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BXUV7 – Fire Resistance Ratings – CAN/ULC-S101 Certified for Canada

[See General Information for Fire-resistance Ratings – ANSI/UL 263 Certified for United States Design Criteria and Allowable Variances](#)

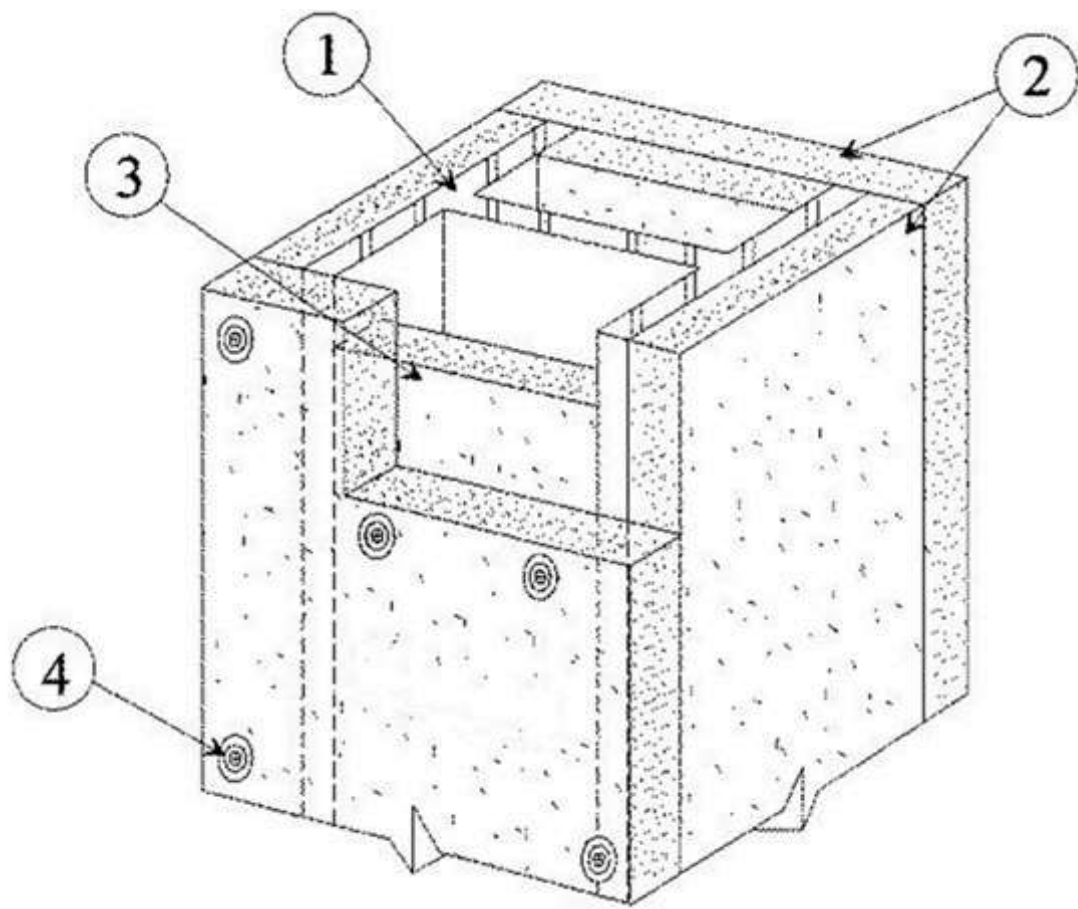
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Design No. X316

