Fire and Sound Resistance Tables

Table 9.10.3.1.-A
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

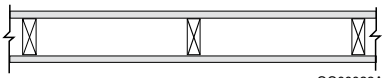
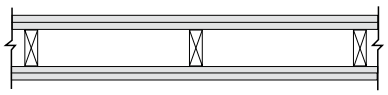
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
• Wood Studs	**W1**	• 38 mm × 89 mm studs spaced 400 mm or 600 mm o.c. • with or without absorptive material • 1 layer of gypsum board on each side	 GG00032A		
• Single Row	W1a	W1 with • 89 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	1 h	1 h	36
• ***Loadbearing*** or Non-***Loadbearing***	W1b	W1 with • 89 mm thick absorptive material[6] • 12.7 mm Type X gypsum board[7]	45 min [1 h[8]]	45 min [1 h[8]]	34
	W1c	W1 with • 89 mm thick absorptive material[6] • 12.7 mm regular gypsum board[7][9]	30 min	30 min [45 min[8]]	32
	W1d	W1 with • no absorptive material • 15.9 mm Type X gypsum board[7]	1 h	1 h	32
	W1e	W1 with • no absorptive material • 12.7 mm Type X gypsum board[7]	45 min	45 min	32
	W2	• 38 mm × 89 mm studs spaced 400 mm or 600 mm o.c. • with or without absorptive material • 2 layers of gypsum board on each side	 GG00033A		
	W2a	W2 with • 89 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	1.5 h	2 h	38
	W2b	W2 with • 89 mm thick absorptive material[6] • 12.7 mm Type X gypsum board[7]	1 h	1.5 h	38
	W2c	W2 with • 89 mm thick absorptive material[6] • 12.7 mm regular gypsum board[7]	45 min	1 h	36
	W2d	W2 with • no absorptive material • 15.9 mm Type X gypsum board[7]	1.5 h	2 h	36
	W2e	W2 with • no absorptive material • 12.7 mm Type X gypsum board[7]	1 h	1.5 h	35

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls(1)
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

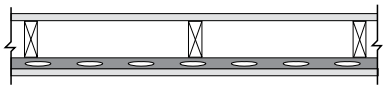
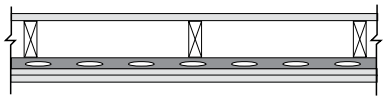
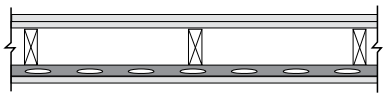
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*(2)(3)		Typical *Sound Transmission Class*(2)(4)(5)
			Loadbearing	Non-*Loadbearing*	
	W2f	W2 with • no absorptive material • 12.7 mm regular gypsum board(7)	45 min	1 h	34
	W3	• 38 mm × 89 mm studs spaced 400 mm or 600 mm o.c. • 89 mm thick absorptive material(6) • resilient metal channels on one side spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on each side	 GG00034A		
	W3a	W3 with • studs spaced 400 mm o.c. • 15.9 mm Type X gypsum board(7)	45 min	1 h	45
	W3b	W3 with • studs spaced 600 mm o.c. • 15.9 mm Type X gypsum board(7)	45 min	1 h	48
	W3c	W3 with • studs spaced 400 mm or 600 mm o.c. • 12.7 mm Type X gypsum board(7)	45 min	45 min	43
	W4	• 38 mm × 89 mm studs spaced 400 mm or 600 mm o.c. • 89 mm thick absorptive material(6) • resilient metal channels on one side spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on resilient metal channel side • 1 layer of gypsum board on other side	 GG00035A		
	W4a	W4 with • studs spaced 400 mm o.c. • 15.9 mm Type X gypsum board(7)	1 h	1 h [1.5 h(8)]	51
	W4b	W4 with • studs spaced 600 mm o.c. • 15.9 mm Type X gypsum board(7)	1 h	1 h [1.5 h(8)]	54
	W4c	W4 with • studs spaced 400 mm o.c. • 12.7 mm Type X gypsum board(7)	45 min [1 h(8)]	1 h	49
	W4d	W4 with • studs spaced 600 mm o.c. • 12.7 mm Type X gypsum board(7)	45 min [1 h(8)]	1 h	53
	W5	• 38 mm × 89 mm studs spaced 400 mm or 600 mm o.c. • 89 mm thick absorptive material(6) • resilient metal channels on one side spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on resilient metal channel side • 2 layers of gypsum board on other side	 GG00036A		

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

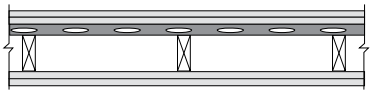
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	W5a	W5 with • studs spaced 400 mm o.c. • 15.9 mm Type X gypsum board[7]	45 min	1 h	51
	W5b	W5 with • studs spaced 600 mm o.c. • 15.9 mm Type X gypsum board[7]	45 min	1 h	54
	W5c	W5 with • studs spaced 400 mm o.c. • 12.7 mm Type X gypsum board[7]	45 min	1 h	49
	W5d	W5 with • studs spaced 600 mm o.c. • 12.7 mm Type X gypsum board[7]	45 min	1 h	53
	W6	• 38 mm × 89 mm studs spaced 400 mm or 600 mm o.c. • with or without absorptive material • resilient metal channels on one side • 2 layers of gypsum board on each side	 GG00037A		
	W6a	W6 with • studs spaced 400 mm or 600 mm o.c. • 89 mm thick absorptive material[6] • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board[7]	1.5 h	2 h	55
	W6b	W6 with • studs spaced 400 mm or 600 mm o.c. • 89 mm thick absorptive material[6] • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board[7]	1.5 h	2 h	58
	W6c	W6 with • studs spaced 400 mm o.c. • 89 mm thick absorptive material[6] • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board[7]	1 h	1.5 h	53
	W6d	W6 with • studs spaced 400 mm o.c. • 89 mm thick absorptive material[6] • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	1.5 h	55
	W6e	W6 with • studs spaced 600 mm o.c. • 89 mm thick absorptive material[6] • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board[7]	1 h	1.5 h	55

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls(1)
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

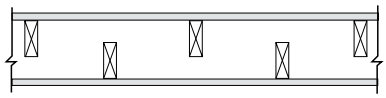
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*(2)(3)		Typical *Sound Transmission Class*(2)(4)(5)
			Loadbearing	Non-*Loadbearing*	
	W6f	W6 with • studs spaced 600 mm o.c. • 89 mm thick absorptive material(6) • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board(7)	1 h	1.5 h	58
	W6g	W6 with • studs spaced 400 mm or 600 mm o.c. • 89 mm thick absorptive material(6) • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board(7)	45 min	1 h	50
	W6h	W6 with • studs spaced 400 mm or 600 mm o.c. • 89 mm thick absorptive material(6) • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board(7)	45 min	1 h	52
	W6i	W6 with • studs spaced 400 mm or 600 mm o.c. • no absorptive material • resilient metal channels spaced 400 mm or 600 mm o.c. • 15.9 mm Type X gypsum board(7)	1.5 h	2 h	47
	W6j	W6 with • studs spaced 400 mm or 600 mm o.c. • no absorptive material • resilient metal channels spaced 400 mm or 600 mm o.c. • 12.7 mm Type X gypsum board(7)	1 h	1.5 h	46
• Wood Studs • Two Rows Staggered on 38 mm × 140 mm Plate	**W7**	• two rows 38 mm × 89 mm studs each spaced 400 mm or 600 mm o.c. staggered on common 38 mm × 140 mm plate • 89 mm thick absorptive material on one side or 65 mm thick on each side(6) • 1 layer of gypsum board on each side	 GG00038A		
• ***Loadbearing*** or Non-***Loadbearing***	W7a	W7 with • 15.9 mm Type X gypsum board(7)	1 h	1 h	47
	W7b	W7 with • 12.7 mm Type X gypsum board(7)	45 min [1 h(8)]	45 min [1 h(8)]	45
	W7c	W7 with • 12.7 mm regular gypsum board(7)(9)	30 min	30 min [45 min(8)]	42

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

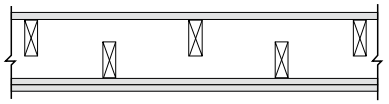
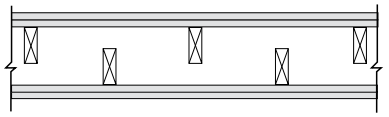
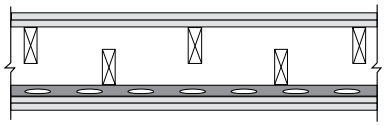
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	W8	• Two rows 38 mm × 89 mm studs each spaced 400 mm or 600 mm o.c. staggered on common 38 mm × 140 mm plate • 89 mm thick absorptive material on one side or 65 mm thick on each side[6] • 2 layers of gypsum board on one side • 1 layer of gypsum board on other side	 GG00039A		
	W8a	W8 with • 15.9 mm Type X gypsum board[7]	1 h	1.5 h	52
	W8b	W8 with • 12.7 mm Type X gypsum board[7]	45 min	1 h	50
	W9	• two rows 38 mm × 89 mm studs each spaced 400 mm or 600 mm o.c. staggered on common 38 mm × 140 mm plate • with or without absorptive material • 2 layers of gypsum board on each side	 GG00040A		
	W9a	W9 with • 89 mm thick absorptive material on one side or 65 mm thick on each side[6] • 15.9 mm Type X gypsum board[7]	1.5 h	2 h	56
	W9b	W9 with • 89 mm thick absorptive material on one side or 65 mm thick on each side[6] • 12.7 mm Type X gypsum board[7]	1 h	1.5 h	55
	W9c	W9 with • 89 mm thick absorptive material on one side or 65 mm thick on each side[6] • 12.7 mm regular gypsum board[7]	45 min	1 h	53
	W9d	W9 with • no absorptive material • 15.9 mm Type X gypsum board[7]	1.5 h	2 h	48
	W10	• two rows 38 mm × 89 mm studs each spaced 400 mm or 600 mm o.c. staggered on common 38 mm × 140 mm plate • with or without absorptive material • resilient metal channels on one side spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on each side	 GG00041A		
	W10a	W10 with • 89 mm thick absorptive material on one side or 65 mm thick on each side[6] • 15.9 mm Type X gypsum board[7]	1.5 h	2 h	62

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

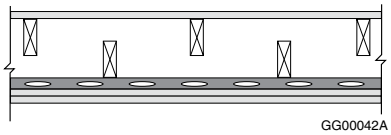
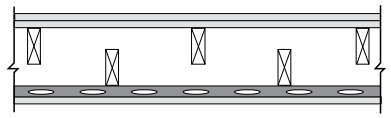
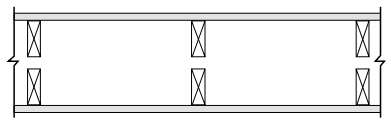
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	W10b	W10 with • 89 mm thick absorptive material on one side or 65 mm thick on each side[6] • 12.7 mm Type X gypsum board[7]	1 h	1.5 h	60
	W10c	W10 with • no absorptive material • 15.9 mm Type X gypsum board[7]	1.5 h	2 h	50
	W10d	W10 with • no absorptive material • 12.7 mm Type X gypsum board[7]	1 h	1.5 h	48
	W11	• two rows 38 mm × 89 mm studs each spaced 400 mm or 600 mm o.c. staggered on common 38 mm × 140 mm plate • 89 mm thick absorptive material on one side or 65 mm thick on each side[6] • resilient metal channels on one side spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on resilient channel side • 1 layer of gypsum board on other side	 GG00042A		
	W11a	W11 with • 15.9 mm Type X gypsum board[7]	1 h	1 h	56
	W11b	W11 with • 12.7 mm Type X gypsum board[7]	45 min [1 h[8]]	1 h	54
	W12	• two rows 38 mm × 89 mm studs each spaced 400 mm or 600 mm o.c. staggered on common 38 mm × 140 mm plate • 89 mm thick absorptive material on one side or 65 mm thick on each side[6] • resilient metal channels on one side spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on resilient metal channel side • 2 layers of gypsum board on other side	 GG00043A		
	W12a	W12 with • 15.9 mm Type X gypsum board[7]	45 min	1 h	56
	W12b	W12 with • 12.7 mm Type X gypsum board[7]	45 min	1 h	54
• Wood Studs • Two Rows on Separate Plates	**W13**	• two rows 38 mm × 89 mm studs, each spaced 400 mm or 600 mm o.c. on separate 38 mm × 89 mm plates set 25 mm apart • with or without absorptive material • 1 layer of gypsum board on each side	 GG00044A		

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

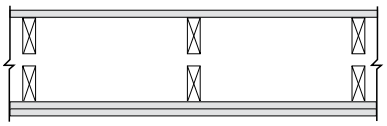
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
• ***Loadbearing*** or Non-***Loadbearing***	W13a	W13 with • 89 mm thick absorptive material on each side[6][10] • 15.9 mm Type X gypsum board[7]	1 h	1 h	57
	W13b	W13 with • 89 mm thick absorptive material on each side[6][10] • 12.7 mm Type X gypsum board[7]	45 min [1 h[8]]	45 min [1 h[8]]	57
	W13c	W13 with • 89 mm thick absorptive material on one side only[6][10] • 15.9 mm Type X gypsum board[7]	1 h	1 h	54
	W13d	W13 with • 89 mm thick absorptive material on one side only[6][10] • 12.7 mm Type X gypsum board[7]	45 min	45 min	53
	W13e	W13 with • no absorptive material • 15.9 mm Type X gypsum board[7]	1 h	1 h	45
	W13f	W13 with • no absorptive material • 12.7 mm Type X gypsum board[7]	45 min	45 min	45
	W14	• two rows 38 mm × 89 mm studs, each spaced 400 mm or 600 mm o.c. on separate 38 mm × 89 mm plates set 25 mm apart • with or without absorptive material • 2 layers of gypsum board on one side • 1 layer of gypsum board on other side	 GG00045A		
	W14a	W14 with • 89 mm thick absorptive material on each side[6][10] • 15.9 mm Type X gypsum board[7]	1 h	1 h [1.5 h[8]]	61
	W14b	W14 with • 89 mm thick absorptive material on each side[6][10] • 12.7 mm Type X gypsum board[7]	45 min	1 h	61
	W14c	W14 with • 89 mm thick absorptive material on one side only[6][10] • 15.9 mm Type X gypsum board[7]	1 h	1 h	57
	W14d	W14 with • 89 mm thick absorptive material on one side only[6][10] • 12.7 mm Type X gypsum board[7]	45 min	1 h	57
	W14e	W14 with • no absorptive material • 15.9 mm Type X gypsum board[7]	1 h	1 h	51
	W14f	W14 with • no absorptive material • 12.7 mm Type X gypsum board[7]	45 min	1 h	51

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls(1)
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

