'-8"	1'-7"	3'-2"	3'-7"	4'-10"	6'-6"	7'-7"	8'-3"	10'-2"	11'-8"	12'-2"	14'-3"	16'-0"
	PJI 90	25'-5"	0'-7"	0'-8"	1'-8"	2'-11"	4'-3"	4'-7"	5'-7"	7'-0"	8'-1"	8'-9"	10'-8"	12'-2"	12'-8"	14'-10"	16'-7"
18"	PJI 80	27'-3"	0'-7"	0'-8"	0'-8"	0'-11"	2'-3"	2'-8"	3'-9"	5'-2"	6'-1"	6'-8"	8'-3"	9'-6"	9'-11"	11'-8"	13'-0"
	PJI 90	27'-11"	0'-7"	0'-8"	0'-8"	1'-6"	2'-11"	3'-4"	4'-5"	5'-10"	6'-10"	7'-5"	9'-0"	10'-3"	10'-8"	12'-5"	13'-9"
20"	PJI 80	29'-6"	0'-7"	0'-8"	0'-8"	0'-9"	1'-9"	2'-1"	3'-1"	4'-5"	5'-3"	5'-10"	7'-3"	8'-4"	8'-8"	10'-3"	11'-5"
	PJI 90	30'-3"	0'-7"	0'-8"	0'-8"	0'-10"	2'-2"	2'-6"	3'-6"	4'-10"	5'-8"	6'-2"	7'-8"	8'-9"	9'-1"	10'-8"	11'-11"
22"	PJI 80	31'-5"	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	1'-1"	2'-0"	3'-3"	4'-0"	4'-6"	5'-9"	6'-9"	7'-1"	8'-6"	9'-9"
	PJI 90	31'-5"	0'-7"	0'-8"	0'-8"	0'-9"	0'-10"	1'-1"	2'-0"	3'-3"	4'-2"	4'-9"	6'-4"	7'-7"	8'-0"	9'-8"	11'-0"
24"	PJI 80	31'-5"	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	0'-10"	1'-11"	2'-7"	3'-1"	4'-4"	5'-5"	5'-10"	7'-4"	8'-6"
	PJI 90	31'-5"	0'-7"	0'-8"	0'-8"	0'-9"	0'-9"	0'-10"	0'-10"	2'-4"	3'-2"	3'-9"	5'-3"	6'-4"	6'-9"	8'-4"	9'-6"

NOTES

1. Above tables may be used for P3 Joist spacing of 24" on center or less.
2. Hole location distance is measured from inside face of supports to center of hole.
3. Distances in this chart are based on uniformly loaded joists.
4. Hole sizes and/or locations that fall outside of the scope of this table may be acceptable based on analysis of actual hole size, span, spacing, and loading conditions.
5. SAF stands for Span Adjustment Factor. SAF is used as defined below.

OPTIONAL

Table 9 is based on the P3 Joists being used at their maximum span. If the P3 Joists are placed at less than their full allowable span, the maximum distance from the centerline of the hole to the face of any support (D) as given above may be reduced as follows.

$$D_{\text{reduced}} = \frac{L_{\text{actual}}}{\text{SAF}} \times D$$

Where: D_{reduced} = Distance from the inside face of any support to center of hole is reduced for less-than-maximum span applications (ft). The reduced distance shall not be less than 6" from the face of support to edge of the hole.

L_{actual} = The actual measured span distance between the inside faces of supports (ft)

SAF = Span Adjustment Factor is given in the table above.

D = The minimum distance from the inside face of any support to center of hole from Table 9 above

If $\frac{L_{\text{actual}}}{\text{SAF}}$ is greater than 1, use 1 in the above calculation for $\frac{L_{\text{actual}}}{\text{SAF}}$

Typical P3 Joist Roof Framing and Construction Details

FIGURE 7

All nails shown in the details below are assumed to be common nails unless otherwise noted. 10d box nails (0.128 x 3") may be substituted for 8d common (0.131 x 2-1/2") as shown in details. Individual components are not shown to scale for clarity.

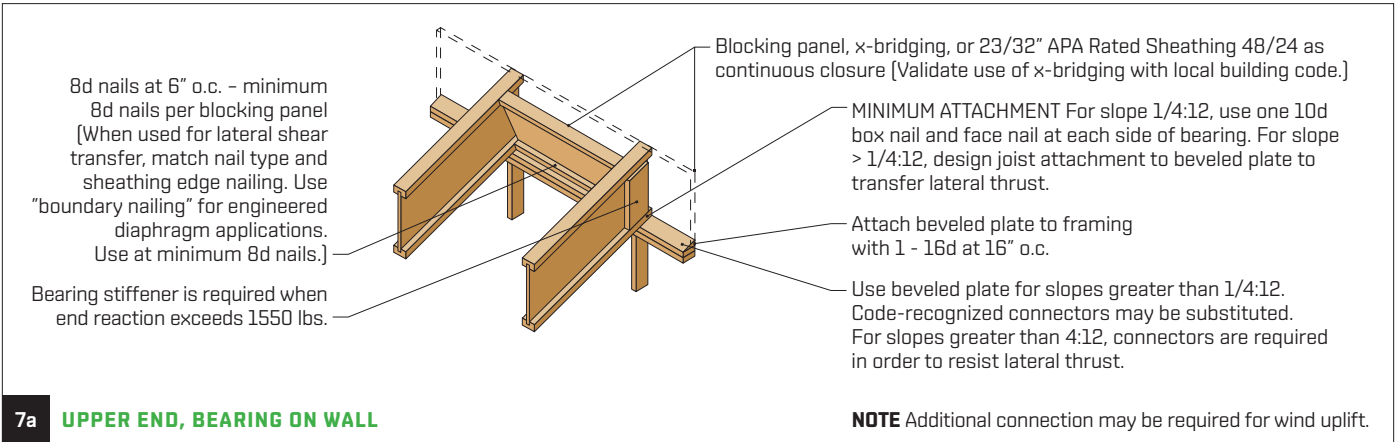
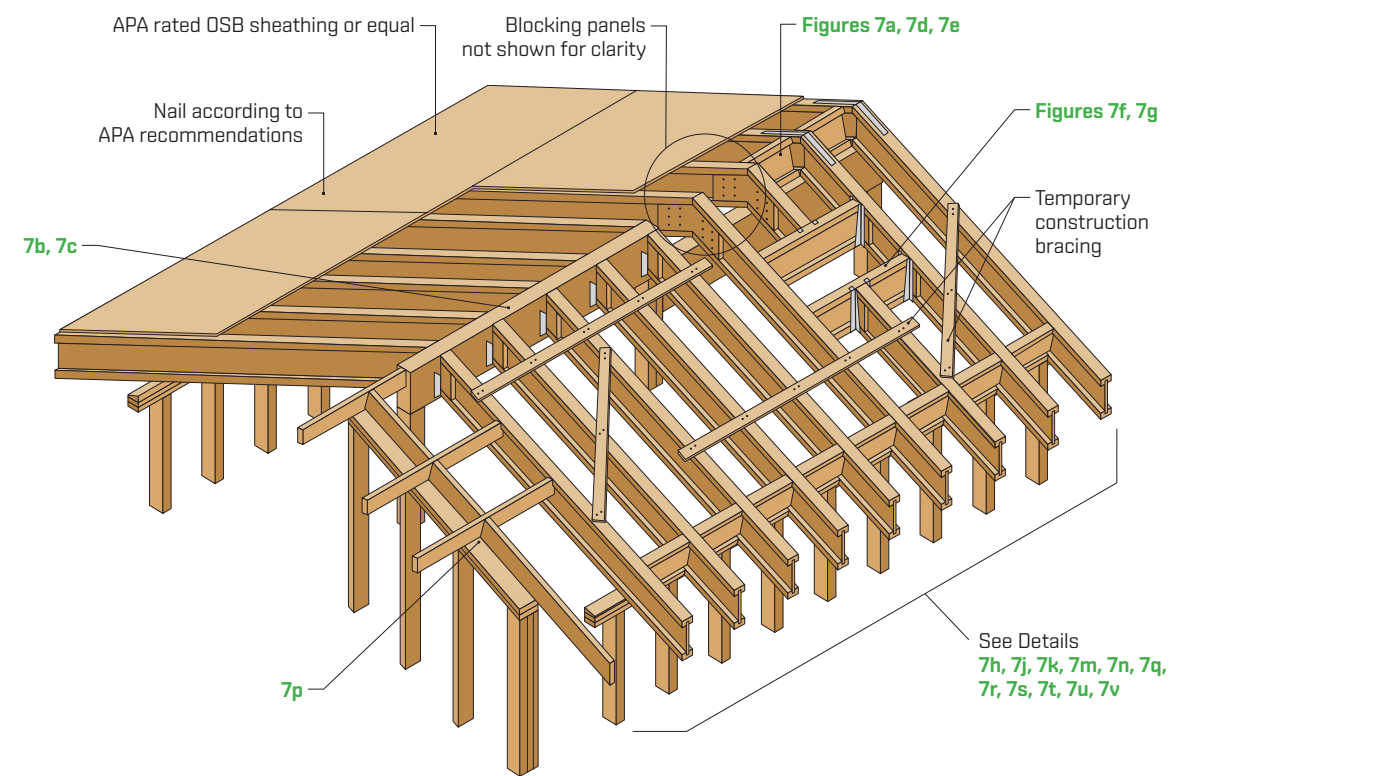
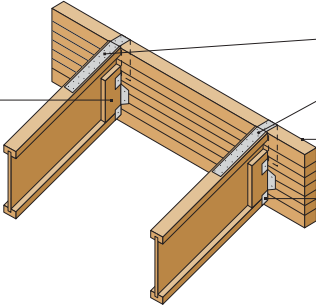


FIGURE 7 (CONTINUED)

Typical P3 Joist Roof Framing and Construction Details

All nails shown in the details below are assumed to be common nails unless otherwise noted. 10d box nails [0.128 x 3"] may be substituted for 8d common [0.131 x 2-1/2"] as shown in details. Individual components are not shown to scale for clarity.

Beveled bearing stiffener required each side



For roof slopes between 1/4:12 and 12:12, provide a strap tie nailed at a minimum of 3" spacing or in accordance with the recommendation of the strap manufacturer.

Ridge beam (Glulam or SCL)

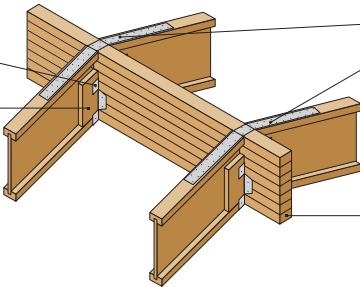
Adjustable Slope Hanger with a minimum uplift resistance of 300 lbs.

7b **PEAK CONNECTION**

NOTE Additional connection may be required for wind uplift.

Adjustable Slope Hanger with a minimum uplift resistance of 300 lbs.

Beveled bearing stiffener required each side



For roof slopes between 1/4:12 and 12:12, provide a strap nailed at a minimum of 3" spacing on each side of roof slope or in accordance with the recommendation of the strap manufacturer.

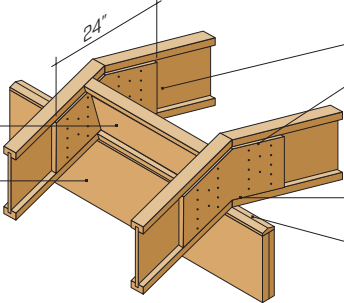
Ridge beam (Glulam or SCL)

7c **P3 JOIST TO RIDGE BEAM CONNECTION**

NOTE Additional connection may be required for wind uplift.