August 05, 2026

Rating — 1, 1-1/2, 2, and 3 Hr

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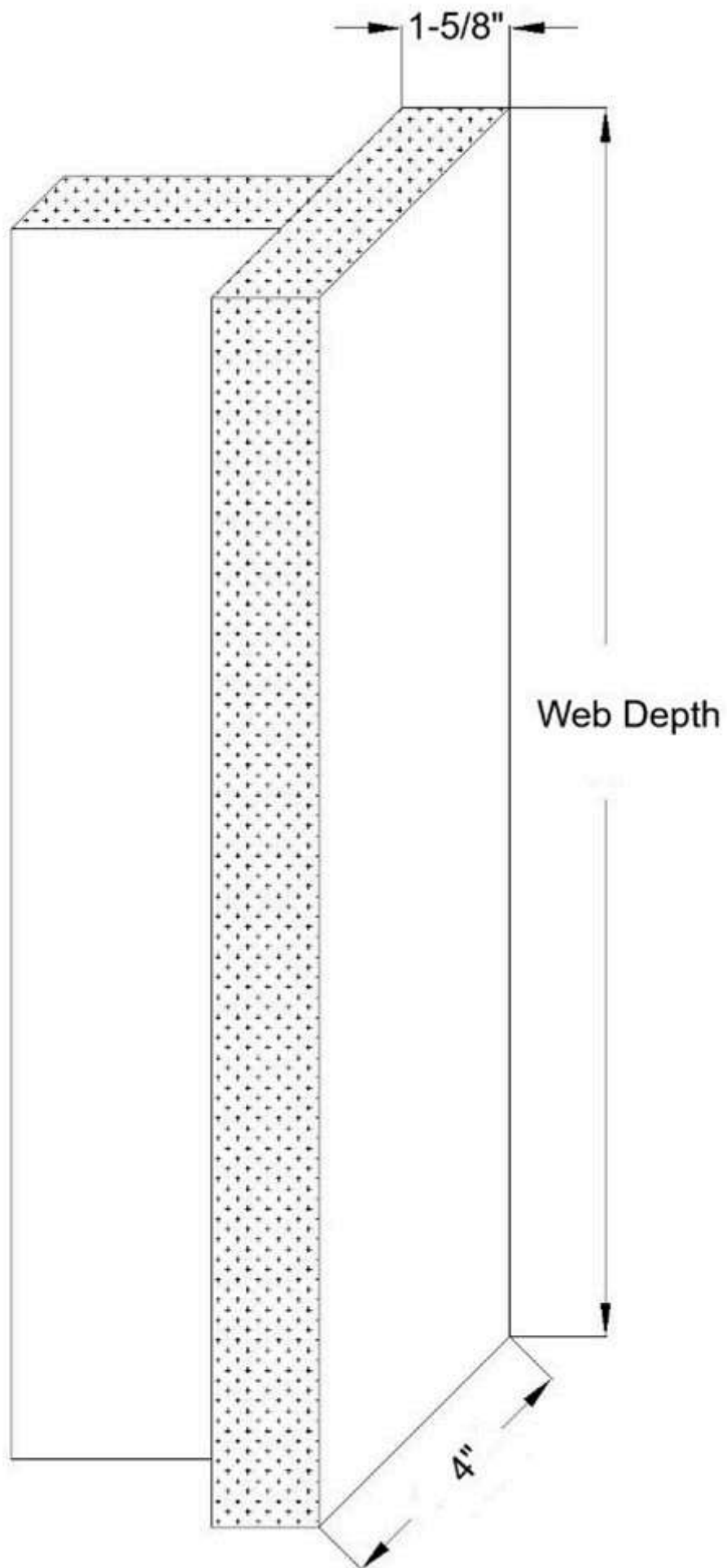


Figure 1: Tee Noggings for column webs deeper than 18 in.

1. **Steel Column** — Wide flange steel column, min size shown in the table in Item No. 2. Use box configuration shape factor to determine equivalent or larger column sizes.
2. **Mineral and Fiber Boards** — Boards cut and attached to columns at the thickness described in the table below. Boards placed parallel with the flange of the columns are cut to the width of the flange. Boards placed parallel with the web of the columns are cut to the width of the column (web side) plus twice the board thickness. Joints centered on noggings and fastened as described below.

Min. Required Thickness (in) for Hourly Rating Period

Steel Size	Boxed W/D	1 HR	1-1/2 HR	2 HR	3 HR
W8×10	0.42	60	90		
W10×12	0.43	60	90		
W12×14	0.44	60	90		
W6×9	0.46	60	90		
W12×16	0.50	60	90		
W10×15	0.54	60	80		
W8×13	0.54	60	80		
W12×19	0.59	50	80	100	
W14×22	0.59	50	80	100	
W6×12	0.60	50	80	100	
W10×17	0.60	50	70	100	
W16×26	0.61	50	70	100	
W8×15	0.62	50	70	100	
W6×15	0.63	50	70	100	
W10×19	0.67	50	70	90	
W8×18	0.67	50	70	90	
W12×22	0.67	50	70	90	
W10×22	0.69	50	70	90	
W12×26	0.70	40	60	90	
W16×31	0.72	40	60	90	
W14×30	0.73	40	60	90	

