UL Product iQ™

BXUV.N614 - 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. N614

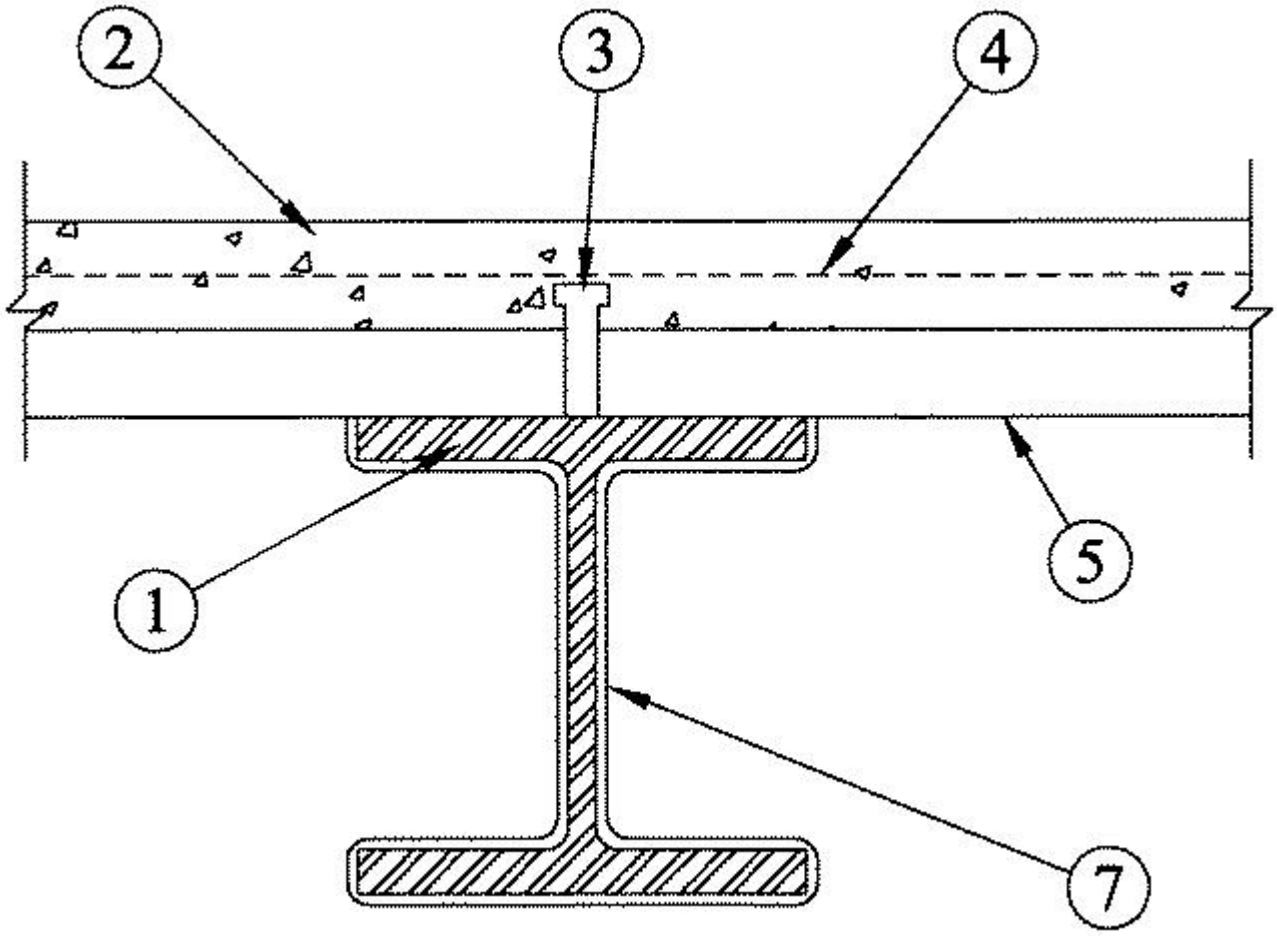
September 22, 2016

Restrained Beam Ratings - 1, 1-1/2, 2 and 3 Hr. (See Item 7)

Unrestrained Beam Ratings - 1, 1-1/2 and 2 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. **Steel Beam —** W8x24 or W6x12 or W6x16 or W8x28 min size. Beams shall be free of dirt, loose scale and oil. Beams shall be primed with a phenolic modified alkyd resin primer, a metal alkyd primer, an acrylic primer or an epoxy primer at a nominal thickness of 2 mil.