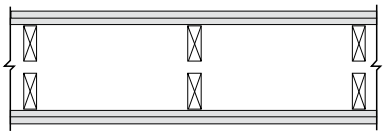
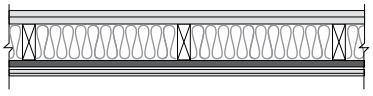
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*(2)(3)		Typical *Sound Transmission Class*(2)(4)(5)
			Loadbearing	Non-*Loadbearing*	
	W15	• two rows 38 mm × 89 mm studs, each spaced 400 mm or 600 mm o.c. on separate 38 mm × 89 mm plates set 25 mm apart • with or without absorptive material • 2 layers of gypsum board on each side	 GG00046A		
	W15a	W15 with • 89 mm thick absorptive material on each side(6)(10) • 15.9 mm Type X gypsum board(7)	1.5 h	2 h	66
	W15b	W15 with • 89 mm thick absorptive material on each side(6)(10) • 12.7 mm Type X gypsum board(7)	1 h	1.5 h	65
	W15c	W15 with • 89 mm thick absorptive material on each side(6)(10) • 12.7 mm regular gypsum board(7)	45 min	1 h	61
	W15d	W15 with • 89 mm thick absorptive material on one side only(6)(10) • 15.9 mm Type X gypsum board(7)	1.5 h	2 h	62
	W15e	W15 with • 89 mm thick absorptive material on one side only(6)(10) • 12.7 mm Type X gypsum board(7)	1 h	1.5 h	60
	W15f	W15 with • 89 mm thick absorptive material on one side only(6)(10) • 12.7 mm regular gypsum board(7)	45 min	1 h	57
	W15g	W15 with • no absorptive material • 15.9 mm Type X gypsum board(7)	1.5 h	2 h	56
	W15h	W15 with • no absorptive material • 12.7 mm Type X gypsum board(7)	1 h	1.5 h	55
	W15i	W15 with • no absorptive material • 12.7 mm regular gypsum board(7)	45 min	1 h	51
• Exterior Wood Studs • Single Row	**EW1**	• 38 mm × 89 mm studs spaced 400 mm or 600 mm o.c. • 89 mm thick absorptive material(8) • 1 or 2 layers of gypsum board on inside	 GG00011A		
• ***Loadbearing*** or Non-***Loadbearing***	EW1a	EW1 with • 1 layer of 15.9 mm Type X gypsum board(7)(11) • exterior sheathing and cladding(12)	1 h	1 h	n/a

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

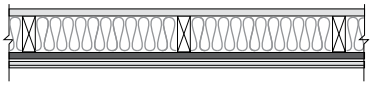
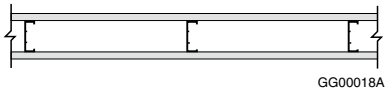
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	EW1b	EW1 with • 1 layer 12.7 mm Type X gypsum board[7][11] • exterior sheathing and cladding[12]	45 min	45 min	n/a
	EW1c	EW1 with • 2 layers of 12.7 mm regular gypsum board[7][11] • exterior sheathing and cladding[12]	45 min	45 min	n/a
	EW1d	EW1 with • 1 layer of 12.7 mm Type X gypsum board[7][11] • exterior sheathing[13] • masonry veneer cladding	45 min	45 min	n/a
	EW2	• wood studs • 89 mm thick glass fiber insulation[14] • 1 layer of gypsum board on inside	 GG00099A		
	EW2a	EW2 with • 38 mm × 89 mm studs spaced not more than 400 mm o.c • 15.9 mm Type X gypsum board[7][11] • exterior sheathing and cladding[12]	1 h	1 h	n/a
	EW2b	EW2 with • 38 mm × 89 mm studs spaced not more than 400 mm o.c. • 12.7 mm Type X gypsum board[7][11] • exterior sheathing[13] • masonry veneer cladding	45 min	45 min	n/a
	EW2c	EW2 with • 38 mm × 140 mm studs spaced not more than 600 mm o.c • 15.9 mm Type X gypsum board[7][11] • exterior sheathing and cladding[12]	45 min	45 min	n/a
• Non-***Loadbearing*** Steel Studs	**S1**	• 31 mm × 64 mm steel studs spaced 400 mm or 600 mm o.c. • with or without absorptive material • 1 layer of gypsum board on each side	 GG00018A		
• 0.46 mm (25 Gauge)	S1a	S1 with • studs spaced 600 mm o.c. • 65 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	45 min [1 h[8]]	43
	S1b	S1 with • studs spaced 400 mm o.c. • 65 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	45 min [1 h[8]]	39

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

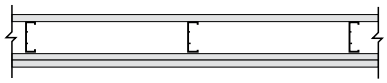
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	S1c	S1 with • studs spaced 400 mm or 600 mm o.c. • no absorptive material • 15.9 mm Type X gypsum board[7]	–	45 min	35
	S2	• 31 mm × 64 mm steel studs spaced 400 mm or 600 mm o.c. • with or without absorptive material • 1 layer of gypsum board on one side • 2 layers of gypsum board on other side	 GG00019A		
	S2a	S2 with • studs spaced 600 mm o.c. • 65 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	1 h	50
	S2b	S2 with • studs spaced 400 mm o.c. • 65 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	1 h	44
	S2c	S2 with • studs spaced 600 mm o.c. • 65 mm thick absorptive material[6] • 12.7 mm Type X gypsum board[7]	–	1 h	50
	S2d	S2 with • studs spaced 400 mm o.c. • 65 mm thick absorptive material[6] • 12.7 mm Type X gypsum board[7]	–	1 h	42
	S2e	S2 with • studs spaced 600 mm o.c. • no absorptive material • 15.9 mm Type X gypsum board[7]	–	1 h	41
	S2f	S2 with • studs spaced 400 mm o.c. • no absorptive material • 15.9 mm Type X gypsum board[7]	–	1 h	37
	S2g	S2 with • studs spaced 600 mm o.c. • no absorptive material • 12.7 mm Type X gypsum board[7]	–	1 h	40
	S2h	S2 with • studs spaced 400 mm o.c. • no absorptive material • 12.7 mm Type X gypsum board[7]	–	1 h	35

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

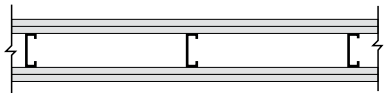
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	S3	• 31 mm × 64 mm steel studs spaced 400 mm or 600 mm o.c. • with or without absorptive material • 2 layers of gypsum board on each side	 GG00020A		
	S3a	S3 with • studs spaced 600 mm o.c. • 65 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	2 h	54
	S3b	S3 with • studs spaced 400 mm o.c. • 65 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	2 h	51
	S3c	S3 with • studs spaced 600 mm o.c. • 65 mm thick absorptive material[6] • 12.7 mm Type X gypsum board[7]	–	1.5 h	53
	S3d	S3 with • studs spaced 400 mm o.c. • 65 mm thick absorptive material[6] • 12.7 mm Type X gypsum board[7]	–	1.5 h	47
	S3e	S3 with • studs spaced 600 mm o.c. • 65 mm thick absorptive material[6] • 12.7 mm regular gypsum board[7]	–	1 h	49
	S3f	S3 with • studs spaced 400 mm o.c. • 65 mm thick absorptive material[6] • 12.7 mm regular gypsum board[7]	–	1 h	41
	S3g	S3 with • studs spaced 600 mm o.c. • no absorptive material • 15.9 mm Type X gypsum board[7]	–	2 h	45
	S3h	S3 with • studs spaced 400 mm o.c. • no absorptive material • 15.9 mm Type X gypsum board[7]	–	2 h	42
	S3i	S3 with • studs spaced 600 mm o.c. • no absorptive material • 12.7 mm Type X gypsum board[7]	–	1.5 h	44

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

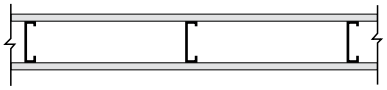
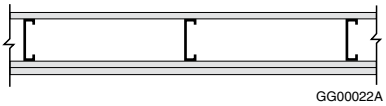
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	S3j	S3 with • studs spaced 400 mm o.c. • no absorptive material • 12.7 mm Type X gypsum board[7]	–	1.5 h	39
	S3k	S3 with • studs spaced 600 mm o.c. • no absorptive material • 12.7 mm regular gypsum board[7]	–	1 h	40
	S3l	S3 with • studs spaced 400 mm o.c. • no absorptive material • 12.7 mm regular gypsum board[7]	–	1 h	37
	S4	• 31 mm × 92 mm steel studs spaced 400 mm or 600 mm o.c. • with or without absorptive material • 1 layer of gypsum board on each side	 GG00021A		
	S4a	S4 with • studs spaced 600 mm o.c. • 89 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	45 min [1 h[8]]	48
	S4b	S4 with • studs spaced 400 mm o.c. • 89 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	45 min [1 h[8]]	47
	S4c	S4 with • studs spaced 600 mm o.c. • no absorptive material • 15.9 mm Type X gypsum board[7]	–	45 min	38
	S4d	S4 with • studs spaced 400 mm o.c. • no absorptive material • 15.9 mm Type X gypsum board[7]	–	45 min	38
	S5	• 31 mm × 92 mm steel studs spaced 400 mm or 600 mm o.c. • with or without absorptive material • 1 layer of gypsum board on one side • 2 layers of gypsum board on other side	 GG00022A		
	S5a	S5 with • studs spaced 600 mm o.c. • 89 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	1 h [1.5 h[8]]	53

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

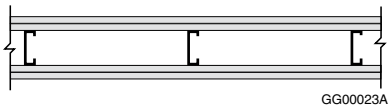
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	S5b	S5 with • studs spaced 400 mm o.c. • 89 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	1 h [1.5 h[8]]	52
	S5c	S5 with • studs spaced 600 mm o.c. • 89 mm thick absorptive material[6] • 12.7 mm Type X gypsum board[7]	–	1 h [1.5 h[8]]	51
	S5d	S5 with • studs spaced 400 mm o.c. • 89 mm thick absorptive material[6] • 12.7 mm Type X gypsum board[7]	–	1 h [1.5 h[8]]	50
	S5e	S5 with • studs spaced 600 mm o.c. • no absorptive material • •15.9 mm Type X gypsum board[7]	–	1 h	43
	S5f	S5 with • studs spaced 400 mm o.c. • no absorptive material • 15.9 mm Type X gypsum board[7]	–	1 h	42
	S5g	S5 with • studs spaced 600 mm o.c. • no absorptive material • 12.7 mm Type X gypsum board[7]	–	1 h	41
	S5h	S5 with • studs spaced 400 mm o.c. • no absorptive material • 12.7 mm Type X gypsum board[7]	–	1 h	40
	S6	• 31 mm × 92 mm steel studs spaced 400 mm or 600 mm o.c. • with or without absorptive material • 2 layers of gypsum board on each side	 GG00023A		
	S6a	S6 with • studs spaced 600 mm o.c. • 89 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	2 h	56
	S6b	S6 with • studs spaced 400 mm o.c. • 89 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	2 h	55

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	S6c	S6 with • studs spaced 600 mm o.c. • 89 mm thick absorptive material[6] • 12.7 mm Type X gypsum board[7]	–	1.5 h	55
	S6d	S6 with • studs spaced 400 mm o.c. • 89 mm thick absorptive material[6] • 12.7 mm Type X gypsum board[7]	–	1.5 h	54
	S6e	S6 with • studs spaced 600 mm o.c. • 89 mm thick absorptive material[6] • 12.7 mm regular gypsum board[7]	–	1 h	50
	S6f	S6 with • studs spaced 400 mm o.c. • 89 mm thick absorptive material[6] • 12.7 mm regular gypsum board[7]	–	1 h	48
	S6g	S6 with • studs spaced 600 mm o.c. • no absorptive material • 15.9 mm Type X gypsum board[7]	–	2 h	47
	S6h	S6 with • studs spaced 400 mm o.c. • no absorptive material • 15.9 mm Type X gypsum board[7]	–	2 h	45
	S6i	S6 with • studs spaced 600 mm o.c. • no absorptive material • 12.7 mm Type X gypsum board[7]	–	1.5 h	45
	S6j	S6 with • studs spaced 400 mm o.c. • no absorptive material • 12.7 mm Type X gypsum board[7]	–	1.5 h	44
	S6k	S6 with • studs spaced 600 mm o.c. • no absorptive material • 12.7 mm regular gypsum board[7]	–	1 h	41
	S6l	S6 with • studs spaced 400 mm o.c. • no absorptive material • 12.7 mm regular gypsum board[7]	–	1 h	39

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

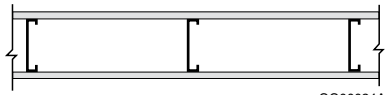
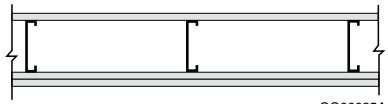
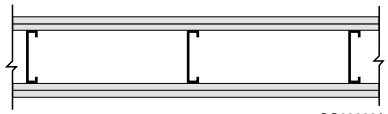
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	S7	• 31 mm × 152 mm steel studs spaced 400 mm or 600 mm o.c. • with or without absorptive material • 1 layer of gypsum board on each side	 GG00024A		
	S7a	S7 with • 150 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	45 min [1 h[8]]	51
	S7b	S7 with • no absorptive material • 15.9 mm Type X gypsum board[7]	–	45 min	41
	S8	• 31 mm × 152 mm steel studs spaced 400 mm or 600 mm o.c. • with or without absorptive material • 1 layer of gypsum board on one side • 2 layers of gypsum board on other side	 GG00025A		
	S8a	S8 with • 150 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	1 h [1.5 h[8]]	55
	S8b	S8 with • 150 mm thick absorptive material[6] • 12.7 mm Type X gypsum board[7]	–	1 h [1.5 h[8]]	54
	S8c	S8 with • no absorptive material • 15.9 mm Type X gypsum board[7]	–	1 h	45
	S8d	S8 with • no absorptive material • 12.7 mm Type X gypsum board[7]	–	1 h	44
	S9	• 31 mm × 152 mm steel studs spaced 400 mm or 600 mm o.c. • with or without absorptive material • 2 layers of gypsum board on each side	 GG00026A		
	S9a	S9 with • 150 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	–	2 h	59
	S9b	S9 with • 150 mm thick absorptive material[6] • 12.7 mm Type X gypsum board[7]	–	1.5 h	57

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

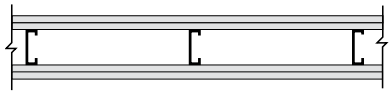
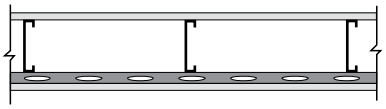
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	S9c	S9 with • 150 mm thick absorptive material[6] • 12.7 mm regular gypsum board[7]	–	1 h	53
	S9d	S9 with • no absorptive material • 15.9 mm Type X gypsum board[7]	–	2 h	49
	S9e	S9 with • no absorptive material • 12.7 mm Type X gypsum board[7]	–	1.5 h	47
	S9f	S9 with • no absorptive material • 12.7 mm regular gypsum board[7]	–	1 h	43
• ***Loadbearing*** Steel Studs • 0.84 mm to 1.52 mm Thickness	**S10**	• 41 mm × 92 mm loadbearing steel studs spaced 400 mm or 600 mm o.c. • with or without cross-bracing on one side • with or without absorptive material • 2 layers gypsum board on each side	 GG00028A		
	S10a	S10 with • 89 mm thick absorptive material[6] • 15.9 mm Type X gypsum board[7]	1 h	–	38
	S10b	S10 with • 89 mm thick absorptive material[6] • 12.7 mm Type X gypsum board[7]	45 min [1 h]	–	38
	S10c	S10 with • 89 mm thick absorptive material[6] • 12.7 mm regular gypsum board[7]	–	–	36
	S10d	S10 with • no absorptive material • 15.9 mm Type X gypsum board[7]	1 h	–	36
	S10e	S10 with • no absorptive material • 12.7 mm Type X gypsum board[7]	1 h	–	35
	S10f	S10 with • no absorptive material • 12.7 mm regular gypsum board[7]	–	–	34
	S11	• 41 mm × 92 mm loadbearing steel studs spaced 400 mm or 600 mm o.c. • with or without cross-bracing on one side • with or without absorptive material • resilient metal channels on one side • 1 layer gypsum board on each side	 GG00029A		