W18×35	0.74	40	60	80	
W8×21	0.78	40	60	80	
W6×16	0.78	40	60	80	
W16×36	0.79	40	50	80	
W4×13	0.79	40	50	80	
W12×30	0.80	40	50	80	
W5×16	0.80	40	50	80	
W21×44	0.81	40	50	80	
W10×26	0.81	40	50	80	
W14×34	0.82	40	50	70	
W6×20	0.82	40	50	70	
W8×24	0.83	30	50	70	
W18×40	0.84	30	50	70	100
W16×40	0.87	30	50	70	100
W24×55	0.90	25	40	60	100
W14×38	0.91	25	40	60	100
W21×50	0.91	25	40	60	100
W10×30	0.92	25	40	60	100
W5×19	0.93	25	40	60	100
W10×33	0.93	25	40	60	100
W8x28	0.96	20	30	50	90
W8x31	0.97	20	30	50	90
W16x45	0.97	20	30	50	90
W18x50	0.98	20	30	50	90
W14x43	0.99	20	30	50	90
W6x25	1.00	20	30	50	90
W12x40	1.01	20	30	50	90

W24x62	1.01	20	30	50	90
W21x57	1.03	20	30	50	90
W24x68	1.04	20	30	50	90
W21x62	1.06	20	30	50	90
W16x50	1.07	20	30	50	90
W18x55	1.07	20	30	50	90
W8x35	1.08	20	30	50	90
W10x39	1.09	20	30	50	90
W14x48	1.10	20	30	50	90
W12x45	1.12	20	30	50	90
W27x84	1.15	20	30	50	80
W24x76	1.16	20	30	50	80
W21x68	1.16	20	30	50	80
W18x60	1.17	20	30	50	80
W12x53	1.20	20	30	50	80
W14x53	1.21	20	30	50	80
W16x57	1.21	20	30	50	80
W8x40	1.23	20	30	50	80
W10x49	1.23	20	30	50	80
W30x99	1.23	20	30	50	80
W12x50	1.23	20	30	50	80
W21x73	1.24	20	30	40	80
W10x45	1.24	20	30	40	80
W18x65	1.25	20	30	40	80
W16x67	1.26	20	30	40	80
W24x84	1.27	20	30	40	80
W27x94	1.27	20	30	40	80

W14x61	1.28	20	30	40	80
W18x76	1.30	20	30	40	80
W12x58	1.31	20	25	40	70
W33x118	1.33	20	25	40	70
W30x108	1.34	20	25	40	70
W10x54	1.34	20	25	40	70
W12x65	1.35	20	25	40	70
W18x71	1.36	20	25	40	70
W27x102	1.37	20	25	40	70
W21x83	1.39	20	25	40	70
W24x94	1.41	20	25	40	70
W24x104	1.41	20	25	40	70
W14x68	1.42	20	25	40	70
W36x135	1.42	20	25	40	70
W30x116	1.43	20	25	40	70
W16x77	1.44	20	25	40	70
W8x48	1.45	20	25	40	70
W33x130	1.46	20	25	40	70
W18x86	1.46	20	25	40	70
W10x60	1.48	20	25	40	70
W12x72	1.48	20	25	40	70
W21x101	1.50	20	25	40	60
W14x74	1.52	20	25	30	60
W30x124	1.52	20	25	30	60
W27x114	1.52	20	25	30	60
W21x93	1.55	20	25	30	60
W36x150	1.57	20	25	30	60

W33x141	1.57	20	25	30	60
W24x117	1.58	20	25	30	60
W14x90	1.58	20	25	30	60
W12x79	1.61	20	25	30	60
W30x132	1.62	20	25	30	60
W18x97	1.63	20	25	30	60
W16x89	1.64	20	25	30	60
W21x111	1.64	20	25	30	60
W10x68	1.66	20	20	25	50
W36x160	1.67	20	20	25	50
W14x82	1.68	20	20	25	50
W33x152	1.69	20	20	25	50
W8x58	1.71	20	20	25	50
W14x99	1.72	20	20	25	50
W24x131	1.75	20	20	25	50
W27x146	1.76	20	20	25	50
W36x170	1.76	20	20	25	50
W12x87	1.77	20	20	25	50
W18x106	1.77	20	20	25	50
W21x122	1.79	20	20	25	50
W16x100	1.82	20	20	25	50
W10x77	1.85	20	20	25	50
W36x182	1.88	20	20	25	50
W14x109	1.89	20	20	25	50
W30x173	1.91	20	20	25	50
W12x96	1.93	20	20	25	50
W21x132	1.93	20	20	25	50

