

BXUV.Y739 -

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- 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.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

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

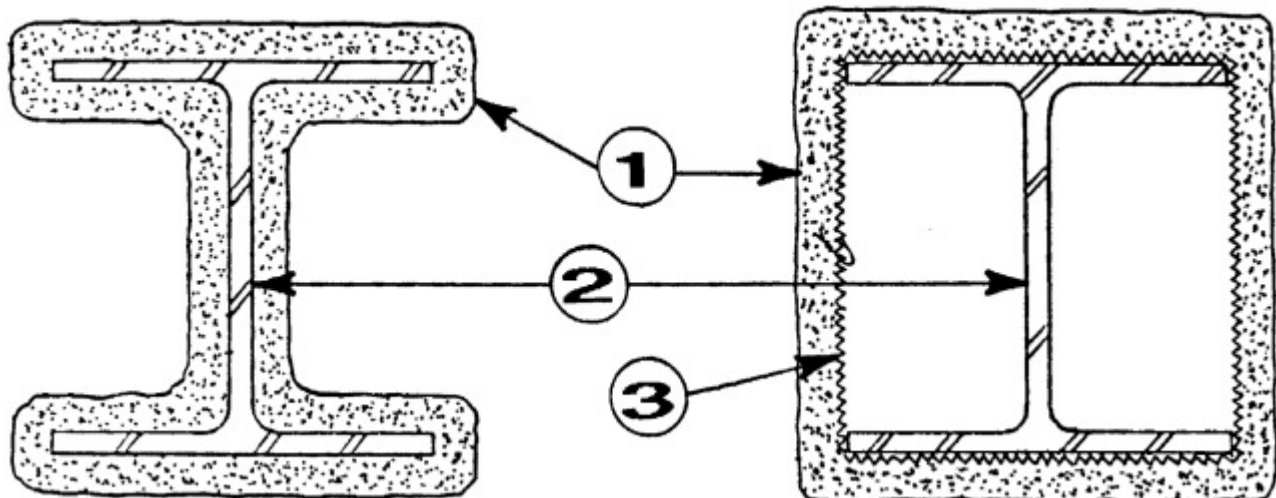
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada Design Criteria and Allowable Variances

Design No. Y739

December 07, 2017

Ratings — 1, 1-1/2, 2, 2-1/2, 3 and 4 H

*** 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* — Prepared by mixing with water according to instructions on each bag of mixture. Mixture can be spray or trowel applied in one or more coats to the column surfaces which must be clean and free of dirt, loose scale, and oil. Min average density of 33 pcf, with min individual value of 31 pcf. For method of density determination, see Design Information Section, Sprayed Material. Surface of material may be lightly finished with a trowel. As an option, the column surface may be primed with Galvo-Zinc manufactured by the Yung Chi Paint and Mfg. Co., Ltd., provided the column and primer meet the requirements as stated in Section General of this Directory. The thickness of Spray-Applied Fire Resistive Materials to be applied to all surfaces of the column required for rating periods of 1 h, 1-1/2 h, 2 h, 3 h, 4 h may be determined from the following equations:

$$0.0062 (R) + 0.2631$$

$$h = \frac{\text{---}}{W/D}$$

(for column W/D range of 0.57 to 0.82)

$$0.0193(R) - 0.537$$

$$h = \frac{\text{---}}{W/D}$$

(for column W/D range of 0.82 to 6.68)

Where:

h= Spray-Applied Fire Resistive Materials thickness in the range of 3/8 to 2 in. (rounded up to the nearest 1/16 in.)

R= Fire resistance rating period in minutes (60 to 240).

D= Heated perimeter of the steel column in inches.

W= Weight of the steel column in lbs per foot.

As an alternate to the equations, the min thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings of contour sprayed or boxed columns may be determined from the tables below:

Min Col Size	W/D	Min Thkns In.					
		1 Hr	1-1/2 Hr	2 Hr	2-1/2 Hr	3 Hr	4 Hr
W6x16	0.57	13/16	1-3/16	1-9/16	1-15/16	2-5/16	3-1/16
W8x28	0.68	13/16	1-1/8	1-7/16	1-11/16	2	3-1/16
W10x49	0.83	11/16	1-1/16	1-3/8	1-11/16	1-15/16	2
W21x73	0.99	5/8	15/16	1-1/4	1-1/2	1-13/16	2
W12x106	1.46	1/2	3/4	1	1-1/4	1-1/2	2
W14x233	2.52	3/8	7/16	5/8	13/16	1	1-7/16
W14x257	2.78	1/4	7/16	5/8	13/16	1	1-7/16
W14x730	6.68	1/4	3/8	3/8	7/16	1/2	11/16

NR - NO RATING

NATIONAL FIRE FIGHTING MFG FZ CO — Type NAFFCO PSV-C-1. Investigated for Exterior Use.

1A. **Spray-Applied Fire Resistive Materials*** — See table below for appropriate thicknesses. Prepared by mixing with water according to instructions on each bag of mixture. Mixture can be spray or trowel applied in one or more coats to the column surfaces which must be clean and free of dirt, loose scale and oil. Min average density of 28 pcf, with min individual value of 26 pcf. For method of density determination, see Design Information Section, Sprayed Material. Surface of material may be lightly finished with a trowel. As an option, the column surface may be primed with Galvo-Zinc manufactured by the Yung Chi Paint and Mfg. Co., Ltd., provided the column and primer meet the requirements as stated in Section General of this directory.

Min Col Size	W/D	Min Thkns In.					
		1 Hr	1-1/2 Hr	2 Hr	2-1/2 Hr	3 Hr	4 Hr
W6x16	0.57	13/16	1-3/16	1-9/16	2	2-3/8	3-1/8
W8x28	0.68	13/16	1-1/8	1-7/16	1-3/4	2-1/16	3-1/8
W10x49	0.83	11/16	1-1/16	1-3/8	1-3/4	2	2-1/16
W21x73	0.99	5/8	15/16	1-1/4	1-9/16	1-7/8	2-1/16
W12x106	1.46	1/2	3/4	1	1-5/16	1-9/16	2-1/16
W14x233	2.52	3/8	7/16	5/8	7/8	1-1/16	1-1/2
W14x257	2.78	1/4	7/16	5/8	7/8	1-1/16	1-1/2
W14x730	6.68	1/4	3/8	3/8	1/2	9/16	3/4

NR - NO RATING

NATIONAL FIRE FIGHTING MFG FZ CO — Type NAFFCO PSV-C-1. Investigated for Exterior Use.

2. **Steel Column** — Wide flange steel column of min sizes as shown in the table above.

3. **Metal Lath** — (Optional for contour application) — 3.4 lb/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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