

BXUV.S751 - 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. S751

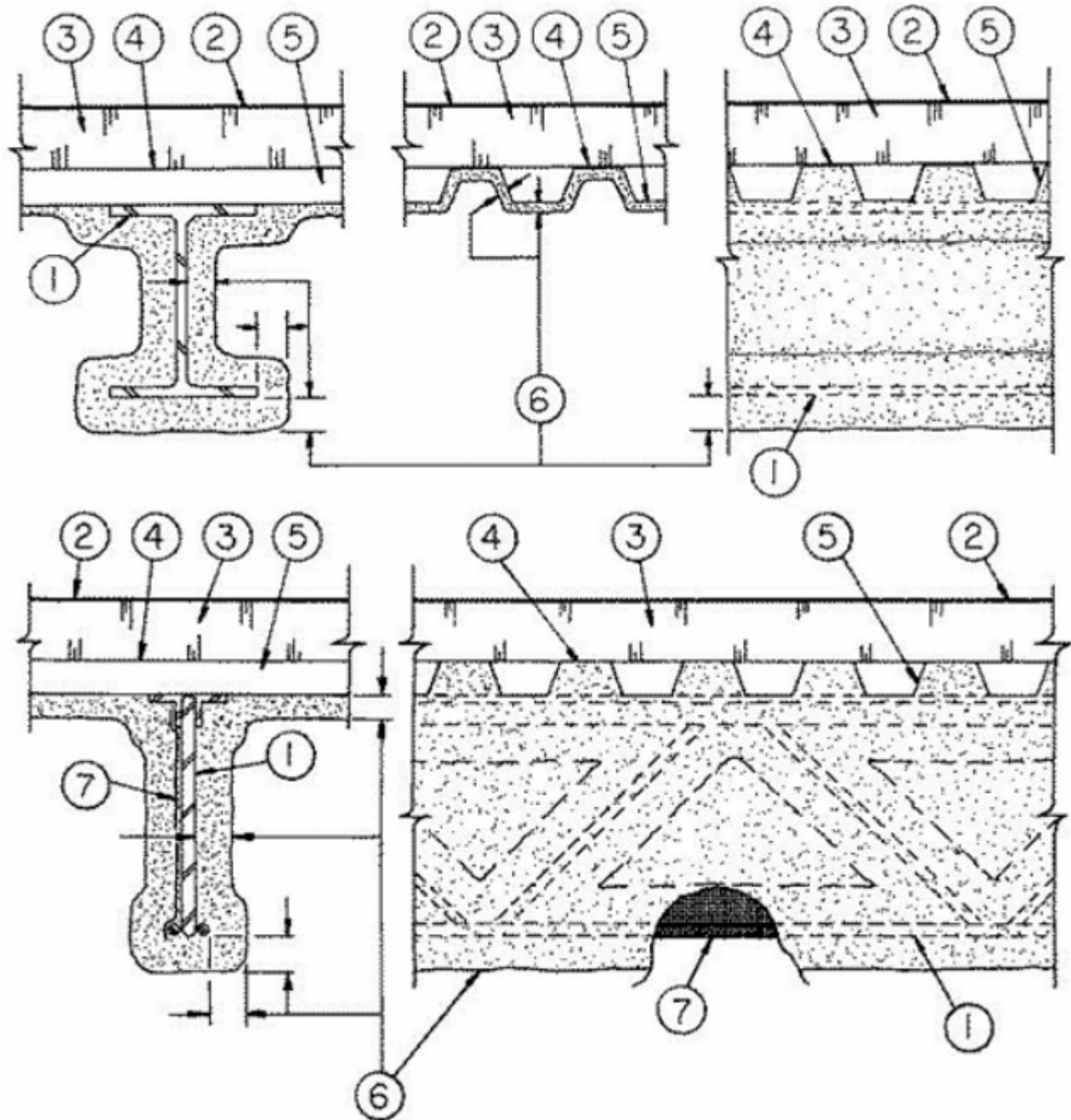
January 03, 2018

Restrained Beam Ratings — 1, 1-1/2, 2, 3 or 4 Hr (See Item 6)

Unrestrained Beam Ratings — 1, 1-1/2, 2, 3 or 4 Hr (See Item 6)

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 States Design provisions of Part 4 of the National Building Code of Canada — 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. **Steel Supports** — W6x16 min size steel beam.