Blocking panel or x-bridging Attach per 7a

Support beam or wall



23/32" x 2'-0" wood structural panel (front and back sides) with 12 - 8d nails into each joist with nails clinched (When roof live load exceeds 40 psf, horizontal orientation of gusset strong axis is required. Include a gap of 1/8" at top.)

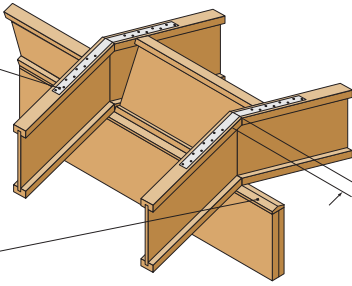
Attach per 7a

Attach beveled plate to framing with 1 - 3-1/2" at 16" o.c.

7d **P3 JOIST CONNECTION WITH WOOD STRUCTURAL PANEL GUSSETS**

NOTE Additional connection may be required for wind uplift.

Tie strap nailed at a minimum of 3" spacing or in accordance with manufacturer's recommendations



Beveled bearing plate

STRAP NAILS Leave 2-3/8" minimum end distance

7e **P3 JOIST CONNECTION WITH TIE STRAP**

NOTE Additional connection may be required for wind uplift.

FIGURE 7 (CONTINUED)

Typical P3 Joist Roof Framing and Construction Details

All nails shown in the details below are assumed to be common nails unless otherwise noted. 10d box nails (0.128 x 3") may be substituted for 8d common (0.131 x 2-1/2") as shown in details. Individual components are not shown to scale for clarity.

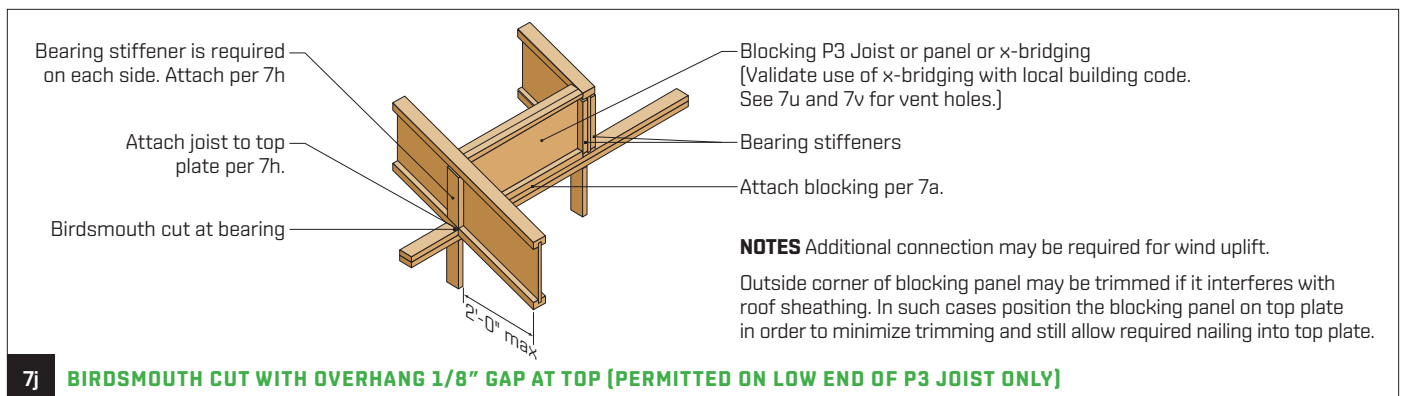
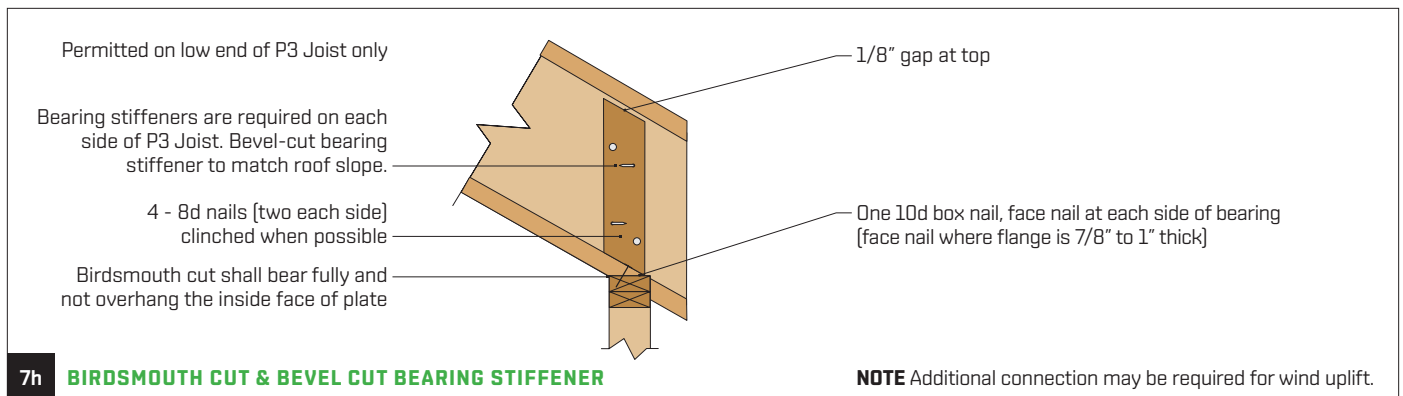
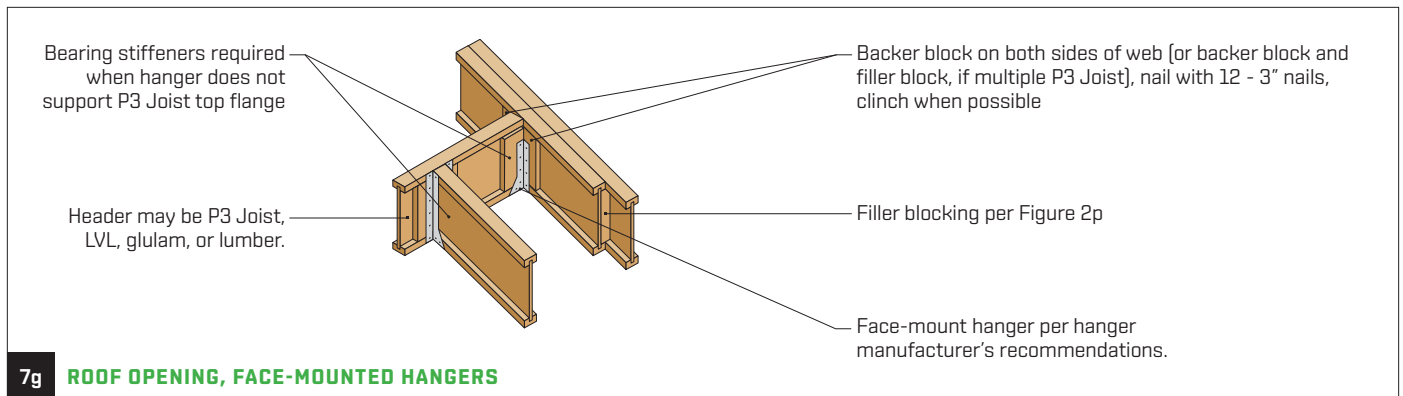
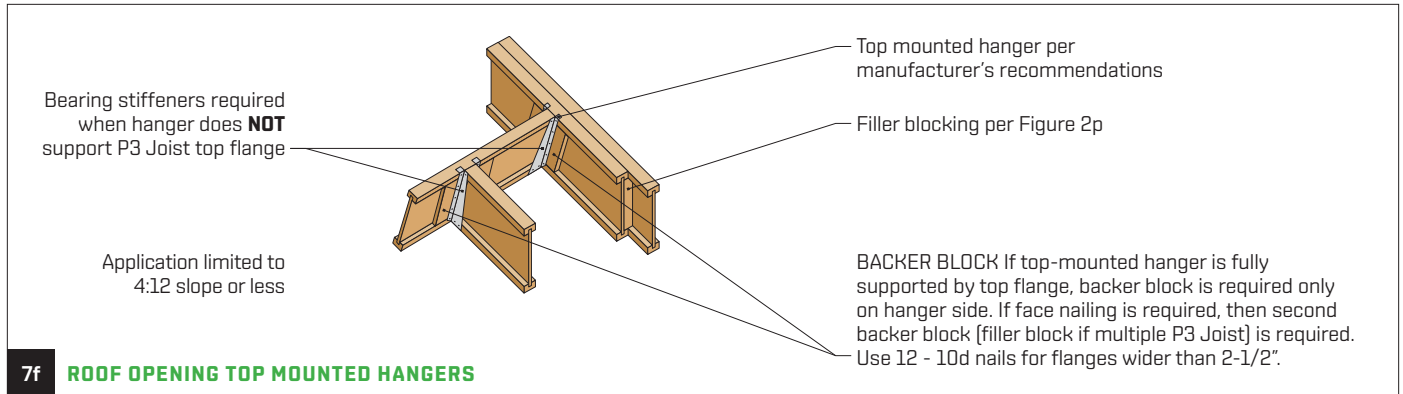
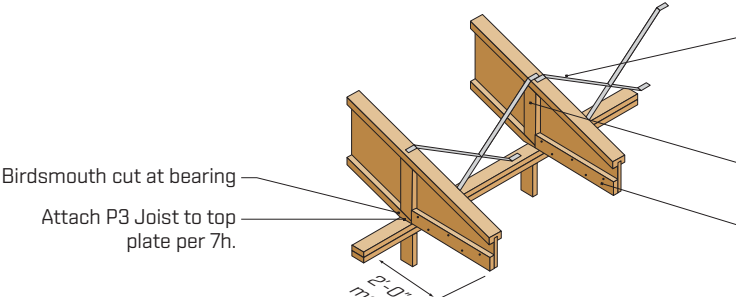


FIGURE 7 (CONTINUED)

Typical P3 Joist Roof Framing and Construction Details

All nails shown in the details below are assumed to be common nails unless otherwise noted. 10d box nails [0.128 x 3"] may be substituted for 8d common [0.131 x 2-1/2"] as shown in details. Individual components are not shown to scale for clarity.



Birdsmouth cut at bearing

Attach P3 Joist to top plate per 7h.

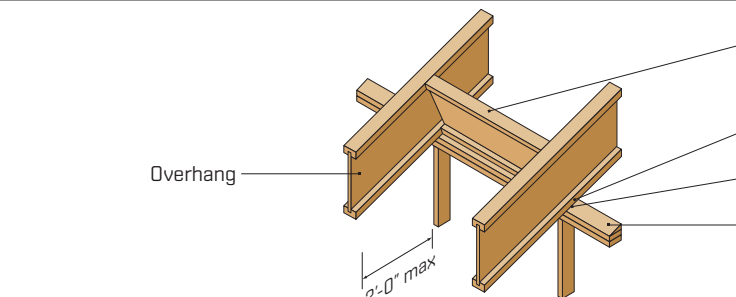
2'-0" max

X-bridging or blocking panel
Validate use of X-bridging with local building code.

Web stiffener required each side

2x block for fascia support

7k P3 JOIST OVERHANG FOR FASCIA SUPPORT WITH BIRDSMOUTH CUT



Overhang

2'-0" max

Blocking Panel Attach per 7a
[See 7u and 7v for vent holes.]


Attach P3 Joist to beveled plate per 7a.

Attach P3 Joist per 7a.

Beveled plate

7m BLOCKING PANEL AT BEVELED PLATE

NOTE Additional connection may be required for wind uplift.