W27x161	1.94	20	20	25	50
W8x67	1.94	20	20	25	50
W24x146	1.94	20	20	25	50
W18x119	1.96	20	20	25	50
W36x194	2.00	20	20	25	50
W33x201	2.03	20	20	25	50
W14x120	2.05	20	20	25	50
W10x88	2.09	20	20	25	50
W30x191	2.09	20	20	25	50
W12x106	2.11	20	20	25	50
W27x178	2.12	20	20	25	50
W21x147	2.12	20	20	25	50
W24x162	2.13	20	20	25	50
W36x210	2.15	20	20	25	50
W36x230	2.19	20	20	25	50
W33x221	2.22	20	20	25	50
W14x132	2.24	20	20	25	50
W30x211	2.29	20	20	25	50
W36x245	2.33	20	20	25	50
W10x100	2.34	20	20	25	50
W12x120	2.36	20	20	20	40
W14x145	2.39	20	20	20	40
W33x241	2.41	20	20	20	40
W36x260	2.45	20	20	20	40
W10x112	2.57	20	20	20	40
W14x159	2.60	20	20	20	40
W12x136	2.64	20	20	20	40

W36x280	2.64	20	20	20	40
W36x300	2.80	20	20	20	40
W14x176	2.85	20	20	20	40
W12x152	2.90	20	20	20	40
W14x193	3.09	20	20	20	40
W12x170	3.20	20	20	20	40
W14x211	3.35	20	20	20	40
W12x190	3.51	20	20	20	40
W14x233	3.65	20	20	20	40
W12x210	3.82	20	20	20	40
W14x257	3.97	20	20	20	40
W12x230	4.11	20	20	20	40
W14x283	4.31	20	20	20	40
W12x252	4.44	20	20	20	40
W14x311	4.67	20	20	20	40
W12x279	4.81	20	20	20	40
W14x342	5.04	20	20	20	40
W12x305	5.17	20	20	20	40
W14x370	5.38	20	20	20	40
W12x336	5.56	20	20	20	40
W14x398	5.70	20	20	20	40
W14x426	6.02	20	20	20	30
W14x455	6.35	20	20	20	30
W14x500	6.83	20	20	20	30
W14x550	7.35	20	20	20	30
W14x605	7.90	20	20	20	25
W14x665	8.46	20	20	20	25

W14x730	9.06	20	20	20	20
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The thicknesses in the table below are conversions from the metric table above, with rounding up to the nearest 1/8" (20 mm rounded to 13/16").

Min. Required Thickness (in) for Hourly Rating Period

Steel Size	Boxed W/D	1 HR	1-1/2 HR	2 HR	3 HR
W8×10	0.42	2 3/8	3 5/8	-	-
W10×12	0.43	2 3/8	3 5/8	-	-
W12×14	0.44	2 3/8	3 5/8	-	-
W6×9	0.46	2 3/8	3 5/8	-	-
W12×16	0.50	2 3/8	3 5/8	-	-
W10×15	0.54	2 3/8	3 1/4	-	-
W8×13	0.54	2 3/8	3 1/4	-	-
W12×19	0.59	2	3 1/4	4	-
W14×22	0.59	2	3 1/4	4	-
W6×12	0.60	2	3 1/4	4	-
W10×17	0.60	2	2 7/8	4	-
W16×26	0.61	2	2 7/8	4	-
W8×15	0.62	2	2 7/8	4	-
W6×15	0.63	2	2 7/8	4	-
W10×19	0.67	2	2 7/8	3 5/8	-
W8×18	0.67	2	2 7/8	3 5/8	-
W12×22	0.67	2	2 7/8	3 5/8	-
W10×22	0.69	2	2 7/8	3 5/8	-
W12×26	0.70	1 5/8	2 3/8	3 5/8	-
W16×31	0.72	1 5/8	2 3/8	3 5/8	-
W14×30	0.73	1 5/8	2 3/8	3 5/8	-
W18×35	0.74	1 5/8	2 3/8	3 1/4	-