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

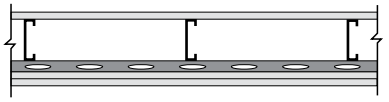
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	S11a	S11 with • 89 mm thick absorptive material[6] • resilient metal channels spaced at 600 mm o.c. • 15.9 mm Type X gypsum board[7]	–	–	50
	S11b	S11 with • 89 mm thick absorptive material[6] • resilient metal channels spaced at 400 mm o.c. • 15.9 mm Type X gypsum board[7]	–	–	47
	S11c	S11 with • no absorptive material • resilient metal channels spaced at 600 mm o.c. • 15.9 mm Type X gypsum board[7]	–	–	41
	S11d	S11 with • 89 mm thick absorptive material[6] • resilient metal channels spaced at 600 mm o.c. • 12.7 mm Type X gypsum board[7]	–	–	47
	S11e	S11 with • 89 mm thick absorptive material[6] • resilient metal channels spaced at 400 mm o.c. • 12.7 mm Type X gypsum board[7]	–	–	45
	S11f	S11 with • no absorptive material[6] • resilient metal channels spaced at 400 mm o.c. • 15.9 mm Type X gypsum board[7]	–	–	39
	S11g	S11 with • no absorptive material[6] • resilient metal channels spaced at 400 mm o.c. • 12.7 mm Type X gypsum board[7]	–	–	36
	S11h	S11 with • no absorptive material[6] • resilient metal channels spaced at 600 mm o.c. • 12.7 mm Type X gypsum board[7]	–	–	38
	S12	• 41 mm × 92 mm loadbearing steel studs spaced 400 mm or 600 mm o.c. • with or without cross-bracing on one side • with or without absorptive material • resilient metal channels on one side • 2 layers gypsum board on resilient channel side • 1 layer gypsum board on other side	 GG00030A		
	S12a	S12 with • 89 mm thick absorptive material[6] • resilient metal channels spaced at 600 mm o.c. • 15.9 mm Type X gypsum board[7]	–	–	54

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

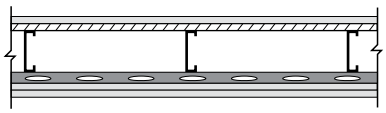
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	S12b	S12 with • no absorptive material • resilient metal channels spaced at 600 mm o.c. • 15.9 mm Type X gypsum board[7]	–	–	46
	S12c	S12 with • 89 mm thick absorptive material[6] • resilient metal channels spaced at 400 mm o.c. • 15.9 mm Type X gypsum board[7]	–	–	52
	S12d	S12 with • no absorptive material • resilient metal channels spaced at 400 mm o.c. • 15.9 mm Type X gypsum board[7]	–	–	43
	S12e	S12 with • 89 mm thick absorptive material[6] • resilient metal channels spaced at 600 mm o.c. • 12.7 mm Type X gypsum board[7]	–	–	52
	S12f	S12 with • no absorptive material • resilient metal channels spaced at 600 mm o.c. • 12.7 mm Type X gypsum board[7]	–	–	43
	S12g	S12 with • 89 mm thick absorptive material[6] • resilient metal channels spaced at 400 mm o.c. • 12.7 mm Type X gypsum board[7]	–	–	50
	S12h	S12 with • no absorptive material • resilient metal channels spaced at 400 mm o.c. • 12.7 mm Type X gypsum board[7]	–	–	41
	S13	• 41 mm × 92 mm loadbearing steel studs spaced 400 mm or 600 mm o.c. • with or without absorptive material • resilient metal channels on one side spaced at 400 mm o.c. • 2 layers gypsum board on resilient channel side • 1 layer shear membrane and 1 layer gypsum board on other side	 GG00096A		
	S13a	S13 with • 89 mm thick absorptive material[6] • 12.7 mm OSB shear membrane • 12.7 mm Type X gypsum board[7]	30 min	–	57

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

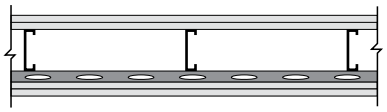
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	S14	• 41 mm × 92 mm loadbearing steel studs spaced 400 mm or 600 mm o.c. • with or without absorptive material • resilient metal channels on one side • 2 layers gypsum board on each side	 GG00031A		
	S14a	S14 with • 89 mm thick absorptive material[6] • resilient metal channels spaced at 600 mm o.c. • 15.9 mm Type X gypsum board[7]	1 h	–	60
	S14b	S14 with • 89 mm thick absorptive material[6] • resilient metal channels spaced at 600 mm o.c. • 12.7 mm Type X gypsum board[7]	45 min [1 h]	–	57
	S14c	S14 with • 89 mm thick absorptive material[6] • resilient metal channels spaced at 600 mm o.c. • 12.7 mm regular gypsum board[7]	–	–	54
	S14d	S14 with • no absorptive material • resilient metal channels spaced at 600 mm o.c. • 15.9 mm Type X gypsum board[7]	1 h	–	51
	S14e	S14 with • studs at 400 mm o.c. • no absorptive material • resilient metal channels spaced at 600 mm o.c. • 12.7 mm Type X gypsum board[7]	1 h	–	49
	S14f	S14 with • studs at 600 mm o.c. • no absorptive material • resilient metal channels spaced at 600 mm o.c. • 12.7 mm regular gypsum board[7]	1 h	–	50
	S14g	S14 with • no absorptive material • resilient metal channels spaced at 600 mm o.c. • 12.7 mm regular gypsum board[7]	–	–	45
	S14h	S14 with • studs at 400 mm o.c. • 89 mm thick absorptive material • resilient metal channels spaced at 400 mm o.c. • 15.9 mm Type X gypsum board[7]	1 h	–	58

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

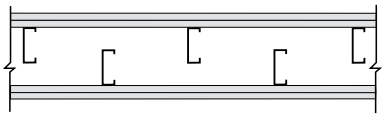
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	S14i	S14 with • studs at 600 mm o.c. • 89 mm thick absorptive material • resilient metal channels spaced at 400 mm o.c. • 15.9 mm Type X gypsum board[7]	1 h	–	60
	S14j	S14 with • 89 mm thick absorptive material • resilient metal channels spaced at 400 mm o.c. • 12.7 mm Type X gypsum board[7]	45 min [1 h]	–	55
	S14k	S14 with • studs at 400 mm o.c. • no absorptive material • resilient metal channels spaced at 400 mm o.c. • 15.9 mm Type X gypsum board[7]	1 h	–	49
	S14l	S14 with • studs at 600 mm o.c. • no absorptive material • resilient metal channels spaced at 400 mm o.c. • 15.9 mm Type X gypsum board[7]	1 h	–	51
	S14m	S14 with • no absorptive material • resilient metal channels spaced at 400 mm o.c. • 12.7 mm Type X gypsum board[7]	1 h	–	47
	S15	• 2 rows of 92 mm loadbearing steel studs spaced 400 mm or 600 mm o.c. • with cross-bracing • with or without absorptive material • 2 layers of gypsum board each side	 GG00097A		
	S15a	S15 with • 89 mm thick absorptive material in each cavity • 12.7 mm Type X gypsum board[7]	1 h	–	68
	S15b	S15 with • no absorptive material • 12.7 mm Type X gypsum board[7]	1 h	–	52
	S15c	S15 with • 89 mm thick absorptive material in each cavity • 15.9 mm Type X gypsum board[7]	1 h	–	68
	S15d	S15 with • no absorptive material • 15.9 mm Type X gypsum board[7]	1.5 h	–	52

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

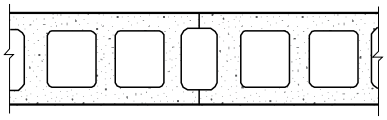
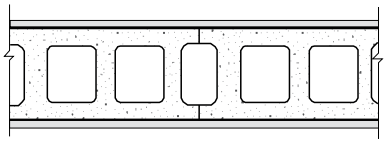
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
• Hollow Concrete Block (Normal Weight Aggregate)	**B1**	• 140 mm or 190 mm concrete block	 GG00001A		
	B1a	• 140 mm bare concrete block[5]	1 h	1 h	48
	B1b	• 190 mm bare concrete block[5]	1.5 h	1.5 h	50
	B2	• 140 mm or 190 mm concrete block • no absorptive material • 1 layer gypsum-sand plaster or gypsum board on each side	 GG00002A		
	B2a	B2 with • 140 mm concrete block • 12.7 mm gypsum-sand plaster	2 h	2 h	50
	B2b	B2 with • 140 mm concrete block • 12.7 mm Type X gypsum board or 15.9 mm Type X gypsum board[7]	2 h	2 h	47
	B2c	B2 with • 140 mm concrete block • 12.7 mm regular gypsum board[7]	1.5 h	1.5 h	46
	B2d	B2 with • 190 mm concrete block • 12.7 mm gypsum-sand plaster	2.5 h	2.5 h	51
	B2e	B2 with • 190 mm concrete block • 15.9 mm Type X gypsum board[7]	3 h	3 h	50
	B2f	B2 with • 190 mm concrete block • 12.7 mm Type X gypsum board[7]	2.5 h	2.5 h	49
	B2g	B2 with • 190 mm concrete block • 12.7 mm regular gypsum board[7]	2 h	2 h	48

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

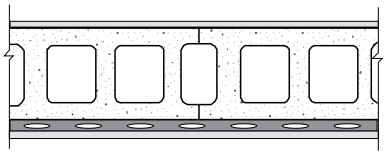
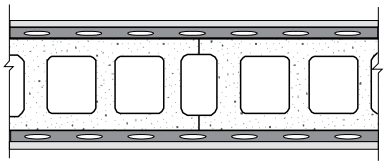
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	B3	• 140 mm or 190 mm concrete block • resilient metal channels on one side spaced at 400 mm or 600 mm o.c. • absorptive material filling resilient metal channel space[6] • 1 layer gypsum board on each side	 GG00003A		
	B3a	B3 with • 140 mm concrete block • 12.7 mm Type X gypsum board or 15.9 mm Type X gypsum board[7]	2 h	2 h	51
	B3b	B3 with • 140 mm concrete block • 12.7 mm regular gypsum board[7][9]	1.5 h	1.5 h	48
	B3c	B3 with • 190 mm concrete block • 15.9 mm Type X gypsum board[7]	3 h	3 h	54
	B3d	B3 with • 190 mm concrete block • 12.7 mm Type X gypsum board[7]	2.5 h	2.5 h	53
	B3e	B3 with • 190 mm concrete block • 12.7 mm regular gypsum board[7][9]	2 h	2 h	51
	B4	• 140 mm or 190 mm concrete block • resilient metal channels on each side spaced at 400 mm or 600 mm o.c. • with or without absorptive material • 1 layer gypsum board on each side	 GG00004A		
	B4a	B4 with • 140 mm concrete block • 12.7 mm Type X gypsum board[7], or 15.9 mm Type X gypsum board[7]	2 h	2 h	47
	B4b	B4 with • 140 mm concrete block • 12.7 mm regular gypsum board[7][9]	1.5 h	1.5 h	42
	B4c	B4 with • 190 mm concrete block • 15.9 mm Type X gypsum board[7]	3 h	3 h	50
	B4d	B4 with • 190 mm concrete block • 12.7 mm Type X gypsum board[7]	2.5 h	2.5 h	49

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

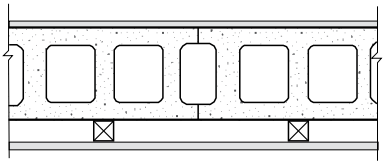
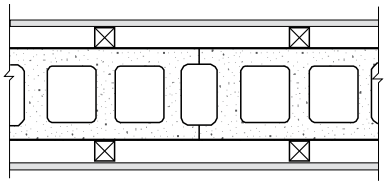
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	B4e	B4 with • 190 mm concrete block • 12.7 mm regular gypsum board[7][9]	2 h	2 h	45
	B5	• 190 mm concrete block • 38 mm × 38 mm horizontal or vertical wood strapping on one side spaced at 600 mm o.c. • with or without absorptive material • 1 layer gypsum board on each side	 GG00005A		
	B5a	B5 with • 15.9 mm Type X gypsum board[7]	3 h	3 h	54
	B5b	B5 with • 12.7 mm Type X gypsum board[7]	2.5 h	2.5 h	53
	B5c	B5 with • 12.7 mm regular gypsum board[7][9]	2 h	2 h	51
	B6	• 140 mm or 190 mm concrete block • 38 mm × 38 mm horizontal or vertical wood strapping on each side spaced at 600 mm o.c. • absorptive material filling strapping space on each side[6] • 1 layer gypsum board on each side	 GG00006A		
	B6a	B6 with • 140 mm concrete block • 12.7 mm Type X gypsum board or 15.9 mm Type X gypsum board[7]	2 h	2 h	57
	B6b	B6 with • 140 mm concrete block • 12.7 mm regular gypsum board[7][9]	1.5 h	1.5 h	56
	B6c	B6 with • 190 mm concrete block • 15.9 mm Type X gypsum board[7]	3 h	3 h	60
	B6d	B6 with • 190 mm concrete block • 12.7 mm Type X gypsum board[7]	2.5 h	2.5 h	59
	B6e	B6 with • 190 mm concrete block • 12.7 regular gypsum board[7][9]	2 h	2 h	57