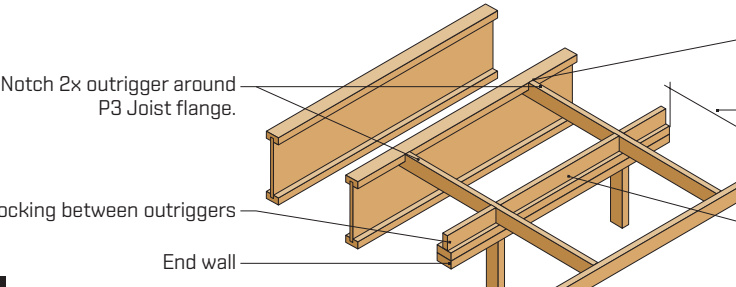


Do not bevel-cut joist beyond inside face of wall.

Attach P3 Joist per 1b.

7n P3 JOIST WITH BEVEL-CUT END

NOTE Blocking or x-bridging is required at bearing for lateral support. Not shown for clarity.
Additional connection may be required for wind uplift.



Notch 2x outrigger around P3 Joist flange.

Blocking between outriggers

End wall

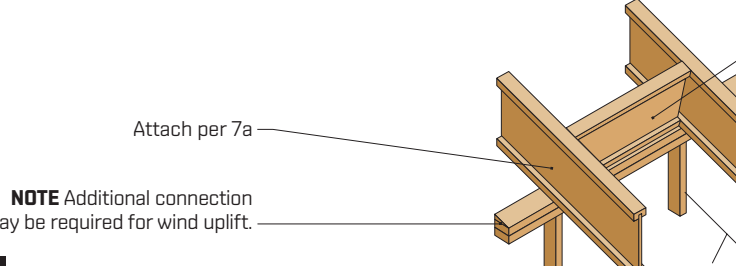
Do not notch P3 Joist flange.

Maximum overhang same as rafter spacing
(not to exceed 2'-0")

Toe nail blocking to end wall for roof sheathing 5/8".
Match nail type and spacing with roof sheathing edge nailing.
["Boundary nailing" for engineered diaphragm applications]
Use minimum 8d nails.

7p OUTRIGGER

NOTE Additional connection may be required for wind uplift.



Attach per 7a

2'-0" max

Blocking panels are attached per 7a or x-bridging.
Validate use of x-bridging with local building code.

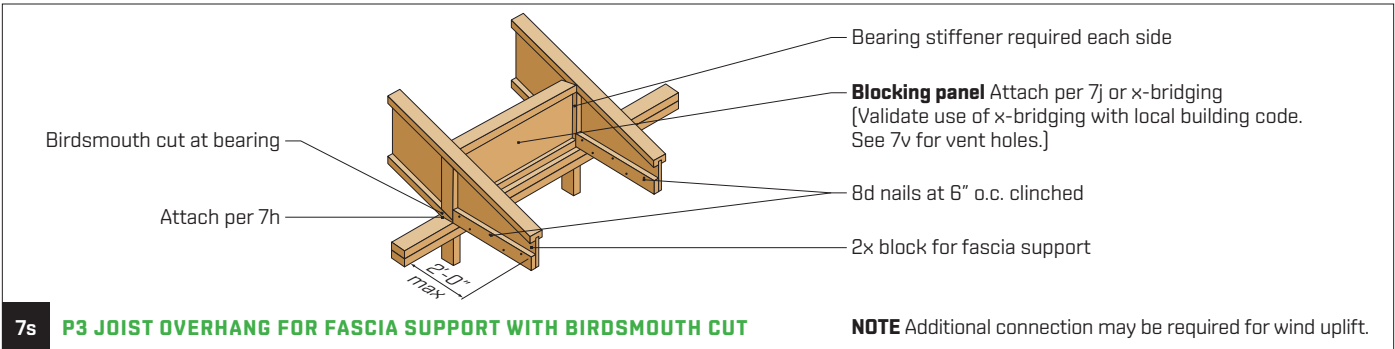
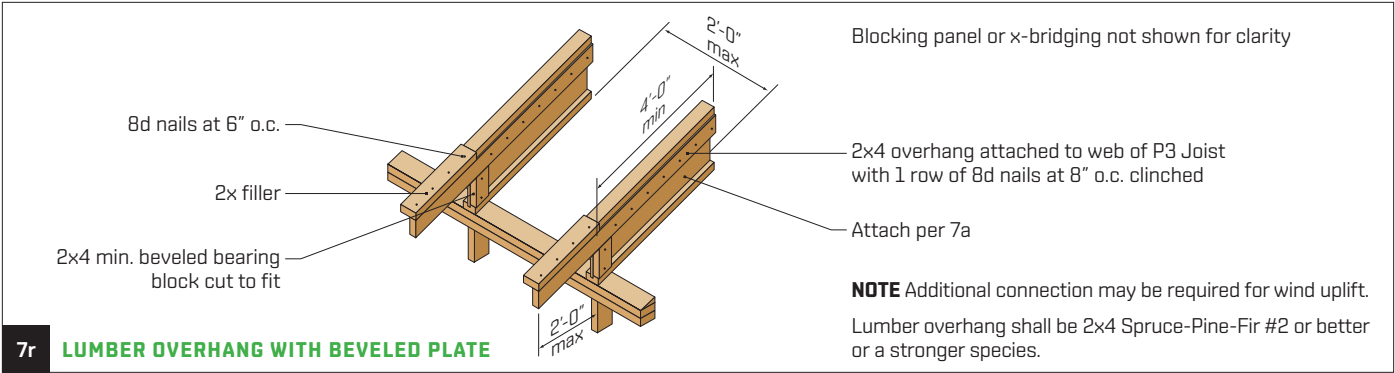
7q P3 JOIST OVERHANG WITH BEVELED PLATE

NOTE Additional connection may be required for wind uplift.

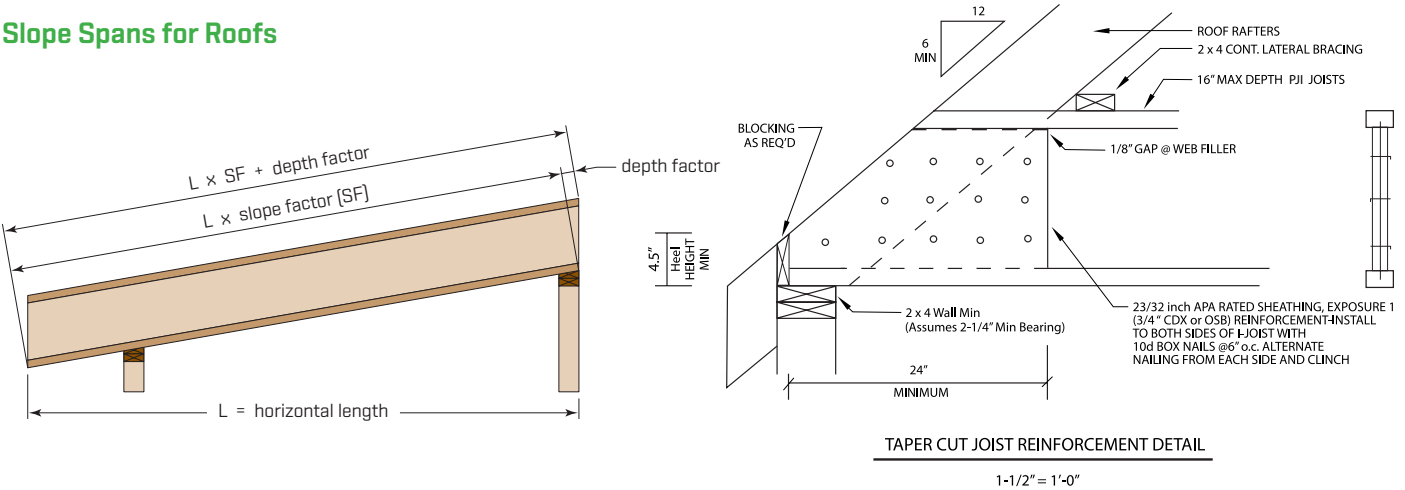
FIGURE 7 (CONTINUED)

Typical P3 Joist Roof Framing and Construction Details

All nails shown in the details below are assumed to be common nails unless otherwise noted. 10d box nails [0.128 x 3"] may be substituted for 8d common [0.131 x 2-1/2"] as shown in details. Individual components are not shown to scale for clarity.