1A. **As an alternate to Item 1** — Non-composite min 10K1 or min depth and weight shall be 10 in and 4.85 lb/ft respectively. May be uncoated or provided with a shop coat of paint. Designed per S.J.I. specifications for a max design yield stress of 50,000 psi (50 ksi). Top chords shall consist of two angles measuring minimum 1-1/4 by 1-1/4 by 0.129 in. thick. Bottom chords shall consist of two angles measuring minimum 1 by 1 by 0.109 in. thick. The first diagonal web member at each end shall consist of a minimum 0.625 in. dia. round bar. All remaining web members shall consist of minimum 0.50 in. dia. round bars. Bridging per S.J.I specifications when non-composite joists are used.

2. **Roof Covering*** — Consisting of hot mopped, cold application or single-ply materials, compatible with insulation(s) described herein which provide Class A, B or C coverings. See Roofing Materials and Systems Directory-Roof Covering Materials (TEVT).

3. **Roof Insulation*** — Consisting of building units, foamed plastic or mineral and fiber boards, applied in one or more layers. When multiple layers are used, end and side joints shall be offset a min of 12 in. in both directions in order to lap all joints. See category for names of companies providing Classified products — Building Units (BZXX), Foamed Plastic (CCVW) or Mineral and Fiber Boards (CERZ). Roof insulation shall be compatible with roof covering materials Class A, B or C system. See Roofing Materials and Systems Directory-Roof Covering Materials (TEVT).

4. **Adhesive** — (Optional) — May be applied to steel roof deck units or between insulation layers at a max application rate of 0.4 gal per 100 sq ft. See **Adhesives** (BYWR) category for names of manufacturers.

5. **Steel Roof Deck** — (Unclassified) — Fluted, No. 22 MSG min galv 1-1/2 in. deep with 3-1/2 in. wide flutes spaced 6 in. OC. Ends overlapped a min 1-1/2 in. and welded to supports, 12 in. OC max. Adjacent units button-punched, welded or fastened with No. 12 by 1/2 in. long self-drilling, self-tapping steel screws.

6. **Spray-Applied Fire Resistive Materials*** — Applied by mixing with water and spraying in one or more coats to the thicknesses shown below, to the beam, joist, and deck surfaces which are clean and free of dirt, loose scale, and oil. Min average and min individual density of 15 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 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 thickness of the Spray-Applied Fire Resistive Material on the Structural Members shall be as follows:

Rating (hour)	Minimum Thickness (inches)						
	Restrained Beam			Unrestrained Beam			Steel Roof Deck
	Beam W6x16	Joists > 4' OC	Joists ≤ 4' OC	Beam W6x16	Joists > 4' OC	Joists ≤ 4' OC	
1	1/2	3/4	5/8	1/2	3/4	5/8	1/2
1-1/2	3/4	1-3/16	1-1/16	3/4	1-1/4	1-1/16	15/16
2	1	1-11/16	1-1/2	1	1-3/4	1-1/2	1-7/16
3	1-9/16	2-7/8	2-9/16	1-9/16	2-7/8	2-9/16	1-7/16
4	2-1/8	—	—	2-1/8	—	—	1-7/16

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

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

7. **Metal Lath** — (Optional - Not Shown) — Diamond mesh, 3/8 in. expanded steel, min 1.7 lb per sq yd fastened to one side of joists using No. 18 SWG steel tie wire, located at the midheight of every other web member or 18 in. O.C. whichever is less. Both sides of lath must be completely coated with Spray-Applied Fire Resistive Materials.

8. **Glass Fiber Mesh** — (Optional - Not Shown) — As an alternate to metal lath (Item 7), min 3/32 in. sq. mesh, coated fiberglass scrim fabric, weighing a min of 1.9 oz. per sq. yd. or, polypropylene fabric mesh, weighing approximately 1.25 oz. per sq. yd. or equivalent may be used to facilitate spray application. The mesh shall be attached to one side of each joist web member. The method of attachment must be sufficient to hold the mesh and fire protection material during application and curing of the material. Suitable methods of attachment include hairpins, 18 SWG galv. steel tie wire or hot melted glue. Hairpin clips are nom 1-1/4 in. long by 1/2 in. wide made of 0.064 in. diam. steel wire. Hairpin clips or tie wire located near top and bottom and at intermediate points along each web member to firmly secure the fabric to the joist.

9. **Bridging** — (Not Shown) — Min 1-1/4 by 1-1/4 by 1/8 in. thick steel angles welded to top and bottom chords of each joist. Number and spacing of bridging angles per Steel Joist Institute specification. Bridging coated with the same thickness of Spray-Applied Fire Resistive Materials (Item 6) as the joist.

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