BXUV.D947
Fire Resistance Ratings - ANSI/UL 263

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See General Information for Fire Resistance Ratings - ANSI/UL 263

Design No. D947

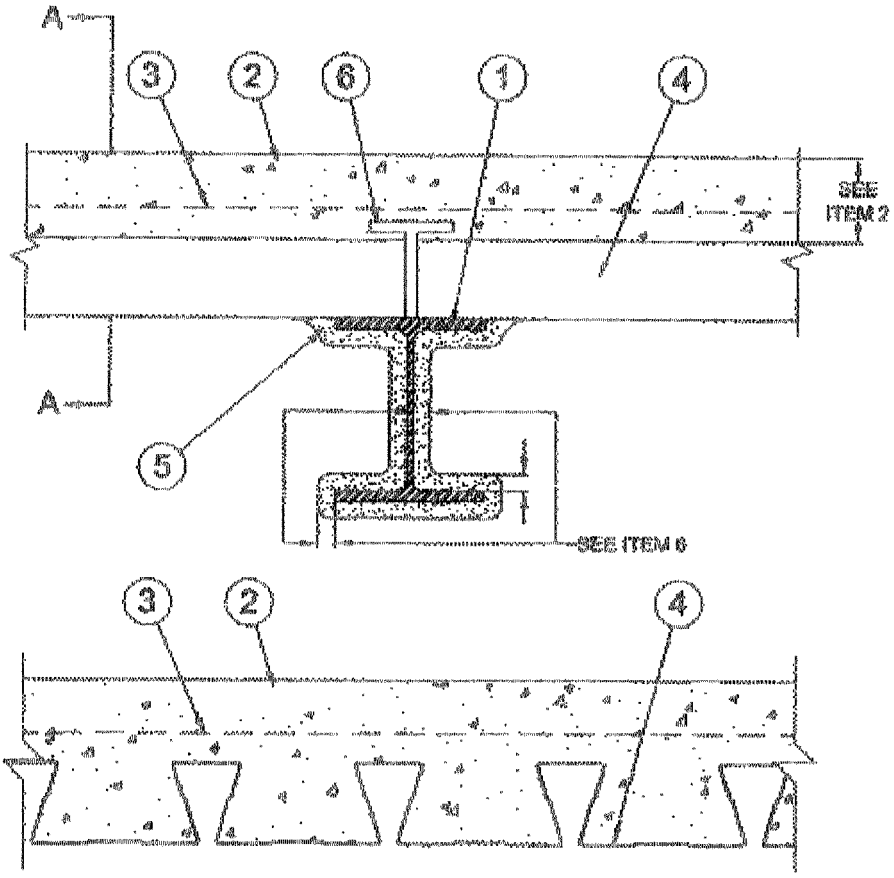
December 13, 2006

Restrained Assembly Ratings - 1, 1-1/2, 2 and 3 Hr. (See Items 2 and 5)

Unrestrained Assembly Rating - 3/4 and 1-1/2 Hr. (See Item 4)

Unrestrained Beam Rating - 1, 1-1/2 Hr.(See Item 5)

Load Restricted for Canadian Applications -- See Guide BXUV7



SECTION A-A

1. **Beam** -- W10x29 or W8x28, min size. (See Item 6).

2. **Normal-Weight or Lightweight** — Normal weight concrete, carbonate or siliceous aggregate, 147 to 153 pcf unit weight, 3500 psi compressive strength. Lightweight concrete, expanded shale, clay or slate aggregate by rotary-kiln method or expanded clay or flyash aggregate by sintered-grate method, 107 to 113 pcf unit weight, 3000 psi compressive strength.

