

# BXUV.N743 - 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. N743

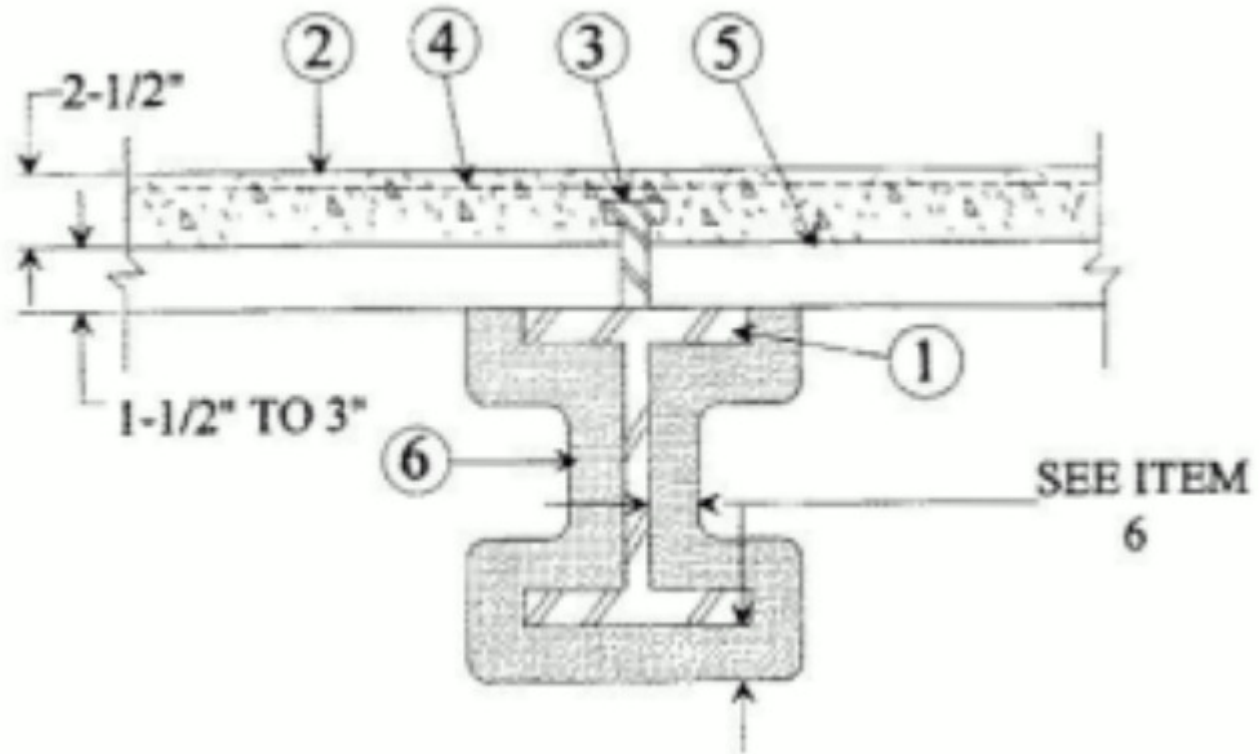
November 19, 2015

**Restrained Beam Ratings — 1, 1-1/2, 2, 3 and 4 Hr**

**Unrestrained Beam Ratings — 1, 1-1/2, 2, 3 and 4 Hr**

**Loading Determined by Allowable Stress Design Method or Load and Resistance Factor Design Method published by the American Institute of Steel Construction, or in accordance with the relevant Limit State Design provisions of Part 4 of the National Building Code of Canada**

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



- 1. **Steel Beam** — W8x28 min size.
- 2. **Normal Weight or Lightweight Concrete** — Normal weight concrete: carbonate or siliceous aggregate, 3500 psi compressive strength, unit weight  $145 \pm 3$  pcf. Lightweight concrete: expanded shale, clay, or slate aggregate by rotary-kiln method, 3500 psi compressive strength, unit weight  $110 \pm 3$  pcf.
- 3. **Shear Connector** — (Optional) — Studs, 3/4 in. diam headed type or equivalent per AISC specifications. Welded to the top flange of beam through the steel floor units.
- 4. **Welded Wire Fabric** — (Optional) — 6x6-10/10 SWG.
- 5. **Steel Floor and Form Units\*** — 1-1/2 to 3 in. deep fluted, cellular or corrugated units in any combination welded to beam.
- 6. **Spray-Applied Fire Resistive Materials\*** — Prepared by mixing with water. Spray-applied in one or more coats to beam surfaces to a min final thickness as shown in the tables below. Beam surfaces must be clean and free of dirt, loose scale and oil. Crest areas of deck above the beams shall be filled with Spray-Applied Fire Resistive Materials. Min average and min individual density of 15 pcf and 14 pcf respectively for Types 300, 300AC, 300ES, 300HS, 300N, 3000, 3000ES and SB. For Types 400, 400AC and 400ES min average and min individual density of 22 pcf and 19 pcf respectively. Min avg density of 44 pcf with min ind value of 40 pcf for Types M-II and TG. Min avg density of 47 pcf, with min individual value of 43 pcf for Type M-II/P. For method of density determination, see Design Information Section, Sprayed Material.  
The thicknesses of Spray-Applied Fire Resistive Materials shown in the table below are applicable when the beams are supporting solid concrete slabs or floor assemblies containing only fluted floor or form units with normal weight concrete.

Rating Hr	Min Thkns In.	
	Restrained Beam	Unrestrained Beam
1	3/8	3/8
1-1/2	7/16	9/16
2	11/16	3/4
3	1-1/16	1-3/16
4	1-7/16	1-5/8

The thicknesses of Spray-Applied Fire Resistive Materials shown in the table below are applicable when the beams are supporting solid concrete slabs or floor assemblies containing only fluted floor or form units with lightweight concrete.

Rating Hr	Min Thkns In.	
	Restrained Beam	Unrestrained Beam
1	1/2	1/2
1-1/2	5/8	3/4
2	7/8	1
3	1-3/8	1-5/8
4	1-7/8	2-1/4

The thicknesses of Spray-Applied Fire Resistive Materials shown in the table below are applicable when the beams are supporting floor assemblies containing cellular or corrugated floor units with normal weight concrete.

Rating Hr	Min Thkns In.	
	Restrained Beam	Unrestrained Beam
1	1/2	1/2
1-1/2	9/16	11/16
2	7/8	15/16
3	1-3/8	1-9/16
4	1-7/8	2-1/8

The thicknesses of Spray-Applied Fire Resistive Materials shown in the table below are applicable when the beams are supporting floor assemblies containing cellular or corrugated floor units with lightweight concrete.

Rating Hr	Min Thkns In.	
	Restrained Beam	Unrestrained Beam
1	5/8	5/8
1-1/2	13/16	15/16
2	1-1/8	1-1/4
3	1-13/16	2-1/8
4	2-7/16	2-15/16

**BERLIN CO LTD** — Types 400, 300, 300ES, 300N, or SB; Types M-II, TG and M-II/P

**GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C** — Types 300, 300AC, 400, or 400AC; Types M-II, TG and M-II/P

**ISOLATEK INTERNATIONAL** — Types 300, 300AC, 300ES, 300HS, 300N, SB, 400, 400AC, 400ES, 3000, or 3000ES; Types M-II, TG and M-II/P

**NEWKEM PRODUCTS CORP** — Types 300, 300ES, 300N, 400, or SB; Types M-II, TG and M-II/P

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**respectively.**

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