

UL Online Certifications Directory
BXUV.J709
Fire Resistance Ratings - ANSI/UL 263

[Page Bottom](#)

Fire Resistance Ratings - ANSI/UL 263

[See General Information for Fire Resistance Ratings - ANSI/UL 263](#)

Design No. J709

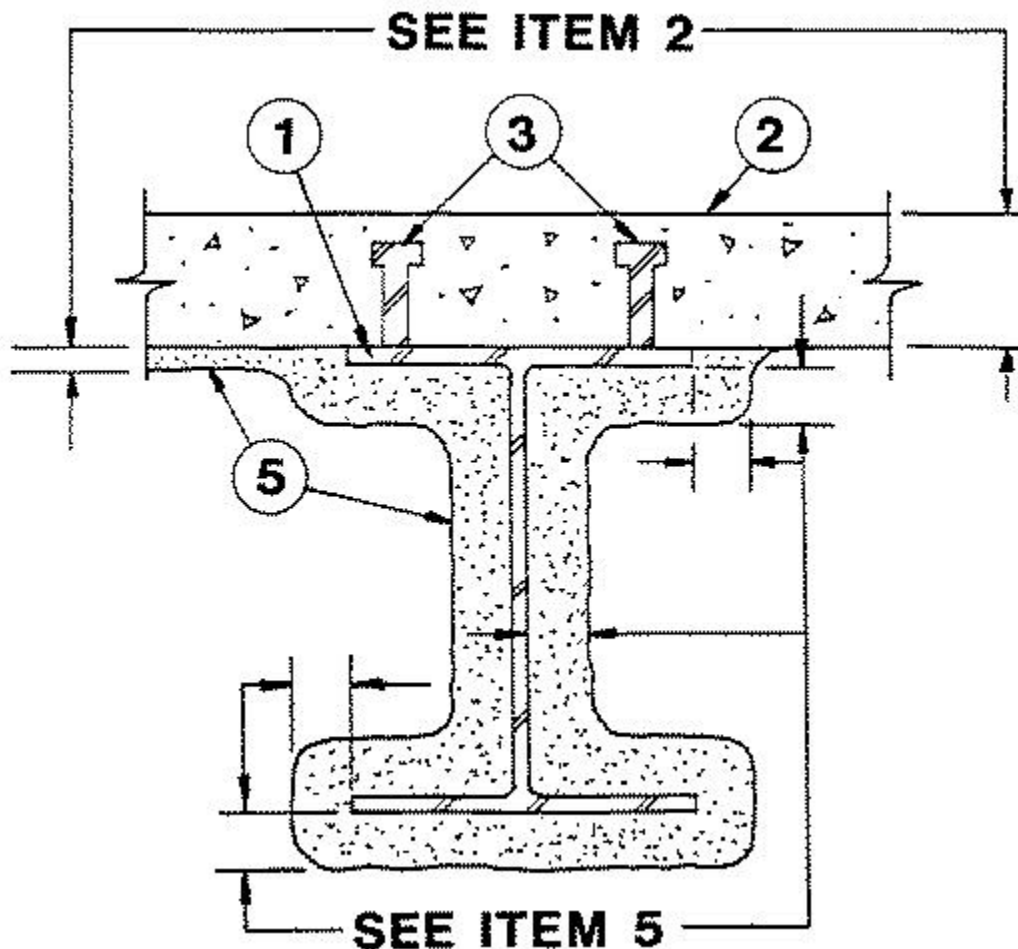
May 23, 2006

Restrained Assembly Ratings — 1, 1-1/2, 2 or 3 Hr

Unrestrained Assembly Ratings — 1, 1-1/2, 2 or 3 Hr

Unrestrained Beam Ratings — 1, 1-1/2, 2, 3 Hr

Load Restricted for Canadian Applications — See Guide [BXUV7](#)



1. **Beam** — W8x28 min size.