2. **Normal Weight or Lightweight Concrete —** Compressive strength 3500 psi. For normal weight concrete either carbonate or siliceous aggregate may be used. Unit weight 146 lbs/cu ft. for normal weight concrete and 116 lbs/cu ft. for lightweight concrete. Min concrete thickness, as measured from top plane of steel floor and form units is 2-1/2 in.

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 —** 6x6-10/10 SWG

5. **Steel Floor or Form Units —** 1-1/2, 2 or 3 in. deep fluted units, welded to beam.

6. **Mineral Wool Insulation —** (Not Shown) — For the W6x12, W8x28 and W8x24 beams, min 6 pcf mineral wool insulation cut into pieces and firmly packed into, and completely filling the spaces between the flutes of the steel floor and form units and the top flange of the beam. For the W6x16 beam, min 4 pcf mineral wool insulation cut into pieces and firmly packed into, and completely filling the spaces between the flutes of the steel floor and form units and the top flange of the beam. Mineral wool is not required when the top flange of the beam is protected with intumescent coating at the same thickness shown in the table in Item 7.

7. **Mastic and Intumescent Coatings* —** Coating spray or brush applied in accordance with the manufacturer's instructions at the min dry thickness as shown in the table below. The thickness shown below includes the primer thickness. When mineral wool (Item 6) is used, the top surface of the beam need not be protected with coating.

Beam Size	Beam W/D	Unrestrained Beam Rating, Hr.	Minimum Dry Thickness	
			mils	mm
W6x16	0.58	1	39*	0.99*
W8x28	0.81	1	43	1.10
W8x24	0.70	1	53	1.34

W8x24	0.70	1-1/2	66	1.67
W8x24	0.70	2	115	2.92
W6x12	0.52	1	73	1.83
W6x12	0.52	1-1/2	99	2.50
W6x12	0.52	2	171	4.34
* NW concrete only (See Item 2).				

Beam Size	Beam W/D	Restrained Beam Rating, Hr.	Minimum Dry Thickness	
			mils	mm
W6x16	0.58	1	39*	0.99*
W8x24	0.70	1	53	1.34
W8x28	0.81	1	43	1.10
W8x24	0.70	1-1/2	53	1.34
W8x24	0.70	2	71	1.78
W8x24	0.70	3	158	4.00
W6x12	0.52	1	73	1.83
W6x12	0.52	1-1/2	73	1.83
W6x12	0.52	2	101	2.56
* NW concrete only (See Item 2).				

BERLIN CO LTD — Type WB3, Investigated for Interior General Purpose. Type WB4, Investigated for Interior General Purpose. Type WB4, Investigated for Exterior Use with top coat as described in Item 8

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type WB3, Investigated for Interior General Purpose. Type WB4, Investigated for Interior General Purpose. Type WB4, Investigated for Exterior Use with top coat as described in Item 8

ISOLATEK INTERNATIONAL — Type SprayFilm-WB 3 and Type WB3, Investigated for Interior General Purpose. Type SprayFilm-WB 4 and Type WB4, Investigated for Interior General Purpose. Type SprayFilm-WB 4 and Type WB4, Investigated for Exterior Use with top coat as described in Item 8

NEWKEM PRODUCTS CORP — Type WB3, Investigated for Interior General Purpose. Type WB4, Investigated for Interior General Purpose. Type WB4, Investigated for Exterior Use with top coat as described in Item 8

8. **Top Coat —** Type SprayFilm — TOPSEAL and Type TOPSEAL required for Exterior Use, applied at a minimum dry thickness of 14 mils (0.34 mm) over the intumescent material.

See Classification information in the **Mastic and Intumescent Coating** (CDWZ) category, Isolatek International, for mixing requirements.

* 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 2016-09-22