

BXUV.X764 - FIRE-RESISTANCE RATINGS - ANSI/UL 263

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

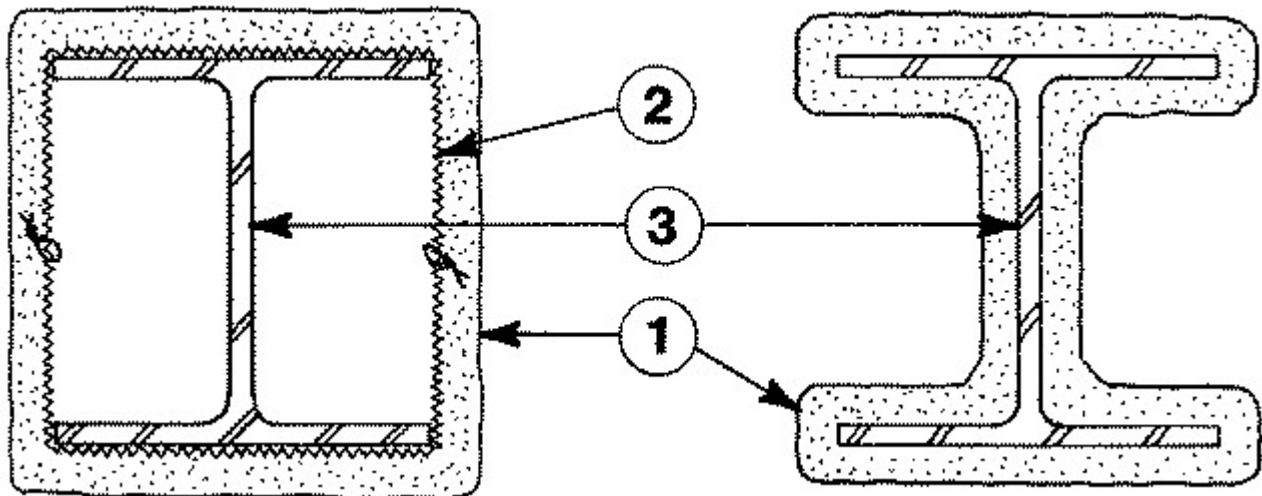
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada Design Criteria and Allowable Variances

Design No. X764

October 26, 2017

Ratings — 1, 1-1/2, 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 and spray- or trowel- applied to steel surfaces which are free of dirt, oil or scale. Min avg density of 44 pcf with min ind value of 40 pcf for Type M-II. Min avg density of 47 pcf, with min individual value of 43 pcf for Type M-II/P. Min avg density of 44 pcf with min ind value of 42 pcf for Type TG. For method of density determination, see Design Information Section, Sprayed Material. The thickness of Spray-Applied Fire Resistive Materials (Item 1) required for rating periods of 1 h, 1-1/2 h, 2 h, 3 h, 4 h may be determined by the equation:

$$h = \frac{R}{0.86 (W/D) + 0.97}$$

Where:

h=Spray-Applied Fire Resistive Materials thickness in the range of 0.35-2.50 in.

R=Fire resistance rating in hours (1 - 4 h)

D=Heated perimeter of steel column in inches

W=Weight of steel column in lbs per foot

W/D=0.50 to 7.00

As an alternate to the equation, the minimum thickness of Spray-Applied Fire Resistive Materials required for various fire resistance ratings of contour or box sprayed columns may be determined from the table below:

Min Col Size	W/D	Min Thk In.				
		1 Hr	1-1/2 Hr	2 Hr	3 Hr	4 Hr
W6x9	0.33	1	1-3/8	1-11/16	2-3/8	3
W6x12	0.43	15/16	1-1/4	1-9/16	2-3/16	2-13/16
W6x16	0.57	11/16	1-1/16	1-3/8	2-1/16	2-11/16
W8x28	0.67	13/16	1-1/16	1-5/16	1-13/16	2-5/16
W10x49	0.83	5/8	15/16	1-3/16	1-5/8	2
W12x106	1.46	1/2	3/4	1	1-7/16	1-7/8
W14x233	2.52	3/8	1/2	11/16	1	1-1/4
W14x730	6.68	3/8	3/8	3/8	1/2	5/8

The thickness of Spray-Applied Fire Resistive Materials contained in the table below are applicable when the protection of the contour sprayed column's flange tips are reduced to one-half.

Min Col Size	W/D	Min Thk In.				
		1 Hr	1-1/2 Hr	2 Hr	3 Hr	4 Hr
W6x16	0.57	13/16	1-1/4	1-11/16	2-1/2	3-5/16
W10x49	0.83	3/4	1-1/8	1-7/16	2-3/16	2-7/8
W14x233	2.52	7/16	5/8	13/16	1-3/16	1-9/16
W14x730	6.68	3/8	3/8	3/8	9/16	3/4

BERLIN CO LTD — Types M-II or TG. Types M-II and TG investigated for exterior use.

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Types M-II, M-II/P or TG. Types M-II, M-II/P and TG investigated for exterior use.

ISOLATEK INTERNATIONAL — Types M-II, M-II/P or TG investigated for exterior use.

NEWKEM PRODUCTS CORP — Types M-II or TG. Types M-II and TG investigated for exterior use.

2. **Metal Lath (for box spray application)** — 3.4 lb/sq yd galv or painted expanded steel lath. Lath shall be lapped 1 in. and tied together with No. 18 SWG galv steel wire spaced vertically 14 in. O.C. or alternately, attached with No. 24 MSG spring clips, 1/2 in. wide, pushed onto column flanges, vertically spaced 6 in. O.C.

3. **Steel Column** — Minimum Size — W6X16 (see Item No. 1).

4. **Reinforcing Mesh or Metal Lath** — (Both optional, not shown, for contour spray applications)— Reinforcing mesh, No. 18 SWG galvanized or painted steel wire twisted to form 2 in. hexagons. Mesh placed on column flanges and secured in position by means of furring clips (Item No. 5). As an alternate to reinforcing mesh, galvanized or painted expanded steel lath weighing 3.4 lb per sq yd may be used. Lath secured to column by bending tightly around the flanges a minimum of 1-1/2 in. toward the web of the column.

5. **Furring Clips (not shown, for contour spray applications)** — Required for use with reinforcing mesh. No. 18 SWG, U-shaped galvanized steel wire, 1 in. deep with 1-1/2 and 1-3/4 in. legs. Spaced vertically 12 in. O.C. on each flange over mesh.

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