Slope Spans for Roofs



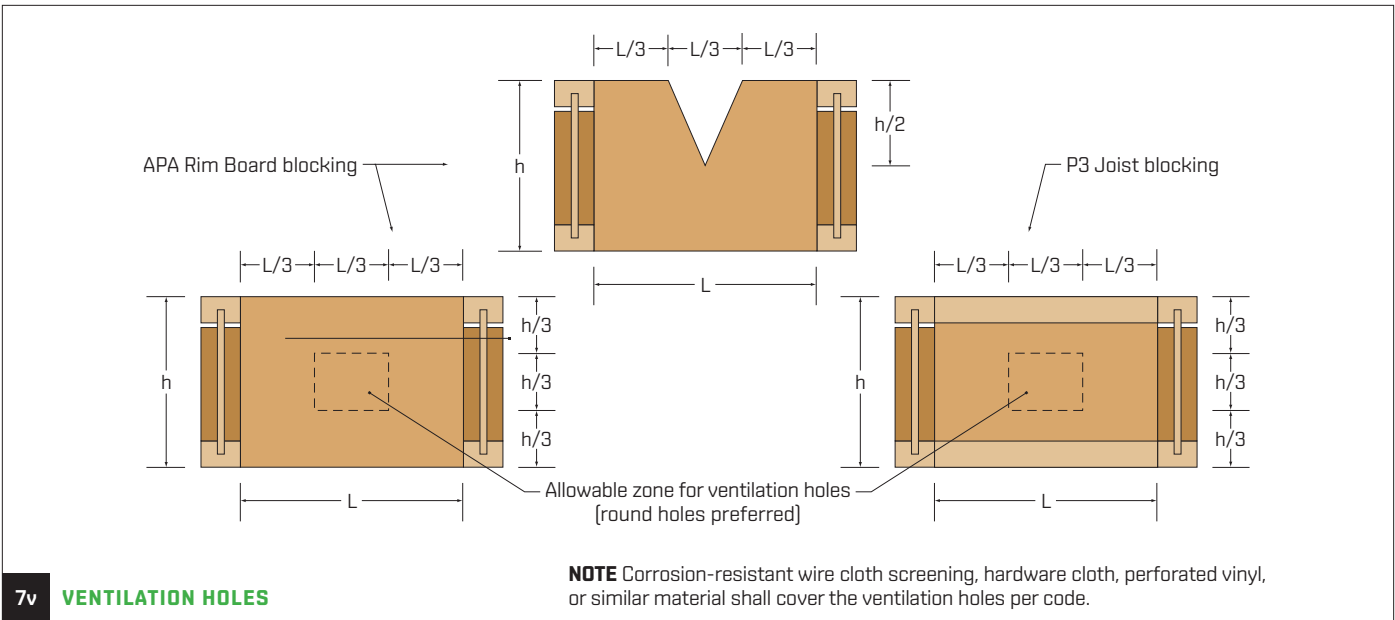
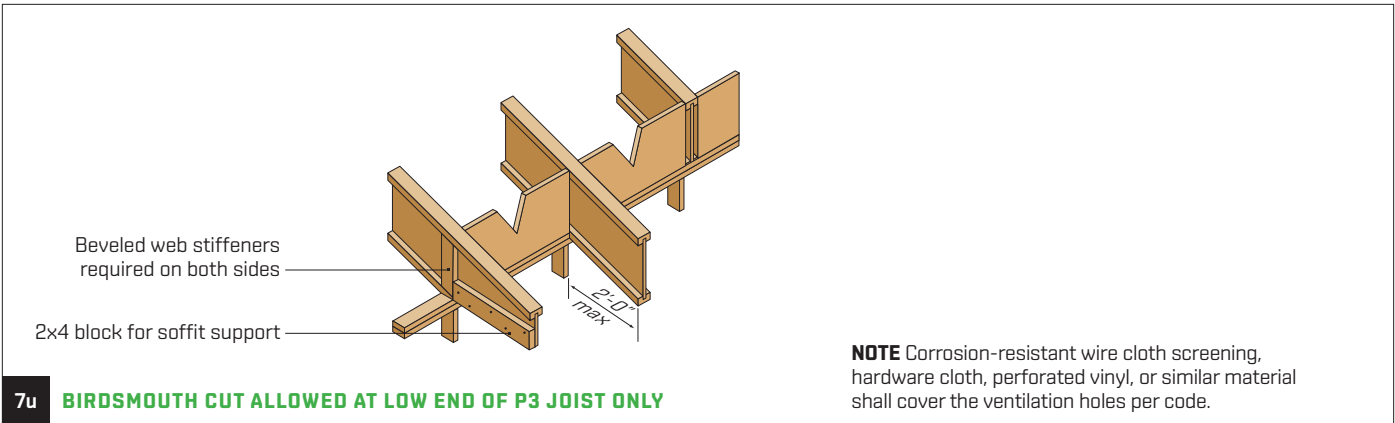
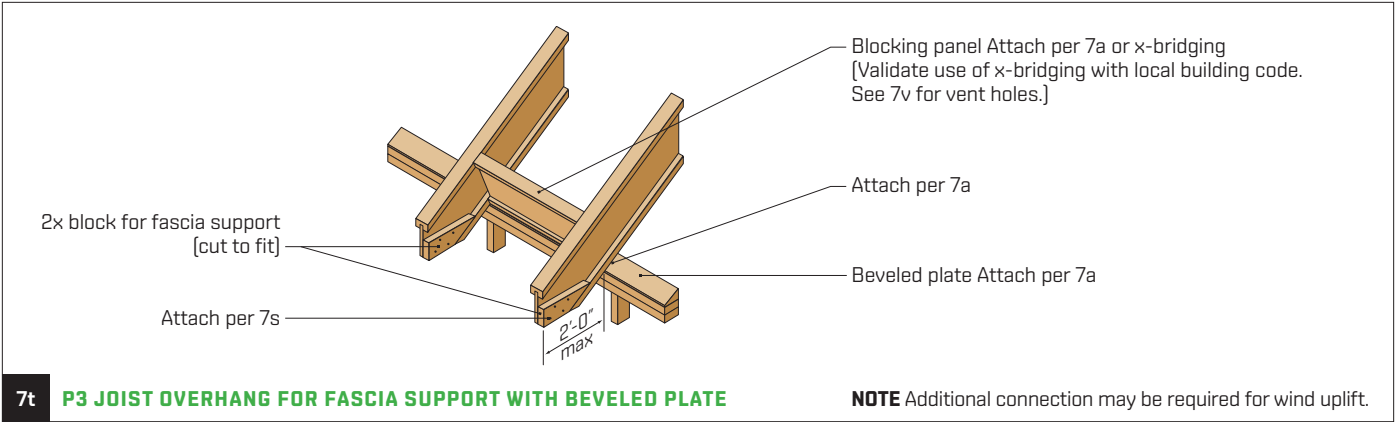
Slope Factor and Depth Factor Table

Slope	2.5:12	3:12	3.5:12	4:12	4.5:12	5:12	6:12	7:12	8:12	9:12	10:12	11:12	12:12	
Slope Factor	1.021	1.031	1.042	1.054	1.068	1.083	1.118	1.158	1.202	1.250	1.302	1.357	1.414	
Depth Factor	9-1/2"	2"	2-3/8"	2-7/8"	3-1/4"	3-5/8"	4"	4-3/4"	5-5/8"	6-3/8"	7-1/4"	8"	8-3/4"	9-1/2"
	11-7/8"	2-1/2"	3"	3-1/2"	4"	4-1/2"	5"	6"	7"	8"	9"	10"	11"	11-7/8"
	14"	3"	3-1/2"	4-1/8"	4-3/4"	5-1/4"	5-7/8"	7"	8-1/4"	9-3/8"	10-1/2"	11-3/4"	12-7/8"	14"
	16"	3-3/8"	4"	4-3/4"	5-3/8"	6"	6-3/4"	8"	9-3/8"	10-3/4"	12"	13-3/8"	14-3/4"	16"
	18"	3-3/4"	4-1/2"	5-1/4"	6"	6-3/4"	7-1/2"	9"	10-1/2"	12"	13-1/2"	15"	16-1/2"	18"
	20"	4-1/4"	5"	5-7/8"	6-3/4"	7-1/2"	8-3/8"	10"	11-3/4"	13-3/8"	15"	16-3/4"	18-3/8"	20"
	22"	4-5/8"	5-1/2"	6-1/2"	7-3/8"	8-1/4"	9-1/4"	11"	12-7/8"	14-3/4"	16-1/2"	18-3/8"	20-1/4"	22"
	24"	5"	6"	7"	8"	9"	10"	12"	14"	16"	18"	20"	22"	24"

FIGURE 7 (CONTINUED)

Typical P3 Joist Roof Framing and Construction Details

All nails shown in the details below are assumed to be common nails unless otherwise noted. 10d box nails [0.128 x 3"] may be substituted for 8d common [0.131 x 2-1/2"] as shown in details. Individual components are not shown to scale for clarity.



Allowable Roof Spans – Simple Span

TABLE 10 - LDF = 1.15

Simple Span Live Load = 20 psf Dead Load = 15 psf Snow Load = 1.15

Series	Depth	Slope of 1/4:12 to 4:12			Slope of 4:12 to 8:12			Slope of 8:12 to 12:12		
		16" oc	19.2" oc	24" oc	16" oc	19.2" oc	24" oc	16" oc	19.2" oc	24" oc
PJI 40	9-1/2	21'-9"	19'-10"	17'-9"	20'-7"	19'-3"	17'-3"	19'-0"	17'-10"	16'-6"
	11-7/8	25'-3"	23'-0"	20'-6"	24'-6"	22'-4"	19'-11"	22'-10"	21'-5"	19'-2"
	14	28'-0"	25'-6"	22'-9"	27'-2"	24'-9"	22'-1"	25'-11"	23'-9"	21'-3"
	16	30'-4"	27'-8"	24'-9"	29'-5"	26'-10"	24'-0"	28'-3"	25'-9"	23'-0"
PJI 60	9-1/2	23'-4"	21'-11"	20'-3"	21'-11"	20'-7"	19'-0"	20'-2"	19'-0"	17'-7"
	11-7/8	27'-11"	26'-3"	24'-2"	26'-3"	24'-8"	22'-10"	24'-3"	22'-9"	21'-1"
	14	31'-10"	29'-11"	26'-9"	29'-11"	28'-1"	26'-0"	27'-8"	25'-11"	24'-0"
	16	35'-5"	32'-6"	29'-1"	33'-3"	31'-3"	28'-2"	30'-8"	28'-10"	26'-9"
PJI 80	11-7/8	31'-1"	29'-3"	27'-0"	29'-3"	27'-5"	25'-5"	27'-0"	25'-4"	23'-6"
	14	35'-5"	33'-3"	30'-9"	33'-3"	31'-3"	28'-11"	30'-8"	28'-10"	26'-9"
	16	39'-3"	36'-11"	34'-2"	36'-11"	34'-8"	32'-1"	34'-1"	32'-0"	29'-8"
	18	44'-5"	42'-8"	40'-6"	40'-0"	38'-6"	36'-8"	35'-1"	33'-10"	32'-3"
	20	48'-1"	46'-2"	43'-7"	43'-3"	41'-8"	39'-8"	37'-11"	36'-7"	34'-11"
	22	51'-7"	49'-4"	45'-8"	46'-5"	44'-9"	41'-11"	40'-9"	39'-4"	37'-6"
PJI 90	24	54'-7"	51'-5"	47'-7"	49'-7"	47'-1"	43'-8"	43'-5"	41'-11"	39'-2"
	11-7/8	33'-5"	32'-1"	30'-6"	30'-1"	28'-11"	27'-7"	27'-0"	25'-5"	24'-3"
	14	37'-11"	36'-5"	34'-7"	34'-1"	32'-10"	31'-3"	30'-8"	28'-10"	27'-6"
	16	41'-11"	40'-3"	38'-3"	37'-9"	36'-4"	34'-7"	34'-1"	32'-0"	30'-6"
	18	45'-9"	44'-0"	41'-9"	41'-3"	39'-8"	37'-9"	36'-2"	34'-10"	33'-3"
	20	49'-6"	47'-7"	45'-2"	44'-7"	42'-11"	40'-10"	39'-1"	37'-9"	36'-0"
	22	53'-2"	51'-1"	48'-6"	47'-10"	46'-1"	43'-10"	41'-11"	40'-6"	38'-8"
	24	56'-8"	54'-5"	51'-9"	51'-0"	49'-1"	46'-9"	44'-9"	43'-2"	41'-2"

TABLE 11 - LDF = 1.15

Simple Span Live Load = 25 psf Dead Load = 15 psf Snow Load = 1.15

Series	Depth	Slope of 1/4:12 to 4:12			Slope of 4:12 to 8:12			Slope of 8:12 to 12:12		
		16" oc	19.2" oc	24" oc	16" oc	19.2" oc	24" oc	16" oc	19.2" oc	24" oc
PJI 40	9-1/2	20'-5"	18'-7"	16'-7"	19'-9"	18'-1"	16'-2"	17'-1"	15'-10"	14'-1"
	11-7/8	23'-7"	21'-6"	19'-3"	23'-0"	20'-11"	18'-9"	20'-1"	18'-4"	16'-4"
	14	26'-2"	23'-10"	21'-4"	25'-6"	23'-3"	20'-9"	22'-3"	20'-4"	18'-2"
	16	28'-5"	25'-11"	23'-2"	27'-8"	25'-3"	22'-6"	24'-2"	22'-0"	19'-8"
PJI 60	9-1/2	22'-3"	20'-11"	19'-4"	21'-0"	19'-8"	18'-3"	18'-2"	17'-0"	15'-9"
	11-7/8	26'-9"	25'-1"	22'-7"	25'-2"	23'-8"	21'-10"	21'-9"	20'-5"	18'-11"
	14	30'-6"	28'-1"	25'-1"	28'-8"	26'-11"	24'-5"	24'-10"	23'-4"	21'-4"
	16	33'-5"	30'-5"	27'-2"	31'-11"	29'-8"	26'-6"	27'-7"	25'-11"	23'-2"
PJI 80	11-7/8	29'-9"	27'-11"	25'-10"	28'-0"	26'-4"	24'-4"	24'-3"	22'-9"	21'-1"
	14	29'-9"	27'-11"	25'-10"	31'-11"	29'-11"	27'-8"	27'-7"	25'-11"	24'-0"
	16	37'-7"	35'-3"	32'-5"	35'-4"	33'-3"	30'-9"	30'-8"	28'-9"	26'-7"
	18	42'-4"	40'-6"	34'-9"	38'-2"	36'-8"	34'-9"	33'-7"	32'-3"	30'-8"
	20	45'-9"	43'-7"	37'-0"	41'-4"	39'-8"	37'-0"	36'-4"	34'-11"	33'-3"
	22	48'-8"	45'-8"	38'-8"	44'-4"	41'-11"	38'-8"	39'-0"	37'-6"	34'-10"
PJI 90	24	50'-9"	47'-7"	40'-4"	46'-6"	43'-8"	40'-4"	41'-7"	39'-2"	36'-4"
	11-7/8	31'-10"	30'-6"	28'-9"	28'-9"	27'-7"	26'-2"	25'-3"	24'-3"	23'-1"
	14	36'-1"	34'-7"	32'-7"	32'-7"	31'-3"	29'-8"	28'-8"	27'-6"	26'-2"
	16	39'-11"	38'-3"	36'-1"	36'-0"	34'-7"	32'-9"	31'-8"	30'-6"	29'-0"
	18	43'-7"	41'-9"	39'-4"	39'-4"	37'-9"	35'-10"	34'-7"	33'-3"	31'-8"
	20	47'-2"	45'-2"	42'-7"	42'-7"	40'-10"	38'-9"	37'-5"	36'-0"	34'-3"
	22	50'-7"	48'-6"	45'-8"	45'-8"	43'-10"	41'-7"	40'-2"	38'-8"	36'-9"
	24	54'-0"	51'-9"	48'-5"	48'-9"	46'-9"	44'-4"	42'-10"	41'-2"	39'-2"

