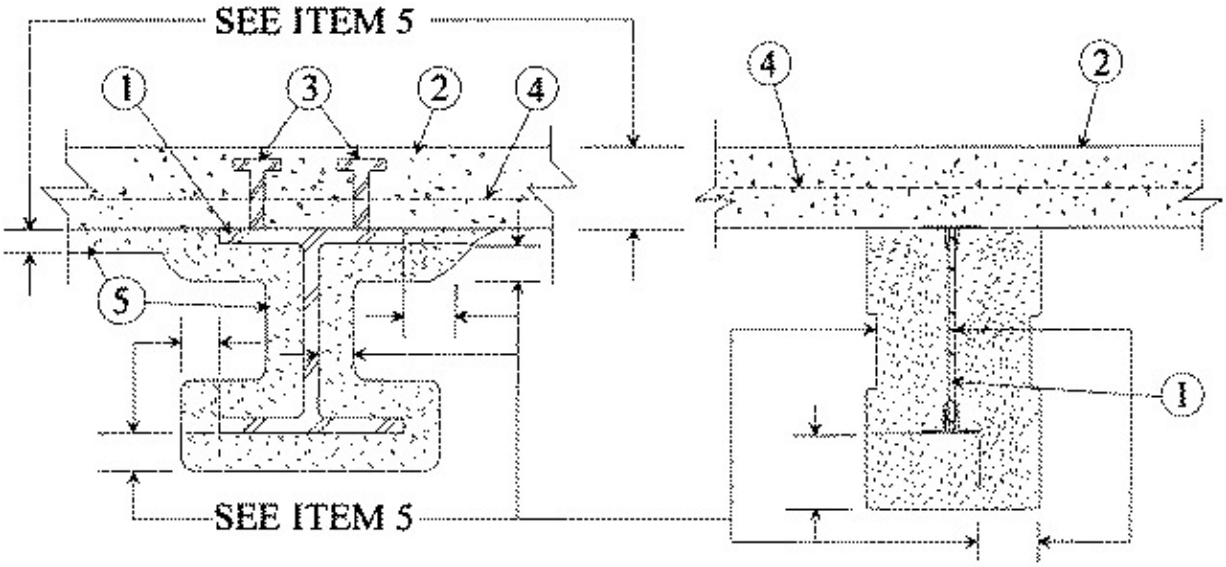
UL Design No. J718
December 15, 2006
Restrained Assembly Ratings — 1-1/2, 2, 3, or 4 Hr (See Item 5)
Unrestrained Assembly Ratings — 1-1/2, 2, 3, or 4 Hr (See Item 5)
Unrestrained Beam Ratings — 1-1/2, 2, 3, or 4 Hr (See Item 5)

Load Restricted for Canadian Applications — See Guide BXUV7



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 17/16 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	9/16	13/16
1-1/2	1-1/2	1-1/2	9/16	15/16
2	1	1	1-1/8	1-1/4
2	2	2	1-1/8	1-1/4
3	1-1/2	1-1/2	2-3/16	2
3	3	3	2-3/16	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 or floor assemblies containing only fluted floor or form units.

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, 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.

*Bearing the UL Classification Mark