

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.

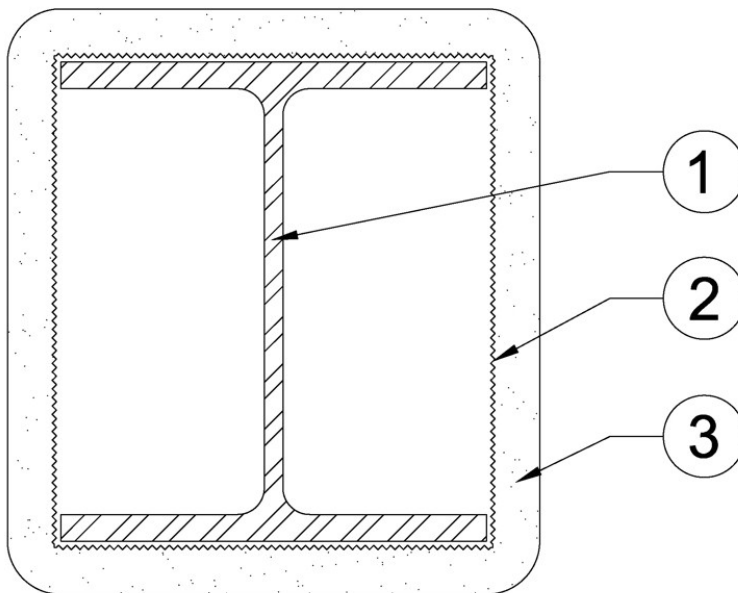
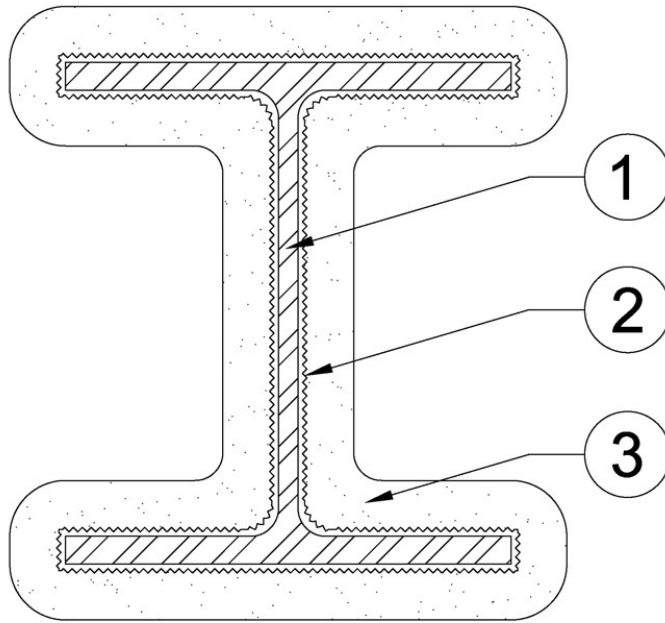
BYBU - Fire-resistance Ratings - ANSI/UL 1709

[See General Information for Fire-resistance Ratings - ANSI/UL 1709](#)

Design No. XR747

October 13, 2022

Ratings — 1, 2, 2-1/2, 3, 4 Hr



1. **Steel Column** — Min size of column W8x10 with bare steel or galvanized steel.

2. **Reinforcing Mesh** — Galvanized expanded steel lath, weighing 2.5 lb per sq yd, with a minimum average distance between face of lath and steel surface of a 1/4 inch. Lath overlapped a minimum of 1 in. at joints and tied together with steel wire spaced vertically a maximum of 12 in. OC.

3. **Spray-Applied Fire Resistive Materials*** — See table below for appropriate thickness. Thicknesses are measured to the surface of the lath. 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, directly to the column through the reinforcing mesh, which must be clean and free of dirt, loose scale and oil. The material is keyed into the lath. Min avg density of 52 pcf, with min individual value of 47 pcf. For method of density determination, see Design Information Section, Sprayed Material. Surface of material may be lightly finished with a trowel.

Min Required Thickness (in.) for Hourly Rating Period (min)

W/D	Hp/A	60	120	150	180	240
0.33	406	13/16	1-1/4	1-1/2	1-1/16	N/A
0.43	312	13/16	1-3/16	1-3/8	1-5/8	N/A
0.57	235	11/16	1-1/8	1-5/16	1-1/2	N/A
0.63	214	11/16	1-1/16	1-1/4	1-1/2	1-7/8
0.68	197	11/16	1-1/16	1-1/4	1-7/16	1-13/16
0.75	179	5/8	1	1-3/16	1-7/16	1-3/4
0.84	160	9/16	15/16	1-1/8	1-3/8	1-11/16
0.90	149	9/16	15/16	1-1/8	1-5/16	1-11/16
1.00	134	1/2	7/8	1-1/8	1-5/16	1-5/8
1.10	122	1/2	7/8	1-1/16	1-1/4	1-5/8
1.20	112	1/2	13/16	1-1/16	1-1/4	1-9/16
1.30	103	7/16	13/16	1	1-3/16	1-9/16
1.40	96	7/16	13/16	1	1-3/16	1-1/2
1.50	89	3/8	3/4	15/16	1-1/8	1-1/2
1.60	84	3/8	3/4	15/16	1-1/8	1-7/16
1.63	82	3/8	3/4	15/16	1-1/8	1-7/16
1.70	79	3/8	11/16	7/8	1-1/16	1-7/16
1.73	77	5/16	11/16	7/8	1-1/16	1-7/16
1.80	74	5/16	11/16	7/8	1-1/16	1-7/16
1.90	71	5/16	5/8	13/16	1	1-3/8
2.00	67	5/16	5/8	13/16	1	1-3/8
2.10	64	5/16	5/8	13/16	15/16	1-5/16
2.20	61	1/4	9/16	3/4	15/16	1-5/16
2.30	58	1/4	9/16	3/4	7/8	1-1/4
2.40	56	1/4	1/2	11/16	7/8	1-1/4
2.50	54	1/4	1/2	11/16	13/16	1-3/16
2.52	53	3/16	1/2	11/16	13/16	1-3/16

CARBOLINE CO — Type Pyrocrete 341, investigated for UL2431 Outdoor (Exterior), Heavy Industrial Environmental Classification Category I-A purpose including Specific Chemical Exposure, and also evaluated for Acid Spray Exposure in UL1709, 4th edition.

For product Alternate Limiting Temperature Tables click here: [XR747-1](#)

For product Hydrocarbon Certification Report click here: [BYFH.R7209](#)

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

Last Updated on 2022-10-13

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