W8×21	0.78	1 5/8	2 3/8	3 1/4	-
W6×16	0.78	1 5/8	2 3/8	3 1/4	-
W16×36	0.79	1 5/8	2	3 1/4	-
W4×13	0.79	1 5/8	2	3 1/4	-
W12×30	0.80	1 5/8	2	3 1/4	-
W5×16	0.80	1 5/8	2	3 1/4	-
W21×44	0.81	1 5/8	2	3 1/4	-
W10×26	0.81	1 5/8	2	3 1/4	-
W14×34	0.82	1 5/8	2	2 7/8	-
W6×20	0.82	1 5/8	2	2 7/8	-
W8×24	0.83	1 1/4	2	2 7/8	-
W18×40	0.84	1 1/4	2	2 7/8	4
W16×40	0.87	1 1/4	2	2 7/8	4
W24×55	0.90	1	1 5/8	2 3/8	4
W14×38	0.91	1	1 5/8	2 3/8	4
W21×50	0.91	1	1 5/8	2 3/8	4
W10×30	0.92	1	1 5/8	2 3/8	4
W5×19	0.93	1	1 5/8	2 3/8	4
W10×33	0.93	1	1 5/8	2 3/8	4
W8x28	0.96	13/16	1 1/4	2	3 5/8
W8x31	0.97	13/16	1 1/4	2	3 5/8
W16x45	0.97	13/16	1 1/4	2	3 5/8
W18x50	0.98	13/16	1 1/4	2	3 5/8
W14x43	0.99	13/16	1 1/4	2	3 5/8
W6x25	1.00	13/16	1 1/4	2	3 5/8
W12x40	1.01	13/16	1 1/4	2	3 5/8
W24x62	1.01	13/16	1 1/4	2	3 5/8

W21x57	1.03	13/16	1 1/4	2	3 5/8
W24x68	1.04	13/16	1 1/4	2	3 5/8
W21x62	1.06	13/16	1 1/4	2	3 5/8
W16x50	1.07	13/16	1 1/4	2	3 5/8
W18x55	1.07	13/16	1 1/4	2	3 5/8
W8x35	1.08	13/16	1 1/4	2	3 5/8
W10x39	1.09	13/16	1 1/4	2	3 5/8
W14x48	1.10	13/16	1 1/4	2	3 5/8
W12x45	1.12	13/16	1 1/4	2	3 5/8
W27x84	1.15	13/16	1 1/4	2	3 1/4
W24x76	1.16	13/16	1 1/4	2	3 1/4
W21x68	1.16	13/16	1 1/4	2	3 1/4
W18x60	1.17	13/16	1 1/4	2	3 1/4
W12x53	1.20	13/16	1 1/4	2	3 1/4
W14x53	1.21	13/16	1 1/4	2	3 1/4
W16x57	1.21	13/16	1 1/4	2	3 1/4
W8x40	1.23	13/16	1 1/4	2	3 1/4
W10x49	1.23	13/16	1 1/4	2	3 1/4
W30x99	1.23	13/16	1 1/4	2	3 1/4
W12x50	1.23	13/16	1 1/4	2	3 1/4
W21x73	1.24	13/16	1 1/4	1 5/8	3 1/4
W10x45	1.24	13/16	1 1/4	1 5/8	3 1/4
W18x65	1.25	13/16	1 1/4	1 5/8	3 1/4
W16x67	1.26	13/16	1 1/4	1 5/8	3 1/4
W24x84	1.27	13/16	1 1/4	1 5/8	3 1/4
W27x94	1.27	13/16	1 1/4	1 5/8	3 1/4
W14x61	1.28	13/16	1 1/4	1 5/8	3 1/4