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

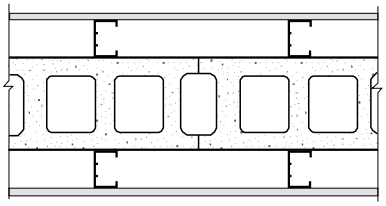
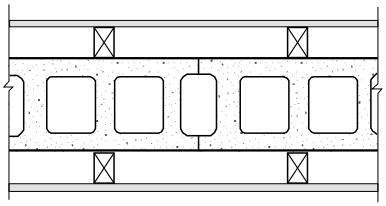
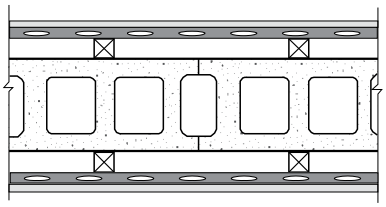
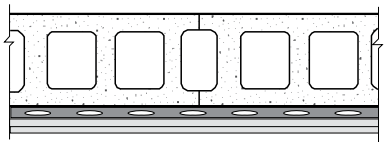
Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	B7	• 190 mm concrete block • 65 mm steel studs each side spaced at 600 mm o.c. • absorptive material filling stud space on each side[6] • 1 layer gypsum board on each side	 GG00007A		
	B7a	B7 with • 15.9 mm Type X gypsum board[7]	3 h	3 h	71
	B7b	B7 with • 12.7 mm Type X gypsum board[7]	2.5 h	2.5 h	70
	B7c	B7 with • 12.7 mm regular gypsum board[7][9]	2 h	2 h	69
	B8	• 190 mm concrete block • 38 mm × 64 mm wood studs on each side spaced at 600 mm o.c. • absorptive material filling stud space on each side[6] • 1 layer gypsum board on each side	 GG00008A		
	B8a	B8 with • 15.9 mm Type X gypsum board[7]	3 h	3 h	71
	B8b	B8 with • 12.7 mm Type X gypsum board[7]	2.5 h	2.5 h	70
	B8c	B8 with • 12.7 mm regular gypsum board[7][9]	2 h	2 h	69
	B9	• 190 mm concrete block • 50 mm metal Z-bars on each side spaced at 600 mm o.c. (or 38 mm × 38 mm horizontal or vertical wood strapping plus resilient metal channels) • absorptive material filling Z-bar space on each side[6] • 1 layer gypsum board on each side	 GG00009A		
	B9a	B9 with • 15.9 mm Type X gypsum board[7]	3 h	3 h	65
	B9b	B9 with • 12.7 mm Type X gypsum board[7]	2.5 h	2.5 h	64

Table 9.10.3.1.-A *(continued)*
Fire and Sound Resistance of Walls[1]
Forming Part of Article 5.8.1.3., Sentence 9.10.3.1.(1), Articles 9.11.1.3. and 9.11.1.4., and Sentence 9.29.5.9.(5)

Type of Wall	Wall Number	Description	*Fire-Resistance Rating*[2][3]		Typical *Sound Transmission Class*[2][4][5]
			Loadbearing	Non-*Loadbearing*	
	B9c	B9 with • 12.7 mm regular gypsum board[7][9]	2 h	2 h	63
	B10	• 190 mm concrete block • resilient metal channels on one side spaced at 600 mm o.c. • absorptive material filling resilient metal channel space[6] • 2 layers gypsum board on one side only	 GG00010A		
	B10a	B10 with • 15.9 mm Type X gypsum board[7]	3 h	3 h	56
	B10b	B10 with • 12.7 mm Type X gypsum board[7]	2.5 h	2.5 h	55
	B10c	B10 with • 12.7 mm regular gypsum board[7]	2 h	2 h	54

Notes to Table 9.10.3.1.-A:

(1) See Note A-9.10.3.1.

(2) ***Fire-resistance ratings*** and ***STC*** ratings of wood-frame construction were evaluated only for constructions with solid-sawn 38 mm × 89 mm lumber. However, the ***fire-resistance ratings*** and ***STC*** ratings provided for 38 mm × 89 mm wood-frame construction may be applied to wood-frame constructions with solid-sawn 38 mm × 140 mm lumber; in some cases the ratings may be conservative. Where 38 mm × 140 mm framing is used and absorptive material is called for, the absorptive material must be 140 mm thick. (See D-1.2.1.(2) in Appendix D for the significance of ***fire-resistance ratings***.) The ***STC*** ratings may also be applied to fingerjoined lumber. The ***fire-resistance ratings*** are applicable to constructions using fingerjoined lumber that has been manufactured with a heat-resistant adhesive (HRA) in accordance with NLGA special product standard SPS-1, "Fingerjoined Structural Lumber," or SPS-3, "Fingerjoined "Vertical Stud Use Only" Lumber." (See also A-9.23.10.4.(1).)

(3) For all ***fire-resistance ratings***, the given spacing for framing is a maximum value.

(4) Sound ratings listed are based on the most reliable laboratory test data available for specimens conforming to installation details required by CSA A82.31-M, "Gypsum Board Application." Results of specific tests may differ slightly because of measurement precision and minor variations in construction details. These results should only be used where the actual construction details, including spacing of fasteners and supporting framing, correspond exactly to the details of the test specimens on which the ratings are based. Assemblies with ***sound transmission class*** ratings of 50 or more require acoustical sealant applied around electrical boxes and other openings, and at the junction of intersecting walls and floors, except intersection of walls constructed of concrete or ***solid masonry units*** where the masonry joints at the intersection are mortared.

(5) Sound ratings are only valid where there are no discernible cracks or voids in the visible surfaces. For concrete blocks, surfaces must be sealed by at least 2 coats of paint or other surface finish described in Section 9.29. to prevent sound leakage.

(6) Sound absorptive material includes fibre processed from rock, slag, glass or cellulose fibre. It must fill at least 90% of the cavity thickness for the wall to have the listed ***STC*** value. The absorptive material should not overfill the cavity to the point of producing significant outward pressure on the finishes; such an assembly will not achieve the ***STC*** rating. Where the absorptive material used with steel stud assemblies is in batt form, "steel stud batts," which are wide enough to fill the cavity from the web of one stud to the web of the adjacent stud, must be used.

(7) The complete descriptions of indicated finishes are as follows:
- 12.7 mm regular gypsum board – 12.7 mm regular gypsum board conforming to Article 9.29.5.2.
- 12.7 mm Type X gypsum board – 12.7 mm special fire-resistant Type X gypsum board conforming to Article 9.29.5.2.
- 15.9 mm Type X gypsum board – 15.9 mm special fire-resistant Type X gypsum board conforming to Article 9.29.5.2.
- Except for exterior walls (see Note 9), the outer layer of finish on both sides of the wall must have its joints taped and finished.
- Fastener types and spacing must conform to CSA A82.31-M, "Gypsum Board Application."

(8) Absorptive material required for the higher ***fire-resistance rating*** is mineral fibre processed from rock or slag with a mass of at least 4.8 kg/m^2 for 150 mm thickness, 2.8 kg/m^2 for 89 mm thickness and 2.0 kg/m^2 for 65 mm thickness and completely filling the wall cavity. For assemblies with double wood studs on separate plates, absorptive material is required in the stud cavities on both sides.

(9) Regular gypsum board used in single layer assemblies must be installed so all edges are supported.

(10) Where bracing material, such as diagonal lumber or plywood, OSB, gypsum board or fibreboard sheathing is installed on the inner face of one row of studs in double stud assemblies, the ***STC*** rating will be reduced by 3 for any assemblies containing absorptive material in both rows of studs or in the row of studs opposite to that to which the bracing material is attached. Attaching such layers on both inner faces of the studs may drastically reduce the ***STC*** value but enough data to permit assignment of ***STC*** ratings for this situation is not available. The ***fire-resistance rating*** is not affected by the inclusion of such bracing.

(11) For exterior walls, the finish joints must be taped and finished for the outer layer of the interior side only. The gypsum board on the exterior side may be replaced with gypsum sheathing of the same thickness and type (regular or Type X).

(12) Includes any exterior wall sheathing and cladding combination allowed under Part 9 other than foamed plastic sheathing. The cladding portion can include foamed plastic outboard of noncombustible, structural wood-based or gypsum-based sheathing conforming to the minimum thicknesses listed in Table 9.23.17.2.-A.

(13) Includes any exterior wall sheathing listed in Table 9.23.17.2.-A and masonry veneer cladding conforming to Section 9.20. Foamed plastic sheathing is permitted in EW1d and EW2b walls without the use of other sheathing, provided it is directly attached to the framing.

(14) The glass fibre insulation filling the cavity shall have a mass per unit area of not less than 1.0 kg/m^2 of wall surface.

Table 9.10.3.1.-B
Fire and Sound Resistance of Floors, Ceilings and Roofs(1)
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

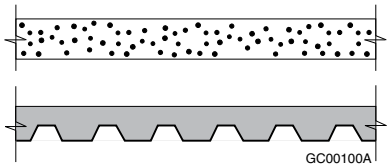
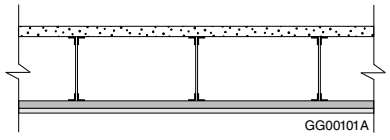
Type of Assembly	Assembly Number	Description(2)(3)(4)	*Fire-Resistance Rating*(5)(6)(7)(8)	Typical *Sound Transmission Class*(5)(6)(9)(10) (*STC*)	Typical Impact Insulation Class(5)(9)(11) (IIC)
Floors and Ceilings					
Concrete Slabs	**F1**	• concrete floors	 GC00100A		
	F1a	• 90 mm reinforced concrete with 20 mm minimum cover over reinforcing steel	1 h	47	23
	F1b	• 130 mm reinforced concrete with 25 mm minimum cover over reinforcing steel	2 h	52	27
	F1c	• pre-stressed hollow core slab 200 mm deep with 25 mm minimum cover over reinforcing steel	1 h	50	28
	F1d	• 150 mm composite slab on 75 mm steel deck with 152 × 152 × MW3.8 × MW3.8 wire mesh	–	51	21
	F1e	• 150 mm composite slab on 75 mm steel deck with 152 × 152 × MW3.8 × MW3.8 wire mesh • resilient metal channels 400 mm or 600 mm o.c. • 2 layers of 12.7 mm Type X gypsum board or 2 layers of 15.9 mm Type X gypsum board	1.5 h	57	36
Open Web Steel Joists	**F2**	• open web steel joists with concrete floor	 GG00101A		
	F2a	• 50 mm thick concrete deck • on open web steel joists spaced 400 mm o.c. • furring channels spaced not more than 600 mm o.c. wired to underside of joists • 1 layer of 15.9 mm Type X gypsum board on ceiling side	45 min	53	27

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

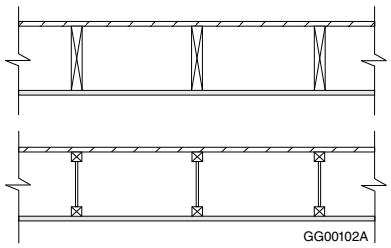
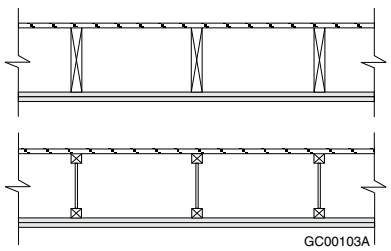
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F2b	• 65 mm regular concrete minimum 155 kg/m^2 • on composite steel joists spaced 1250 mm o.c. • furring channels spaced not more than 600 mm o.c. wired to underside of joists • 1 layer of 12.7 mm or 15.9 mm Type X gypsum board on ceiling side	1.5 h	53	28
Wood Floor Joists[12]	**F3**[13]	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 1 layer of gypsum board on ceiling side			
	F3a	F3 with • no absorptive material in cavity • 15.9 mm Type X gypsum board	–	29	27
	F3b	F3 with • absorptive material in cavity • 15.9 mm Type X gypsum board	–	31	30
	F3c	F3 with • no absorptive material in cavity • 12.7 mm Type X gypsum board	–	27	26
	F3d	F3 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	29	29
	F3e	F3 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	27	25
	F3f	F3 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	29	28
	F4[13]	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 2 layers of gypsum board on ceiling side			

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F4a	F4 with • wood joists or wood I-joists spaced 400 mm o.c. • no absorptive material in cavity • 15.9 mm Type X gypsum board	1 h	33	31
	F4b	F4 with • wood joists or wood I-joists spaced 600 mm o.c. • no absorptive material in cavity • 15.9 mm Type X gypsum board	1 h	34	31
	F4c	F4 with • wood joists or wood I-joists spaced 400 mm o.c. • absorptive material in cavity • 15.9 mm Type X gypsum board	45 min [1 h][14]	35	34
	F4d	F4 with • wood joists or wood I-joists spaced 600 mm o.c. • absorptive material in cavity • 15.9 mm Type X gypsum board	45 min	38	34
	F4e	F4 with • wood joists or wood I-joists spaced 400 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	1 h	32	30
	F4f	F4 with • wood joists or wood I-joists spaced 400 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	45 min	33	30
	F4g	F4 with • wood joists or wood I-joists spaced 400 mm o.c. • absorptive material in cavity • 12.7 mm Type X gypsum board	45 min	34	33
	F4h	F4 with • wood joists or wood I-joists spaced 600 mm o.c. • absorptive material in cavity • 12.7 mm Type X gypsum board	–	35	33
	F4i	F4 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	31	30
	F4j	F4 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	33	33

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

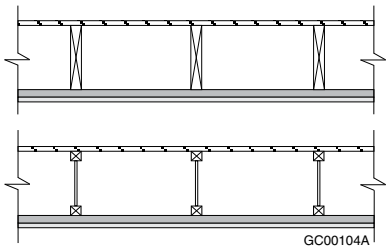
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F5[13]	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • steel furring channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F5a	F5 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum	30 min	35	37
	F5b	F5 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c • 15.9 mm Type X gypsum board	30 min	37	30
	F5c	F5 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min [45 min][15]	38	30
	F5d	F5 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	30 min	40	33
	F5e	F5 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	30 min	33	26
	F5f	F5 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	30 min	35	29
	F5g	F5 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	30 min [45 min][15]	36	29
	F5h	F5 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	30 min	38	32

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

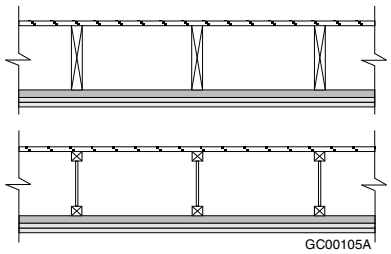
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F5i	F5 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	< 30 min	33	25
	F5j	F5 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	< 30 min	35	28
	F5k	F5 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	< 30 min	36	28
	F5l	F5 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	< 30 min	38	33
	F6[13]	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • steel furring channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F6a[16]	F6 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum boad	1 h	39	32
	F6b[16]	F6 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	41	32
	F6c[16]	F6 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	42	35
	F6d[16]	F6 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	44	37

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

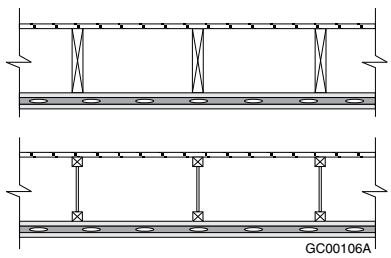
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F6e[16]	F6 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	38	30
	F6f[16]	F6 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	40	33
	F6g[16]	F6 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	41	33
	F6h[16]	F6 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][17]	43	36
	F6i	F6 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	37	30
	F6j	F6 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	39	33
	F6k	F6 with absorptive material in cavity steel furring channels spaced 400 mm o.c. 12.7 mm regular gypsum board	–	40	33
	F6l	F6 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	42	36
	F7[13]	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 1 layer of gypsum board attached directly to joists on ceiling side • resilient metal channels spaced 400 mm or 600 mm o.c. attached to joists through gypsum board • 1 layer of gypsum board attached to resilient metal channels			

