

BXUV.N868 - 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. N868

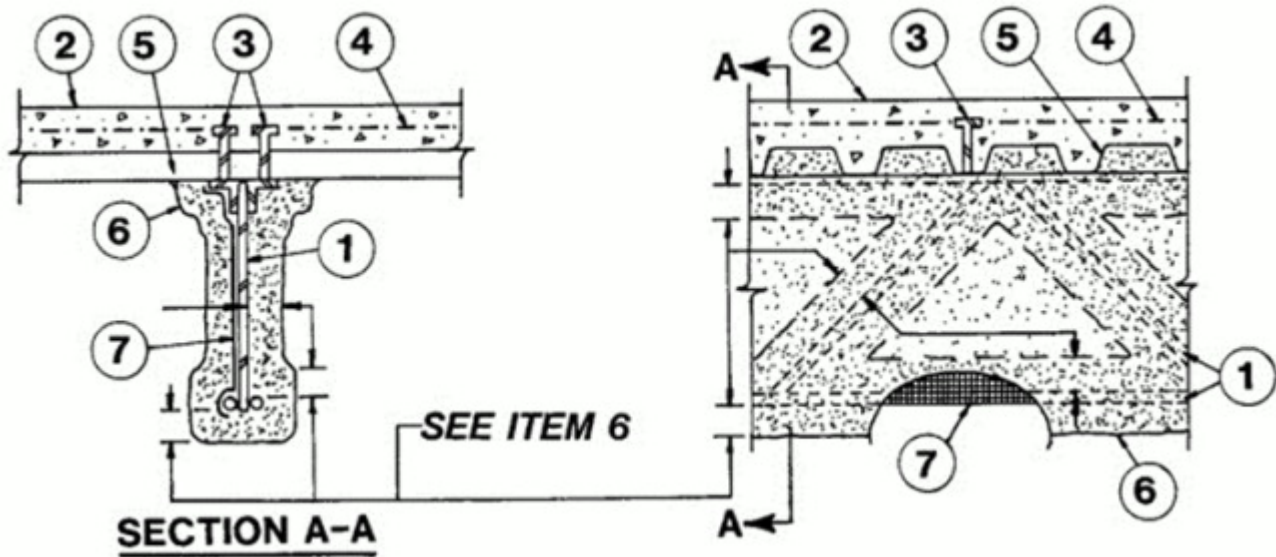
July 12, 2018

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

Unrestrained Beam Ratings — 1, 1-1/2, 2 and 3 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 Joist — Composite or non-composite min 10K1 joist or min depth and weight shall be 10 in and 4.97 lb/ft respectively. May be uncoated or provided with a shop coat of paint. Designed per S.J.I. specifications for a max design stress of 50,000 psi (50 ksi). Top chords shall consist of two angles measuring 1-1/4 by 1-1/4 by 0.132 in. thick, min. Bottom chords shall consist of two angles measuring 1 by 1 by 0.107 in. thick, min. The first diagonal web member at each end shall consist of a min 0.625 in. dia. round bar. All remaining web members shall consist of 0.562 in. dia. round bars, min. Bridging per S.J.I specifications when non-composite joists are used.

2. Normal Weight or Light Weight Concrete — 2-1/2 in. min above crest of flutes. Normal weight concrete: carbonate or siliceous aggregate, 3500 psi compressive strength, unit weight 145 ± 3 pcf. Lightweight concrete: expanded shale, clay, or slate aggregate by rotary-kiln method, 3500 psi compressive strength, unit weight 110 ± 3 pcf.

3. Shear Connector — (Optional) — Studs, min 3/8 in. dia. headed type or equivalent per A.I.S.C. specifications. Welded to the top chord of joist through the steel floor units. Stud welding, as recommended by the stud manufacturer, should be followed.

4. Welded Wire Fabric — Min 6 x 6 - W1.4 x W1.4.

5. Steel Floor and Form Units — 1-1/2 to 3 in. deep fluted, cellular or corrugated units, welded to joist.

6. Spray-Applied Fire Resistive Materials* — Applied by spraying with water to the final thicknesses shown below. Crest areas shall be filled with Spray-Applied Fire Resistive Materials above the joist. Joist surfaces must be clean and free of dirt, loose scale and oil. Min average density of 15 pcf with min. ind density of 14 pcf for Types II, II HS, or DC/F. Min avg and min ind densities of 22 and 19 pcf, respectively, for Type HP. For method of density determination, refer to Design Information Section. The thicknesses of Spray-Applied Fire Resistive Materials shown in the table below are applicable when the joists are supporting solid concrete slabs or floor assemblies containing only fluted floor or form units.

Rating Hr	Min Thkns In.			
	Restrained		Unrestrained	
	Joists > 4' OC	Joists ≤ 4' OC	Joists > 4' OC	Joists ≤ 4' OC
1	3/4	3/4	3/4	3/4
1-1/2	3/4	3/4	1-5/16	1-1/8
2	1-5/16	1-5/16	1-13/16	1-9/16
3	2-3/8	2-3/8	2-7/8	2-1/2

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

Rating Hr	Min Thkns In.			
	Restrained		Unrestrained	
	Joists > 4' OC	Joists ≤ 4' OC	Joists > 4' OC	Joists ≤ 4' OC
1	3/4	3/4	3/4	3/4
1-1/2	3/4	3/4	1-5/16	1-1/8
2	1-5/16	1-5/16	1-13/16	1-9/16
3	2-3/8	2-3/8	2-7/8	2-1/2

1	15/16	15/16	15/16	15/16
1-1/2	15/16	15/16	1-5/8	1-3/8
2	1-11/16	1-11/16	2-1/4	1-15/16
3	3-1/16	3-1/16	3-11/16	3-3/16

ISOLATEK INTERNATIONAL — Types D-C/F, HP, II, or Type II HS. Investigated for exterior use. Type EBS or Type X adhesive/sealer is optional.

7. **Metal Lath** — (Optional) — 3/8 in. diamond mesh, expanded steel weighing min 2.5 lb/sq yd, secured to one side of joist using No. 16 SWG steel tie wire located at mid-height of every other web. When used, the metal lath is to be fully covered with spray-applied resistive material with no min thickness requirements for material applied onto the lath between chords and between web members.

7A. **Glass Fiber Mesh** — (Not Shown) — As an alternate to metal lath (Item 7), min 3/32 in. square mesh, coated fiberglass scrim fabric, weighing a min of 1.9 oz/sq yd, 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. An acceptable method of attaching the mesh is by embedding the mesh in min 1/4 in. long beads of hot melted glue. The beads of glue shall be spaced max 12 in. OC along the top chord of the joists. Another method of attachment is by the use of 1-1/4 in. long 1/2 in. wide hairpin clips formed from 0.064 in. diam steel wire, alternating from top to bottom of the joist web member.

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Last Updated on 2018-07-12

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