UL Product iQ™

BXUV.J718 - 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. J718

October 18, 2017

Restrained Assembly Ratings — 1-1/2, 2, 3, or 4 Hr (See Items 1, 5)

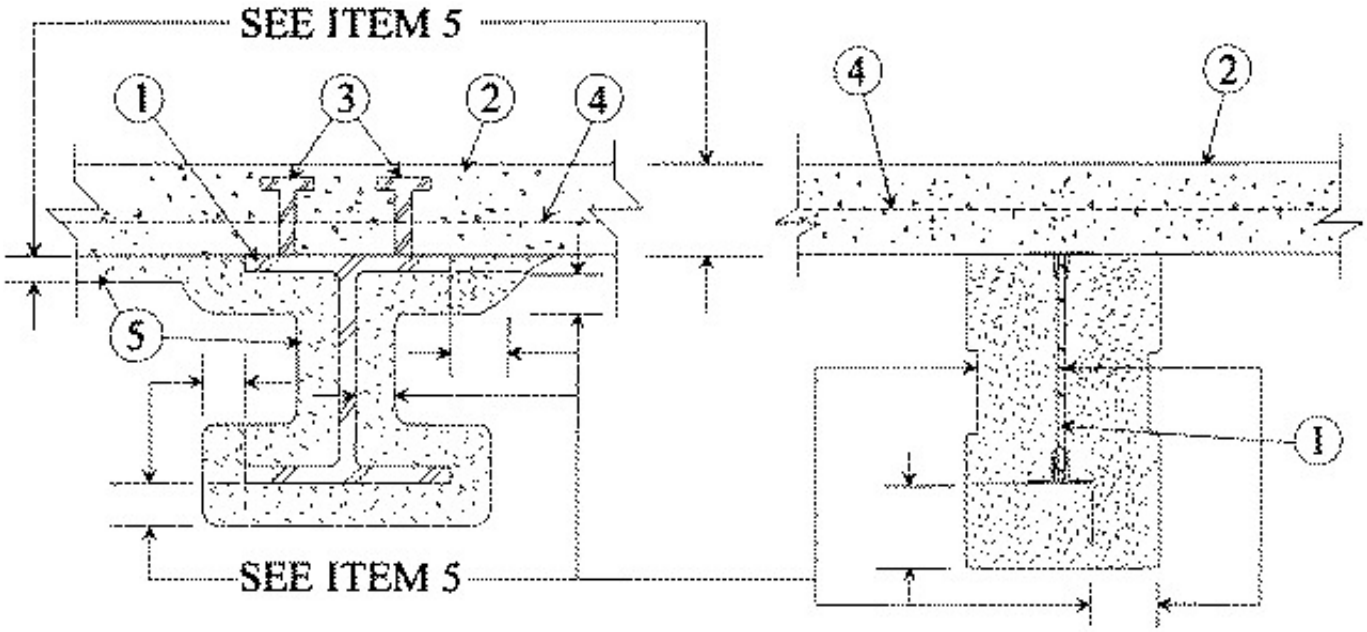
Unrestrained Assembly Ratings — 1-1/2, 2, 3, or 4 Hr (See Items 1, 5)

Unrestrained Beam Ratings — 1-1/2, 2, 3, or 4 Hr (See Items 1, 5)

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 Supports —** W8x28 steel beam min size or min. 10K1 steel joists.

2. **Normal Weight Concrete —** Normal weight concrete, carbonate or siliceous aggregate, 145 + or - 3 pcf unit weight, 3500 psi compressive strength, vibrated. Thickness of the slab shall vary according to the Restrained and/or Unrestrained Assembly Rating, the type of aggregate, and the thickness of the Spray-Applied Fire Resistive Materials protection of the bottom of the slab as shown in Item 5. For ratings up to 2 h, the min concrete cover shall be 3/4 in. For the 3 and 4 h ratings, the min concrete cover shall be 1 in.

3. **Shear Connector — (Optional) —** Studs 3/4 in. in diam headed type or equivalent per AISC specifications. Welded to top flange of beam.

