

## 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.

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**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. N656**

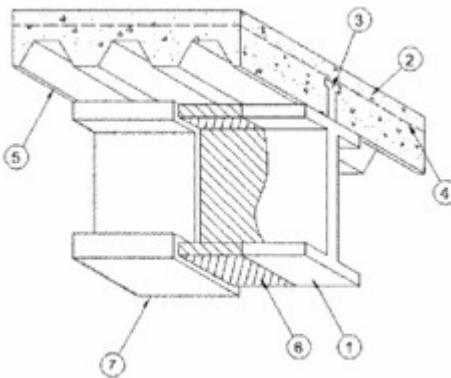
March 25, 2022

**Restrained Beam Rating — 1 and 1-1/2 Hr (See Item 7)**

**Unrestrained Beam Rating — 1 Hr (See Item 7)**

**This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7**

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



- 1. Beam** — Min size as shown in the table below (See Item 7). Beam shall be free of dirt, loose scale and oil.
- 2. Normal Weight or Lightweight Concrete** — Compressive strength 4500 psi. For normal weight concrete either carbonate or siliceous aggregate may be used. Unit weight 145 +/- 3 lbs / cu ft for normal weight concrete and 110 +/- 3 lbs / cu ft for lightweight concrete.
- 3. Shear Connectors** — (Optional) Studs, headed type or equivalent per AISC specifications welded to the top flange of beam through the steel floor units.
- 4. Welded Wire Fabric** — 6x6, W1.4 x W1.4 or 6x6-10/10 SW.
- 5. Steel Floor Units** — 1-1/2, 2 or 3 in. deep fluted units, welded to beam.
- 6. Primer Coating** — Beams primed with a single component alkyd primer to an approximate dry film thickness of 3 mil.
- 7. Mastic and Intumescent Coating\*** — One component material spray-applied in one or more coats as described in the application instructions to the thicknesses shown below. Flutes above beam to be completely filled with mineral wool insulation having a nominal density of 6 lbs/ft<sup>3</sup>. Thicknesses below include the 3 mil of primer.

**Unrestrained Beam Rating, Hr**  
**Required Thickness**

<b>W/D</b>	<b>Hp/A</b>	<b>1 Hr, mil</b>
0.70	191	63

**Restrained Beam Rating, Hr**  
**Required Thickness**

<b>W/D</b>	<b>Hp/A</b>	<b>1 Hr, mil</b>	<b>1-1/2 Hr, mil</b>
0.70	191	63	122
0.82	163	63	63

**FLAMEOFF COATINGS INC** — Type FlameOFF Fire Barrier. Investigated for Conditioned Interior Space Purpose and Interior General Purpose. Also investigated for UL 2431 Salt Spray and Industrial Atmosphere exposures when used with Type Enduratone topcoat (item 8).

- 8. Top Coat** — (Not Shown) Not required for Interior Conditioned Space Purpose. For Interior General Purpose Type FlameOFF WB Topcoat applied over the intumescent coating at 10 mil thickness or Type Enduratone Series 1028 by Tnemec applied over the intumescent coating at 4 mil thickness.

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