TABLE 12 - LDF = 1.15

Simple Span Live Load = 30 psf Dead Load = 15 psf Snow Load = 1.15

Series	Depth	Slope of 1/4:12 to 4:12			Slope of 4:12 to 8:12			Slope of 8:12 to 12:12		
		16" oc	19.2" oc	24" oc	16" oc	19.2" oc	24" oc	16" oc	19.2" oc	24" oc
PJI 40	9-1/2	19'-3"	17'-6"	15'-8"	18'-9"	17'-1"	15'-3"	15'-5"	14'-0"	12'-6"
	11-7/8	22'-3"	20'-4"	18'-2"	21'-9"	19'-10"	17'-8"	17'-10"	16'-3"	14'-6"
	14	24'-8"	22'-6"	20'-1"	24'-1"	22'-0"	19'-8"	19'-9"	18'-0"	16'-1"
	16	26'-9"	24'-5"	21'-10"	26'-2"	23'-10"	21'-4"	21'-5"	19'-7"	17'-5"
PJI 60	9-1/2	21'-5"	20'-1"	18'-5"	20'-2"	18'-11"	17'-6"	16'-9"	15'-8"	14'-6"
	11-7/8	25'-8"	23'-11"	21'-4"	24'-3"	22'-9"	20'-10"	20'-1"	18'-10"	17'-1"
	14	29'-0"	26'-6"	23'-8"	27'-7"	25'-10"	23'-1"	22'-11"	21'-2"	18'-11"
	16	31'-6"	28'-9"	25'-8"	30'-8"	28'-1"	25'-1"	25'-2"	23'-0"	20'-6"
PJI 80	11-7/8	28'-7"	26'-10"	24'-10"	27'-0"	25'-4"	23'-5"	22'-4"	21'-0"	19'-5"
	14	32'-6"	30'-6"	28'-2"	30'-8"	28'-10"	26'-8"	25'-5"	23'-10"	22'-1"
	16	36'-1"	33'-10"	30'-7"	34'-1"	32'-0"	29'-7"	28'-3"	26'-6"	24'-6"
	18	40'-7"	38'-9"	35'-7"	36'-8"	35'-1"	32'-10"	32'-4"	31'-0"	29'-5"
	20	43'-8"	40'-9"	37'-5"	39'-8"	37'-6"	34'-6"	34'-11"	33'-6"	31'-2"
	22	45'-8"	42'-8"	39'-2"	41'-11"	39'-3"	36'-2"	37'-6"	35'-4"	32'-8"
PJI 90	24	47'-7"	44'-6"	40'-10"	43'-9"	40'-11"	37'-8"	39'-10"	36'-10"	34'-0"
	11-7/8	30'-6"	29'-1"	27'-0"	27'-7"	26'-5"	24'-9"	24'-4"	23'-4"	22'-1"
	14	34'-7"	33'-0"	30'-8"	31'-3"	29'-11"	28'-1"	27'-7"	26'-5"	25'-1"
	16	38'-3"	36'-6"	33'-11"	34'-7"	33'-1"	31'-1"	30'-6"	29'-3"	27'-9"
	18	41'-10"	39'-11"	37'-1"	37'-9"	36'-2"	33'-11"	33'-3"	31'-11"	30'-3"
	20	45'-3"	43'-2"	40'-1"	40'-10"	39'-2"	36'-8"	36'-0"	34'-7"	32'-9"
	22	48'-6"	46'-4"	43'-0"	43'-10"	42'-0"	39'-5"	38'-8"	37'-1"	35'-2"
	24	51'-9"	49'-2"	45'-1"	46'-9"	44'-9"	41'-8"	41'-3"	39'-7"	37'-6"



NOTES

1. Allowable clear span applicable to simple-span roof construction with 2' overhang. The live load deflection is limited to L/240, and total load deflection is limited to L/180.
2. Spans are based on a load duration factor (LDF) of 1.15.
3. Minimum bearing length must be 1-3/4" [44.5 mm] for the end bearings and must be 3-1/2" [89 mm] on end bearing adjacent to cantilever.
4. Bearing or web stiffeners are required for all PJI Joists in the span tables if the Joist is over 16" deep.

Allowable Roof Spans—Simple Span

TABLE 13 - LDF = 1.15

Simple Span Live Load = 40 psf Dead Load = 15 psf Snow Load = 1.15

Series	Depth	Slope of 1/4:12 to 4:12			Slope of 4:12 to 8:12			Slope of 8:12 to 12:12		
		16" oc	19.2" oc	24" oc	16" oc	19.2" oc	24" oc	16" oc	19.2" oc	24" oc
PJI 40	9-1/2	17'-5"	15'-10"	14'-2"	17'-1"	15'-7"	13'-11"	16'-7"	15'-2"	13'-6"
	11-7/8	20'-2"	18'-4"	16'-5"	19'-9"	18'-0"	16'-1"	19'-3"	17'-6"	15'-8"
	14	22'-4"	20'-5"	18'-2"	21'-11"	20'-0"	17'-10"	21'-4"	19'-5"	17'-4"
	16	24'-3"	22'-1"	19'-9"	23'-9"	21'-8"	19'-4"	23'-2"	21'-1"	18'-10"
PJI 60	9-1/2	20'-0"	18'-8"	16'-8"	18'-11"	17'-9"	16'-4"	17'-7"	16'-6"	15'-4"
	11-7/8	23'-8"	21'-7"	19'-4"	22'-8"	21'-2"	18'-11"	21'-2"	19'-10"	18'-4"
	14	26'-3"	24'-0"	21'-5"	25'-9"	23'-6"	21'-0"	24'-1"	22'-8"	20'-5"
	16	28'-6"	26'-0"	23'-3"	27'-11"	25'-6"	22'-9"	26'-10"	24'-10"	22'-2"
PJI 80	11-7/8	26'-8"	25'-0"	23'-0"	25'-3"	23'-8"	21'-11"	23'-7"	22'-1"	20'-5"
	14	30'-4"	28'-6"	25'-6"	28'-9"	27'-0"	24'-11"	26'-10"	25'-2"	23'-3"
	16	33'-8"	31'-0"	27'-7"	31'-11"	29'-11"	27'-2"	29'-9"	27'-11"	25'-10"
	18	37'-3"	34'-8"	31'-7"	34'-3"	32'-0"	29'-3"	30'-3"	28'-11"	26'-7"
	20	39'-3"	36'-6"	33'-3"	36'-2"	33'-8"	30'-10"	32'-7"	30'-5"	27'-11"
	22	41'-0"	38'-2"	34'-10"	37'-10"	35'-3"	32'-3"	34'-1"	31'-10"	29'-3"
PJI 90	24	42'-9"	39'-9"	36'-4"	39'-5"	36'-9"	33'-7"	35'-7"	33'-3"	30'-6"
	11-7/8	28'-2"	26'-5"	24'-7"	25'-9"	24'-3"	22'-6"	23'-7"	22'-1"	20'-5"
	14	31'-11"	30'-0"	27'-10"	29'-2"	27'-6"	25'-6"	26'-10"	25'-2"	23'-3"
	16	35'-4"	33'-2"	30'-10"	32'-4"	30'-5"	28'-3"	29'-9"	27'-11"	25'-10"
	18	38'-7"	36'-3"	33'-8"	35'-3"	33'-2"	30'-10"	31'-2"	29'-9"	27'-8"
	20	41'-9"	39'-3"	36'-5"	38'-2"	35'-11"	33'-4"	33'-9"	32'-3"	29'-11"
	22	44'-9"	42'-1"	38'-6"	40'-11"	38'-7"	35'-8"	36'-2"	34'-7"	32'-1"
	24	47'-4"	44'-0"	40'-2"	43'-7"	40'-7"	37'-2"	38'-7"	36'-9"	33'-8"

TABLE 14 - LDF = 1.15

Simple Span Live Load = 50 psf Dead Load = 15 psf Snow Load = 1.15

Series	Depth	Slope of 1/4:12 to 4:12			Slope of 4:12 to 8:12			Slope of 8:12 to 12:12		
		16" oc	19.2" oc	24" oc	16" oc	19.2" oc	24" oc	16" oc	19.2" oc	24" oc
PJI 40	9-1/2	16'-0"	14'-7"	13'-0"	15'-9"	14'-4"	12'-10"	15'-5"	14'-0"	12'-6"
	11-7/8	18'-6"	16'-11"	15'-1"	18'-3"	16'-7"	14'-10"	17'-10"	16'-3"	14'-6"
	14	20'-7"	18'-9"	16'-9"	20'-3"	18'-5"	16'-6"	19'-9"	18'-0"	16'-1"
	16	22'-4"	20'-4"	18'-2"	21'-11"	20'-0"	17'-10"	21'-5"	19'-7"	17'-5"
PJI 60	9-1/2	18'-9"	17'-2"	15'-4"	17'-11"	16'-9"	15'-1"	16'-9"	15'-8"	14'-6"
	11-7/8	21'-10"	19'-11"	17'-9"	21'-5"	19'-7"	17'-6"	20'-1"	18'-10"	17'-1"
	14	24'-2"	22'-1"	19'-8"	23'-9"	21'-8"	19'-4"	22'-11"	21'-2"	18'-11"
	16	26'-3"	23'-11"	21'-4"	25'-10"	23'-6"	21'-0"	25'-2"	23'-0"	20'-6"
PJI 80	11-7/8	25'-1"	23'-6"	21'-2"	23'-11"	22'-5"	20'-9"	22'-4"	21'-0"	19'-5"
	14	28'-6"	26'-3"	23'-4"	27'-2"	25'-6"	23'-1"	25'-5"	23'-10"	22'-1"
	16	31'-3"	28'-6"	23'-4"	30'-2"	28'-0"	25'-1"	28'-3"	26'-6"	24'-6"
	18	34'-1"	31'-7"	28'-9"	31'-6"	29'-3"	26'-8"	28'-6"	26'-7"	24'-6"
	20	35'-11"	33'-3"	30'-3"	33'-2"	30'-10"	28'-1"	30'-0"	27'-11"	25'-6"
	22	37'-7"	34'-10"	31'-8"	34'-9"	32'-3"	29'-4"	31'-5"	29'-3"	26'-9"
PJI 90	24	39'-2"	36'-4"	33'-0"	36'-2"	33'-7"	30'-7"	32'-9"	30'-6"	27'-10"
	11-7/8	26'-2"	24'-7"	22'-10"	23'-11"	22'-7"	20'-11"	22'-4"	21'-0"	19'-5"
	14	29'-8"	27'-10"	25'-5"	27'-2"	25'-7"	23'-8"	25'-5"	23'-10"	22'-1"
	16	32'-10"	30'-8"	25'-5"	30'-0"	28'-3"	25'-1"	28'-3"	26'-6"	24'-6"
	18	35'-10"	33'-8"	31'-3"	32'-9"	30'-10"	28'-7"	29'-5"	27'-8"	25'-8"
	20	38'-9"	36'-5"	33'-6"	35'-6"	33'-4"	30'-11"	31'-10"	29'-11"	27'-9"
	22	41'-7"	38'-6"	35'-0"	38'-1"	35'-8"	32'-6"	34'-2"	32'-1"	29'-6"
	24	43'-4"	40'-2"	36'-6"	40'-0"	37'-2"	33'-10"	36'-2"	33'-8"	30'-9"



NOTES

1. Allowable clear span applicable to simple-span roof construction with 2' overhang. The live load deflection is limited to $L/240$, and total load deflection is limited to $L/180$.
2. Spans are based on a load duration factor (LDF) of 1.15.
3. Minimum bearing length must be 1-3/4" [44.5 mm] for the end bearings and must be 3-1/2" [89 mm] on end bearing adjacent to cantilever.
4. Bearing or web stiffeners are required for all P3 Joist over 16" in depth.