2. **Normal Weight or Lightweight Concrete** — Normal weight concrete carbonate or siliceous aggregate, 145 plus or minus 3 pcf unit weight, 3500 psi compressive strength, vibrated. Lightweight concrete, expanded shale, or slate aggregate by rotary-kiln method, or expanded clay aggregate by rotary-kiln or sintered-grate method: 3000 psi compressive strength, vibrated, 4 to 7 percent entrained air, unit weight 105 pcf plus or minus 3.

Restrained & Unrestrained Assembly Rating Hr	Type of Concrete Aggregate	Min Slab Thk in.	
		Bare Slab	Slab protected with 3/8 In. Thk Spray Applied Fire Resistive Mtl
1, 1-1/2 or 2	NW	5	—
3	NW	6-1/4	5
1-1/2, 2 or 3	LT WT	5	—

For the unprotected slab the min concrete cover below the reinforcements shall vary according to the Restrained and Unrestrained Assembly Rating and the type of concrete aggregate as follows:

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Min Thkns of Concrete Cover In.
1, 1-1/2 or 2	1 or 1-1/2	1
2 or 3	2	1
3	3	1-5/8*

*For slabs with max spans of 10 ft the min cover thickness shall be 1 in.

3. **Shear Connector** — (Optional) — Studs 3/4 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, either grade 40 or 60. 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. Prepared by mixing with water and spray-applied in one or more coats to beam surfaces or bottom side of concrete slab (if slab to be protected) which must be clean and free of dirt, loose scale and oil. Min average density of 15 pcf with min individual 14 pcf. Min avg and min ind density 22/19 pcf respectively for Types Z-106, Z-106/G. Min avg and min ind density of 19/18 pcf respectively for Type 7GP and 7HD. For method of density determination, see Design Information Section.

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Thkns on Beam In.
1-1/2	1	1	7/16
2	1	1	7/16
2	1-1/2	1-1/2	3/4
3	1-1/2	1-1/2	3/4
3	2	2	1
3	3	3	1-5/16

The thicknesses of Spray-Applied Fire Resistive Materials shown in the Table below are applicable when the thickness applied to the beam's lower flange edges are reduced to one half that shown in the table.

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Thkns on Beam In.
1-1/2	1	1	7/16+
2	1	1	7/16+
2	1-1/2	1-1/2	3/4
3	1-1/2	1-1/2	3/4
3	2	2	1
3	3	3	1-9/16

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

ARABIAN Vermiculite Industries — Types MK-6/CBF, MK-6/ED, MK-6/HY, MK-6s, Sonophone 1, Sonophone 5, Z-106, Z-106/G.

GRACE Korea Inc — Types MK-6/CBF, MK-6/ED, MK-6/HY, MK-6s, Monokote Acoustic 1, Monokote Acoustic 5, Z-106, Z-106/G.

PYROK Inc — Type LD.

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

W R GRACE & CO - CONN

CONSTRUCTION PRODUCTS DIV — Types MK-6/HY, MK-6s, Monokote Acoustic 1, Monokote Acoustic 5, RG, Z-106, Z-106/G.

*Bearing the UL Classification Mark

Last Updated on 2006-05-23

[Questions?](#)

[Notice of Disclaimer](#)

[Page Top](#)

[Copyright © 2006 Underwriters Laboratories Inc.®](#)

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Listed and covered under UL's Follow-Up Service. Always look for the Mark on the product.

UL permits the reproduction of the material contained in the Online Certification Directory subject to the following conditions: 1. The Guide Information, Designs and/or Listings (files) must be presented in their entirety and in a non-misleading manner, without any manipulation of the data (or drawings). 2. The statement "Reprinted from the Online Certifications Directory with permission from Underwriters Laboratories Inc." must appear adjacent to the extracted material. In addition, the reprinted material must include a copyright notice in the following format: "Copyright © 2006 Underwriters Laboratories Inc.®"

An independent organization working for a safer world with integrity, precision and knowledge.

