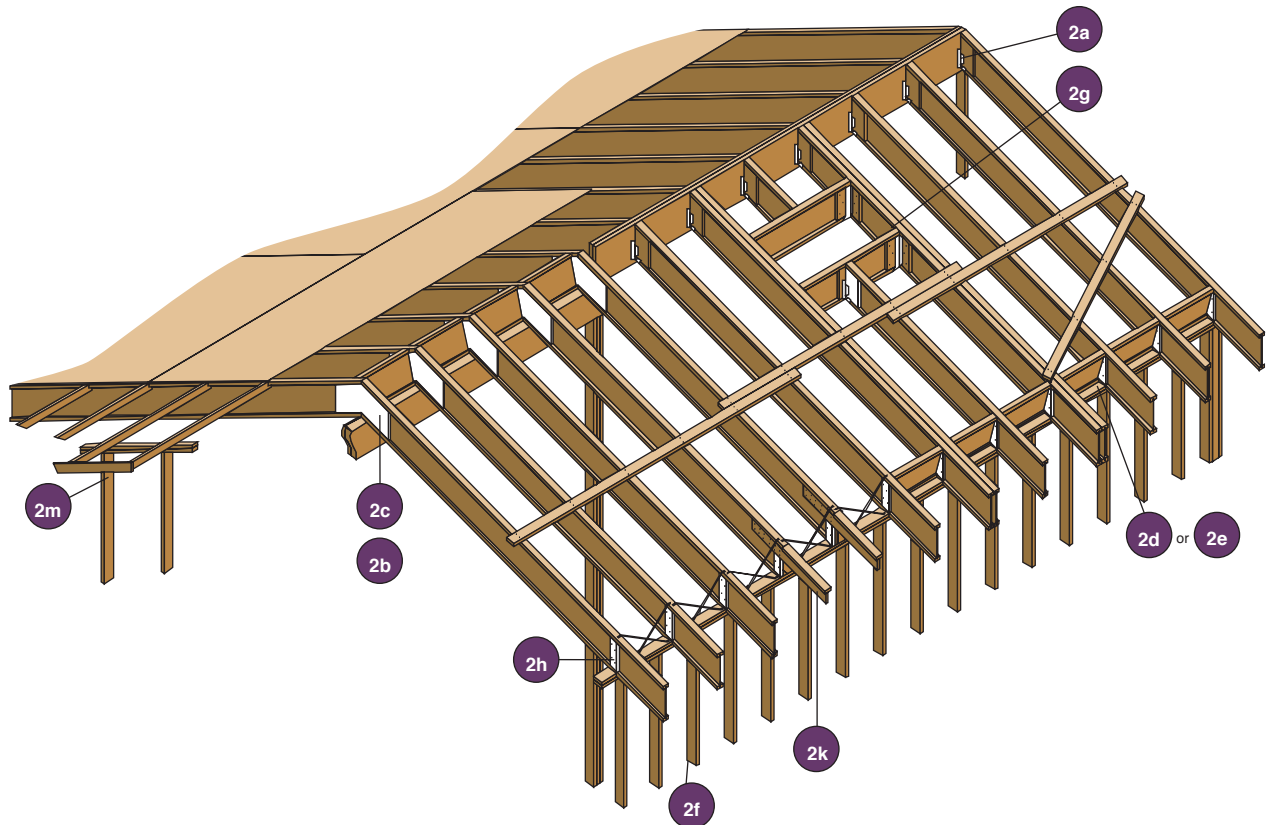


FRAMING & CONSTRUCTION DETAILS

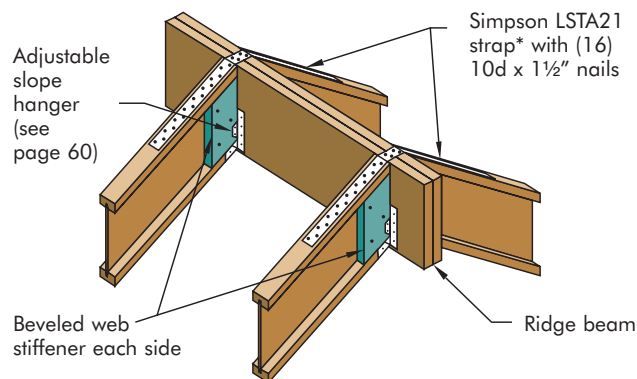
TYPICAL RFPI-JOIST ROOF FRAMING AND CONSTRUCTION DETAILS



TYPICAL RFPI®-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 may be substituted for 8d common shown in details. If nails must be installed into the sides of LVL flanges, spacing shall not be closer than 3 inches o.c. for 8d common nails, and 4 inches o.c. for 10d common nails. Individual components not shown to scale for clarity.