Allowable Roof Uniform Load Capacities

TABLE 15 - LDF = 1.15

P3 Joist — PJI 40

Allowable uniform loads (PLF) Roof

Clear Joist Span (ft.)	9-1/2"			11-7/8"			14"			16"		
	Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load	
	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%
6		323	351		374	407		374	407		374	407
7		278	302		322	336		322	336		322	336
8		244	265		282	295		282	295		282	295
9		217	236		251	262		251	262		251	262
10		196	213		227	237		227	237		227	237
11		178	194		206	215		206	215		206	215
12		153	166		189	198		189	198		189	198
13		130	142		174	183		175	183		175	183
14		113	122		150	163		163	170		163	170
15		98	107		131	143		152	158		152	158
16		86	94		115	125		142	149		142	149
17		77	83		102	111		134	140		134	140
18		68	74		91	99		120	130		127	132
19	61	61	67		82	89		108	117		118	125
20	52	56	60		74	81		97	106		107	116
21	45	50	55		67	73		88	96		97	105
22	39	46	50		61	67		81	88		88	96
23	34	42	46		56	61		74	80		81	88
24	30	39	41		52	56		68	74		74	81
25	27	36	36	46	48	52		62	68		69	75
26		32	32	41	44	48		58	63		63	69
27		29	29	37	41	44	53	54	58		59	64
28		26	26	33	38	41	48	50	54		55	60
29				30	35	39	43	47	51		51	56
30				27	33	36	39	43	47		48	52
31					31	32	35	41	44		45	49
32					29	29	32	38	42		42	46
33					27	27	29	36	39		39	43
34							27	34	36	37	37	40

NOTES

1. Roof joists or rafters must be sloped a minimum of 1/4" in 12".
2. Live Load column limits deflection to L/240; Total Load column limits deflection to L/180. Cathedral ceilings or sheet rocked rafters may require stiffer performance or additional design.
3. Values represent the most restrictive of simple span or multiple span conditions.
4. Values are for P3 Joist spaced at a maximum of 24" on center.
5. Table assumes a minimum end bearing length of 1-3/4" and a minimum interior bearing length of 3-1/2".
6. Web stiffeners are not required except when the joist hangers do not provide lateral support for the top flange of the P3 Joist. Web stiffeners are required at birdsmouth cuts and when required by hanger manufacturers for proper connections.

JOIST SIZING

1. Select desired joist depth (column).
2. Select desired span (row).
3. Check BOTH Live Load and Total Load columns.
4. If Live Load column is blank, Total Load capacity governs.

Allowable Roof Uniform Load Capacities (continued)

TABLE 16 - LDF = 1.15

P3 Joist — PJI 60

Allowable uniform loads (PLF) Roof

Clear Joist Span (ft.)	9-1/2"			11-7/8"			14"			16"		
	Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load	
	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%
6		323	351		374	407		374	407		374	407
7		278	302		322	336		322	336		322	336
8		244	265		282	295		282	295		282	295
9		217	236		251	262		251	262		251	262
10		196	213		227	237		227	237		227	237
11		178	194		206	215		206	215		206	215
12		164	178		189	198		189	198		189	198
13		151	164		175	183		175	183		175	183
14		140	153		163	170		163	170		163	170
15		131	143		152	158		152	158		152	158
16		119	129		142	149		142	149		142	149
17	101	106	115		134	140		134	140		134	140
18	85	94	102		126	132		127	132		127	132
19	73	85	92		113	123		120	125		120	125
20	62	77	83		102	111		114	119		114	119
21	54	69	72	92	93	101		109	113		109	113
22	47	63	63	81	85	92		104	108		104	108
23	41	55	55	71	77	84		95	103		99	104
24	36	48	48	62	71	77		87	95		95	99
25	32	43	43	55	66	71		81	88		91	95
26	29	38	38	49	61	65	72	74	81		87	92
27	26	34	34	44	56	58	65	69	75		81	88
28		31	31	39	52	52	58	64	70		75	82
29		28	28	35	47	47	52	60	65		70	77
30				32	43	43	47	56	61	65	66	72
31				29	39	39	43	52	57	59	62	67
32				26	35	35	39	49	52	53	58	63
33					32	32	36	46	47	49	54	59
34					29	29	32	43	43	44	51	56

NOTES

1. Roof joists or rafters must be sloped a minimum of 1/4" in 12".
2. Live Load column limits deflection to L/240; Total Load column limits deflection to L/180. Cathedral ceilings or sheet rocked rafters may require stiffer performance or additional design.
3. Values represent the most restrictive of simple span or multiple span conditions.
4. Values are for P3 Joist spaced at a maximum of 24" on center.
5. Table assumes a minimum end bearing length of 1-3/4" and a minimum interior bearing length of 3-1/2".
6. Web stiffeners are not required except when the joist hangers do not provide lateral support for the top flange of the P3 Joist. Web stiffeners are required at birdsmouth cuts and when required by hanger manufacturers for proper connections.

JOIST SIZING

1. Select desired joist depth (column).
2. Select desired span (row).
3. Check BOTH Live Load and Total Load columns.
4. If Live Load column is blank, Total Load capacity governs.

Allowable Roof Uniform Load Capacities (continued)

TABLE 17 - LDF = 1.15

P3 Joist — PJI 80

Allowable uniform loads (PLF) Roof

Clear Joist Span (ft.)	11-7/8"			14"			16"		
	Live Load	Total Load		Live Load	Total Load		Live Load	Total Load	
	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%
6		413	449		452	491		452	491
7		355	358		389	358		389	358
8		312	314		341	314		341	314
9		278	280		304	280		304	280
10		250	252		274	252		274	252
11		228	230		249	230		249	230
12		209	211		229	211		229	211
13		193	195		211	195		211	195
14		180	181		196	181		196	181
15		168	169		183	169		183	169
16		157	159		172	159		172	159
17		148	149		162	149		162	149
18		140	141		153	141		153	141
19		133	134		145	134		145	134
20		126	127		138	127		138	127
21		120	121		131	121		131	121
22	111	115	116		125	116		125	116
23	97	109	111		120	111		120	111
24	86	101	106		115	106		115	106
25	76	93	101		110	102		110	102
26	68	86	90	99	105	98		106	98
27	60	80	81	89	98	94		102	94
28	54	72	72	79	91	91		99	91
29	49	65	65	72	85	88		95	88
30	44	59	59	65	79	85	88	92	85
31	40	53	53	59	74	78	80	87	82
32	36	49	49	53	70	71	73	82	80
33	33	44	44	49	65	65	66	77	77
34	30	41	41	45	59	59	61	73	75

NOTES

1. Roof joists or rafters must be sloped a minimum of 1/4" in 12".
2. Live Load column limits deflection to L/240; Total Load column limits deflection to L/180. Cathedral ceilings or sheet rocked rafters may require stiffer performance or additional design.
3. Values represent the most restrictive of simple span or multiple span conditions.
4. Values are for P3 Joist spaced at a maximum of 24" on center.
5. Table assumes a minimum end bearing length of 1-3/4" and a minimum interior bearing length of 3-1/2".
6. Web stiffeners are not required except when the joist hangers do not provide lateral support for the top flange of the P3 Joist. Web stiffeners are required at birdsmouth cuts and when required by hanger manufacturers for proper connections.

JOIST SIZING

1. Select desired joist depth (column).
2. Select desired span (row).
3. Check BOTH Live Load and Total Load columns.
4. If Live Load column is blank, Total Load capacity governs.



Allowable Roof Uniform Load Capacities (continued)

TABLE 17 B - LDF = 1.15

P3 Joist — PJI 80 with Web Stiffeners

Allowable uniform loads (PLF) Roof

Clear Joist Span (ft.)	18"			20"			22"			24"		
	Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load	
	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%
12		302	329		302	329		302	329		302	329
13		279	303		279	303		279	303		279	303
14		259	282		259	282		259	282		259	282
15		242	263		242	262		242	262		242	262
16		227	247		227	247		227	247		227	247
17		213	232		213	232		213	232		213	232
18		201	219		201	219		201	219		201	219
19		191	208		191	208		191	208		191	208
20		181	197		181	197		181	197		181	197
21		173	188		173	188		173	188		173	188
22		165	179		165	179		165	179		165	179
23		158	172		158	172		158	172		158	172
24		151	165		151	165		151	165		151	165
25		145	158		145	158		145	158		145	158
26		139	152		139	152		139	152		139	152
27		134	146		134	146		134	146		134	146
28		129	140		129	140		129	140		129	140
29		120	131		125	136		125	136		125	136
30		112	122		121	132		121	132		121	132
31	105	105	114		117	127		117	127		117	127
32	96	99	107		109	119		113	123		113	123
33	87	93	101		103	112		110	119		110	119
34	80	88	95		97	105		106	115		107	116
35	73	83	90		91	99		100	109		104	113
36	67	78	85	85	86	94		95	103		101	110
37	62	74	80	79	82	89		90	97		97	106
38	57	70	76	72	78	84		85	92		92	100
39	53	67	72	67	74	80		81	88		88	95
40	49	63	69	62	70	76	77	77	83		83	91
41	46	60	65	58	67	72	71	73	79		79	86
42	42	57	62	54	64	69	66	70	76		76	82
43	39	55	59	50	61	66	62	66	72		72	78
44	37	52	57	47	58	63	58	63	69		69	75
45	34	50	54	44	55	60	54	61	66	66	66	72
46	32	48	52	41	53	58	51	58	63	61	63	68
47	30	46	50	38	51	55	47	56	60	58	60	66
48	28	44	48	36	49	53	44	53	58	54	58	63
49	27	42	46	34	47	51	42	51	56	51	56	60
50	25	40	44	32	45	49	39	49	53	48	53	58

NOTES

1. Roof joists or rafters must be sloped a minimum of 1/4" in 12".
2. Live Load column limits deflection to L/240. Total Load column limits deflection to L/180.
3. Values represent the most restrictive of simple span or multiple span conditions.
4. Values are for P3 Joist spaced a maximum of 24" on center.
5. Table assumes a minimum end bearing length of 1-3/4" and a minimum interior bearing length of 3-1/2".
6. **Web stiffeners are required at each support.**
7. Tabulated values are clear span as measured between the face of the supports.

