PRODUCT REPORT®
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Roseburg RFPI® Series I-Joists
Roseburg Forest Products Company

PR-L259(C)
Revised November 27, 2024

Products: Roseburg RFPI Series I-Joists
Roseburg Forest Products Company, 4500 Riddle Bypass Road, Riddle, Oregon 97469
(800) 347-7260
www.roseburg.com

1. Basis of the product report:
   - 2020 National Building Code of Canada (NBC): Clause 1.2.1.1 of Division A, and Clauses 4.1, 4.3.1.1, and 9.23.4.2 of Division B
   - CSA O86-19 Engineering Design in Wood
   - ASTM D5055-16 recognized in CAN/CSA O86-19
   - APA PRI-400 Performance Standard for Residential I-Joists (Limit States Design)
   - APA Reports T2000P-14, T2001P-64, T2002P-57, T2002P-62A, T2003P-15, T2003P-20, T2003P-67, T2005P-101C, T2006P-04, T2006P-76A, T2008P-11, T2008P-75, T2009P-33, T2009P-42, T2009P-48, T2009P-50, T2010P-35, T2010P-57, T2011P-51, T2011P-52, T2012P-31, T2013P-22, T2013P-24A, T2015L-05B, T2015P-06, T2017L-25, T2018P-30, and T2023P-23, and other qualification data

2. Product description:
   All RFPI series I-joists, as described in Table 1, are made with laminated veneer lumber (LVL) flanges with the exception of RFPI-40S, RFPI-60S, RFPI-65S, RFPI-70S, RFPI-80S, and RFPI-90S which are made of lumber flanges, and OSB webs in accordance with the in-plant manufacturing standard approved by APA.

3. Design properties:
   Tables 2 and 3 list the Limit States Design (LSD) properties for RFPI series I-joists. Table 4 shows web stiffener information. Design span information for RFPI series I-joists shall be in accordance with the recommendations provided by the manufacturer (www.roseburg.com).

4. Product installation:
   RFPI Series I-Joists shall be installed in accordance with the recommendations provided by the manufacturer (see link above). Permissible web holes and cantilever reinforcements shall be in accordance with the recommendations provided by the manufacturer.

5. Fire-rated assemblies:
   Fire-rated assemblies shall be constructed in accordance with the recommendations provided by the manufacturer (see link above), APA Product Report PR-S259, or Table 9.10.3.1.-B of NBC.

6. Limitations:
   a) RFPI Series I-Joists shall be designed in accordance with the code using the design properties specified in this report.
   b) RFPI Series I-Joists are limited to dry service conditions as defined in CSA O86, at which the average equilibrium moisture content of solid-sawn lumber over a year is 15% or less and does not exceed 19%.
   c) RFPI series I-joists, except for RFPI-40S, RFPI-60S, RFPI-65S, RFPI-70S, RFPI-80S, and RFPI-90S, are produced at the Roseburg Forest Products Company facility in Riddle, Oregon under a quality assurance program audited by APA.

d) RFPI-40S, RFPI-60S, RFPI-65S, and RFPI-80S are produced at the EACOM Timber Corporation (DBA INTERFOR) facility in Sault Ste. Marie, Ontario under a quality assurance program audited by APA.
e) RFPI-40S, RFPI-60S, RFPI-70S, RFPI-80S, and RFPI-90S are also produced at the IB EWP Inc.'s facility in Pohénégamook, Quebec under a quality assurance program audited by APA.
f) This report is subject to re-examination in one year.

7. Identification:
The RFPI Series prefabricated wood I-joists described in this report are identified by a label bearing the manufacturer's name (Roseburg Forest Products Company) and/or trademark, the APA assigned plant number (1053 for Roseburg Forest Products, Riddle, Oregon, 1058 for EACOM (DBA INTERFOR), Sault Ste. Marie, Ontario, and 1135 for IB EWP Inc., Pohénégamook, Quebec), the I-joist depth and series, the APA logo, the report number PR-L259 or PR-L259(C), and a means of identifying the date of manufacture. RFPI-40, RFPI-70, and RFPI-90 are permitted to be labeled as onCENTER® BLI 400, BLI 700, and BLI 900, respectively.

Table 1. Description of Roseburg Forest Products RFPI Series of I-Joists[(a)]

Joist Series	Joist Depth, mm (in.)	Flange				Web	
		Material	G[(b)]	Dimension		Material	Thickness, mm (in.)
				Depth, mm (in.)	Width, mm (in.)		
RFPI-20	241 – 356 (9-1/2 – 14)	LVL	0.50	35 (1-3/8)	44 (1-3/4)	OSB	9.5 (3/8)
RFPI-40S	241 – 406 (9-1/2 – 16)	Proprietary SPF	0.42	38 (1-1/2)	64 (2-1/2)	OSB	9.5 (3/8)
RFPI-400	241 – 406 (9-1/2 – 16)	LVL	0.50	35 (1-3/8)	52 (2-1/16)	OSB	9.5 (3/8)
RFPI-40	241 – 406 (9-1/2 – 16)	LVL	0.50	35 (1-3/8)	59 (2-5/16)	OSB	9.5 (3/8)
RFPI-60S	241 – 508 (9-1/2 – 20)	Proprietary SPF	0.46	38 (1-1/2)	64 (2-1/2)	OSB	9.5 (3/8)
RFPI-65S	302 – 406 (11-7/8 – 16)	Proprietary SPF	0.42	38 (1-1/2)	89 (3-1/2)	OSB	9.5 (3/8)
RFPI-70S	241 – 406 (9-1/2 – 16)	MSR SPF	0.42	38 (1-1/2)	89 (3-1/2)	OSB	9.5 (3/8)
RFPI-70	241 – 406 (9-1/2 – 16)	LVL	0.50	38 (1-1/2)	59 (2-5/16)	OSB	9.5 (3/8)
RFPI-80S	241 – 508 (9-1/2 – 20)	MSR SPF	0.46	38 (1-1/2)	89 (3-1/2)	OSB	9.5 (3/8)
RFPI-90S	241 – 610 (9-1/2 – 24)	MSR SPF	0.50	38 (1-1/2)	89 (3-1/2)	OSB	11.1 (7/16)
RFPI-90	241 – 406 (9-1/2 – 16)	LVL	0.50	38 (1-1/2)	89 (3-1/2)	OSB	11.1 (7/16)
RFPI-700	457 – 610 (18 – 24)	LVL	0.50	38 (1-1/2)	59 (2-5/16)	OSB	11.1 (7/16)
RFPI-900	457 – 610 (18 – 24)	LVL	0.50	38 (1-1/2)	89 (3-1/2)	OSB	11.1 (7/16)

[(a)] Referenced dimensions are nominal. Tolerances are as specified in the plant quality manual.
[(b)] Relative density of flanges for use in diaphragm design based on oven-dry weight and oven-dry volume for lumber flanges or equivalent specific gravity for LVL flanges.
[(c)] The relative density is permitted to be increased to 0.49 if the flange species is Douglas fir-Larch.

Table 2. Factored Resistances of RFPI Series I-Joists[a]

Joist Depth, mm (in.)	Joist Series	Permitted to be Labelled as	EI[b], 10^9 N-mm^2 (10^6 lbf-in.^{2})	M_r[c], N-m (lbf-ft)	V_r[d], N (lbf)	VLC_r[e], kN/m (plf)	K[f], 10^6 N (10^6 lbf)
241 (9-1/2)	RFPI-20		473 (165)	6,360 (4,690)	8,565 (1,926)	42.3 (2,900)	22.0 (4.94)
	RFPI-40S		554 (193)	6,165 (4,549)	8,320 (1,870)	42.3 (2,900)	22.0 (4.94)
	RFPI-400		554 (193)	7,545 (5,563)	8,565 (1,926)	42.3 (2,900)	22.0 (4.94)
	RFPI-40	BLI 400	617 (215)	8,480 (6,254)	9,340 (2,099)	42.3 (2,900)	22.0 (4.94)
	RFPI-60S		663 (231)	8,525 (6,287)	9,620 (2,162)	42.3 (2,900)	22.0 (4.94)
	RFPI-70S		775 (270)	8,940 (6,595)	9,830 (2,210)	42.3 (2,900)	22.0 (4.94)
	RFPI-70	BLI 700	763 (266)	11,570 (8,532)	9,340 (2,099)	42.3 (2,900)	22.0 (4.94)
	RFPI-80S		921 (321)	12,120 (8,940)	9,865 (2,218)	42.3 (2,900)	22.0 (4.94)
	RFPI-90S		976 (340)	15,165 (11,185)	11,165 (2,510)	42.3 (2,900)	27.0 (6.08)
	RFPI-90		1,142 (398)	17,655 (13,023)	13,270 (2,983)	42.3 (2,900)	22.0 (4.94)
302 (11-7/8)	RFPI-20		812 (283)	8,210 (6,054)	9,970 (2,241)	42.3 (2,900)	27.5 (6.18)
	RFPI-40S		947 (330)	7,995 (5,896)	10,390 (2,336)	42.3 (2,900)	27.5 (6.18)
	RFPI-400		947 (330)	9,730 (7,177)	10,390 (2,336)	42.3 (2,900)	27.5 (6.18)
	RFPI-40	BLI 400	1,050 (366)	10,950 (8,075)	10,880 (2,447)	42.3 (2,900)	27.5 (6.18)
	RFPI-60S		1,136 (396)	11,050 (8,150)	11,025 (2,478)	42.3 (2,900)	27.5 (6.18)
	RFPI-65S		1,303 (454)	11,205 (8,265)	11,375 (2,557)	42.3 (2,900)	27.5 (6.18)
	RFPI-70S		1,311 (457)	11,590 (8,549)	11,375 (2,557)	42.3 (2,900)	27.5 (6.18)
	RFPI-70	BLI 700	1,306 (455)	14,985 (11,052)	10,880 (2,447)	42.3 (2,900)	27.5 (6.18)
	RFPI-80S		1,570 (547)	15,715 (11,593)	11,165 (2,510)	42.3 (2,900)	27.5 (6.18)
	RFPI-90S		1,644 (573)	19,650 (14,495)	13,515 (3,038)	42.3 (2,900)	33.8 (7.60)
	RFPI-90	BLI 900	1,940 (676)	22,875 (16,873)	14,395 (3,236)	42.3 (2,900)	27.5 (6.18)

(Footnotes on the following page)

Table 2. Factored Resistances of RFPI Series I-Joists[a] (Continued)

Joist Depth, mm (in.)	Joist Series	Permitted to be Labelled as	EI[b], 10^9 N-mm^2 (10^6 lbf-in.^{2})	M_r[c], N-m (lbf-ft)	V_r[d], N (lbf)	VLC_r[e], kN/m (plf)	K[f], 10^6 N (10^6 lbf)
356 (14)	RFPI-20		1,205 (420)	9,765 (7,202)	11,305 (2,541)	42.3 (2,900)	32.4 (7.28)
	RFPI-40S		1,383 (482)	9,630 (7,102)	12,285 (2,762)	42.3 (2,900)	32.4 (7.28)
	RFPI-400		1,395 (486)	11,590 (8,549)	12,005 (2,699)	42.3 (2,900)	32.4 (7.28)
	RFPI-40	BLI 400	1,550 (540)	13,045 (9,622)	12,425 (2,794)	42.3 (2,900)	32.4 (7.28)
	RFPI-60S		1,676 (584)	13,295 (9,805)	12,285 (2,762)	42.3 (2,900)	32.4 (7.28)
	RFPI-65S		1,905 (664)	13,495 (9,956)	12,745 (2,865)	42.3 (2,900)	32.4 (7.28)
	RFPI-70S		1,917 (668)	13,960 (10,295)	12,745 (2,865)	42.3 (2,900)	32.4 (7.28)
	RFPI-70	BLI 700	1,928 (672)	17,870 (13,181)	12,425 (2,794)	42.3 (2,900)	32.4 (7.28)
	RFPI-80S		2,301 (802)	18,920 (13,954)	12,885 (2,896)	42.3 (2,900)	32.4 (7.28)
	RFPI-90S		2,399 (836)	23,655 (17,447)	14,920 (3,354)	42.3 (2,900)	39.9 (8.96)
	RFPI-90	BLI 900	2,847 (992)	27,285 (20,125)	15,410 (3,465)	42.3 (2,900)	32.4 (7.28)
406 (16)	RFPI-40S		1,885 (657)	11,160 (8,233)	14,040 (3,157)	42.3 (2,900)	37.0 (8.32)
	RFPI-400		1,908 (665)	13,260 (9,780)	13,830 (3,109)	42.3 (2,900)	37.0 (8.32)
	RFPI-40	BLI 400	2,115 (737)	14,915 (11,002)	13,830 (3,109)	42.3 (2,900)	37.0 (8.32)
	RFPI-60S		2,293 (799)	15,410 (11,368)	14,040 (3,157)	42.3 (2,900)	37.0 (8.32)
	RFPI-65S		2,586 (901)	15,655 (11,548)	14,040 (3,157)	42.3 (2,900)	37.0 (8.32)
	RFPI-70S		2,600 (906)	16,180 (11,933)	14,040 (3,157)	42.3 (2,900)	37.0 (8.32)
	RFPI-70	BLI 700	2,634 (918)	20,475 (15,102)	13,830 (3,109)	42.3 (2,900)	37.0 (8.32)
	RFPI-80S		3,134 (1,092)	21,940 (16,183)	14,535 (3,267)	42.3 (2,900)	37.0 (8.32)
	RFPI-90S		3,246 (1,131)	27,430 (20,233)	16,360 (3,678)	42.3 (2,900)	45.5 (10.24)
	RFPI-90	BLI 900	3,874 (1,350)	31,265 (23,060)	16,360 (3,678)	42.3 (2,900)	37.0 (8.32)
457 (18)	RFPI-60S		3,002 (1,046)	17,800 (13,131)	15,795 (3,551)	37.0 (2,538)	41.6 (9.36)
	RFPI-80S		4,055 (1,413)	24,805 (18,295)	16,150 (3,630)	38.3 (2,625)	41.6 (9.36)
	RFPI-90S		4,227 (1,473)	31,015 (22,877)	17,620 (3,962)	38.3 (2,625)	51.2 (11.52)
	RFPI-700		3,573 (1,245)	23,565 (17,380)	18,080 (4,064)	46.6 (3,190)	50.4 (11.34)
	RFPI-900		5,306 (1,849)	36,260 (26,744)	20,255 (4,554)	46.6 (3,190)	50.4 (11.34)

(Footnotes on the following page)

Table 2. Factored Resistances of RFPI Series I-Joists[a] (Continued)

Joist Depth, mm (in.)	Joist Series	Permitted to be Labelled as	EI[b], 10^9 N-mm^2 (10^6 lbf-in.^{2})	M_r[c], N-m (lbf-ft)	V_r[d], N (lbf)	VLC_r[e], kN/m (plf)	K[f], 10^6 N (10^6 lbf)
508 (20)	RFPI-60S		3,742 (1,304)	19,695 (14,528)	17,550 (3,946)	31.7 (2,175)	46.3 (10.40)
	RFPI-80S		5,163 (1,799)	27,915 (20,590)	18,255 (4,104)	34.4 (2,356)	46.3 (10.40)
	RFPI-90S		5,349 (1,864)	34,330 (25,322)	18,920 (4,254)	34.4 (2,356)	56.9 (12.80)
	RFPI-700		4,531 (1,579)	26,160 (19,293)	19,235 (4,325)	46.6 (3,190)	56.0 (12.60)
	RFPI-900		6,706 (2,337)	40,265 (29,696)	20,675 (4,648)	46.6 (3,190)	56.0 (12.60)
559 (22)	RFPI-90S		6,612 (2,304)	37,610 (27,742)	20,185 (4,538)	26.5 (1,813)	62.6 (14.08)
	RFPI-700		5,610 (1,955)	28,730 (21,189)	20,605 (4,633)	38.1 (2,610)	61.6 (13.86)
	RFPI-900		8,282 (2,886)	44,230 (32,624)	21,135 (4,751)	38.1 (2,610)	61.6 (13.86)
610 (24)	RFPI-90S		8,018 (2,794)	40,845 (30,129)	21,485 (4,830)	26.5 (1,813)	68.3 (15.36)
	RFPI-700		6,815 (2,375)	31,275 (23,069)	21,485 (4,830)	37.0 (2,538)	67.3 (15.12)
	RFPI-900		10,032 (3,496)	48,155 (35,518)	21,485 (4,830)	37.0 (2,538)	67.3 (15.12)

For Imperial: 1 mm = 0.0394 in., 1 N = 0.2248 lbf, 1 kN/m = 5.71 lbf/in.

[a] All factored resistance values include the resistance factor specified in CSA-O86. The tabulated values are for the standard term of load duration (K_D = 1.0). All values, except for EI, VLC_r, and K, are permitted to be adjusted for other load durations in accordance with the code.

[b] Bending stiffness (EI) of the I-joist.

[c] Factored moment resistance (M_r) of the I-joist, which shall not be increased by any system factor (K_H = 1.0).

[d] Factored shear resistance (V_r) of the I-joist.

[e] Factored uniform vertical load resistance (VLC_r) of the I-joist.

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

$$\text{Uniform Load:} \quad \delta = \frac{5\,\omega L^4}{384\,EI} + \frac{\omega L^2}{K} \qquad [1]$$

$$\text{Center-Point Load:} \quad \delta = \frac{PL^3}{48\,EI} + \frac{2\,PL}{K} \qquad [2]$$

where δ = calculated deflection, mm (in.),
P = unfactored concentrated load, kN (lbf),
EI = bending stiffness of the I-joist, kN-mm^2 (lbf-in.^{2}), and
ω = unfactored uniform load, kN/mm (lbf/in.),
L = design span, mm (in.),
K = coefficient of shear deflection, kN (lbf).

Table 3. Additional Factored Resistances of RFPI Series I-Joists[a,b,c]

Joist Depth, mm (in.)	Joist Series	Permitted to be Labelled as	Factored End Reactions, N (lbf)						Factored Intermediate Reactions, N (lbf)				Web Bearing Stiffener
			45 mm (1-3/4 in.) Bearing		89 mm (3-1/2 in.) Bearing		102 mm (4 in.) Bearing		89 mm (3-1/2 in.) Bearing		133 mm (5-1/4 in.) Bearing		
			No B.S.	B.S.	No B.S.	B.S.	No B.S.	B.S.	No B.S.	B.S.	No B.S.	B.S.	Nails
241 (9-1/2)	RFPI-20		6,390 (1,436)	8,075 (1,815)	8,075 (1,815)	8,425 (1,894)	8,565 (1,926)	8,565 (1,926)	12,460 (2,802)	13,165 (2,960)	14,040 (3,157)	16,150 (3,630)	4-8d
	RFPI-40S		7,935 (1,784)	8,320 (1,870)	8,320 (1,870)	8,320 (1,870)	8,320 (1,870)	8,320 (1,870)	15,165 (3,409)	16,640 (3,741)	16,465 (3,701)	16,640 (3,741)	4-8d
	RFPI-400		7,195 (1,618)	8,565 (1,926)	8,250 (1,855)	8,565 (1,926)	8,565 (1,926)	8,565 (1,926)	15,095 (3,394)	15,795 (3,551)	16,150 (3,630)	17,130 (3,851)	4-8d
	RFPI-40	BLI 400	7,580 (1,705)	8,565 (1,926)	8,915 (2,005)	9,160 (2,060)	9,340 (2,099)	9,340 (2,099)	15,795 (3,551)	17,550 (3,946)	17,905 (4,025)	18,605 (4,183)	4-8d
	RFPI-60S		8,005 (1,799)	8,950 (2,012)	8,320 (1,870)	9,620 (2,162)	8,320 (1,870)	9,620 (2,162)	15,165 (3,409)	19,235 (4,325)	16,465 (3,701)	19,235 (4,325)	4-8d
	RFPI-70S		8,250 (1,855)	9,620 (2,162)	9,480 (2,131)	9,795 (2,202)	9,830 (2,210)	9,830 (2,210)	17,550 (3,946)	19,660 (4,420)	17,550 (3,946)	19,660 (4,420)	4-10d
	RFPI-70	BLI 700	7,865 (1,768)	9,340 (2,099)	8,985 (2,020)	9,340 (2,099)	9,340 (2,099)	9,340 (2,099)	16,395 (3,686)	17,550 (3,946)	17,905 (4,025)	18,605 (4,183)	4-8d
	RFPI-80S		8,005 (1,799)	9,865 (2,218)	8,320 (1,870)	9,865 (2,218)	8,320 (1,870)	9,865 (2,218)	17,340 (3,899)	19,235 (4,325)	17,340 (3,899)	19,235 (4,325)	4-10d
	RFPI-90S		9,445 (2,123)	10,005 (2,249)	10,705 (2,407)	10,915 (2,454)	11,060 (2,486)	11,165 (2,510)	21,380 (4,806)	22,500 (5,059)	21,485 (4,830)	22,675 (5,098)	4-10d
	RFPI-90		9,340 (2,099)	11,130 (2,502)	11,340 (2,549)	12,780 (2,873)	11,935 (2,683)	13,270 (2,983)	21,205 (4,767)	24,185 (5,438)	24,185 (5,438)	24,395 (5,485)	4-10d
302 (11-7/8)	RFPI-20		6,670 (1,499)	8,600 (1,934)	9,230 (2,076)	9,655 (2,170)	9,970 (2,241)	9,970 (2,241)	13,585 (3,054)	14,285 (3,212)	14,990 (3,370)	17,095 (3,843)	4-8d
	RFPI-40S		8,425 (1,894)	10,040 (2,257)	9,690 (2,178)	10,390 (2,336)	10,040 (2,257)	10,390 (2,336)	17,550 (3,946)	19,660 (4,420)	19,450 (4,372)	20,640 (4,641)	4-8d
	RFPI-400		7,370 (1,657)	8,880 (1,997)	9,690 (2,178)	10,040 (2,257)	10,390 (2,336)	10,390 (2,336)	15,795 (3,551)	16,500 (3,709)	16,500 (3,709)	18,605 (4,183)	4-8d
	RFPI-40	BLI 400	8,425 (1,894)	9,830 (2,210)	10,320 (2,320)	10,635 (2,391)	10,880 (2,447)	10,880 (2,447)	17,475 (3,946)	18,430 (4,143)	18,675 (4,199)	20,150 (4,530)	4-8d
	RFPI-60S		8,425 (1,894)	10,250 (2,304)	9,690 (2,178)	11,025 (2,478)	10,040 (2,257)	11,025 (2,478)	17,550 (3,946)	21,380 (4,806)	19,450 (4,372)	21,975 (4,940)	4-8d
	RFPI-65S		8,425 (1,894)	10,250 (2,304)	9,690 (2,178)	11,130 (2,502)	10,040 (2,257)	11,375 (2,557)	19,730 (4,435)	23,170 (5,209)	22,465 (5,051)	24,925 (5,603)	4-10d
	RFPI-70S		8,880 (1,997)	11,060 (2,486)	10,285 (2,312)	11,305 (2,541)	10,670 (2,399)	11,375 (2,557)	17,550 (3,946)	22,745 (5,114)	20,080 (4,514)	22,745 (5,114)	4-10d
	RFPI-70	BLI 700	8,425 (1,894)	10,320 (2,320)	10,320 (2,320)	10,740 (2,415)	10,880 (2,447)	10,880 (2,447)	17,550 (3,946)	18,430 (4,143)	18,675 (4,199)	20,150 (4,530)	4-8d
	RFPI-80S		9,055 (2,036)	11,165 (2,510)	10,460 (2,352)	11,165 (2,510)	10,880 (2,447)	11,165 (2,510)	19,730 (4,435)	22,325 (5,019)	21,765 (4,893)	22,325 (5,019)	4-10d
	RFPI-90S		9,830 (2,210)	11,480 (2,581)	12,565 (2,825)	13,060 (2,936)	13,235 (2,975)	13,515 (3,038)	23,555 (5,296)	23,555 (5,296)	23,555 (5,296)	23,555 (5,296)	4-10d
	RFPI-90	BLI 900	9,830 (2,210)	12,250 (2,754)	12,460 (2,802)	13,900 (3,125)	13,235 (2,975)	14,395 (3,236)	23,555 (5,296)	24,395 (5,485)	24,395 (5,485)	25,800 (5,801)	4-10d

(Footnotes on the following page)

Table 3. Additional Factored Resistances of RFPI Series I-Joists[a,b,c] (Continued)

Joist Depth, mm (in.)	Joist Series	Permitted to be Labelled as	Factored End Reactions, N (lbf)						Factored Intermediate Reactions, N (lbf)				Web Bearing Stiffener
			45 mm (1-3/4 in.) Bearing		89 mm (3-1/2 in.) Bearing		102 mm (4 in.) Bearing		89 mm (3-1/2 in.) Bearing		133 mm (5-1/4 in.) Bearing		
			No B.S.	B.S.	No B.S.	B.S.	No B.S.	B.S.	No B.S.	B.S.	No B.S.	B.S.	Nails
356 (14)	RFPI-20		6,670 (1,499)	9,055 (2,036)	9,935 (2,233)	10,775 (2,423)	10,880 (2,447)	11,305 (2,541)	13,585 (3,054)	14,285 (3,212)	14,990 (3,370)	17,095 (3,843)	4-8d
	RFPI-40S		8,425 (1,894)	11,375 (2,557)	10,495 (2,360)	12,285 (2,762)	10,880 (2,447)	12,285 (2,762)	17,550 (3,946)	19,835 (4,459)	21,240 (4,775)	23,695 (5,327)	4-8d
	RFPI-400		7,370 (1,657)	9,160 (2,060)	10,075 (2,265)	11,375 (2,557)	10,880 (2,447)	12,005 (2,699)	15,795 (3,551)	16,500 (3,709)	16,500 (3,709)	18,605 (4,183)	4-8d
	RFPI-40	BLI 400	8,425 (1,894)	10,950 (2,462)	10,320 (2,320)	12,075 (2,715)	10,880 (2,447)	12,425 (2,794)	17,550 (3,946)	19,235 (4,325)	19,340 (4,349)	21,520 (4,838)	4-8d
	RFPI-60S		8,425 (1,894)	11,375 (2,557)	10,495 (2,360)	12,285 (2,762)	10,880 (2,447)	12,285 (2,762)	17,550 (3,946)	22,290 (5,011)	21,240 (4,775)	24,045 (5,406)	4-8d
	RFPI-65S		8,425 (1,894)	11,375 (2,557)	10,495 (2,360)	12,425 (2,794)	11,095 (2,494)	12,745 (2,865)	21,205 (4,767)	24,255 (5,453)	23,765 (5,343)	26,045 (5,856)	4-10d
	RFPI-70S		9,445 (2,123)	12,320 (2,770)	10,950 (2,462)	12,675 (2,849)	11,410 (2,565)	12,745 (2,865)	17,550 (3,946)	25,485 (5,730)	21,240 (4,775)	25,485 (5,730)	4-10d
	RFPI-70	BLI 700	8,425 (1,894)	11,165 (2,510)	10,320 (2,320)	12,145 (2,731)	10,880 (2,447)	12,425 (2,794)	17,550 (3,946)	19,235 (4,325)	19,340 (4,349)	21,520 (4,838)	4-8d
	RFPI-80S		9,305 (2,091)	12,355 (2,778)	10,880 (2,447)	12,850 (2,889)	11,235 (2,525)	12,885 (2,896)	21,205 (4,767)	24,255 (5,453)	23,065 (5,185)	25,660 (5,769)	4-10d
	RFPI-90S		9,830 (2,210)	12,635 (2,841)	12,675 (2,849)	13,760 (3,094)	13,235 (2,975)	14,920 (3,354)	23,555 (5,296)	25,275 (5,682)	23,555 (5,296)	25,660 (5,769)	4-10d
	RFPI-90	BLI 900	9,830 (2,210)	13,235 (2,975)	12,460 (2,802)	14,920 (3,354)	13,235 (2,975)	15,410 (3,465)	23,555 (5,296)	24,575 (5,524)	24,575 (5,524)	27,030 (6,077)	4-10d
406 (16)	RFPI-40S		8,425 (1,894)	12,285 (2,762)	10,880 (2,447)	13,655 (3,070)	10,880 (2,447)	14,040 (3,157)	17,550 (3,946)	20,010 (4,498)	21,240 (4,775)	24,925 (5,603)	4-8d
	RFPI-400		7,370 (1,657)	9,410 (2,115)	10,075 (2,265)	12,850 (2,889)	10,880 (2,447)	13,830 (3,109)	15,795 (3,551)	16,500 (3,709)	16,500 (3,709)	18,605 (4,183)	4-8d
	RFPI-40	BLI 400	8,425 (1,894)	12,005 (2,699)	10,320 (2,320)	13,410 (3,015)	10,880 (2,447)	13,830 (3,109)	17,550 (3,946)	20,010 (4,498)	20,010 (4,498)	22,820 (5,130)	4-8d
	RFPI-60S		8,425 (1,894)	12,285 (2,762)	10,880 (2,447)	13,655 (3,070)	10,880 (2,447)	14,040 (3,157)	17,550 (3,946)	23,170 (5,209)	21,240 (4,775)	24,995 (5,619)	4-8d
	RFPI-65S		8,425 (1,894)	12,285 (2,762)	11,270 (2,533)	13,655 (3,070)	12,075 (2,715)	14,040 (3,157)	22,925 (5,154)	25,275 (5,682)	24,995 (5,619)	27,135 (6,101)	4-10d
	RFPI-70S		9,970 (2,241)	13,515 (3,038)	11,620 (2,612)	14,040 (3,157)	12,110 (2,723)	14,040 (3,157)	17,550 (3,946)	28,085 (6,314)	21,240 (4,775)	28,085 (6,314)	4-10d
	RFPI-70	BLI 700	8,425 (1,894)	12,005 (2,699)	10,320 (2,320)	13,410 (3,015)	10,880 (2,447)	13,830 (3,109)	17,550 (3,946)	20,010 (4,498)	20,010 (4,498)	22,820 (5,130)	4-8d
	RFPI-80S		9,340 (2,099)	13,445 (3,023)	10,880 (2,447)	14,285 (3,212)	11,235 (2,525)	14,535 (3,267)	21,765 (4,893)	25,275 (5,682)	23,240 (5,225)	27,135 (6,101)	4-10d
	RFPI-90S		10,075 (2,265)	14,040 (3,157)	12,675 (2,849)	16,360 (3,678)	13,235 (2,975)	16,360 (3,678)	23,555 (5,296)	28,085 (6,314)	23,555 (5,296)	28,715 (6,456)	4-10d
	RFPI-90	BLI 900	9,830 (2,210)	14,215 (3,196)	12,460 (2,802)	15,865 (3,567)	13,235 (2,975)	16,360 (3,678)	23,555 (5,296)	24,750 (5,564)	24,750 (5,564)	28,260 (6,353)	4-10d

(Footnotes on the following page)

Table 3. Additional Factored Resistances of RFPI Series I-Joists[a,b,c] (Continued)

Joist Depth, mm (in.)	Joist Series	Permitted to be Labelled as	Factored End Reactions, N (lbf)						Factored Intermediate Reactions, N (lbf)				Web Bearing Stiffener
			45 mm (1-3/4 in.) Bearing		89 mm (3-1/2 in.) Bearing		102 mm (4 in.) Bearing		89 mm (3-1/2 in.) Bearing		133 mm (5-1/4 in.) Bearing		
			No B.S.	B.S.	No B.S.	B.S.	No B.S.	B.S.	No B.S.	B.S.	No B.S.	B.S.	Nails
457 (18)	RFPI-60S		10,565 (2,376)	14,710 (3,307)	10,880 (2,447)	15,795 (3,551)	10,880 (2,447)	15,795 (3,551)	17,550 (3,946)	24,045 (5,406)	21,240 (4,775)	25,940 (5,832)	8-8d
	RFPI-80S		9,410 (2,115)	13,515 (3,038)	10,880 (2,447)	16,150 (3,630)	11,235 (2,525)	16,150 (3,630)	21,765 (4,893)	27,730 (6,235)	21,765 (4,893)	29,665 (6,669)	8-10d
	RFPI-90S		10,565 (2,376)	15,935 (3,583)	11,760 (2,644)	17,620 (3,962)	13,235 (2,975)	17,620 (3,962)	23,555 (5,296)	29,980 (6,740)	23,555 (5,296)	32,260 (7,253)	8-10d
	RFPI-700		7,900 (1,776)	15,445 (3,473)	11,585 (2,604)	18,080 (4,064)	12,635 (2,841)	18,080 (4,064)	19,270 (4,333)	28,435 (6,393)	21,240 (4,775)	31,420 (7,063)	8-8d
	RFPI-900		10,355 (2,328)	18,045 (4,057)	12,390 (2,786)	20,255 (4,554)	12,990 (2,920)	20,255 (4,554)	21,060 (4,735)	35,875 (8,066)	24,395 (5,485)	40,090 (9,013)	8-16d
508 (20)	RFPI-60S		10,880 (2,447)	15,865 (3,567)	10,880 (2,447)	17,550 (3,946)	10,880 (2,447)	17,550 (3,946)	17,550 (3,946)	24,220 (5,446)	21,240 (4,775)	26,505 (5,959)	8-8d
	RFPI-80S		10,880 (2,447)	17,270 (3,883)	10,880 (2,447)	18,255 (4,104)	11,585 (2,604)	18,255 (4,104)	21,765 (4,893)	30,540 (6,866)	21,765 (4,893)	30,540 (6,866)	8-10d
	RFPI-90S		10,670 (2,399)	17,340 (3,899)	11,760 (2,644)	18,815 (4,230)	13,235 (2,975)	18,920 (4,254)	23,555 (5,296)	32,295 (7,261)	23,555 (5,296)	33,595 (7,553)	8-10d
	RFPI-700		7,655 (1,720)	16,150 (3,630)	11,130 (2,502)	19,235 (4,325)	12,110 (2,723)	19,235 (4,325)	19,270 (4,333)	28,435 (6,393)	21,240 (4,775)	31,420 (7,063)	8-8d
	RFPI-900		9,480 (2,131)	18,710 (4,206)	11,935 (2,683)	20,675 (4,648)	12,635 (2,841)	20,675 (4,648)	21,060 (4,735)	35,875 (8,066)	24,395 (5,485)	40,090 (9,013)	8-16d
559 (22)	RFPI-90S		10,320 (2,320)	18,220 (4,096)	11,760 (2,644)	19,800 (4,451)	13,095 (2,944)	20,185 (4,538)	23,555 (5,296)	34,085 (7,663)	23,555 (5,296)	34,190 (7,687)	10-10d
	RFPI-700		NA	16,850 (3,788)	NA	20,605 (4,633)	NA	20,605 (4,633)	NA	29,135 (6,550)	NA	32,330 (7,269)	10-8d
	RFPI-900		NA	19,340 (4,349)	NA	21,135 (4,751)	NA	21,135 (4,751)	NA	37,945 (8,531)	NA	42,265 (9,502)	10-16d
610 (24)	RFPI-90S		10,320 (2,320)	20,220 (4,546)	11,760 (2,644)	20,780 (4,672)	12,780 (2,873)	21,485 (4,830)	23,555 (5,296)	34,575 (7,774)	23,555 (5,296)	34,575 (7,774)	10-10d
	RFPI-700		NA	17,550 (3,946)	NA	21,485 (4,830)	NA	21,485 (4,830)	NA	29,135 (6,550)	NA	32,330 (7,269)	10-8d
	RFPI-900		NA	20,010 (4,498)	NA	21,485 (4,830)	NA	21,485 (4,830)	NA	37,945 (8,531)	NA	42,265 (9,502)	10-16d

For Imperial: 1 mm = 0.0394 in., 1 N = 0.2248 lbf.

[a] The tabulated values in Table 3 are for the standard term of load duration (K_D = 1.0). All values are permitted to be adjusted for other load durations as permitted by the code provided that the adjusted values do not exceed the factored compressive resistance perpendicular to grain (Q_r) of the bearing plate supporting the I-joist in accordance with CSA O86.

[b] Interpolation between bearing lengths is permitted.

[c] Bearing stiffeners shall be installed in accordance with the recommendations provided by the manufacturer and APA E715 CA.

Table 4. Minimum Dimensions for Web Stiffeners and Accompanying Nails

Joist Designation	Minimum Dimensions		
	Web Stiffener		Nails
	Thickness, mm (in.)	Width, mm (in.)	
RFPI-20	15 (19/32)	59 (2-5/16)	8d box – 64 mm x 2.87 mm (2-1/2 in. x 0.113 in.)
RFPI-40S	25 (1)	59 (2-5/16)	8d box - 64 mm x 2.87 mm (2-1/2 in. x 0.113 in.)
RFPI-400	19 (3/4)	59 (2-5/16)	8d box - 64 mm x 2.87 mm (2-1/2 in. x 0.113 in.)
RFPI-40	25 (1)	59 (2-5/16)	8d box - 64 mm x 2.87 mm (2-1/2 in. x 0.113 in.)
RFPI-60S	25 (1)	59 (2-5/16)	8d box - 64 mm x 2.87 mm (2-1/2 in. x 0.113 in.)
RFPI-65S	38 (1-1/2)	89 (3-1/2)	10d box - 76 mm x 3.25 mm (3 in. x 0.128 in.)
RFPI-70S	38 (1-1/2)	89 (3-1/2)	10d box - 76 mm x 3.25 mm (3 in. x 0.128 in.)
RFPI-70	25 (1)	59 (2-5/16)	8d box - 64 mm x 2.87 mm (2-1/2 in. x 0.113 in.)
RFPI-80S	38 (1-1/2)	59 (2-5/16)	10d box - 76 mm x 3.25 mm (3 in. x 0.128 in.)
RFPI-90S	38 (1-1/2)	89 (3-1/2)	10d box - 76 mm x 3.25 mm (3 in. x 0.128 in.)
RFPI-90	38 (1-1/2)	59 (2-5/16)	10d box - 76 mm x 3.25 mm (3 in. x 0.128 in.)
RFPI-700	22 (7/8)	89 (3-1/2)	8d box – 64 mm x 2.87 mm (2-1/2 in. x 0.113 in.)
RFPI-900	38 (1-1/2)	89 (3-1/2)	16d box – 89 mm x 3.4 mm (3-1/2 in. x 0.135 in.)

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