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

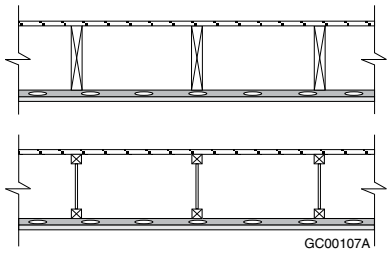
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F7a[16]	F7 with • no absorptive material in cavity • 15.9 mm Type X gypsum board • resilient metal channels • 15.9 mm Type X gypsum board	1 h	35	27
	F7b[16]	F7 with • absorptive material in cavity • 15.9 mm Type X gypsum board • resilient metal channels • 15.9 mm Type X gypsum board	1 h	37	30
	F7c[16]	F7 with • no absorptive material in cavity • 12.7 mm Type X gypsum board • resilient metal channels • 12.7 mm Type X gypsum board	1 h	35	27
	F7d[16]	F7 with • absorptive material in cavity • 12.7 mm Type X gypsum board • resilient metal channels • 12.7 mm Type X gypsum board	1 h	37	30
	F7e	F7 with • no absorptive material in cavity • 12.7 mm regular gypsum board • resilient metal channels • 12.7 mm regular gypsum board	–	32	26
	F7f	F7 with • absorptive material in cavity • 12.7 mm regular gypsum board • resilient metal channels • 12.7 mm regular gypsum board	–	35	28
	F8[13]	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F8a	F8 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min	41	33
	F8b	F8 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	30 min	43	36
	F8c	F8 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min [45 min][15]	48	41
	F8d	F8 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	30 min	50	44
	F8e	F8 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	30 min	39	32
	F8f	F8 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	30 min	41	35
	F8g	F8 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	30 min [45 min][15]	46	40
	F8h	F8 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	30 min	48	43
	F8i	F8 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	< 30 min	41	31
	F8j	F8 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	< 30 min	41	34

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

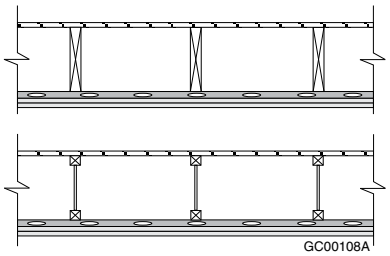
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F8k	F8 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	< 30 min	46	39
	F8l	F8 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	< 30 min	48	42
	F9[13]	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F9a[16]	F9 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	45	38
	F9b[16]	F9 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	47	40
	F9c[16]	F9 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h [1.5 h][18]	52 [54][18]	46
	F9d[16]	F9 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h [1.5 h][18]	54 [56][18]	48
	F9e[16]	F9 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	44	36
	F9f[16]	F9 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	46	39

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

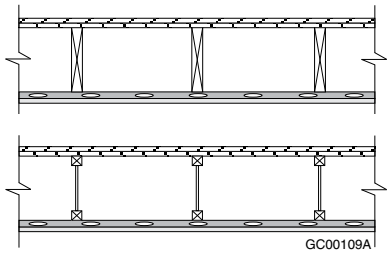
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F9g[16]	F9 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h [1.5 h][18]	51 [53][18]	44
	F9h[16]	F9 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][17]	53	47
	F9i	F9 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	43	36
	F9j	F9 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	45	39
	F9k	F9 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	50	44
	F9l	F9 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	52	47
	F10[13]	• one subfloor layer of 11 mm sanded plywood, or OSB or waferboard • one subfloor layer of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 300, 400 or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F10a	F10 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min	44	34
	F10b	F10 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	30 min	46	37

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F10c	F10 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min [45 min][17]	51	42
	F10d	F10 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	30 min [45 min][15]	53	45
	F10e	F10 with • wood joists spaced at 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h[19]	53[19]	44
	F10f[20]	F10 with • wood I-joists spaced at 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 300 mm o.c. • 15.9 mm Type X gypsum board	1 h[19]	52[19]	43
	F10g	F10 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	30 min	42	33
	F10h	F10 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	30 min	44	36
	F10i	F10 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	30 min [45 min][17]	49	41
	F10j	F10 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	30 min [45 min][15]	51	44
	F10k	F10 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	42	33
	F10l	F10 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	44	35

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

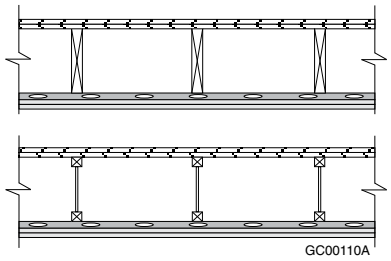
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F10m	F10 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	49	41
	F10n	F10 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	51	43
	F11[13]	• one subfloor layer of 11 mm sanded plywood, or OSB or waferboard • one subfloor layer of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F11a[16]	F11 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	48	39
	F11b[16]	F11 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	50	42
	F11c[16]	F11 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h [1.5 h][18]	55 [56][18]	47
	F11d[16]	F11 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h [1.5 h][18]	57 [58][18]	50
	F11e[16]	F11 with • wood joists spaced 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1.5 h[21]	56[21]	47

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F11f[20]	F11 with • wood I-joists spaced 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 300 mm o.c. • 15.9 mm Type X gypsum board	1.5 h[21]	56[21]	46
	F11g[16]	F11 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	47	38
	F11h[16]	F11 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	49	40
	F11i[16]	F11 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h [1.5 h][18]	54 [55][18]	46
	F11j[16]	F11 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][17]	56	48
	F11k	F11 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	46	37
	F11l	F11 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	48	40
	F11m	F11 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	53	45
	F11n	F11 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	55	48

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

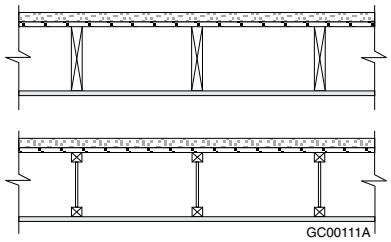
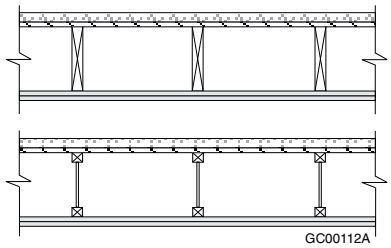
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F12[13]	• 25 mm gypsum-concrete topping (at least 44 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 1 layer of gypsum board on ceiling side			
	F12a	F12 with • no absorptive material in cavity • 15.9 mm Type X gypsum board	–	41	13
	F12b	F12 with • absorptive material in cavity • 15.9 mm Type X gypsum board	–	43	16
	F12c	F12 with • no absorptive material in cavity • 12.7 mm Type X gypsum board	–	39	12
	F12d	F12 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	41	15
	F12e	F12 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	39	12
	F12f	F12 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	41	15
	F13[13]	• 25 mm gypsum-concrete topping (at least 44 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 2 layers of gypsum board on ceiling side			
	F13a	F13 with • wood joists or wood I-joists spaced 400 mm o.c. • no absorptive material in cavity • 15.9 mm Type X gypsum board	1 h	43	16

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F13b	F13 with • wood joists or wood I-joists spaced 600 mm o.c. • no absorptive material in cavity • 15.9 mm Type X gypsum board	1 h	45	16
	F13c	F13 with • wood joists or wood I-joists spaced 400 mm o.c. • absorptive material in cavity • 15.9 mm Type X gypsum board	45 min [1 h][14]	45	19
	F13d	F13 with • wood joists or wood I-joists spaced 600 mm o.c. • absorptive material in cavity • 15.9 mm Type X gypsum board	45 min	47	19
	F13e	F13 with • wood joists or wood I-joists spaced 400 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	1 h	42	15
	F13f	F13 with • wood joists or wood I-joists spaced 600 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	45 min	44	15
	F13g	F13 with • wood joists or wood I-joists spaced 400 mm o.c. • absorptive material in cavity • 12.7 mm Type X gypsum board	45 min	44	18
	F13h	F13 with • wood joists or wood I-joists spaced 600 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	–	46	18
	F13i	F13 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	41	14
	F13j	F13 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	45	14

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

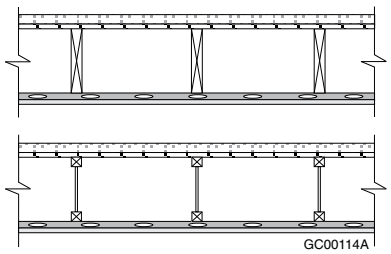
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F14[13]	• 25 mm gypsum-concrete topping (at least 44 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 300, 400 or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F14a	F14 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	53	22
	F14b	F14 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	55	22
	F14c	F14 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min [45 min][17]	60	30
	F14d	F14 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	62	30
	F14e	F14 with • wood joists spaced 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h[19]	60[19]	31
	F14f[20]	F14 with • wood I-joists spaced 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 300 mm o.c. • 15.9 mm Type X gypsum board	1 h[19]	61[19]	31
	F14g	F14 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	51	21
	F14h	F14 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	53	21

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

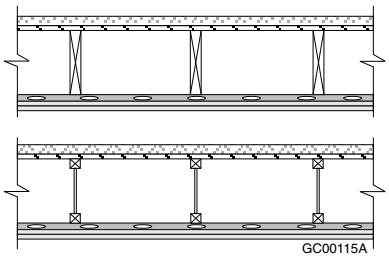
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F14i	F14 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	58	29
	F14j	F14 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	60	29
	F14k	F14 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	51	21
	F14l	F14 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	53	21
	F14m	F14 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	58	29
	F14n	F14 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	60	29
	F15[13]	• 25 mm gypsum-concrete topping (at least 44 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F15a[16]	F15 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h[22]	57	25
	F15b[16]	F15 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	59	25

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F15c[16]	F15 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h [1.5 h][18]	64 [65][18]	33
	F15d[16])	F15 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h [1.5 h][18]	66 [67][18]	33
	F15e[16]	F15 with • wood joists spaced 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1.5 h[21]	65[21]	33
	F15f[20]	F15 with • wood I-joists spaced 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 300 mm o.c. • 15.9 mm Type X gypsum board	1.5 h[21]	64[21]	33
	F15g[16]	F15 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	56	24
	F15h[16]	F15 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	58	24
	F15i[16]	F15 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h [1.5 h][18]	63 [64][18]	32
	F15j[16]	F15 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][17]	65	32
	F15k	F15 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	55	23
	F15l	F15 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	57	23

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

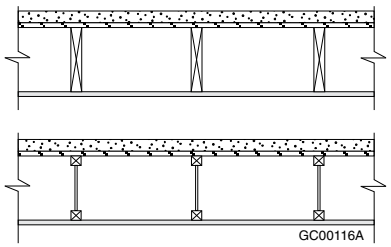
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F15m	F15 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	62	31
	F15n	F15 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	64	31
	F16[13]	• 38 mm concrete topping (at least 70 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 1 layer of gypsum board on ceiling side			
	F16a	F 16 with • no absorptive material in cavity • 15.9 mm Type X gypsum board	–	44	22
	F16b	F16 with • absorptive material in cavity • 15.9 mm Type X gypsum board	–	46	25
	F16c	F16 with • no absorptive material in cavity • 12.7 mm Type X gypsum board	–	43	21
	F16d	F16 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	45	24
	F16e	F16 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	42	21
	F16f	F16 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	44	24

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

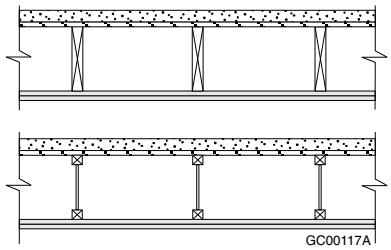
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F17[13]	• 38 mm concrete topping (at least 70 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 2 layers of gypsum board on ceiling side			
	F17a	F17 with • wood joists or wood I-joists spaced 400 mm o.c. • no absorptive material in cavity • 15.9 mm Type X gypsum board	1 h	48	24
	F17b	F17 with • wood joists or wood I-joists spaced 600 mm o.c. • no absorptive material in cavity • 15.9 mm Type X gypsum board	1 h	51	24
	F17c	F17 with • wood joists or wood I-joists spaced 400 mm o.c. • absorptive material in cavity • 15.9 mm Type X gypsum board	45 min [1 h][14]	48	27
	F17d	F17 with • wood joists or wood I-joists spaced 600 mm o.c. • absorptive material in cavity • 15.9 mm Type X gypsum board	45 min	51	27
	F17e	F17 with • wood joists or wood I-joists spaced 400 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	1 h	47	23
	F17f	F17 with • wood joists or wood I-joists spaced 600 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	45 min	48	23
	F17g	F17 with • wood joists or wood I-joists spaced 400 mm o.c. • absorptive material in cavity • 12.7 mm Type X gypsum board	45 min	49	26
	F17h	F17 with • wood joists or wood I-joists spaced 600 mm o.c. • absorptive material in cavity • 12.7 mm Type X gypsum board	–	50	26

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

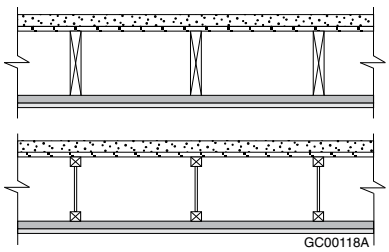
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F17i	F17 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	47	23
	F17j	F17 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	49	26
	F18[13]	• 38 mm concrete topping (at least 70 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • steel furring channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F18a	F18 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	50	25
	F18b	F18 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	52	25
	F18c	F18 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	53	28
	F18d	F18 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	55	28
	F18e	F18 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	49	24
	F18f	F18 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	51	24

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

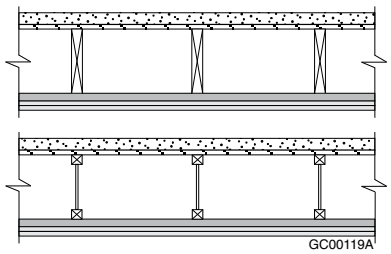
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F18g	F18 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	52	27
	F18h	F18 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	54	27
	F18i	F18 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	48	24
	F18j	F18 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	50	24
	F18k	F18 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	51	27
	F18l	F18 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	53	27
	F19[13]	• 38 mm concrete topping (at least 70 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • steel furring channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F19a[16]	F19 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	54	27
	F19b[16]	F19 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	56	27

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F19c[16]	F19 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	57	30
	F19d[16]	F19 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	59	30
	F19e[16]	F19 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	53	26
	F19f[16])	F19 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	55	26
	F19g[16]	F19 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	56	29
	F19h[16]	F19 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	58	29
	F19i	F19 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	53	26
	F19j	F19 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	55	26
	F19k	F19 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	56	29
	F19l	F19 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	58	29

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

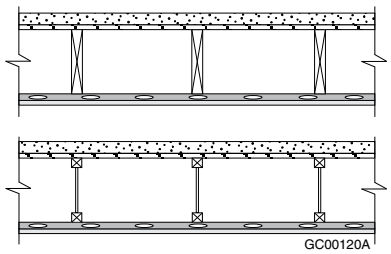
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F20[13]	• 38 mm concrete topping (at least 70 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 300, 400 or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F20a	F20 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	45 min[22]	56	31
	F20b	F20 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	58	31
	F20c	F20 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min [45 min] [17][22]	63	39
	F20d	F20 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	65	39
	F20e	F20 with • wood joists spaced 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h[19]	64[19]	40
	F20f[20]	F20 with • wood I-joists spaced 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 300 mm o.c. • 15.9 mm Type X gypsum board	1 h[19]	65[19]	40
	F20g	F20 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	55	30
	F20h	F20 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	57	30