W18x76	1.30	13/16	1 1/4	1 5/8	3 1/4
W12x58	1.31	13/16	1	1 5/8	2 7/8
W33x118	1.33	13/16	1	1 5/8	2 7/8
W30x108	1.34	13/16	1	1 5/8	2 7/8
W10x54	1.34	13/16	1	1 5/8	2 7/8
W12x65	1.35	13/16	1	1 5/8	2 7/8
W18x71	1.36	13/16	1	1 5/8	2 7/8
W27x102	1.37	13/16	1	1 5/8	2 7/8
W21x83	1.39	13/16	1	1 5/8	2 7/8
W24x94	1.41	13/16	1	1 5/8	2 7/8
W24x104	1.41	13/16	1	1 5/8	2 7/8
W14x68	1.42	13/16	1	1 5/8	2 7/8
W36x135	1.42	13/16	1	1 5/8	2 7/8
W30x116	1.43	13/16	1	1 5/8	2 7/8
W16x77	1.44	13/16	1	1 5/8	2 7/8
W8x48	1.45	13/16	1	1 5/8	2 7/8
W33x130	1.46	13/16	1	1 5/8	2 7/8
W18x86	1.46	13/16	1	1 5/8	2 7/8
W10x60	1.48	13/16	1	1 5/8	2 7/8
W12x72	1.48	13/16	1	1 5/8	2 7/8
W21x101	1.50	13/16	1	1 5/8	2 3/8
W14x74	1.52	13/16	1	1 1/4	2 3/8
W30x124	1.52	13/16	1	1 1/4	2 3/8
W27x114	1.52	13/16	1	1 1/4	2 3/8
W21x93	1.55	13/16	1	1 1/4	2 3/8
W36x150	1.57	13/16	1	1 1/4	2 3/8
W33x141	1.57	13/16	1	1 1/4	2 3/8

W24x117	1.58	13/16	1	1 1/4	2 3/8
W14x90	1.58	13/16	1	1 1/4	2 3/8
W12x79	1.61	13/16	1	1 1/4	2 3/8
W30x132	1.62	13/16	1	1 1/4	2 3/8
W18x97	1.63	13/16	1	1 1/4	2 3/8
W16x89	1.64	13/16	1	1 1/4	2 3/8
W21x111	1.64	13/16	1	1 1/4	2 3/8
W10x68	1.66	13/16	13/16	1	2
W36x160	1.67	13/16	13/16	1	2
W14x82	1.68	13/16	13/16	1	2
W33x152	1.69	13/16	13/16	1	2
W8x58	1.71	13/16	13/16	1	2
W14x99	1.72	13/16	13/16	1	2
W24x131	1.75	13/16	13/16	1	2
W27x146	1.76	13/16	13/16	1	2
W36x170	1.76	13/16	13/16	1	2
W12x87	1.77	13/16	13/16	1	2
W18x106	1.77	13/16	13/16	1	2
W21x122	1.79	13/16	13/16	1	2
W16x100	1.82	13/16	13/16	1	2
W10x77	1.85	13/16	13/16	1	2
W36x182	1.88	13/16	13/16	1	2
W14x109	1.89	13/16	13/16	1	2
W30x173	1.91	13/16	13/16	1	2
W12x96	1.93	13/16	13/16	1	2
W21x132	1.93	13/16	13/16	1	2
W27x161	1.94	13/16	13/16	1	2

W8x67	1.94	13/16	13/16	1	2
W24x146	1.94	13/16	13/16	1	2
W18x119	1.96	13/16	13/16	1	2
W36x194	2.00	13/16	13/16	1	2
W33x201	2.03	13/16	13/16	1	2
W14x120	2.05	13/16	13/16	1	2
W10x88	2.09	13/16	13/16	1	2
W30x191	2.09	13/16	13/16	1	2
W12x106	2.11	13/16	13/16	1	2
W27x178	2.12	13/16	13/16	1	2
W21x147	2.12	13/16	13/16	1	2
W24x162	2.13	13/16	13/16	1	2
W36x210	2.15	13/16	13/16	1	2
W36x230	2.19	13/16	13/16	1	2
W33x221	2.22	13/16	13/16	1	2
W14x132	2.24	13/16	13/16	1	2
W30x211	2.29	13/16	13/16	1	2
W36x245	2.33	13/16	13/16	1	2
W10x100	2.34	13/16	13/16	1	2
W12x120	2.36	13/16	13/16	13/16	1 5/8
W14x145	2.39	13/16	13/16	13/16	1 5/8
W33x241	2.41	13/16	13/16	13/16	1 5/8
W36x260	2.45	13/16	13/16	13/16	1 5/8
W10x112	2.57	13/16	13/16	13/16	1 5/8
W14x159	2.60	13/16	13/16	13/16	1 5/8
W12x136	2.64	13/16	13/16	13/16	1 5/8
W36x280	2.64	13/16	13/16	13/16	1 5/8