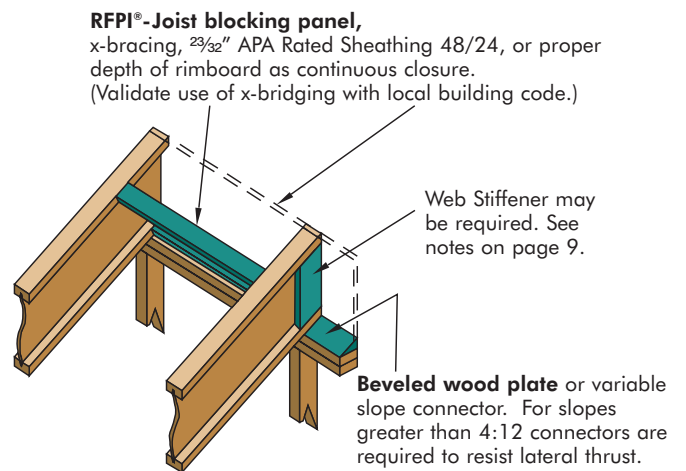
2a RIDGE JOIST CONNECTION – 12/12 MAXIMUM SLOPE



* Strap required for members with slope greater than 3/12.

Uplift connections may be required.

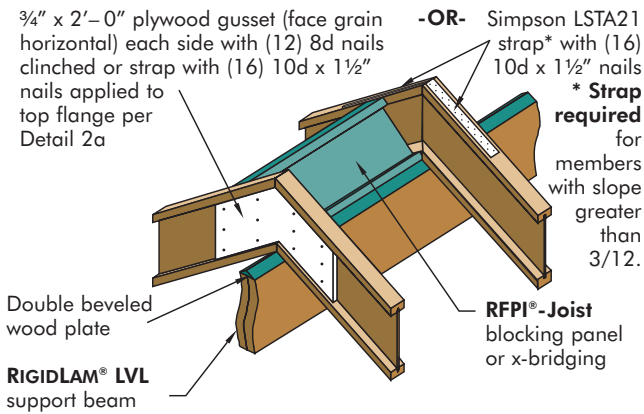
2b UPPER END, BEARING ON WALL



Uplift connections may be required.

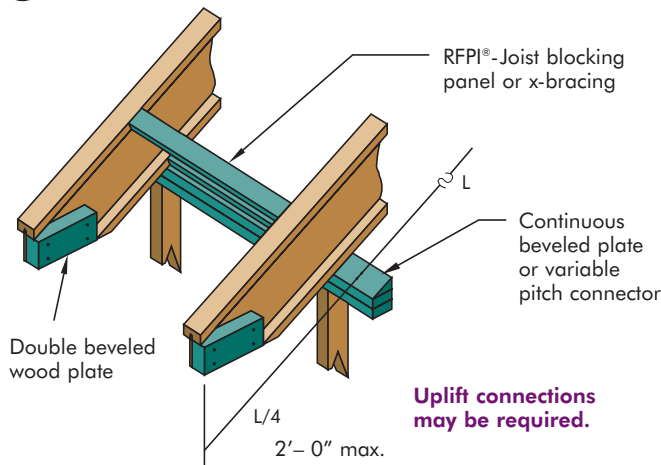
ROOF DETAILS

2c RFPI®-JOISTS ABOVE RIDGE SUPPORT BEAM

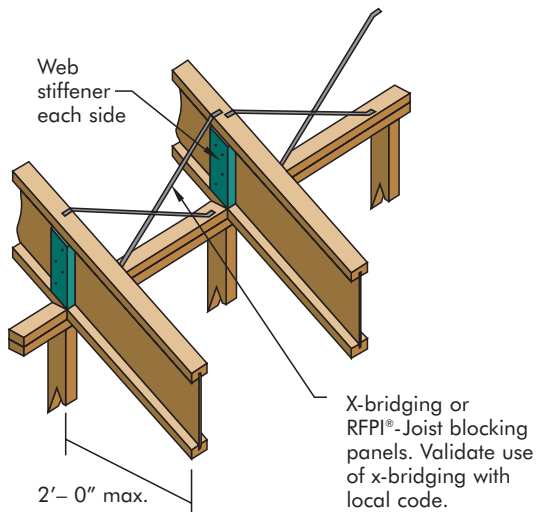


Uplift connections may be required.