JOIST SIZING

1. Select desired span (row).
2. Select Joist depth (column) to satisfy both Live Load and Dead Load capacity.
3. If Live Load column is blank, Total Load capacity controls.

Allowable Roof Uniform Load Capacities (continued)

TABLE 18 - LDF = 1.15

P3 Joist — PJI 90 without Web Stiffeners

Allowable uniform loads [PLF] Roof

Clear Joist Span (ft.)	11-7/8"			14"			16"		
	Live Load	Total Load		Live Load	Total Load		Live Load	Total Load	
	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%
14		181	197		198	216		210	229
15		169	184		185	201		196	213
16		159	173		174	189		184	200
17		149	162		163	178		173	188
18		141	153		154	168		164	178
19		134	145		146	159		155	168
20		127	138		139	151		147	160
21		121	131		132	144		140	152
22		115	125		126	137		134	145
23		110	120		121	131		128	139
24	104	106	115		116	126		123	133
25	92	102	110		111	121		118	128
26	81	98	106		107	116		113	123
27	73	94	97		103	112		109	119
28	65	87	87	95	99	108		105	114
29	59	78	78	85	96	104		102	110
30	53	71	71	77	93	101		98	107
31	48	64	64	70	90	93	94	95	103
32	44	58	58	63	85	85	86	92	100
33	40	53	53	58	77	77	78	89	97
34	36	49	49	53	70	70	71	87	94
35	33	45	45	48	65	65	65	84	87
36	31	41	41	45	59	59	60	80	80
37	28	38	38	41	55	55	55	74	74
38	26	35	35	38	50	50	51	68	68
39	24	32	32	35	47	47	47	63	63
40	22	30	30	32	43	43	44	58	58

NOTES

1. Roof joists or rafters must be sloped a minimum of 1/4" in 12".
2. Live Load column limits deflection to L/240; Total Load column limits deflection to L/180. Cathedral ceilings or sheet rocked rafters may require stiffer performance or additional design.
3. Values represent the most restrictive of simple span or multiple span conditions.
4. Values are for P3 Joist spaced at a maximum of 24" on center.
5. Table assumes a minimum end bearing length of 1-3/4" and a minimum interior bearing length of 3-1/2".
6. Web stiffeners are not required except when the joist hangers do not provide lateral support for the top flange of the P3 Joist. Web stiffeners are required at birdsmouth cuts and when required by hanger manufacturers for proper connections.

JOIST SIZING

1. Select desired joist depth (column).
2. Select desired span (row).
3. Check BOTH Live Load and Total Load columns.
4. If Live Load column is blank, Total Load capacity governs.

Allowable Roof Uniform Load Capacities (continued)

TABLE 18 B - LDF = 1.15

P3 Joist — PJI 90 with Web Stiffeners

Allowable uniform loads (PLF) Roof

Clear Joist Span (ft.)	18"			20"			22"			24"		
	Live Load	Total Load		Live Load	Total Load		Live Load	Total Load		Live Load	Total Load	
	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%	Defl. L/240	Snow 115%	Non-Snow 125%
20		182	198		182	198		182	198		182	198
21		173	188		173	188		173	188		173	188
22		165	180		165	180		165	180		165	180
23		158	172		158	172		158	172		158	172
24		151	165		151	165		151	165		151	165
25		145	158		145	158		145	158		145	158
26		140	152		140	152		140	152		140	152
27		135	146		135	146		135	146		135	146
28		130	141		130	141		130	141		130	141
29		125	136		125	136		125	136		125	136
30		121	132		121	132		121	132		121	132
31		117	127		117	127		117	127		117	127
32	111	114	123		114	123		114	123		114	123
33	101	110	120		110	120		110	120		110	120
34	93	107	116		107	116		107	116		107	116
35	85	101	113		104	113		104	113		104	113
36	78	95	104	99	101	110		101	110		101	110
37	72	90	96	91	98	107		98	107		98	107
38	66	86	89	84	95	103		96	104		99	104
39	61	81	82	78	90	98		93	101		93	101
40	57	76	76	72	86	93	89	91	99		91	99
41	53	71	71	67	81	89	83	89	96		89	96
42	49	66	66	62	78	83	77	85	92		87	94
43	46	61	61	58	74	77	72	81	88		85	92
44	43	57	57	54	71	72	67	77	84	81	83	90
45	40	53	53	51	67	67	62	74	81	76	80	87
46	37	50	50	47	63	63	58	71	77	71	77	84
47	35	47	47	44	59	59	55	68	73	66	74	80
48	33	44	44	42	56	56	51	65	69	62	71	77
49	31	41	41	39	52	52	48	62	64	59	68	74
50	29	39	39	37	49	49	46	60	61	55	65	71

NOTES

1. Roof joists or rafters must be sloped a minimum of 1/4" in 12".
2. Live Load column limits deflection to L/240. Total Load column limits deflection to L/180.
3. Values represent the most restrictive of simple span or multiple span conditions.
4. Values are for P3 Joist spaced a maximum of 24" on center.
5. Table assumes a minimum end bearing length of 1-3/4" and a minimum interior bearing length of 3-1/2".
6. **Web stiffeners are required at each support.**
7. Tabulated values are clear span as measured between the face of the supports.

JOIST SIZING

1. Select desired span (row).
2. Select Joist depth (column) to satisfy both Live Load and Dead Load capacity.
3. If Live Load column is blank, Total Load capacity controls.

P3 Joist Design Properties

TABLE 19
P3 Joist Section Properties and Allowable Capacities

Series	Depth	El ² [106 lbf-in. ²]	Mr ³ [lbf-ft]	Vr ⁴ [lbf]	K ⁵ [106 lbf]	Self Weight [plf]	Allowable Verticle Load [lbf/ft]
PJI 40	9-1/2	193	2,735	1,120	4.94	2.6	2,000
	11-7/8	330	3,545	1,420	6.18	2.9	2,000
	14	482	4,270	1,710	7.28	3.1	2,000
	16	657	4,950	1,970	8.32	3.4	2,000
PJI 60	9-1/2	231	3,780	1,120	4.94	2.6	2,000
	11-7/8	396	4,900	1,420	6.18	2.9	2,000
	14	584	5,895	1,710	7.28	3.1	2,000
	16	799	6,835	1,970	8.32	3.4	2,000
PJI 80	11-7/8	547	6,940	1,420	6.18	3.6	2,000
	14	802	8,360	1,710	7.28	3.8	2,000
	16	1,092	9,690	1,970	8.32	4.0	2,000
	18	1,413	11,000	2,450	9.36	4.3	2,000
	20	1,790	12,180	2,530	10.4	4.5	1,720
	22	2,214	13,340	2,615	11.44	4.7	1,440
	24	2,687	14,490	2,695	12.48	4.9	1,390
PJI 90	11-7/8	601	8,515	1,420	6.18	3.6	2,000
	14	877	10,255	1,710	7.28	3.8	2,000
	16	1,187	11,895	1,970	8.32	4.0	2,000
	18	1,546	13,445	2,450	9.36	4.3	2,000
	20	1,957	14,885	2,530	10.4	4.5	1,720
	22	2,419	16,305	2,615	11.44	4.7	1,440
	24	2,934	17,710	2,695	12.48	4.9	1,390

NOTES

1. The tabulated values are design values for standard duration of load. All values, except El and K, shall be permitted to be adjusted for other load durations as permitted by the code.

2. Bending stiffness [El] of the P3 Joist

3. Moment capacity of the P3 Joist which shall not be increased by any code-allowed repetitive member use factor.

4. Shear capacity [V] of the P3 Joist

5. Coefficient of shear deflection [K] of the P3 Joist (For calculating uniform load and center-point load deflections of the P3 Joist in a simple-span application, use Equations 1 and 2).

1- Uniform Load:

$$\delta = \frac{5\omega\ell^4}{384EI} + \frac{\omega\ell^2}{K}$$

2- Center-Point Load:

$$\delta = \frac{P\ell^3}{48EI} + \frac{2P\ell}{K}$$

Where: δ = calculated deflection [in]

ω = uniform load [lbf/in]

ℓ = design span [in]

P = concentrated load [lbf]

El = bending stiffness of the P3 Joist [lbf-in²]

K = coefficient of shear deflection [lbf]

Reaction Capacities for P3 Joist

TABLE 20
P3 Joist Reaction Capacities [a]

Series	Depth	End Reaction [d] [lbf]				Intermediate Reaction [c] [lbf]			
		1.75" Bearing		4" Bearing		3.5" Bearing		5.5" Bearing	
		Web Stiffeners		Web Stiffeners		Web Stiffeners		Web Stiffeners	
		No	Yes	No	Yes	No	Yes	No	Yes
PJI 40	9-1/2	1,080	1,120	1,120	1,120	2,755	2,900	3,245	3,245
	11-7/8	1,200	1,310	1,420	1,420	2,755	3,045	3,245	3,375
	14	1,200	1,480	1,550	1,710	2,755	3,175	3,245	3,485
	16	1,200	1,640	1,550	1,970	2,755	3,300	3,245	3,595
PJI 60	9-1/2	1,080	1,120	1,120	1,120	2,755	2,900	3,245	3,245
	11-7/8	1,200	1,310	1,420	1,420	2,755	3,045	3,245	3,375
	14	1,200	1,480	1,550	1,710	2,755	3,175	3,245	3,485
	16	1,200	1,640	1,550	1,970	2,755	3,300	3,245	3,595
PJI 80	11-7/8	1,280	1,420	1,420	1,420	2,760	3,300	3,255	3,585
	14	1,280	1,710	1,550	1,710	3,020	3,455	3,435	3,745
	16	1,280	1,845	1,550	1,970	3,265	3,600	3,600	3,900
	18	1,250	2,050	1,650	2,450	3,200	3,950	3,650	4,350
	20	1,250	2,050	1,650	2,530	3,200	3,950	3,650	4,350
	22	1,250	2,050	1,650	2,615	3,200	3,950	3,650	4,350
	24	1,250	2,050	1,650	2,695	3,200	3,950	3,650	4,350
PJI 90	11-7/8	1,280	1,420	1,420	1,420	2,760	3,300	3,255	3,585
	14	1,280	1,710	1,710	1,710	3,020	3,455	3,435	3,745
	16	1,280	1,845	1,970	1,970	3,265	3,600	3,600	3,900
	18	1,250	2,050	1,650	2,450	3,200	3,950	3,650	4,350
	20	1,250	2,050	1,650	2,530	3,200	3,950	3,650	4,350
	22	1,250	2,050	1,650	2,615	3,200	3,950	3,650	4,350
	24	1,250	2,050	1,650	2,695	3,200	3,950	3,650	4,350

[a] The tabulated values are design values for normal duration of load. All values shall be permitted to be adjusted for other load durations provided that the adjusted reaction design value is not greater than the value specified below. Bearing stiffeners shall be installed in accordance with the recommendations provided by the manufacturer and APA D710.

[b] The allowable reaction design capacity interpolated in accordance with footnotes [c] and [d] as necessary and multiplied by an applicable load duration factor.

[c] Interpolation of the intermediate reaction between 3.5" and 5.5" bearing lengths is permitted.

[d] Interpolation of the end reaction between 1.75" and 4" bearing lengths is permitted.