W36x300	2.80	13/16	13/16	13/16	1 5/8
W14x176	2.85	13/16	13/16	13/16	1 5/8
W12x152	2.90	13/16	13/16	13/16	1 5/8
W14x193	3.09	13/16	13/16	13/16	1 5/8
W12x170	3.20	13/16	13/16	13/16	1 5/8
W14x211	3.35	13/16	13/16	13/16	1 5/8
W12x190	3.51	13/16	13/16	13/16	1 5/8
W14x233	3.65	13/16	13/16	13/16	1 5/8
W12x210	3.82	13/16	13/16	13/16	1 5/8
W14x257	3.97	13/16	13/16	13/16	1 5/8
W12x230	4.11	13/16	13/16	13/16	1 5/8
W14x283	4.31	13/16	13/16	13/16	1 5/8
W12x252	4.44	13/16	13/16	13/16	1 5/8
W14x311	4.67	13/16	13/16	13/16	1 5/8
W12x279	4.81	13/16	13/16	13/16	1 5/8
W14x342	5.04	13/16	13/16	13/16	1 5/8
W12x305	5.17	13/16	13/16	13/16	1 5/8
W14x370	5.38	13/16	13/16	13/16	1 5/8
W12x336	5.56	13/16	13/16	13/16	1 5/8
W14x398	5.70	13/16	13/16	13/16	1 5/8
W14x426	6.02	13/16	13/16	13/16	1 1/4
W14x455	6.35	13/16	13/16	13/16	1 1/4
W14x500	6.83	13/16	13/16	13/16	1 1/4
W14x550	7.35	13/16	13/16	13/16	1 1/4
W14x605	7.90	13/16	13/16	13/16	1
W14x665	8.46	13/16	13/16	13/16	1
W14x730	9.06	13/16	13/16	13/16	13/16

3. **Noggings** — Min 1-5/8 in. (40 mm) thick, pieces of board (Item 2). Length is cut to friction fit between column flanges. Width of noggings is min. 4 in. (100 mm). Noggings to be placed at end of column, at horizontal butted joints of adjacent mineral and fiber board sections (Item 2) and a maximum of 24 in. (610 mm) OC. For columns with webs deeper than 18 in., use tee-shaped noggings as shown in Figure 1. The backs of the noggings shall be a minimum of 1-5/8 in. (40 mm) thick and extend back to the web or a minimum depth of 4 in. (100 mm).

4. **Fasteners** — Spiral-screw like fixings, with a 0.75 in. (19mm) diameter head, 0.3 in. (7.6 mm) diameter shaft and fabricated from a 0.06 in. (1.5 mm) diameter wire, made in a variety of lengths.

For Web Board attachment to Noggings (Item 3) the boards are fastened to the noggings with a min of 2 fasteners on each side of the joint and at intermediate noggings. Fasteners located nominal 2-1/2 in. (63 mm) from inside of flanges and no more than 8 in. (200 mm) OC. Fasteners to be located nominal 1 in. (25 mm) from board ends. Fastener length shall penetrate completely through the noggings.

For Web Board attachment to Flange Board (Item 2) boards are secured to each other with fasteners spaced a maximum of 6 in. (150 mm) OC. The fasteners are installed on both sides of horizontal joints, nominal 1 in (25 mm) from ends and mid-depth of the adjacent boards. Fastener length is a minimum of twice the board thickness, with a minimum length of 1-5/8 in. (40 mm). For columns with flanges wider than 16 in. (406 mm), flange boards require additional support in the form of 1/8 in. dia. welded steel pins used with 1-1/2 in. dia. non-return washers along the centerline of the flange surface, spaced at a maximum of 2ft. OC (610 mm).

When tee noggings are required, the face nogging shall be secured to the back nogging with a minimum 3-1/8 in. (80 mm) long fasteners, spaced nominally 6 in. (150 mm) OC.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

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