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

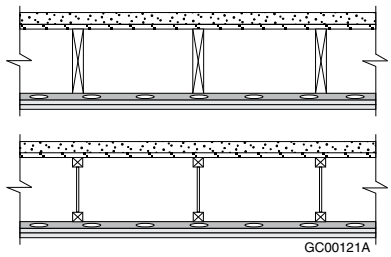
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F20i	F20 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	62	38
	F20j	F20 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	64	38
	F20k	F20 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	54	30
	F20l	F20 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	56	30
	F20m	F20 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	61	38
	F20n	F20 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	63	38
	F21[13]	• 38 mm concrete topping (at least 70 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood joists or wood I-joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F21a[16]	F21 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	60	33
	F21b[16]	F21 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	62	33

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F21c[16]	F21 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h [1.5 h][18]	67 [68][18]	41 [42][18]
	F21d[16]	F21 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h [1.5 h][18]	69 [70][18]	41 [42][18]
	F21e[16]	F21 with • wood joists spaced 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	[1.5 h][21]	68[21]	42
	F21f[20]	F21 with • wood I-joists spaced 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 300 mm o.c. • 15.9 mm Type X gypsum board	[1.5 h][21]	68[21]	42
	F21g[16]	F21 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	59	32
	F21h[16]	F21 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	61	32
	F21i[16]	F21 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h [1.5 h][18]	66 [67][18]	40
	F21j[16]	F21 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	68	40
	F21k	F21 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	59	32
	F21l	F21 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	61	32

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

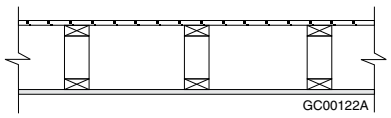
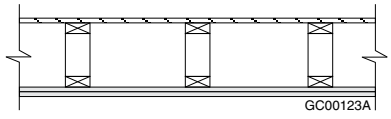
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F21m	F21 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	66	40
	F21n	F21 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	68	40
Wood Floor Trusses[23]	**F22**	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 1 layer gypsum board on ceiling side			
	F22a	F22 with • no absorptive material in cavity • 15.9 mm Type X gypsum board	–	29	27
	F22b	F22 with • absorptive material in cavity • 15.9 mm Type X gypsum board	–	31	30
	F22c	F22 with • no absorptive material in cavity • 12.7 mm Type X gypsum board	–	28	26
	F22d	F22 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	30	29
	F22e	F22 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	27	25
	F22f	F22 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	31	28
	F23	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 2 layers of gypsum board on ceiling side			

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

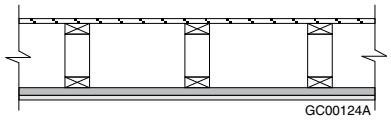
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F23a	F23 with • wood trusses spaced 400 mm o.c. • no absorptive material in cavity • 15.9 mm Type X gypsum board	1 h	34	31
	F23b	F23 with • wood trusses spaced 600 mm o.c. • no absorptive material in cavity • 15.9 mm Type X gypsum board	1 h	35	31
	F23c	F23 with • wood trusses spaced 400 mm o.c. • absorptive material in cavity • 15.9 mm Type X gypsum board	45 min [1 h][14]	36	34
	F23d	F23 with • wood trusses spaced 600 mm o.c. • absorptive material in cavity • 15.9 mm Type X gypsum board	45 min	37	34
	F23e	F23 with • wood trusses spaced 400 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	1 h	32	30
	F23f	F23 with • wood trusses spaced 600 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	45 min	33	30
	F23g	F23 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	34	33
	F23h	F23 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	32	30
	F23i	F23 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	34	33
	F24	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • steel furring channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F24a	F24 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	35	27
	F24b	F24 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	37	30
	F24c	F24 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	38	30
	F24d	F24 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	40	33
	F24e	F24 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	33	26
	F24f	F24 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	36	29
	F24g	F24 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	37	29
	F24h	F24 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	39	32
	F24i	F24 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	33	25
	F24j	F24 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	35	28

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

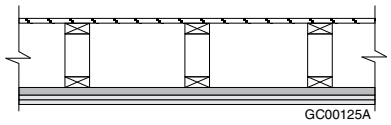
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F24k	F24 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	36	28
	F24l	F24 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	38	31
	F25	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • steel furring channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F25a	F25 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	40	32
	F25b	F25 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	42	34
	F25c	F25 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	43	35
	F25d	F25 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min [1 h][17]	45	37
	F25e	F25 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	38	30
	F25f	F25 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	40	33

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

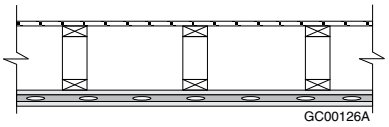
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F25g	F25 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	41	33
	F25h	F25 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][17]	43	36
	F25i	F25 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	38	30
	F25j	F25 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	40	33
	F25k	F25 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	41	33
	F25l	F25 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	43	36
	F26	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 1 layer of gypsum board attached directly to trusses on ceiling side • resilient metal channels spaced 400 mm or 600 mm o.c. attached to trusses through the gypsum board • 1 layer of gypsum board attached to resilient metal channels			
	F26a	F26 with • no absorptive material in cavity • 15.9 mm Type X gypsum board • resilient metal channels • 15.9 mm Type X gypsum board	–	35	27

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

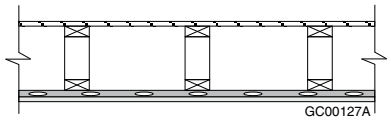
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F26b	F26 with • absorptive material in cavity • 15.9 mm Type X gypsum board • resilient metal channels • 15.9 mm Type X gypsum board	–	37	30
	F26c	F26 with • no absorptive material in cavity • 12.7 mm Type X gypsum board • resilient metal channels • 12.7 mm Type X gypsum board	–	35	27
	F26d	F26 with • absorptive material in cavity • 12.7 mm Type X gypsum board • resilient metal channels • 12.7 mm Type X gypsum board	–	37	30
	F26e	F26 with • no absorptive material in cavity • 12.7 mm regular gypsum board • resilient metal channels • 12.7 mm regular gypsum board	–	32	26
	F26f	F26 with • absorptive material in cavity • 12.7 mm regular gypsum board • resilient metal channels • 12.7 mm regular gypsum board	–	35	28
	F27	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F27a	F27 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	41	33
	F27b	F27 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	43	36

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F27c	F27 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min [45 min][24]	48	41
	F27d	F27 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	50	44
	F27e	F27 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	40	32
	F27f	F27 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	42	35
	F27g	F27 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	47	40
	F27h	F27 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	49	43
	F27i	F27 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	39	31
	F27j	F27 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	41	34
	F27k	F27 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	46	39
	F27l	F27 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	48	42

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

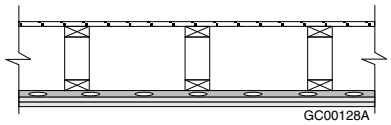
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F28	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F28a	F28 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	46	38
	F28b	F28 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	48	40
	F28c	F28 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	54	46
	F28d	F28 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min [1 h][17]	55	48
	F28e	F28 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	44	36
	F28f	F28 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	46	39
	F28g	F28 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	51	44
	F28h	F28 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][17]	53	47
	F28i	F28 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	44	36

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

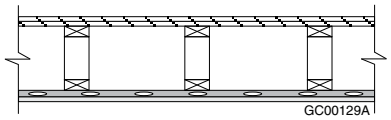
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F28j	F28 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	46	39
	F28k	F28 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	51	44
	F28l	F28 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	53	47
	F29	• one subfloor layer 11 mm sanded plywood, or OSB or waferboard • one subfloor layer of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F29a	F29 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	44	35
	F29b	F29 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	46	37
	F29c	F29 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min [45 min][24]	51	43
	F29d	F29 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	53	45
	F29e	F29 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	43	33

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

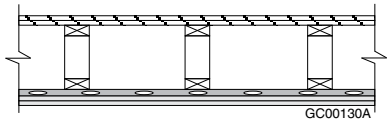
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F29f	F29 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	45	36
	F29g	F29 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	50	41
	F29h	F29 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	52	44
	F29i	F29 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	42	34
	F29j	F29 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	44	36
	F29k	F29 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	49	41
	F29l	F29 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	51	44
	F30	• one subfloor layer 11 mm sanded plywood, or OSB or waferboard • one subfloor layer of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F30a	F30 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	49	39

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F30b	F30 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	51	42
	F30c	F30 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h [1.5 h][25]	56 [58][25]	47 [50][25]
	F30d	F30 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min [1 h][17]	58	50
	F30e	F30 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	47	38
	F30f	F30 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	49	40
	F30g	F30 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	54	46
	F30h	F30 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][17]	56	48
	F30i	F30 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	47	37
	F30j	F30 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	49	40
	F30k	F30 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	54	45

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

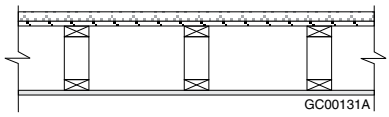
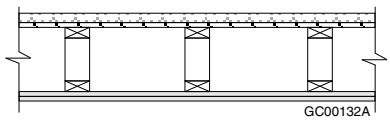
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F30l	F30 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	56	48
	F31	• 25 mm gypsum-concrete topping (at least 44 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 1 layer of gypsum board on ceiling side			
	F31a	F31 with • no absorptive material in cavity • 15.9 mm Type X gypsum board	–	41	17
	F31b	F31 with • absorptive material in cavity • 15.9 mm Type X gypsum board	–	43	20
	F31c	F31 with • no absorptive material in cavity • 12.7 mm Type X gypsum board	–	40	17
	F31d	F31 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	42	20
	F31e	F31 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	39	16
	F31f	F31 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	41	19
	F32	• 25 mm gypsum-concrete topping (at least 44 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 2 layers of gypsum board on ceiling side			
	F32a	F32 with • wood trusses spaced 400 mm o.c. • no absorptive material in cavity • 15.9 mm Type X gypsum board	1 h	46	20

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

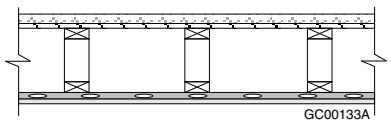
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F32b	F32 with • wood trusses spaced 600 mm o.c. • no absorptive material in cavity • 15.9 mm Type X gypsum board	1 h	47	20
	F32c	F32 with • wood trusses spaced 400 mm o.c. • absorptive material in cavity • 15.9 mm Type X gypsum board	45 min [1 h][14]	48	23
	F32d	F32 with • wood trusses spaced 600 mm o.c. • absorptive material in cavity • 15.9 mm Type X gypsum board	45 min	49	23
	F32e	F32 with • wood trusses spaced 400 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	1 h	44	19
	F32f	F32 with • wood trusses spaced 600 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	45 min	45	19
	F32g	F32 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	46	19
	F32h	F32 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	44	19
	F32i	F32 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	46	22
	F33	• 25 mm gypsum-concrete topping (at least 44 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F33a	F33 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	53	26

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F33b	F33 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	55	26
	F33c	F33 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min [45 min][24]	60	34
	F33d	F33 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	62	34
	F33e	F33 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	52	26
	F33f	F33 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	54	26
	F33g	F33 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	59	34
	F33h	F33 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	61	34
	F33i	F33 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	51	25
	F33j	F33 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	53	25
	F33k	F33 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	58	33

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

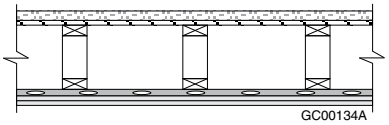
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F33l	F33 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	60	33
	F34	• 25 mm gypsum-concrete topping (at least 44 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F34a	F34 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	57	29
	F34b	F34 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	60	29
	F34c	F34 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h [1.5 h][25]	65 [67][25]	37
	F34d	F34 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min [1 h][17]	67	37
	F34e	F34 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	56	28
	F34f	F34 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	58	28
	F34g	F34 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	63	36

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

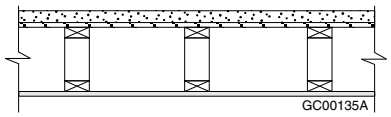
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F34h	F34 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][17]	65	36
	F34i	F34 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	56	28
	F34j	F34 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	58	28
	F34k	F34 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	63	36
	F34l	F34 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	65	36
	F35	• 38 mm concrete topping (at least 70 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 1 layer of gypsum board on ceiling side			
	F35a	F35 with • no absorptive material in cavity • 15.9 mm Type X gypsum board	–	45	26
	F35b	F35 with • absorptive material in cavity • 15.9 mm Type X gypsum board	–	47	29
	F35c	F35 with • no absorptive material in cavity • 12.7 mm Type X gypsum board	–	43	26
	F35d	F35 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	45	29
	F35e	F35 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	43	26

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

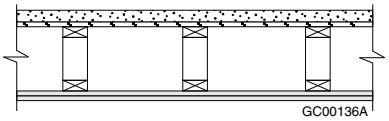
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F35f	F35 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	45	29
	F36	• 38 mm concrete topping (at least 70 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 2 layers of gypsum board on ceiling side			
	F36a	F36 with • wood trusses spaced 400 mm o.c. • no absorptive material in cavity • 15.9 mm Type X gypsum board	1 h	49	28
	F36b	F36 with • wood trusses spaced 600 mm o.c. • no absorptive material in cavity • 15.9 mm Type X gypsum board	1 h	50	28
	F36c	F36 with • wood trusses spaced 400 mm o.c. • absorptive material in cavity • 15.9 mm Type X gypsum board	45 min [1 h][14]	51	31
	F36d	F36 with • wood trusses spaced 600 mm o.c. • absorptive material in cavity • 15.9 mm Type X gypsum board	45 min	52	31
	F36e	F36 with • wood trusses spaced 400 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	1 h	48	27
	F36f	F36 with • wood trusses spaced 600 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	45 min	49	27
	F36g	F36 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	50	30
	F36h	F36 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	47	27

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

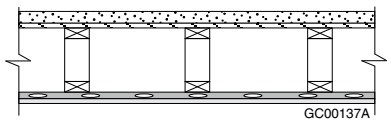
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F36i	F36 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	49	30
	F37	• 38 mm concrete topping (at least 70 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F37a	F37 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	45 min	56	35
	F37b	F37 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	59	35
	F37c	F37 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min [45 min][24]	63	43
	F37d	F37 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	66	43
	F37e	F37 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	55	35
	F37f	F37 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	57	35
	F37g	F37 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	62	43

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

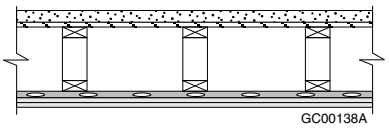
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F37h	F37 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	64	43
	F37i	F37 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	54	35
	F37j	F37 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	57	35
	F37k	F37 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	61	43
	F37l	F37 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	64	43
	F38	• 38 mm concrete topping (at least 70 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on wood trusses spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F38a	F38 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	61	37
	F38b	F38 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	63	37
	F38c	F38 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h [1.5][25]	68 [71][25]	45

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

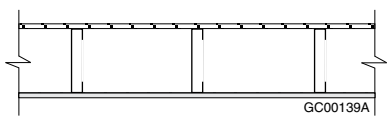
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F38d	F38 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	70	45
	F38e	F38 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	60	36
	F38f	F38 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	62	36
	F38g	F38 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	67	44
	F38h	F38 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	69	44
	F38i	F38 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	59	36
	F38j	F38 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	61	36
	F38k	F38 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	66	44
	F38l	F38 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	68	44
Cold-Formed-Steel Floor Joists[26]	**F39**	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 1 layer of gypsum board on ceiling side			