2e RFPI®-JOISTS ON BEVELED PLATE

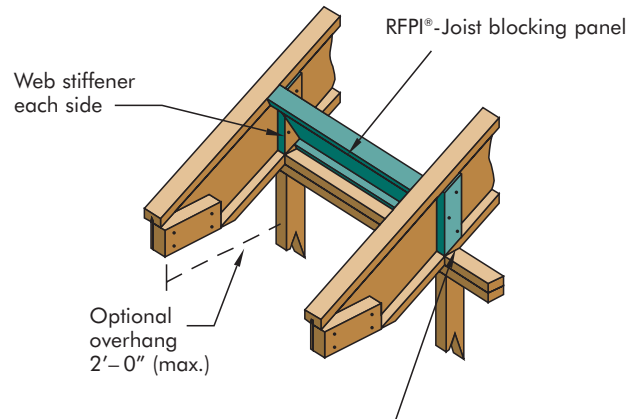


2f BIRDSMOUTH CUT – LOW END OF RFPI®-JOIST ONLY



Uplift connections may be required.

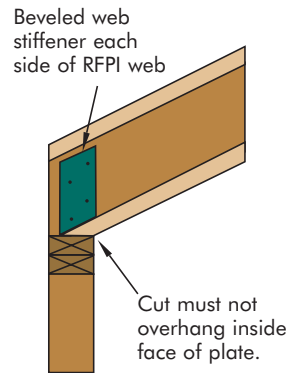
2d BIRDSMOUTH CUT – LOW END OF RFPI®-JOIST ONLY



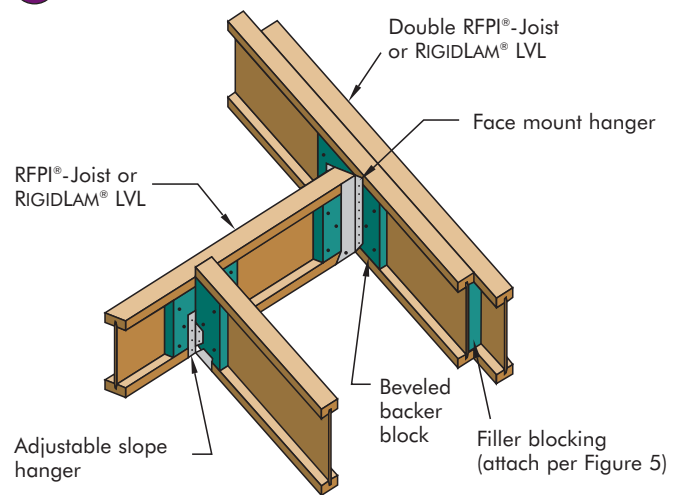
Birdsmouth cut RFPI®-Joist to provide full bearing for bottom flange. Cut must not overhang inside face of plate.

Uplift connections may be required.

2d sim. BIRDSMOUTH CUT, NO OVERHANG - LOW END OF RFPI®-JOIST ONLY



2g ROOF OPENINGS, FACE MOUNTED HANGERS

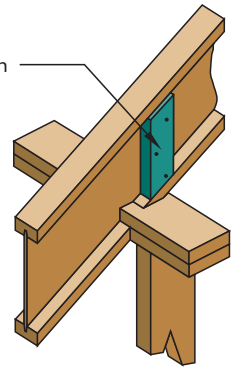


Uplift connections may be required.

2h BEVELED CUT BEARING STIFFENER

Bevel cut web stiffener to match roof slope.

Permitted on low end of RFPI®-Joist only

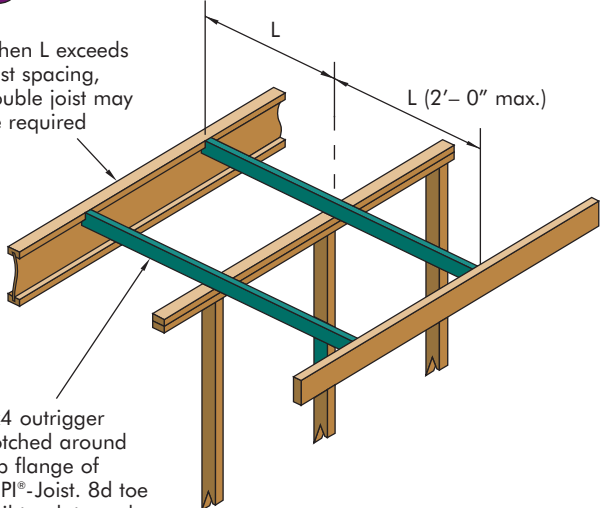


Uplift connections may be required.

2m OVERHANG PARALLEL TO RFPI®-JOIST

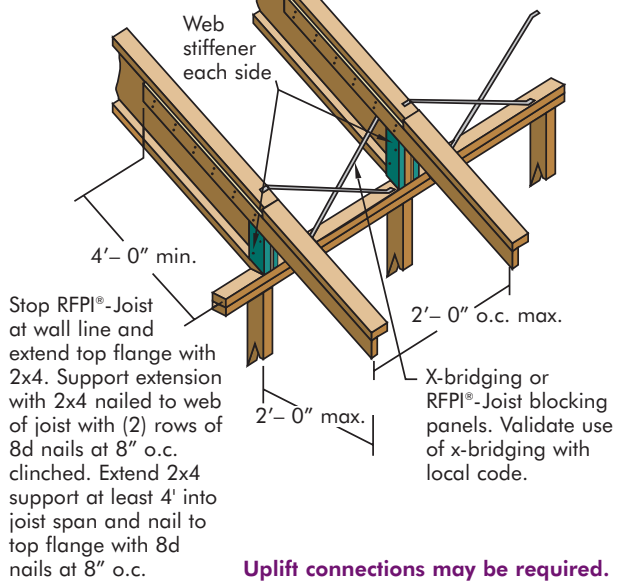
When L exceeds joist spacing, double joist may be required

2x4 outrigger notched around top flange of RFPI®-Joist. 8d toe nail to plate and top flange



Uplift connections may be required.

2k OPTIONAL OVERHANG EXTENSIONS



Stop RFPI®-Joist at wall line and extend top flange with 2x4. Support extension with 2x4 nailed to web of joist with (2) rows of 8d nails at 8" o.c. clinched. Extend 2x4 support at least 4' into joist span and nail to top flange with 8d nails at 8" o.c.

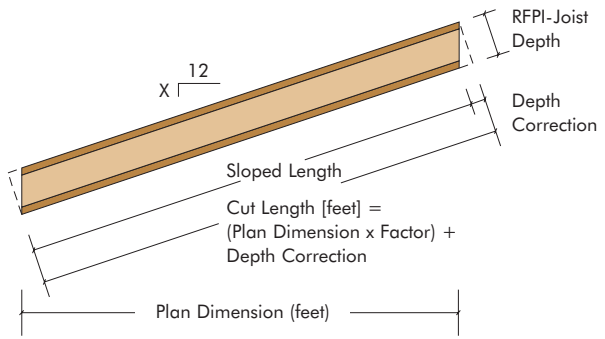
Uplift connections may be required.

Note:
See page 26 for additional installation recommendations.

SLOPE LENGTH CONVERSION CHART

UP-THE-SLOPE SPANS & CUTTING LENGTHS FOR SLOPED ROOFS

Slope	Slope Factor	Joist Depth (inches)			
		9½	11⅞	14	16
		Depth Correction (feet)			
1 in 12	1.00	0.07	0.08	0.10	0.11
2 in 12	1.01	0.13	0.16	0.19	0.22
2.5 in 12	1.02	0.16	0.21	0.24	0.28
3 in 12	1.03	0.20	0.25	0.29	0.33
3.5 in 12	1.04	0.23	0.29	0.34	0.39
4 in 12	1.05	0.26	0.33	0.39	0.44
4.5 in 12	1.07	0.30	0.37	0.44	0.50
5 in 12	1.08	0.33	0.41	0.49	0.56
6 in 12	1.12	0.40	0.49	0.58	0.67
7 in 12	1.16	0.46	0.58	0.68	0.78
8 in 12	1.20	0.53	0.66	0.78	0.89
9 in 12	1.25	0.59	0.74	0.88	1.00
10 in 12	1.30	0.66	0.82	0.97	1.11
11 in 12	1.36	0.73	0.91	1.07	1.22
12 in 12	1.41	0.79	0.99	1.17	1.33



ALLOWABLE ROOF UNIFORM LOADS

ALLOWABLE LOADS FOR RFPI-JOISTS (PLF)

Joist Clear Span (feet)	RFPI 20 (1 3/4" x 1 3/8" flanges)				RFPI 30 (1 1/2" x 1 1/2" flanges)				RFPI 40 (2 3/16" x 1 3/8" flanges)							
	9 1/2"		11 7/8"		9 1/2"		11 7/8"		9 1/2"		11 7/8"		14"		16"	
	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%
6	250	271	249	271	280	304	280	304	317	345	367	399	367	399	367	399
7	215	234	214	233	241	262	241	262	273	297	316	344	316	343	315	343
8	188	205	188	205	211	230	211	230	239	260	277	302	277	301	277	301
9	168	182	167	182	188	205	188	204	213	232	247	269	247	268	246	268
10	151	164	151	164	169	184	169	184	192	209	222	242	222	242	222	242
11	137	150	137	149	154	168	154	168	175	190	202	220	202	220	202	220
12	126	137	126	137	141	154	141	154	160	174	186	202	186	202	185	201
13	116	127	116	126	131	142	130	142	142	154	171	187	171	186	171	186
14	106	108	108	117	116	121	132	121	132	122	133	159	159	173	159	173
15	87	98	101	110	96	113	123	113	123	106	116	138	148	161	148	161
16	72	86	94	103	80	104	104	106	115	93	102	121	139	151	139	151
17	61	76	89	97	67	87	87	100	108	79	82	90	107	117	130	141
18	51	67	84	91	57	74	74	94	102	68	73	80	96	104	115	126
19	44	57	76	86	49	63	63	83	89	58	66	72	86	93	103	113
20			65	78	42	54	54	72	84	50	59	64	77	84	93	102
21			57	70				62	80	43	54	55	70	76	84	92
22			50	64				55	71				63	69	77	84
23			44	56				48	62				56	63	70	76
24								42	54				50	58	64	70
25													53		59	64
26															54	59
27															50	55
28															51	54
29																50
30																51

Notes:

1. See GENERAL NOTES on page 13.
2. Deflection under total load is limited to L/180.
3. Roofs must be sloped at least 1/4" in 12" to assure drainage.
4. Use the horizontal span dimension from the building plans to size joists for roofs that slope up to 2" in 12". For roof slopes greater than 2" in 12", multiply the horizontal span dimension by the appropriate Slope Factor from the table on page 32.
5. Use 115% column for snow loads and 125% for non-snow loads. Check with local code (based on location of building) for snow load requirements.

To Use PLF Chart:

1. Select the span required.
2. Compare the design total load to the appropriate Total Load column and compare the design live load to the L/240 column.
3. Select a product that exceeds both the design total and live loads.

Joist Span (feet)	RFPI 50 (1 3/4" x 1 1/2" flanges)				RFPI 70 (2 3/16" x 1 1/2" flanges)				RFPI 90 (3 1/2" x 1 1/2" flanges)																			
	9 1/2"		11 7/8"		14"		16"		9 1/2"		11 7/8"		14"		16"		11 7/8"		14"		16"							
	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%	Live L/240	Total 115% 125%						
6	300	326	299	326	299	325	299	325	329	358	343	373	342	372	342	372	492	536	492	535	492	535						
7	258	280	258	280	257	280	257	280	283	308	295	321	294	320	294	320	424	461	423	461	423	460						
8	226	246	226	246	226	246	225	245	248	270	258	281	258	281	258	281	372	404	371	404	371	404						
9	201	219	201	219	201	219	201	218	221	240	230	250	230	250	230	250	331	360	331	360	330	360						
10	181	197	181	197	181	197	181	197	199	217	207	226	207	225	207	225	298	324	298	324	298	324						
11	165	180	165	179	165	179	164	179	181	197	189	205	188	205	188	205	271	295	271	295	271	295						
12	151	165	151	165	151	164	151	164	166	181	173	188	173	188	172	188	249	271	248	270	248	270						
13	140	152	140	152	139	152	139	151	153	167	160	174	159	174	159	173	230	250	229	250	229	249						
14	130	141	130	141	129	141	129	141	142	155	148	161	148	161	148	161	213	232	213	232	213	232						
15	109	121	121	132	121	132	121	131	133	145	138	151	138	150	138	150	199	217	199	216	198	216						
16	91	114	113	123	113	123	113	123	117	124	136	130	141	129	141	129	141	186	203	186	203	186	202					
17	77	100	107	116	106	116	106	116	99	117	128	122	133	122	132	121	132	175	191	175	191	175	190					
18	65	85	101	110	100	109	100	109	84	110	110	115	125	115	125	115	125	166	180	165	180	165	180					
19	56	72	95	104	95	103	95	103	72	94	94	109	119	109	118	108	118	157	171	156	170	156	170					
20	48	62	82	90	90	98	90	98	63	81	81	103	113	103	112	103	112	145	149	149	162	149	162					
21	42	54	71	86	86	93	86	93	54	70	70	91	98	98	107	98	107	127	142	142	154	141	154					
22			62	81	82	89	82	89	48	61	61	80	94	102	94	102	93	102	112	135	145	147	134	147				
23			55	71	78	85	78	85	42	53	53	70	90	91	89	97	89	97	99	128	128	129	140	129	140			
24			49	62	71	82	75	82				62	80	80	86	93	85	93	88	113	113	123	134	123	134			
25			43	55	64	72	72	78				56	71	71	80	82	89	82	89	78	100	100	112	118	129	118	129	
26					57	69	69	73				50	63	63	72	79	86	79	86	70	89	89	100	114	124	113	124	
27					51	65	65	65				44	56	56	64	76	82	76	82	63	80	80	90	109	116	109	119	
28					46	58	58	63	64	69		40	50	50	58	73	74	73	79	56	71	71	81	104	104	105	114	
29					41	52	52	57	61	67					52	67	67	70	77	51	64	64	73	94	94	98	101	110
30							51	59	65						47	60	60	64	68	46	58	58	67	85	85	89	98	107

ALLOWABLE ROOF CLEAR SPANS 115% SNOW

Please refer to notes on page 35.