Series	Depth	Maximum adjusted reaction capacity [b] [lbf]							
		1.75" Bearing		4" Bearing		3.5" Bearing		5.5" Bearing	
		Web Stiffeners		Web Stiffeners		Web Stiffeners		Web Stiffeners	
		No	Yes	No	Yes	No	Yes	No	Yes
All	PJI-40	1,675		3,825		3,345		5,260	
	PJI-60	2,065		4,725		4,135		6,495	
	PJI-80	2,985		6,825		5,970		9,385	
	PJI-90	3,500		7,995		6,995		10,995	

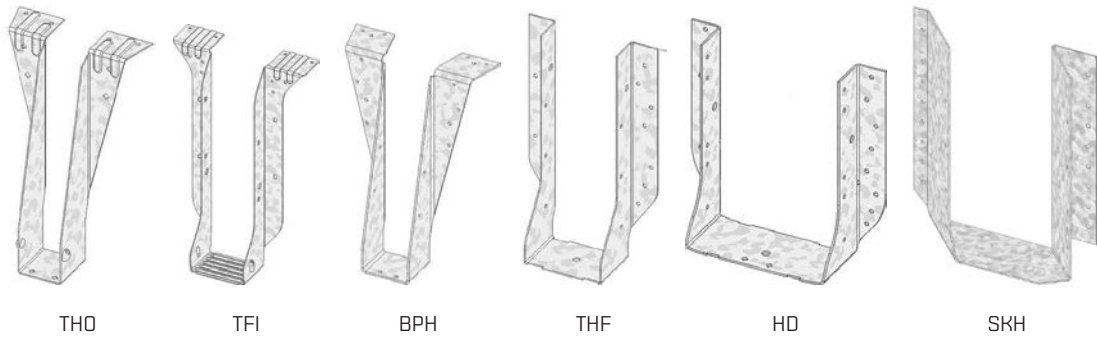
USP Hangers for PJI 40, 60, 80, and 90 Series

TABLE 21
Single P3 Joist
USP Structural Connectors

Width	Depth	Top Mount	Uplift 160%	Download		Face Mount	Uplift 160%	Download		Skewed	Uplift 160%	Download	
				DF/SP	SPF			DF/SP	SPF			DF/SP	SPF
2-1/2	9-1/2	TFL2595	140	1600	1230	THF25925	175	1370	1175	SKH2520L/R	1565	1625	1400
	11-7/8	TFL25118	140	1600	1230	THF25112	360	1595	1370	SKH2520L/R	1565	1625	1400
	14	TFL2514	140	1600	1230	THF25140	360	2090	1800	SKH2524L/R	1565	1855	1600
	16	TFL2516	140	1600	1230	THF25160	360	2550	2200	SKH2524L/R	1565	1855	1600
3-1/2	11-7/8	TH035118	265	2050	1720	THF35112	245	1825	1570	SKH410L/R	1565	2255	1935
	14	TH035140	265	2715	2280	THF35140	245	2320	2000	SKH410L/R	1565	2255	1935
	16	TH035160	265	2715	2280	THF35157	245	2550	2200	SKH414L/R	1565	3100	2660
	18	TFI418	360	2560	1660	THF35157	245	2550	2200	SKH414L/R	1565	3100	2660
	20	TFI420	360	2560	1660	THF35157	245	2550	2200	SKH414L/R	1565	3100	2660
	22	TFI422	360	3245	2345	THF35157	245	2550	2200	-	-	-	-
	24	TFI424	360	3245	2345	THF35157	245	2550	2200	-	-	-	-

TABLE 22
Double P3 Joist
USP Structural Connectors

Width	Depth	Top Mount	Uplift 160%	Download		Face Mount	Uplift 160%	Download		Skewed	Uplift 160%	Download	
				DF/SP	SPF			DF/SP	SPF			DF/SP	SPF
5	9-1/2	TH025950-2	1175	3665	2710	THF25925-2	1115	1390	1200	SKH2520L/R-2	1905	1665	1440
	11-7/8	TH025118-2	1175	3665	3005	THF25112-2	1115	1855	1600	SKH2520L/R-2	1905	1665	1440
	14	TH025140-2	1175	4450	3265	THF25140-2	1220	2540	2200	SKH2524L/R-2	1905	1905	1650
	16	TH025160-2	1175	4450	3265	THF25160-2	1220	3050	2640	SKH2524L/R-2	1905	1905	1650
7	11-7/8	BPH71118	1220	3455	3280	HD7120	1140	2255	1935	HD7120-SK45L/R ³	855	2255	1935
	14	BPH7114	1220	3455	3280	HD7140	1525	2820	2420	HD7140-SK45L/R ³	1145	2820	2420
	16	BPH7116	1220	3455	3280	HD7160	1525	3385	2905	HD7160-SK45L/R ³	1145	3385	2905
	18	BPH7118	1220	3455	3280	HD7160	1525	3385	2905	HD7160-SK45L/R ³	1145	3385	2905
	20	BPH7120	1220	3455	3280	HD7160	1525	3385	2905	HD7160-SK45L/R ³	1145	3385	2905
	22	BPH7122	1220	3455	3280	HD7160	1525	3385	2905	HD7160-SK45L/R ³	1145	3385	2905
	24	BPH7124	1220	3455	3280	HD7160	1525	3385	2905	HD7160-SK45L/R ³	1145	3385	2905

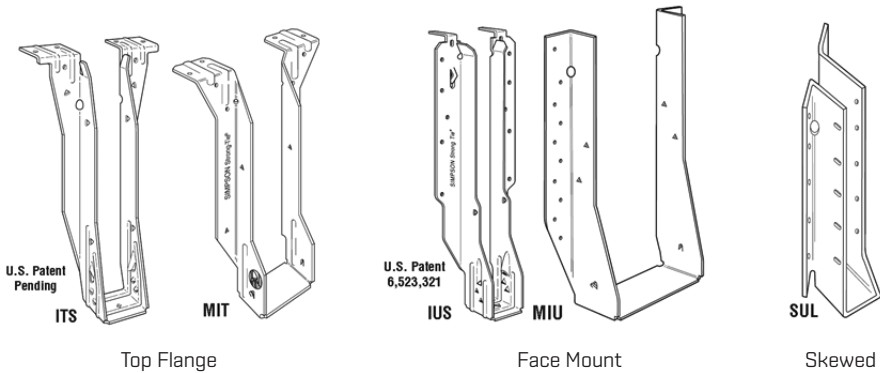


- NOTES**
1. Hangers that are marked by shading in tables require web stiffeners for hangers that are not marked by shading.
 2. This table is for quick specification for P3 Joist hangers. Refer to hanger manufacturer for additional design information.
 3. Hangers for Double Joist are special order. Consult USP for pricing and lead times.

Simpson Hangers for PJI 40, 60, 80, and 90 Series

TABLE 23
P3 Joist Strong-Tie Hangers

P3 Joist		Top Mount				Face Mount				Skewed 45			
		Load				Load				Load			
		Top Mount	Uplift [160]	Download		Face Mount	Uplift [160]	Download		Skewed 45	Uplift [160]	Download	
Width	Depth			DF/SP	SPF			DF/SP	SPF			DF/SP	SPF
2-1/2	9-1/2	ITS2.56/9.5	105	1520	1150	IUS2.56/9.5	75	950	815	SUR/L2.56/9	195	2015	1735
	11-7/8	ITS2.56/11.88	105	1520	1150	IUS2.56/11.88	75	1185	1020	SUR/L2.56/11	195	2305	1980
	14	ITS2.56/14	105	1520	1150	IUS2.56/14	75	1420	1220	SUR/L2.56/14	195	2590	2225
	16	ITS2.56/16	105	1520	1150	IUS2.56/16	75	1660	1425	SUR/L2.56/14	195	2590	2225
3-1/2	9-1/2	ITS3.56/9.5	105	1520	1150	IUS3.56/9.5	75	1185	1020	SUR/L410	1120	2015	1735
	11-7/8	ITS3.56/11.88	105	1520	1150	IUS3.56/11.88	75	1420	1220	SUR/L410	1120	2015	1735
	14	ITS3.56/14	105	1520	1150	IUS3.56/14	75	1420	1220	SUR/L414	1520	2500	2150
	16	ITS3.56/16	105	1520	1150	IUS3.56/16	75	1660	1425	SUR/L414	1520	2500	2150
	18	MIT418	185	2305	1665	MIU3.56/18	180	3745	3220	SUR/L414	1520	2500	2150
	20	MIT420	185	2305	1665	MIU3.56/20	180	4030	3465	SUR/L414	1520	2500	2150
	22	HIT422	270	2875	1950	MIU3.56/20	180	4030	3465	----- not available -----			
	24	HIT424	270	2875	1950	MIU3.56/20	180	4030	3445	----- not available -----			



- NOTES**
1. Hangers that are marked by green shading in tables require web stiffeners. EACOM may require web stiffeners for hangers that are not marked by shading.
 2. This table is for quick specification for P3 Joist hangers. Refer to hanger manufacturer for additional design information.
 3. MIT without web stiffeners on 3-1/2" wide joists is limited to 1675 lbs. Alternatively, install web stiffeners for an allowable load of 2305 lbs.



P3 Products Warranty

Limited Lifetime Warranty

EACOM Timber Corporation warrants that its line of P3 Products are free from defects in design, materials and workmanship. When installed and finished according to our published installation instructions and accepted engineering standards, our P3 Products will perform in accordance with our current published specifications for the lifetime of your home or building.

Warranty Limitations

EACOM Timber Corporation must be given a reasonable opportunity to inspect the product before it will honor any claims under this warranty. If after inspection and verification of the problem, we determine that there is a structural failure covered by the warranty, we will pay to the owner of the structure an amount of money equal to the reasonable cost of the defective product, or, at our option, replace any defective product. This warranty does not cover the cost of installation, removal of the defective product, or reinstallation of replacement product. Checks, cracks or splits of P3 Products resulting from the natural physical properties of wood are not covered — unless the condition causes a structural weakness.

Please protect your investment! P3 Products must be protected from exposure to moisture from whatever source by proper building standards. Exposure to moisture beyond incidental exposure during normal construction periods may cause product failure and will void this limited warranty.

This warranty shall apply only if the P3 Product is subjected to normal use and exposure. The products must be stored, handled, and installed in a manner generally accepted in the industry, and in accordance with our current published installation instructions and in compliance with our product design specifications relating to spans and loading. Failure to follow such instructions will void this warranty.

Disclaimer

EXCEPT FOR THE EXPRESS WARRANTY AND REMEDY SET FORTH ABOVE, EACOM TIMBER CORPORATION DISCLAIMS ALL OTHER WARRANTIES AND GUARANTEES, EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No other warranty or guarantee will be made by or on behalf of the manufacturer or the seller or by operation of law with respect to the product or its installation, storage, handling, maintenance, use, replacement, or repair. Neither EACOM Timber Corporation nor the seller shall be liable by virtue of any warranty or guarantee, or otherwise, for any special or incidental or consequential loss or damage resulting from the use of the product. EACOM Timber Corporation makes no warranty or guarantee with respect to installation of the product by the builder or the builder's contractor or by any other installer.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

For information on our P3 Products or our warranty, contact us at:

EACOM Timber Corporation

1100 René Lévesque Blvd. West, Suite 2110
Montreal, Québec H3B 4N4

www.eacom.ca

Sales Contact:

Jeff Kilgour
EACOM Timber Corporation
1100 René Lévesque Blvd. West, Suite 2110
Montreal, Québec H3B 4N4
www.eacom.ca
P3sales@eacom.ca

Plant:

EACOM Timber Corporation
1195 Peoples Road
Sault Ste. Marie, Ontario
Canada P6C 3W7

Distributed by: