Fire Resistance Rated Floor/Ceiling Assemblies for Wood I-Joists

Source #1: APA Product Report, PR-S259, for Roseburg Forest Products RFPI-Joists
Source #2: American Wood Council (AWC) - Design for Code Acceptance 3 (**DCA 3**), July 2019
Source #3: 2009 IBC - Table 720.1(3) and 2012/2015/2018 IBC - Table 721.1(3)
Source #4: APA "Fire Rated Systems - Design/Construction Guide" form W305Y, June 2005
Source #5: APA ICC-ES Code Report ESR-1405

Highlighted boxes indicate that the RFPI-Joist listed above the box meets all I-joist size requirements and is approved for use in the system or systems listed in the first five columns on this sheet to the far left of the box.

								RFPI 20	RFPI 400	RFPI 40	RFPI 40S & 60S	RFPI 70 & 700	RFPI 80S	RFPI 90 & 900
							Flange thickness =	1-3/8"	1-3/8"	1-3/8"	1-1/2"	1-1/2"	1-1/2"	1-1/2"
One-Hour Systems							Flange width =	1-3/4"	2-1/16"	2-5/16"	2-1/2"	2-5/16"	3-1/2"	3-1/2"
APA PR-S259	**DCA3**	**IBC 2009 Tbl 720.1(3) 2012/2015/2018 Tbl 721.1(3)**	**APA guide - "Fire Rated Systems"**	**APA ESR-1405**	**General Ceiling Requirements[1]**	**I-joist Requirements**	Flange area =	2.406	2.84	3.18	3.75	3.47	5.25	5.25
RFP.1.1	WIJ-1.1	Item 24-1.1	Fig. 4.3A		1 layer 5/8" type C gypsum	Min. flange thick.=	1-1/2"				√	√	√	√
					Furring channels	Min. flange area =	5.25 sq.in.						√	√
					1-1/2" mineral wool, 2.5 pcf	Min. web thick.=	3/8"	√	√	√	√	√	√	√
RFP.1.2	WIJ-1.2	Item 25-1.1	Fig. 4.3B		1 layer 5/8" Type C gypsum	Min. flange thick.=	1-1/2"				√	√	√	√
					Resilient channels	Min. flange area =	5.25 sq.in.						√	√
					1-1/2" mineral wool, 2.5 pcf	Min. web thick.=	7/16"					√ 700		√
RFP.1.3	WIJ-1.3	Item 23-1.1	Fig. 4.3C		1 layer 5/8" Type C gypsum	Min. flange thick.=	1-5/16"	√	√	√	√	√	√	√
					Resilient channels	Min. flange area =	2.25 sq.in.	√	√	√	√	√	√	√
					1 x 4 wood strips to bottom flange	Min. web thick.=	3/8"	√	√	√	√	√	√	√
					2" mineral wool, 3.5 pcf									
RFP.1.4	WIJ-1.4		Fig. 4.3D		1 layer 1/2" Type C gypsum	Min. flange thick.=	1-1/2"				√	√	√	√
					Furring channels and Simpson clips	Min. flange area =	3.45 sq.in.				√	√	√	√
					1" mineral wool, 6 pcf	Min. web thick.=	3/8"	√	√	√	√	√	√	√
RFP.1.5	WIJ-1.5		Fig. 4.3E		2 layers 1/2" Type C gypsum	Min. flange thick.=	1-1/2"				√	√	√	√
						Min. flange area =	2.25 sq.in.	√	√	√	√	√	√	√
						Min. web thick.=	3/8"	√	√	√	√	√	√	√
RFP.1.6	WIJ-1.6	Item 27-1.1	Fig. 4.3F		2 layers 1/2" Type X gypsum	Min. flange thick.=	1-5/16"	√	√	√	√	√	√	√
					Resilient channels	Min. flange area =	1.95 sq.in.	√	√	√	√	√	√	√
						Min. web thick.=	3/8"	√	√	√	√	√	√	√
RFP.1.7	WIJ-1.7	Item 30-1.1			2 layers 1/2" Type X gypsum	Min. flange thick.=	1-1/2"				√	√	√	√
		(2015 & 2018 IBC)			Resilient channels	Min. flange area =	2.25 sq.in.	√	√	√	√	√	√	√
					Fiberglass insulation	Min. web thick.=	3/8"	√	√	√	√	√	√	√
RFP.1.7a					2 layers 5/8" Type X gypsum	Min. flange thick.=	1-1/8"	√	√	√	√	√	√	√
					Resilient channels	Min. flange area =	1.95 sq.in.	√	√	√	√	√	√	√
					Fiberglass insulation	Min. web thick.=	3/8"	√	√	√	√	√	√	√
RFP.1.8		Item 26-1.1			2 layers 1/2" Type X gypsum (IBC)	Min. flange thick.=	1-1/2"				√	√	√	√
						Min. flange area =	2.25 sq.in.	√	√	√	√	√	√	√
						Min. web thick.=	3/8"	√	√	√	√	√	√	√
RFP.1.9		Item 21-1.1		Assembly 2	2 layers 5/8" Type X gypsum	Min. flange thick.=	1-5/16" APA only	√	√	√	√	√	√	√
						Min. flange area =	1.97 sq.in. APA only	√	√	√	√	√	√	√
RFP.1.10					1 layer 3/4" Type X gypsum	Min. flange thick.=	1-1/2"				√	√	√	√
					Resilient channels	Min. flange area =	3.75 sq.in.				√	√	√	√
					Fiberglass insulation	Min. web thick.=	3/8"	√	√	√	√	√	√	√
				Assembly 1	1 layer of 1/2" or 5/8" Type X gypsum	Min. flange thick.=	1-1/2"				√	√	√	√
					Furring channels and clips	Min. flange width =	2-1/2"				√		√	√
					1" mineral wool, 6 pcf	Min. web thick.=	3/8"	√	√	√	√	√	√	√
					Min. req'd bearing length = 2"									
				Assembly 3	2 layers 1/2" Type C gypsum or	Min. flange thick.=	1-5/16"	√	√	√	√	√	√	√
					2 layers 5/8" Type X gypsum	Min. flange width =	1-1/2"	√	√	√	√	√	√	√
					(depends on flange size)									
Two-Hour System														
RFP.2.1	WIJ-2.1	Item 28-1.1	Fig. 5		3 layers 5/8" type C gypsum	Min. flange thick.=	1-1/2"				√	√	√	√
					Furring channels	Min. flange area =	2.25 sq.in.	√	√	√	√	√	√	√
					3-1/2" fiberglass insulation	Min. web thick.=	3/8"	√	√	√	√	√	√	√
					Support wires for insulation									

(1) These are general requirements only. Carefully review the appropriate detailed assembly information for a full description of the system requirements. The requirements may differ slightly between the various sources.

Updated August 2020
Added RFP.1.10