



Design No. X856 BXUV.X856 Fire-resistance Ratings - ANSI/UL 263

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- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
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BXUV - Fire Resistance Ratings - ANSI/UL 263

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

[See General Information for Fire-resistance Ratings - ANSI/UL 263](#)

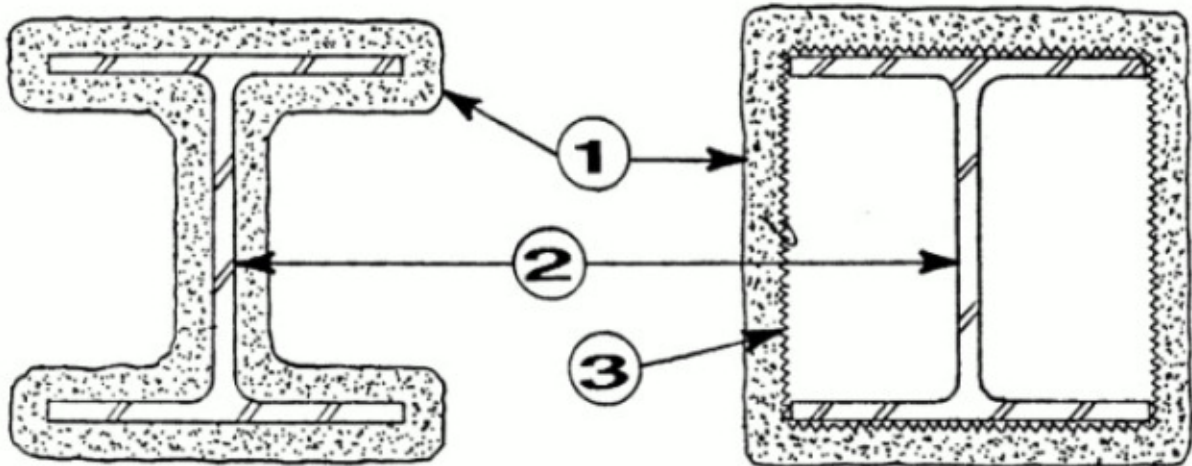
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Design No. X856

January 20, 2016

Ratings - 1, 1-1/2, 2, 2-1/2, 3, 3-1/2 and 4 Hr.

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



1. **Spray-Applied Fire Resistive Materials*** — Applied by mixing with water and spraying in more than one coat to the thickness as below, to steel surfaces which are clean and free of dirt, loose scale, and oil. Min average density of 37 pcf, with min individual value of 34 pcf. For method of density determination, see Design Information Section, Sprayed Material.

The thickness of Spray-Applied Fire Resistive Materials to be applied to all surfaces of the column required for rating periods of 1 hr, 1-1/2 hr, 2 hr, 2-1/2 hr, 3 hr, 3-1/2 hr and 4 hr may be determined from the following equations:

$$y = -9.1223x + 26.336, \text{ for 1 hr}$$

$$y = -9.4586x + 32.087, \text{ for 1-1/2 hr}$$

$$y = -10.131x + 38.59, \text{ for 2 hr}$$

$$y = -10.617x + 44.861, \text{ for 2-1/2 hr}$$

$$y = -11.754x + 52.973, \text{ for 3 hr}$$

$$y = -12.206x + 59.126, \text{ for 3-1/2 hr}$$

$$y = -13.11x + 65.431 \text{ for 4 hr}$$

where:
 y = thickness in the range of 6-60 mm;
 x = W/D, shape factor from 0.338 to 2.55

The minimum thickness of spray-applied resistive material required for various fire resistance ratings of contour sprayed or boxed wide flange columns are shown in the table below:

Column Size	W/D	Min Thk, mm						
		1 Hr	1-1/2 Hr	2 Hr	2-1/2 Hr	3 Hr	3-1/2 Hr	4 Hr
W6x9	0.338	23	29	36	42	48	55	62
W6x12	0.448	22	28	34	40	48	54	60
W8x18	0.499	22	27	34	40	47	53	59
W6x16	0.584	21	27	33	39	46	52	58
W8x28	0.688	20	26	32	38	45	51	56
W10x49	0.840	19	24	29	35	40	46	51
W21x73	0.989	17	23	29	34	40	46	51
W10x60	1.01	17	23	28	34	40	46	51
W12x106	1.47	13	18	24	29	36	41	46
W14x233	2.55	6	8	13	18	23	28	32
W14x730	6.76	6	8	13	18	23	28	32

Or

Column Size	W/D	Min Thk, In.						
		1 Hr	1-1/2 Hr	2 Hr	2-1/2 Hr	3 Hr	3-1/2 Hr	4 Hr
W6x9	0.338	15/16	1-3/16	1-7/16	1-11/16	1-15/16	2-3/16	2-1/2
W6x12	0.448	15/16	1-1/8	1-3/8	1-5/8	1-15/16	2-1/8	2-3/8
W8x18	0.499	7/8	1-1/8	1-3/8	1-9/16	1-7/8	2-1/8	2-3/8
W6x16	0.584	7/8	1-1/16	1-5/16	1-9/16	1-7/8	2-1/16	2-5/16
W8x28	0.688	13/16	1-1/16	1-1/4	1-1/2	1-13/16	2	2-1/4
W10x49	0.840	3/4	1	1-3/16	1-7/16	1-5/8	1-13/16	2-1/16
W21x73	0.989	11/16	15/16	1-1/8	1-3/8	1-5/8	1-13/16	2-1/16
W10x60	1.01	11/16	15/16	1-1/8	1-3/8	1-5/8	1-13/16	2-1/16
W12x106	1.47	9/16	3/4	15/16	1-3/16	1-7/16	1-5/8	1-7/8
W14x233	2.55	1/4	3/8	9/16	3/4	15/16	1-1/8	1-5/16
W14x730	6.76	1/4	3/8	9/16	3/4	15/16	1-1/8	1-5/16

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2. **Steel Column** — Wide flange steel column (W) with a W/D ratio as specified in Item 1.

3. **Metal Lath** — (Optional) — 3.4 lb per sq yd expanded galv steel lath. Lath lapped 1 in. and tied together with min No. 18 SWG galv steel wire spaced vertically 6 in. OC.

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