Type Versa-Dek 3.5LS			
Restrained Assembly Rating Hr	**Concrete (Type)**	**Concrete Cover In.**	**Concrete Thkns In.**
1-1/2	Normal Weight	2	5-1/2
1-1/2	Lightweight	2	5-1/2
2	Normal Weight	2-1/4	5-3/4
2	Lightweight	2	5-1/2
3	Normal Weight	3-3/4	7-1/4
3	Lightweight	2-1/4	5-3/4
Type Versa-Dek 3.5LS Composite Acoustical			
Restrained Assembly Rating Hr	**Concrete (Type)**	**Concrete Cover In.**	**Concrete Thkns In.**
1-1/2	Normal Weight	3-1/4	6-3/4
1-1/2	Lightweight	2-1/4	5-3/4
2	Normal Weight	3-3/4	7-1/4
2	Lightweight	2-1/2	6
3	Normal Weight	4-1/2	8
3	Lightweight	3-7/16	6-15/16

3. **Welded Wire Fabric** — 6 x 6—W1.4 x W1.4.

4. **Steel Floor or Form Units*** — Composite 3-1/2 in. deep, 24 in. wide, 20 MSG min galv fluted units. Welded or mechanically attached to supports 12 in. OC max. Adjacent units screwed or welded together 36 in. OC at joints. For composite slab clear spans not more that 10 ft, the Unrestrained Assembly Rating is 1-1/2 hr.

CONSOLIDATED SYSTEMS INC — Type Versa-Dek 3.5LS, Type Versa Dek 3.5LS Composite Acoustical

5. **Spray-Applied Fire Resistive Materials*** — Applied by mixing with water and spraying in more than one coat to steel beam surfaces which are clean and free of dirt, loose scale, and oil. Min average and min individual density of 17.5 and 16 pcf, respectively, for Types 300, 300ES, 300N and SB. Min average and min individual density of 22 and 19 pcf, respectively, for Type 400. For method of density determination, see Design Information Section, Sprayed Material. The Spray-Applied Fire Resistive Materials shall be applied to the floor units a min of 2 in. beyond each side of the beam's top flange at the beam thickness. Crest areas above the beam need not be filled with Spray-Applied Fire Resistive Materials.

The min thicknesses of Spray-Applied Fire Resistive Materials required for various fire resistance ratings are shown in the table below:

Restrained Assembly Rating Hr	**Unrestrained Beam Rating Hr**	**Min Beam Size**	**Min Thkns on Beam In.**
1-1/2, 2, 3	1-1/2	W10x29	3/4
1, 1-1/2, 2	1	W10x29	9/16
1-1/2, 2, 3	1-1/2	W8x28	3/4
1, 1-1/2, 2	1	W8x28	1/2

ISOLATEK INTERNATIONAL — Type 300, 300ES, 300N, 400 or SB

In lieu of Item 5, **Spray-Applied Fire Resistive Materials*** — (Not shown)

5A. Applied by spraying with water in one coat, to a final untamped thickness as shown above to steel beam surface which is free of dirt, oil, and scale. Use of adhesive is optional. Steel beam surfaces shall be wetted with water before sprayed-fiber application. The material shall be sprayed to the floor units a min of 2 in. beyond the beam's top flange at the beam thickness. Crest areas above the beam need not be filled with fiber. After completion of application, all surfaces of the material shall be given a light spray of water. Min avg untamped density, 13 pcf, with min ind untamped density, 11 pcf for Types II or DC/F. Min avg and min ind untamped densities of 22 and 19 pcf, respectivaly, for Type HP. For method of density determination, refer to Design Information Section.

Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Min Beam Size	Min Thkns on Beam In.
1-1/2, 2, 3	1-1/2	W10x29	3/4
1, 1-1/2, 2	1	W10x29	9/16
1-1/2, 2, 3	1-1/2	W8x28	3/4
1, 1-1/2, 2	1	W8x28	1/2

CIL GROUP LTD — Type D-C/F or II, Type EBS or Type X adhesive/sealer is optional

ISOLATEK INTERNATIONAL — Type D-C/F, HP or Type II, Type EBS or Type X adhesive/sealer is optional

6. **Joint Cover** — Optional — Studs, 3/4 in. diam by 3 in. long headed type or equivalent per AISC specifications. Welded to the top flange of the beam through the steel form units.

*Bearing the UL Classification Mark

Last Updated on 2006-12-13