25 PSF LIVE LOAD – 15 PSF DEAD LOAD

Joist Depth	Joist Series	Slope of 4/12 or less			Slopes over 4/12 up to 8/12			Slopes over 8/12 up to 12/12		
		16" o.c.	19.2" o.c.	24" o.c.	16" o.c.	19.2" o.c.	24" o.c.	16" o.c.	19.2" o.c.	24" o.c.
9 1/2"	RFPI 20	19'-2"	18'-0"	16'-7"	18'-8"	16'-11"	15'-8"	16'-8"	15'-8"	14'-6"
	RFPI 30	19'-10"	18'-7"	17'-3"	18'-8"	17'-6"	16'-3"	17'-3"	16'-3"	15'-0"
	RFPI 40	21'-1"	19'-4"	17'-4"	19'-10"	18'-7"	16'-10"	18'-4"	17'-3"	15'-11"
	RFPI 50	20'-9"	19'-6"	18'-1"	19'-7"	18'-5"	17'-0"	18'-1"	17'-0"	15'-9"
	RFPI 70	22'-9"	21'-5"	19'-9"	21'-5"	20'-2"	18'-8"	19'-10"	18'-8"	17'-3"
11 1/8"	RFPI 20	23'-1"	21'-2"	18'-11"	21'-9"	20'-5"	17'-11"	20'-1"	18'-11"	16'-8"
	RFPI 30	23'-11"	22'-5"	20'-9"	22'-6"	21'-1"	19'-7"	20'-10"	19'-7"	18'-1"
	RFPI 40	24'-3"	22'-1"	19'-9"	23'-7"	21'-6"	19'-2"	22'-0"	20'-8"	18'-6"
	RFPI 50	25'-0"	23'-6"	21'-9"	23'-7"	22'-1"	20'-6"	21'-10"	20'-6"	19'-0"
	RFPI 70	27'-4"	25'-8"	23'-9"	25'-9"	24'-2"	22'-4"	23'-10"	22'-5"	20'-9"
14"	RFPI 90	30'-10"	28'-11"	26'-9"	29'-0"	27'-3"	25'-3"	26'-11"	25'-3"	23'-4"
	RFPI 40	26'-7"	24'-3"	21'-8"	25'-11"	23'-8"	21'-1"	25'-0"	22'-9"	20'-4"
	RFPI 50	28'-7"	26'-10"	22'-9"	26'-11"	25'-4"	21'-7"	24'-11"	23'-5"	20'-1"
	RFPI 70	31'-0"	29'-2"	26'-1"	29'-3"	27'-5"	24'-8"	27'-1"	25'-5"	23'-0"
	RFPI 90	35'-0"	32'-10"	30'-5"	32'-11"	30'-11"	28'-8"	30'-6"	28'-8"	26'-7"
16"	RFPI 40	28'-8"	26'-2"	23'-4"	27'-11"	25'-6"	22'-9"	26'-11"	24'-7"	21'-11"
	RFPI 50	31'-11"	28'-6"	22'-9"	30'-0"	27'-0"	21'-7"	27'-10"	25'-1"	20'-1"
	RFPI 70	34'-6"	32'-5"	26'-1"	32'-6"	30'-6"	24'-8"	30'-1"	28'-3"	23'-0"
	RFPI 90	38'-9"	36'-4"	33'-8"	36'-6"	34'-3"	31'-9"	33'-10"	31'-9"	29'-5"

