

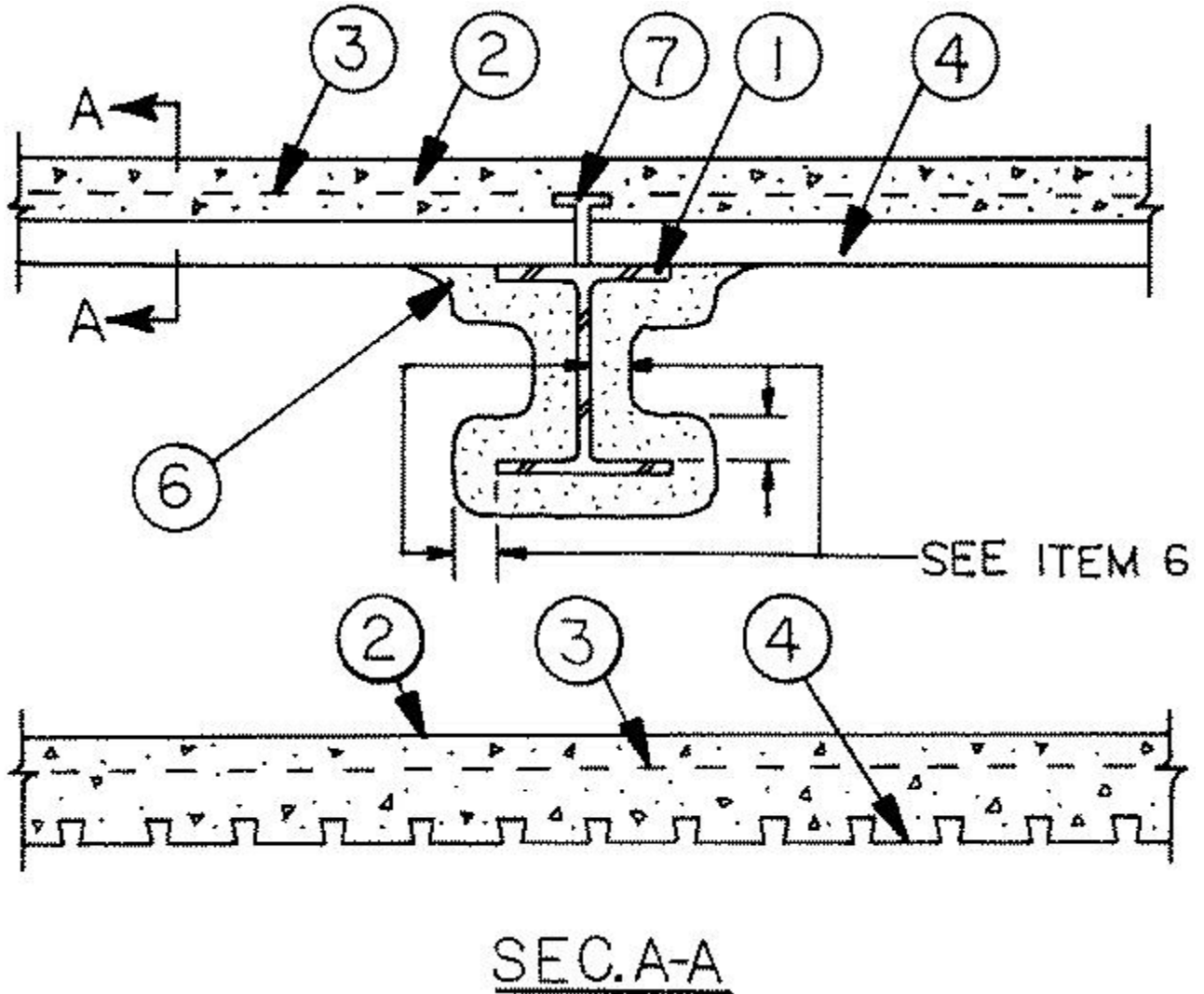
Design No. D904

June 07, 2002

Restrained Assembly Ratings — 1-1/2, 2 and 3 Hr. (See Items 2 and 6)

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

Unrestrained Beam Rating — 1, 1-1/2 Hr.(See Item 6)



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

2. **Normal-Weight, Lightweight or Semi-Lightweight** — Normal weight concrete, carbonate or siliceous aggregate, 147 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, 112 pcf unit weight, 4000 psi compressive strength. Semi-Lightweight concrete, consisting of lightweight aggregate as described above and carbonate or siliceous normal weight aggregate, 130 pcf, 3500 psi compressive strength.

| Restrained Assembly Rating Hr | Concrete (Type) | Total Slab Thkns In. |
|--------------------------------------|------------------------|-----------------------------|
| 1-1/2 | Normal Weight | 4-3/4 |
| 2 | Normal Weight | 5-1/4 |
| 2 | Semi-Lightweight | 5 |
| 2 | Lightweight | 4-1/2 |
| 3 | Normal Weight | 6-3/4 |
| 3 | Lightweight | 5-1/4 |
| 3 | Semi-Lightweight | 6 |

3. **Welded Wire Fabric** — 6x6 — 6/6 SWG.

4. **Steel Floor and Form Units***; — Composite. 2 in. deep, 24 in. wide, 22 MSG min galv fluted units. Welded to supports 12 in. O.C. max. Adjacent units button-punched or welded together 36 in. O.C. at joints. For 2 in. deep units with clear spans not more than 10 ft, the Unrestrained Assembly Rating is 1-1/2 hr.

CONSOLIDATED SYSTEMS INC — 24 in. wide, Type Versa-Dek® S, LS, XLS. Units may be phos/ptd.

5. **Joint Cover** — Optional — (Not shown) — 2 in. wide cloth adhesive tape applied following the contour of the steel form units or around the end of each open flute.

6. **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 |
| 1-1/2, 2 | 1 | W10x29 | 9/16 |
| 1-1/2, 2, 3 | 1-1/2 | W8x28 | 3/4 |
| 1-1/2, 2 | 1 | W8x28 | 1/2 |

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

In lieu of Item 6, **Spray-Applied Fire Resistive Materials*** — (Not shown)

6A. 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, respectively, 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 |
| 1-1/2, 2 | 1 | W10x29 | 9/16 |
| 1-1/2, 2, 3 | 1-1/2 | W8x28 | 3/4 |
| 1-1/2, 2 | 1 | W8x28 | 1/2 |

CIL GROUP LTD — Type II 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.

7. **Shear-Connector Studs** — 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

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