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

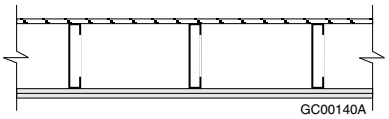
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F39a	F39 with • no absorptive material in cavity • 15.9 mm Type X gypsum board	–	29	27
	F39b	F39 with • absorptive material in cavity • 15.9 mm Type X gypsum board	–	31	30
	F39c	F39 with • no absorptive material in cavity • 12.7 mm Type X gypsum board	–	27	26
	F39d	F39 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	29	29
	F39e	F39 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	27	25
	F39f	F39 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	29	28
	F40	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 2 layers of gypsum board on ceiling side			
	F40a	F40 with • steel joists spaced 400 mm o.c. • no absorptive material in cavity • 15.9 mm Type X gypsum board	1 h	34	31
	F40b	F40 with • steel joists spaced 600 mm o.c. • no absorptive material in cavity • 15.9 mm Type X gypsum board	45 min	35	31
	F40c	F40 with • steel joists spaced 400 mm o.c. • absorptive material in cavity • 15.9 mm Type X gypsum board	45 min	36	34
	F40d	F40 with • steel joists spaced 600 mm o.c. • absorptive material in cavity • 15.9 mm Type X gypsum board	45 min	37	34

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

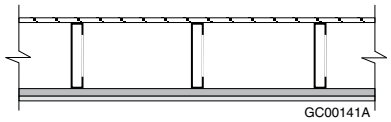
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F40e	F40 with • steel joists spaced 400 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	1 h	32	30
	F40f	F40 with • steel joists spaced 600 mm o.c. • no absorptive material in cavity • 12.7 mm Type X gypsum board	45 min	33	30
	F40g	F40 with • steel joists spaced 400 mm o.c. • absorptive material in cavity • 12.7 mm Type X gypsum board	45 min	34	33
	F40h	F40 with • steel joists spaced 600 mm o.c. • absorptive material in cavity • 12.7 mm Type X gypsum board	45 min	35	33
	F40i	F40 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	31	30
	F40j	F40 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	33	33
	F41	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • steel furring channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F41a	F41 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	34	27
	F41b	F41 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	37	30
	F41c	F41 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min [45 min][24]	37	30

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

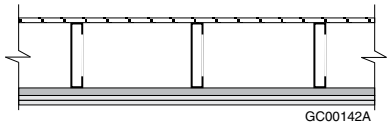
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F41d	F41 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	30 min	40	33
	F41e	F41 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	33	26
	F41f	F41 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	35	29
	F41g	F41 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	30 min [45 min][24]	36	29
	F41h	F41 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	30 min	38	32
	F41i	F41 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	< 30 min	32	25
	F41j	F41 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	< 30 min	35	28
	F41k	F41 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	< 30 min	35	28
	F41l	F41 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	< 30 min	38	31
	F42	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • steel furring channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side	 GC00142A		

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F42a	F42 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	39	32
	F42b	F42 with • steel joists spaced 400 mm o.c. • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min	42	34
	F42c	F42 with • steel joists spaced 600 mm o.c. • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min	43	34
	F42d	F42 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	42	35
	F42e	F42 with • steel joists spaced 400 mm o.c. • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min [1 h][27]	45	37
	F42f	F42 with • steel joists spaced 600 mm o.c. • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min [1 h][14]	46	37
	F42g	F42 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	38	30
	F42h	F42 with • steel joists spaced 400 mm o.c. • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min	40	33
	F42i	F42 with • steel joists spaced 600 mm o.c. • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min	41	33

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

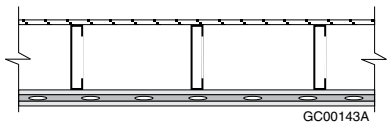
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F42j	F42 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	41	33
	F42k	F42 with • steel joists spaced 400 mm o.c. • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][27]	43	36
	F42l	F42 with • steel joists spaced 600 mm o.c. • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][14]	44	36
	F42m	F42 with • no absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	37	30
	F42n	F42 with • no absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	39	33
	F42o	F42 with • absorptive material in cavity • steel furring channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	40	33
	F42p	F42 with • absorptive material in cavity • steel furring channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	42	36
	F43	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 1 layer of gypsum board attached directly to joists on ceiling side • resilient metal channels spaced 400 mm or 600 mm o.c. attached to joists through the gypsum board • 1 layer of gypsum board attached to resilient metal channels			

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

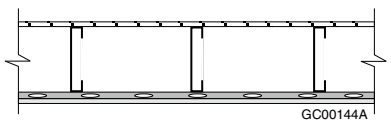
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F43a	F43 with • no absorptive material in cavity • 15.9 mm Type X gypsum board • resilient metal channels • 15.9 mm Type X gypsum board	1 h	35	27
	F43b	F43 with • absorptive material in cavity • 15.9 mm Type X gypsum board • resilient metal channels • 15.9 mm Type X gypsum board	1 h	37	30
	F43c	F43 with • no absorptive material in cavity • 12.7 mm Type X gypsum board • resilient metal channels • 12.7 mm Type X gypsum board	1 h	35	27
	F43d	F43 with • absorptive material in cavity • 12.7 mm Type X gypsum board • resilient metal channels • 12.7 mm Type X gypsum board	1 h	37	30
	F43e	F43 with • no absorptive material in cavity • 12.7 mm regular gypsum board • resilient metal channels • 12.7 mm regular gypsum board	–	32	26
	F43f	F43 with • absorptive material in cavity • 12.7 mm regular gypsum board • resilient metal channels • 12.7 mm regular gypsum board	–	35	28
	F44	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F44a	F44 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	40	33

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F44b	F44 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	43	36
	F44c	F44 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min [45 min][24]	47	41
	F44d	F44 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	30 min	50	44
	F44e	F44 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	39	32
	F44f	F44 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	41	35
	F44g	F44 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	30 min [45 min][24]	46	40
	F44h	F44 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	30 min	48	43
	F44i	F44 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	< 30 min	38	31
	F44j	F44 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	< 30 min	41	34
	F44k	F44 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	< 30 min	45	39

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

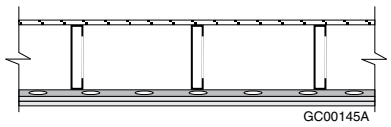
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F44l	F44 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	< 30 min	48	42
	F45	• subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F45a	F45 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	45	38
	F45b	F45 with • steel joists spaced 400 mm o.c. • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min	48	40
	F45c	F45 with • steel joists spaced 600 mm o.c. • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min	49	40
	F45d	F45 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	52	46
	F45e	F45 with • steel joists spaced 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min [1 h][27]	55	48
	F45f	F45 with • steel joists spaced 600 mm o.c. • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min [1 h][14]	56	48
	F45g	F45 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	44	36

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F45h	F45 with • steel joists spaced 400 mm o.c. • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min	46	39
	F45i	F45 with • steel joists spaced 600 mm o.c. • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min	47	39
	F45j	F45 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	51	44
	F45k	F45 with • steel joists spaced 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][27]	53	47
	F45l	F45 with • steel joists spaced 600 mm o.c. • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][14]	54	47
	F45m	F45 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	43	36
	F45n	F45 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	45	39
	F45o	F45 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	50	44
	F45p	F45 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	52	47

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

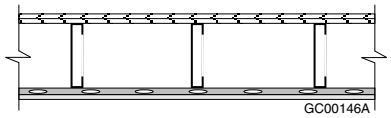
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F46	• one subfloor layer of 11 mm sanded plywood, or OSB or waferboard • one subfloor layer of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F46a	F46 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	43	34
	F46b	F46 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	46	37
	F46c	F46 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	50	42
	F46d	F46 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	53	45
	F46e	F46 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	42	33
	F46f	F46 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	44	36
	F46g	F46 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	49	41
	F46h	F46 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	51	44

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

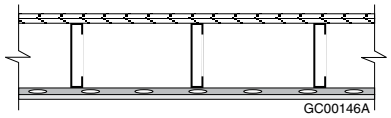
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F46i	F46 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	41	33
	F46j	F46 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	44	36
	F46k	F46 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	48	41
	F46l	F46 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	51	44
	F47	• one subfloor layer of 15.5 mm plywood, or OSB or waferboard • one subfloor layer of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 400 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F47a	F47 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min	45	35
	F47b	F47 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	30 min	47	38
	F47c	F47 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	30 min [45 min][17] [1 h][27]	51	45
	F47d	F47 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	[30 min][17] [45 min][27]	53	47

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

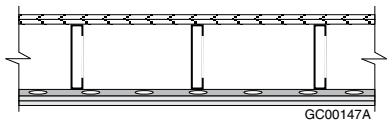
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F47e	F47 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	30 min	43	44
	F47f	F47 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	45	47
	F47g	F47 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	[30 min][17] [45 min][27]	50	43
	F47h	F47 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	52	46
	F48	• one subfloor layer of 11 mm sanded plywood, or OSB or waferboard • one subfloor layer of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F48a	F48 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	48	39
	F48b	F48 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	50	42
	F48c	F48 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	56	47
	F48d	F48 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	57	50

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

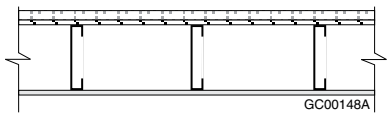
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F48e	F48 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	47	38
	F48f	F48 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	49	40
	F48g	F48 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	54	46
	F48h	F48 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	56	48
	F48i	F48 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	46	37
	F48j	F48 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	48	40
	F48k	F48 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	53	45
	F48l	F48 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	55	48
	F49	• 25 mm gypsum-concrete topping (at least 44 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 1 layer of gypsum board on ceiling side			
	F49a	F49 with • no absorptive material in cavity • 15.9 mm Type X gypsum board	–	40	13

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

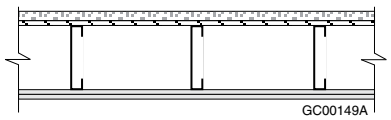
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F49b	F49 with • absorptive material in cavity • 15.9 mm Type X gypsum board	–	42	16
	F49c	F49 with • no absorptive material in cavity • 12.7 mm Type X gypsum board	–	39	12
	F49d	F49 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	41	15
	F49e	F49 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	38	12
	F49f	F49 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	40	15
	F50	• 25 mm gypsum-concrete topping (at least 44 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • 2 layers of gypsum board on ceiling side			
	F50a	F50 with • no absorptive material in cavity • 15.9 mm Type X gypsum board	–	45	16
	F50b	F50 with • absorptive material in cavity • 15.9 mm Type X gypsum board	–	47	19
	F50c	F50 with • no absorptive material in cavity • 12.7 mm Type X gypsum board	–	44	15
	F50d	F50 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	46	18
	F50e	F50 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	43	14
	F50f	F50 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	45	17

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

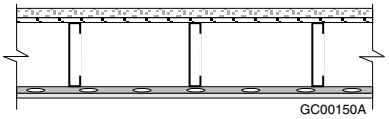
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F51	• 25 mm gypsum-concrete topping (at least 44 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F51a	F51 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	52	22
	F51b	F51 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	54	22
	F51c	F51 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	59	30
	F51d	F51 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	61	30
	F51e	F51 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	51	21
	F51f	F51 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	53	21
	F51g	F51 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	58	29
	F51h	F51 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	60	29

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

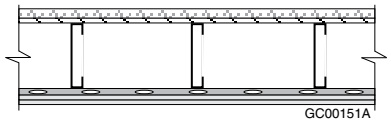
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F51i	F51 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	50	21
	F51j	F51 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	52	21
	F51k	F51 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	57	29
	F51l	F51 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	59	29
	F52	• 25 mm gypsum-concrete topping (at least 44 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F52a	F52 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	57	25
	F52b	F52 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	59	25
	F52c	F52 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	64	33
	F52d	F52 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min [1 h][24]	66	33

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

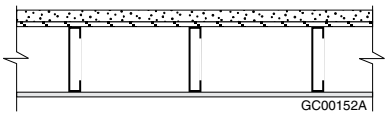
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F52e	F52 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	55	24
	F52f	F52 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	58	24
	F52g	F52 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	62	32
	F52h	F52 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][24]	65	32
	F52i	F52 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	55	23
	F52j	F52 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	57	23
	F52k	F52 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	62	31
	F52l	F52 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	64	31
	F53	• 38 mm concrete topping (at least 70 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F53a	F53 with • no absorptive material in cavity • 15.9 mm Type X gypsum board	–	44	22

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

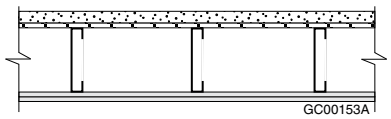
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F53b	F53 with • absorptive material in cavity • 15.9 mm Type X gypsum board	–	46	25
	F53c	F53 with • no absorptive material in cavity • 12.7 mm Type X gypsum board	–	42	21
	F53d	F53 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	44	24
	F53e	F53 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	42	21
	F53f	F53 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	44	24
	F54	• 38 mm concrete topping (at least 70 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F54a	F54 with • no absorptive material in cavity • 15.9 mm Type X gypsum board	–	48	24
	F54b	F54 with • absorptive material in cavity • 15.9 mm Type X gypsum board	–	50	27
	F54c	F54 with • no absorptive material in cavity • 12.7 mm Type X gypsum board	–	47	23
	F54d	F54 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	49	26
	F54e	F54 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	47	23
	F54f	F54 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	49	26

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

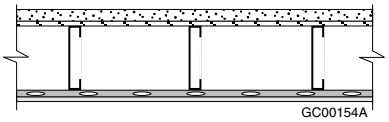
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F55	• 38 mm concrete topping (at least 70 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F55a	F55 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	56	31
	F55b	F55 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	58	31
	F55c	F55 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	63	39
	F55d	F55 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	65	39
	F55e	F55 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	54	30
	F55f	F55 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	56	30
	F55g	F55 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	61	38
	F55h	F55 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	63	38
	F55i	F55 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	54	30

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

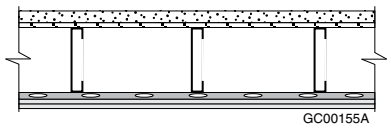
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F55j	F55 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	56	30
	F55k	F55 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	61	38
	F55l	F55 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	63	38
	F56	• 38 mm concrete topping (at least 70 kg/m^2) • subfloor of 15.5 mm plywood, OSB or waferboard, or 17 mm tongue and groove lumber • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F56a	F56 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	60	33
	F56b	F56 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	62	33
	F56c	F56 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	67	41
	F56d	F56 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min [1 h][24]	69	41
	F56e	F56 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	59	32