30 PSF LIVE LOAD – 15 PSF DEAD LOAD

Joist Depth	Joist Series	Slope of 4/12 or less			Slopes over 4/12 up to 8/12			Slopes over 8/12 up to 12/12		
		16" o.c.	19.2" o.c.	24" o.c.	16" o.c.	19.2" o.c.	24" o.c.	16" o.c.	19.2" o.c.	24" o.c.
9 1/2"	RFPI 20	18'-5"	17'-3"	15'-8"	17'-4"	16'-3"	15'-1"	16'-1"	15'-1"	14'-0"
	RFPI 30	19'-0"	17'-10"	16'-6"	18'-0"	16'-10"	15'-7"	16'-8"	15'-8"	14'-6"
	RFPI 40	20'-0"	18'-3"	16'-4"	19'-1"	17'-10"	15'-11"	17'-9"	16'-8"	15'-5"
	RFPI 50	20'-0"	18'-9"	17'-4"	18'-10"	17'-8"	16'-5"	17'-6"	16'-5"	15'-3"
	RFPI 70	21'-11"	20'-6"	19'-0"	20'-8"	19'-5"	17'-11"	19'-2"	18'-0"	16'-8"
11 1/8"	RFPI 20	21'-11"	20'-0"	16'-10"	20'-11"	19'-6"	16'-0"	19'-5"	18'-3"	15'-0"
	RFPI 30	22'-11"	21'-7"	18'-10"	21'-8"	20'-4"	18'-0"	20'-1"	18'-11"	16'-10"
	RFPI 40	22'-10"	20'-10"	18'-7"	22'-4"	20'-4"	18'-2"	21'-3"	19'-8"	17'-8"
	RFPI 50	24'-0"	22'-7"	20'-3"	22'-8"	21'-4"	19'-3"	21'-1"	19'-9"	18'-1"
	RFPI 70	26'-3"	24'-8"	22'-10"	24'-9"	23'-3"	21'-6"	23'-0"	21'-7"	20'-0"
14"	RFPI 90	29'-7"	27'-9"	25'-8"	27'-11"	26'-3"	24'-3"	25'-11"	24'-4"	22'-7"
	RFPI 40	25'-1"	22'-11"	20'-5"	24'-6"	22'-4"	20'-0"	23'-9"	21'-8"	19'-4"
	RFPI 50	27'-6"	25'-4"	20'-3"	25'-11"	24'-2"	19'-3"	24'-1"	22'-8"	18'-1"
	RFPI 70	29'-10"	28'-0"	23'-2"	28'-2"	26'-5"	22'-1"	26'-2"	24'-6"	20'-9"
	RFPI 90	33'-7"	31'-6"	29'-2"	31'-9"	29'-9"	27'-7"	29'-6"	27'-8"	25'-7"
16"	RFPI 40	27'-1"	24'-8"	22'-0"	26'-5"	24'-1"	21'-6"	25'-7"	23'-4"	20'-10"
	RFPI 50	30'-6"	25'-4"	20'-3"	28'-11"	24'-2"	19'-3"	26'-10"	22'-8"	18'-1"
	RFPI 70	33'-2"	29'-1"	23'-2"	31'-4"	27'-8"	22'-1"	29'-1"	25'-11"	20'-9"
	RFPI 90	37'-2"	34'-11"	32'-4"	35'-1"	33'-0"	30'-6"	32'-7"	30'-8"	28'-4"

40 PSF LIVE LOAD – 15 PSF DEAD LOAD

Joist Depth	Joist Series	Slope of 4/12 or less			Slopes over 4/12 up to 8/12			Slopes over 8/12 up to 12/12		
		16" o.c.	19.2" o.c.	24" o.c.	16" o.c.	19.2" o.c.	24" o.c.	16" o.c.	19.2" o.c.	24" o.c.
9 1/2"	RFPI 20	17'-2"	15'-10"	13'-9"	16'-3"	15'-3"	13'-3"	15'-2"	14'-3"	12'-6"
	RFPI 30	17'-9"	16'-8"	15'-5"	16'-10"	15'-10"	14'-7"	15'-8"	14'-7"	13'-7"
	RFPI 40	18'-2"	16'-6"	14'-9"	17'-9"	16'-2"	14'-6"	16'-8"	15'-8"	14'-1"
	RFPI 50	18'-8"	17'-6"	16'-2"	17'-8"	16'-5"	15'-4"	16'-5"	15'-5"	14'-4"
	RFPI 70	20'-5"	19'-2"	17'-9"	19'-4"	18'-2"	16'-9"	18'-0"	16'-11"	15'-8"
11 1/8"	RFPI 20	19'-10"	17'-3"	13'-9"	19'-5"	16'-7"	13'-3"	18'-3"	15'-9"	12'-6"
	RFPI 30	21'-5"	19'-4"	15'-5"	20'-3"	18'-7"	14'-10"	18'-11"	17'-8"	14'-1"
	RFPI 40	20'-8"	18'-10"	16'-10"	20'-3"	18'-6"	16'-6"	19'-9"	18'-0"	16'-1"
	RFPI 50	22'-5"	20'-9"	16'-7"	21'-3"	19'-11"	15'-11"	19'-10"	18'-7"	15'-1"
	RFPI 70	24'-6"	23'-0"	19'-0"	23'-2"	21'-9"	18'-3"	21'-8"	20'-4"	17'-3"
14"	RFPI 90	27'-7"	25'-11"	23'-11"	26'-2"	24'-7"	22'-9"	24'-5"	22'-11"	21'-2"
	RFPI 40	22'-9"	20'-9"	18'-6"	22'-3"	20'-4"	18'-2"	21'-8"	19'-9"	17'-8"
	RFPI 50	25'-0"	20'-9"	16'-7"	24'-0"	19'-11"	15'-11"	22'-8"	18'-11"	15'-1"
	RFPI 70	27'-10"	23'-10"	19'-0"	26'-4"	22'-11"	18'-3"	24'-7"	21'-8"	17'-3"
	RFPI 90	31'-5"	29'-5"	27'-3"	29'-9"	27'-11"	25'-10"	27'-9"	26'-0"	24'-1"
16"	RFPI 40	24'-6"	22'-4"	19'-11"	24'-0"	21'-11"	19'-7"	23'-4"	21'-4"	18'-6"
	RFPI 50	25'-0"	20'-9"	16'-7"	24'-0"	19'-11"	15'-11"	22'-9"	18'-11"	15'-1"
	RFPI 70	28'-7"	23'-10"	19'-0"	27'-6"	22'-11"	18'-3"	26'-1"	21'-8"	17'-3"
	RFPI 90	34'-9"	32'-7"	27'-5"	32'-11"	30'-11"	26'-4"	30'-8"	28'-10"	24'-11"