4. **Reinforcing Steel —** (Not shown) — Min No. 3 (3/8 in. diam) deformed bars. Min areas of reinforcing steel must be provided in accordance with the latest (ACI) Specifications.

5. **Spray-Applied Fire Resistive Materials* —** See table below for appropriate thicknesses. Applied by mixing with water and spraying in more than one coat to the beam to the final thicknesses shown below. Deck crest areas shall be filled with Spray-Applied Fire Resistive Materials above the beam. Beam surfaces must be clean and free of dirt, loose scale and oil. Min avg and min ind density of 15/14 pcf respectively. Min avg and min ind density of 19/18 pcf respectively for Types 7GP and 7HD. For method of density determination, see Design Information Section.

Slab Thkns In		Spray Applied Fire Resistive Mtl Thkns on Slab In. Restrained or Unrestrained Assembly Rating Hr				
Carbonate Aggregate	**Siliceous Aggregate**	**1**	**1-1/2**	**2**	**3**	**4**
2-1/2	2-1/2	9/16	5/8	15/16	1-1/4	—
2-3/4	3	—	9/16	11/16	1-1/8	1-1/2
3	3-1/2	—	—	9/16	1	1-3/8

3-1/4	3-3/4	—	—	1/2	15/16	1-1/4
4	4-1/2	—	—	—	1/2	15/16
5	5-1/2	—	—	—	—	1/2

Joist Thickness

Restrained Assembly	Unrestrained Assembly	Unrestrained Beam	SFRM Thickness	SFRM Thickness Joist Spacing 4 ft. OC spacing or less
1	1	1	3/4	9/16
1-1/2	1	1	1-3/16	13/16
1-1/2	1-1/2	1-1/2	1-3/16	15/16
2	1	1	1-5/16	1-1/4
2	2	2	1-5/8	1-1/4
3	1-1/2	1-1/2	2-9/16	2
3	3	3	2-9/16	2

W8x28 Beam Thickness

Restrained Assembly	Unrestrained Assembly	Unrestrained Beam	SFRM Thickness
1	1	1	7/16
1-1/2	1	1	7/16
1-1/2	1-1/2	1-1/2	5/8
2	1	1	7/16
2	2	2	13/16
3	1-1/2	1-1/2	5/8
3	3	3	1-1/4
4	4	4	1-13/16

The thickness of Spray-Applied Fire Resistive Materials shown in the table below are applicable when the thickness applied to the beams lower flange edges is reduced by one-half and the beams are supporting solid concrete slabs.

W8x28 Beam with Half Flange Thickness

Restrained Assembly	Unrestrained Assembly	Unrestrained Beam	SFRM Thickness
1	1	1	1/2
1-1/2	1	1	1/2
1-1/2	1-1/2	1-1/2	3/4
2	1	1	1/2
2	2	2	1
3	1-1/2	1-1/2	3/4
3	3	3	1-1/2
4	4	4	2-1/8

+Thickness applied to beam's lower flange shall be a min of 1/4 in.

SOUTHWEST FIREPROOFING PRODUCTS CO — Types 4, 5, 5EF, 5GP, 5AR, 5GP/AR, 5EF/AR, 5MD/AR, 5MD, 7GP, 7HD, 8EF, 8GP, 8MD, 9EF, 9GP, 9MD.

6. **Metal Lath —** (Not Shown) —(Required with 7H-D, otherwise optional) — Metal lath shall be 3/8 in., expanded diamond mesh, weighing 2.5 lb per sq yd. Secured to underside of slab through steel washers with an outside diam of 1/2 in. Fasteners spaced 12 in. OC in both directions with lath edges overlapped approx 3 in.

7. **Metal Lath —** (Not Shown) — Required when Type 7HD is applied - Metal lath shall be 3/8 in. expanded diamond mesh, weighing 3.4 lb per sq yd. Secured to underside through steel washers with an outside diam of 1/2 in. with fasteners spaced 12 in. OC in both directions with lath edges overlapped approx 3 in.

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