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

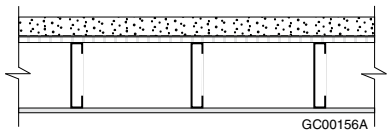
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F56f	F56 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	61	32
	F56g	F56 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	66	40
	F56h	F56 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][24]	68	40
	F56i	F56 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	58	32
	F56j	F56 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	61	32
	F56k	F56 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	65	40
	F56l	F56 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	68	40
	F57	• 50 mm concrete • 0.46 mm metal pan with 19 mm rib • on steel joists spaced not more than 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F57a	F57 with • no absorptive material in cavity • 15.9 mm Type X gypsum board	–	45	26
	F57b	F57 with • absorptive material in cavity • 15.9 mm Type X gypsum board	–	47	29

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

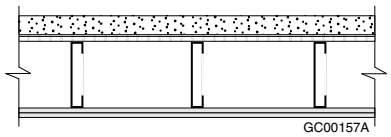
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F57c	F57 with • no absorptive material in cavity • 12.7 mm Type X gypsum board	–	44	25
	F57d	F57 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	46	28
	F57e	F57 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	43	25
	F57f	F57 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	45	28
	F58	• 50 mm concrete • 0.38 mm metal pan with 16 mm rib • on steel joists spaced not more than 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F58a	F58 with • no absorptive material in cavity • 15.9 mm Type X gypsum board	–	50	27
	F58b	F58 with • absorptive material in cavity • 15.9 mm Type X gypsum board	–	52	30
	F58c	F58 with • no absorptive material in cavity • 12.7 mm Type X gypsum board	–	48	27
	F58d	F58 with • absorptive material in cavity • 12.7 mm Type X gypsum board	–	50	30
	F58e	F58 with • no absorptive material in cavity • 12.7 mm regular gypsum board	–	48	27
	F58f	F58 with • absorptive material in cavity • 12.7 mm regular gypsum board	–	50	30

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

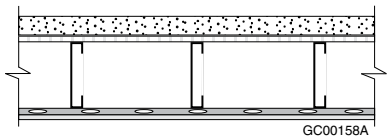
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F59	• 50 mm concrete • 0.38 mm metal pan with 16 mm rib • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 1 layer of gypsum board on ceiling side			
	F59a	F59 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	57	35
	F59b	F59 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	59	35
	F59c	F59 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	–	64	43
	F59d	F59 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	66	43
	F59e	F59 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	56	34
	F59f	F59 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	56	34
	F59g	F59 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	–	63	42
	F59h	F59 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	65	42
	F59i	F59 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	55	34

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

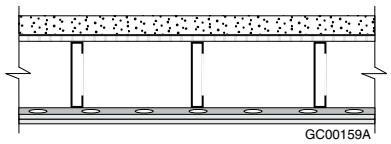
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F59j	F59 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	57	34
	F59k	F59 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	62	42
	F59l	F59 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	64	42
	F60	• 50 mm concrete • 0.46 mm metal pan with a 19 mm rib • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F60a	F60 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	62	36
	F60b	F60 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	64	36
	F60c	F60 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	69	44
	F60d	F60 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	45 min [1 h][24]	71	44
	F60e	F60 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1h	60	36

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

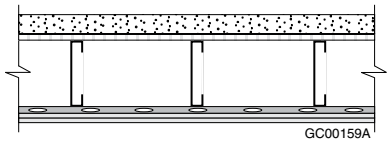
Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F60f	F60 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	62	36
	F60g	F60 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	67	44
	F60h	F60 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	45 min [1 h][24]	69	44
	F60i	F60 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	60	36
	F60j	F60 with • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	62	36
	F60k	F60 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm regular gypsum board	–	67	44
	F60l	F60 with • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm regular gypsum board	–	69	44
	F61	• 50 mm concrete • 0.38 mm metal pan with 16 mm rib • on steel joists spaced not more than 600 mm o.c. • with or without absorptive material in cavity • resilient metal channels spaced 400 mm or 600 mm o.c. • 2 layers of gypsum board on ceiling side			
	F61a	F61 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	62	32

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F61b	F61 with • steel joists spaced 400 mm o.c. • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1 h	64	32
	F61c	F61 with • steel joists spaced 600 mm o.c. • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	65	29
	F61d	F61 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 15.9 mm Type X gypsum board	1 h	68	37
	F61e	F61 with • steel joists spaced 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	1h	66	34
	F61f	F61 with • steel joists spaced 600 mm o.c. • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 15.9 mm Type X gypsum board	–	71	34
	F61g	F61 with • no absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	62	32
	F61h	F61 with • steel joists spaced 400 mm o.c. • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	64	32
	F61i	F61 with • steel joists spaced 600 mm o.c. • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	64	28
	F61j	F61 with • absorptive material in cavity • resilient metal channels spaced 400 mm o.c. • 12.7 mm Type X gypsum board	1 h	68	36

Table 9.10.3.1.-B *(continued)*
Fire and Sound Resistance of Floors, Ceilings and Roofs[1]
Forming Part of Article 5.8.1.3., Sentences 9.10.3.1.(1) and 9.10.5.1.(4), and Article 9.11.1.3.

Type of Assembly	Assembly Number	Description[2][3][4]	*Fire-Resistance Rating*[5][6][7][8]	Typical *Sound Transmission Class*[5][6][9][10] (*STC*)	Typical Impact Insulation Class[5][9][11] (IIC)
	F61k	F61 with • steel joists spaced 400 mm o.c. • absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	1 h	64	32
	F61l	F61 with • steel joists spaced 600 mm o.c. • no absorptive material in cavity • resilient metal channels spaced 600 mm o.c. • 12.7 mm Type X gypsum board	–	70	34
Roofs					
Wood Roof Trusses	**R1**	• wood trusses spaced not more than 600 mm o.c. • 1 layer 15.9 mm Type X gypsum board	45 min	–	–
Rating Provided by Membrane Only					
	M1	• supporting members spaced not more than 600 mm o.c. • 1 layer 15.9 mm Type X gypsum board	30 min	–	–
	M2	• supporting members spaced not more than 600 mm o.c. • 2 layers 15.9 mm Type X gypsum board	1 h	–	–

Notes to Table 9.10.3.1.-B:

(1) See Note A-9.10.3.1.

(2) For assemblies with a ceiling consisting of a single layer of gypsum board on resilient metal channels to obtain the listed ratings, the resilient metal channel arrangement at the gypsum board butt end joints should be as shown in Figure A-9.10.3.1.-A.

(3) For assemblies with a ceiling consisting of 2 layers of gypsum board on resilient metal channels to obtain the listed ratings, the fastener and resilient metal channel arrangement at the gypsum board butt end joints should be as shown in Figure A-9.10.3.1.-B.

(4) The ***fire-resistance rating*** and ***sound transmission class*** values given are for a minimum thickness of subfloor or deck as shown. Minimum subfloor thickness required is determined by structural member spacing (see Table 9.23.15.5.-A). Thicker subflooring or decking is also acceptable.

(5) Sound absorptive material includes

(i) fibre processed from rock, slag, or glass, and

(ii) loose-fill or spray-applied cellulose fibre.

To obtain the listed ***sound transmission class*** rating, the nominal insulation thickness is 150 mm for rock, slag, or glass fibres or loose-fill cellulose fibre, and 90 mm for spray-applied cellulose fibre, unless otherwise specified. Absorptive material will affect the ***sound transmission class*** by approximately adding or subtracting 1 per 50 mm change of thickness. However, no additional ***sound transmission class*** value is achieved by adding a greater thickness of insulation than the depth of the assembly.

(6) The ***fire-resistance rating*** and ***sound transmission class*** values are based on the spacing of ceiling supports as noted. (See also Table Note (10).) A narrower spacing will be detrimental to the ***sound transmission class*** rating, but not to the ***fire-resistance rating***.

(7) To obtain the listed rating, the type and spacing of fasteners are as described in and installed in accordance with Subsection 9.29.5. or CSA A82.31-M:

(i) fastener distance to board edges and butt ends should be not less than 38 mm, except for fasteners on the butt ends of the base layer in ceilings with two layers (see Figure A-9.10.3.1.-B); and

(ii) fasteners are spaced not more than 300 mm o.c.

(8) See D-1.2.1.(2) in Appendix D for the significance of ***fire-resistance ratings***.

(9) The ***sound transmission class*** values given in the Table are for the minimum depth of structural member noted in the description and applicable table notes. To obtain ***sound transmission class*** values for structural members deeper than that minimum, add 1 to the ***sound transmission class*** value in the Table for each 170 mm increase in structural member depth.

(10) The ***sound transmission class*** values given in the Table are for structural member spacing of 300 mm o.c., unless otherwise noted in the description and applicable table notes. To obtain ***sound transmission class*** values for assemblies with structural members spaced more than 500 mm o.c., add 1 to the ***sound transmission class*** value in the Table.

(11) The impact insulation class values given are for floor assemblies tested with no finished flooring.

(12) Wood floor joists are:
- (i) wood joists with a minimum member size of 38 mm (width) × 235 mm (depth), except as otherwise noted (see Table Note (15)); or
- (ii) wood I-joists with a minimum flange size of 38 mm × 38 mm, a minimum OSB or plywood web thickness of 9.5 mm, and a minimum joist depth of 241 mm.

(13) Except where assemblies with wood I-joists are tested according to CAN/ULC-S101 the ***fire-resistance rating*** values apply only to I-joists that have been fabricated with a phenolic-based structural wood adhesive complying with CSA O112.10. For I-joists with flanges made of laminated veneer lumber (LVL), the ***fire-resistance rating*** values apply only where the adhesive used in the LVL fabrication is a phenolic-based structural wood adhesive complying with CSA O112.9.

(14) The ***fire-resistance rating*** value within square brackets is achieved only where absorptive material includes spray-applied cellulose fibre with
- (i) adhesive that is capable of providing a minimum cohesive/adhesive bond strength per unit area of 5 times the weight of the material under the test plate when tested in accordance with ASTM E 736,
- (ii) a minimum density of 35 kg/m^3, and
- (iii) a minimum thickness of 90 mm on the underside of the subfloor or deck, of 90 mm on the sides of the structural members, and for cold-formed steel joists, of 13 mm on the underside of the bottom flange other than at resilient metal channel locations.

(15) The ***fire-resistance rating*** value within square brackets only applies to assemblies with solid wood joists and is achieved only where absorptive material includes:
- (i) fibre processed from rock or slag with a minimum thickness of 90 mm and a minimum surface area mass of 2.8 kg/m^2; or
- (ii) spray-applied cellulose fibre with a minimum density of 50 kg/m^3 and a minimum depth of 90 mm on the underside of the subfloor and of 90 mm on the sides of the floor joists.

(16) The ***fire-resistance rating***, ***sound transmission class*** and impact insulation class values given are also applicable to assemblies with 38 mm (width) × 184 mm (depth) solid wood joists.

(17) The ***fire-resistance rating*** value within square brackets is achieved only where absorptive material includes:
- (i) fibre processed from rock or slag with a minimum thickness of 90 mm and a minimum surface area mass of 2.8 kg/m^2; or
- (ii) spray-applied cellulose fibre with a minimum density of 50 kg/m^3 and a minimum depth of 90 mm on the underside of the subfloor and of 90 mm on the webs or the sides of the structural members.

(18) The ***fire-resistance rating***, ***sound transmission class*** and impact insulation class values within the square brackets only apply to assemblies with solid wood joists and are achieved only where absorptive material includes dry-blown cellulose fibre with a minimum density of 40 kg/m^3 filling the entire cavity; the cellulose fibre is supported on zinc-coated (galvanized) steel poultry fence fabric conforming to ASTM A 390, which has 25-mm-wide hexagonal mesh openings and 0.81-mm-thick (20-gauge) wire and is attached to wood joists with metal staples having legs that are 50 mm long.

(19) The ***fire-resistance rating*** and ***sound transmission class*** values are achieved only where absorptive material includes:
- (i) fibre processed from rock or slag that fills the joist cavity and has a minimum surface area mass of 2.8 kg/m^2, and for structural members at least 270 mm in depth, the fibre includes three layers each of which has a minimum thickness of 90 mm; or
- (ii) dry-blown cellulose fibre with a minimum density of 40 kg/m^3 filling the entire cavity; the cellulose fibre is supported on zinc-coated (galvanized) steel poultry fence fabric conforming to ASTM A 390, which has 25-mm-wide hexagonal mesh openings and 0.81-mm-thick (20-gauge) wire and is attached to wood joists or wood I-joists with metal staples having legs that are 50 mm or 30 mm long, respectively.

(20) The ***fire-resistance rating*** value only applies to assemblies with wood I-joists with flanges with a minimum thickness of 38 mm and a minimum width of 63 mm.

(21) The ***fire-resistance rating*** and ***sound transmission class*** values are achieved only where absorptive material includes:
- (i) fibre processed from rock or slag that fills the joist cavity and has a minimum surface area mass of 2.8 kg/m^2, and for structural members at least 270 mm in depth, the fibre includes three layers each of which has a minimum thickness of 90 mm; or
- (ii) dry-blown cellulose fibre with a minimum density of 40 kg/m^3 filling the entire cavity; the cellulose fibre is supported on zinc-coated (galvanized) steel poultry fence fabric conforming to ASTM A 390, which has 25-mm-wide hexagonal mesh openings and 0.81-mm-thick (20-gauge) wire and is attached to wood joists with metal staples having legs that are 50 mm long.

(22) The ***fire-resistance rating*** values given only apply to assemblies with solid wood joists spaced not more than 400 mm o.c. No information is available for assemblies constructed with wood I-joists.

(23) Wood floor trusses are:
- (i) metal-plate-connected wood trusses with wood framing members not less than 38 mm × 64 mm, metal connector plates not less than 1 mm (nominal) thick with teeth not less than 8 mm long, and a minimum truss depth of 305 mm;
- (ii) metal-web wood trusses with wood chords not less than 38 mm × 64 mm, V-shaped webs made from galvanized steel of 1 mm (nominal) thickness with plate areas having teeth not less than 8 mm long, and a minimum truss depth of 286 mm; or
- (iii) fingerjoined wood trusses with glued fingerjoined connections, chord members not less than 38 mm × 64 mm, web members not less than 38 mm × 38 mm and a minimum truss depth of 330 mm, all of which is glued together with an R-14 phenol-resorcinol resin conforming to CSA O112.10.

(24) The ***fire-resistance rating*** value within square brackets is achieved only where absorptive material includes fibre processed from rock or slag with a minimum thickness of 90 mm and a minimum surface area mass of 2.8 kg/m^2.

(25) The ***fire-resistance rating*** and ***sound transmission class*** values within square brackets are achieved only where absorptive material includes dry-blown cellulose fibre with a minimum density of 40 kg/m^3 filling the entire cavity; the cellulose fibre is supported on zinc-coated (galvanized) steel poultry fence fabric conforming to ASTM A 390, which has 25-mm-wide hexagonal mesh openings and 0.81-mm-thick (20-gauge) wire and is attached to wood trusses with metal staples having legs that are 38 mm long.

(26) Cold-formed steel floor joists (C-shaped joists) are members with a minimum size of 41 mm (width) × 203 mm (depth) × 1.22 mm (material thickness).

(27) The ***fire-resistance rating*** value within square brackets is achieved only where absorptive material includes spray-applied cellulose fibre with a minimum density of 50 kg/m^3 and a minimum thickness of 90 mm on the underside of the subfloor, of 90 mm on the sides of the cold-formed steel floor joists, and of 13 mm on the underside of the bottom flange other than at resilient metal channel locations.