50 PSF LIVE LOAD – 15 PSF DEAD LOAD

Joist Depth	Joist Series	Slope of 4/12 or less			Slopes over 4/12 up to 8/12			Slopes over 8/12 up to 12/12		
		16" o.c.	19.2" o.c.	24" o.c.	16" o.c.	19.2" o.c.	24" o.c.	16" o.c.	19.2" o.c.	24" o.c.
9 1/2"	RFPI 20	16'-0"	14'-7"	11'-7"	15'-5"	14'-1"	11'-3"	14'-4"	13'-6"	10'-9"
	RFPI 30	16'-9"	15'-8"	13'-1"	15'-11"	14'-11"	12'-7"	14'-11"	14'-0"	12'-1"
	RFPI 40	16'-8"	15'-2"	13'-7"	16'-5"	14'-11"	13'-4"	15'-10"	14'-7"	13'-0"
	RFPI 50	17'-6"	16'-5"	14'-0"	16'-8"	15'-8"	13'-6"	15'-7"	14'-8"	12'-11"
	RFPI 70	19'-2"	18'-0"	16'-1"	18'-4"	17'-2"	16'-1"	17'-1"	16'-1"	14'-10"
11 1/8"	RFPI 20	17'-7"	14'-7"	11'-7"	17'-0"	14'-1"	11'-3"	16'-3"	13'-6"	10'-9"
	RFPI 30	19'-9"	16'-5"	13'-1"	19'-1"	15'-10"	12'-7"	17'-11"	15'-1"	12'-1"
	RFPI 40	19'-0"	17'-4"	15'-6"	18'-8"	17'-1"	15'-3"	18'-3"	16'-8"	14'-10"
	RFPI 50	21'-1"	17'-7"	14'-0"	20'-1"	17'-0"	13'-6"	18'-10"	16'-3"	12'-11"
	RFPI 70	23'-0"	20'-2"	16'-1"	21'-11"	19'-6"	15'-6"	20'-6"	18'-7"	14'-10"
14"	RFPI 90	26'-0"	24'-4"	22'-6"	24'-9"	23'-3"	21'-6"	23'-2"	21'-9"	20'-1"
	RFPI 40	20'-11"	19'-1"	17'-0"	20'-7"	18'-9"	16'-8"	20'-1"	18'-4"	15'-11"
	RFPI 50	21'-2"	17'-7"	14'-0"	20'-5"	17'-0"	13'-6"	20'-1"	16'-3"	12'-11"
	RFPI 70	24'-3"	20'-2"	16'-1"	23'-5"	19'-6"	15'-6"	22'-4"	18'-7"	14'-10"
	RFPI 90	29'-6"	27'-8"	23'-2"	28'-1"	26'-5"	22'-5"	26'-4"	24'-8"	21'-5"
16"	RFPI 40	22'-6"	20'-6"	17'-3"	22'-2"	20'-2"	16'-8"	21'-8"	19'-9"	15'-11"
	RFPI 50	21'-2"	17'-7"	14'-0"	20'-5"	17'-0"	13'-6"	19'-6"	16'-3"	12'-11"
	RFPI 70	24'-3"	20'-2"	16'-1"	23'-5"	19'-6"	15'-6"	22'-4"	18'-7"	14'-10"
	RFPI 90	32'-8"	29'-1"	23'-2"	31'-2"	28'-1"	22'-5"	29'-1"	26'-10"	21'-5"