

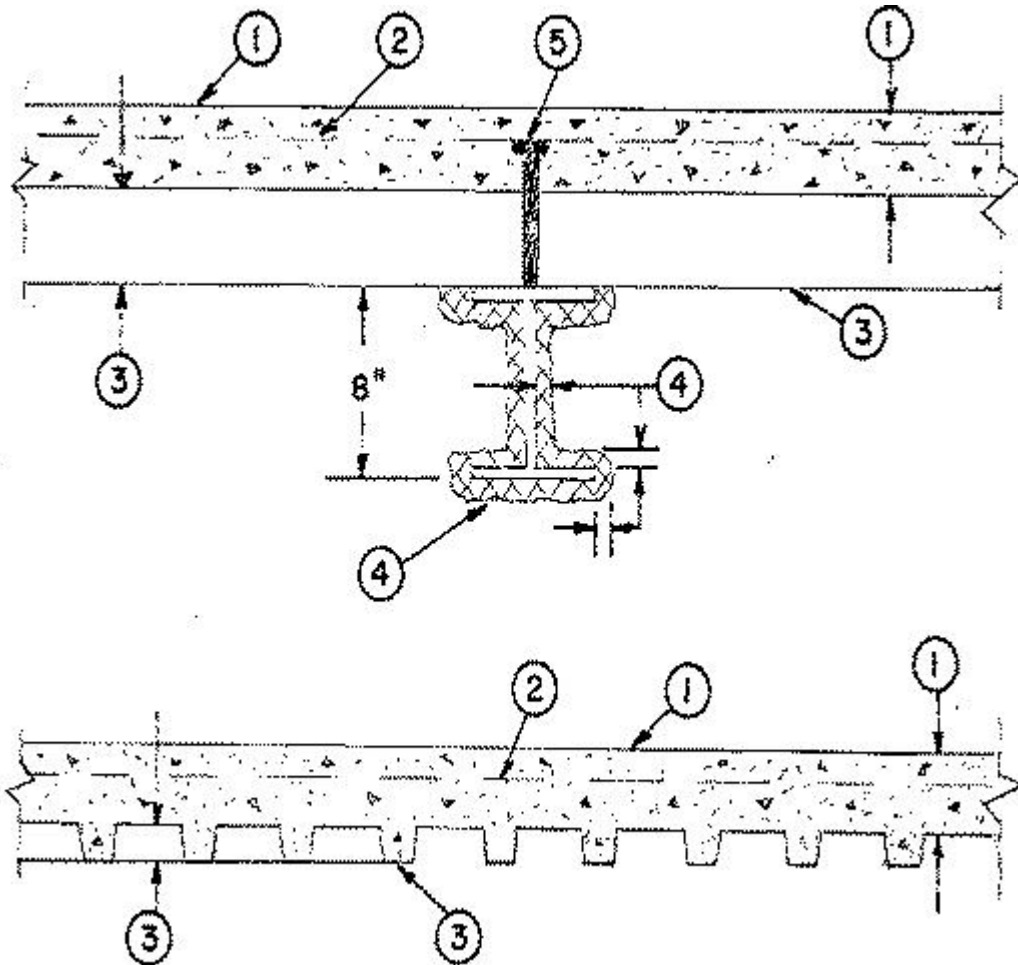
Design No. D918

April 25, 2002

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

Unrestrained Assembly Rating — 0 Hr (See Item 3)

Unrestrained Beam Rating — 1 and 1-1/2 Hr (See Item 4)



Beam — W8X20, min size.

1. **Normal Weight or Lightweight Concrete** — Normal weight concrete carbonate or siliceous aggregate, 153 + or - 3 pcf unit weight, 3500 psi compressive strength, vibrated. Lightweight concrete, expanded shale, clay or slate aggregate by rotary kiln method 110 + or - 3 pcf unit weight, 3000 psi compressive strength, vibrated, 4 to 7 percent entrained air.

Restrained Assembly Rating Hr	Concrete (Type)	Concrete Unit Weight pcf	Concrete Thkns In.
1	Normal Weight	—	3-1/2
1-1/2	Normal Weight	—	4
2	Normal Weight	—	4-1/2
3	Normal Weight	—	5-1/4
1	Lightweight	107-113	2-1/2
2	Lightweight	107-113	3-1/4
2	Lightweight	107-120	3-1/2
3	Lightweight	107-113	4-3/16
3	Lightweight	107-120	4-7/16

2. **Welded Wire Fabric** — 6 x 6 - W1.4 x W1.4.

3. **Steel Floor and Form Units*** — Composite 1-1/2, 2 or 3 in. deep galv units. Min gauges are 22 MSG for fluted and 20/20 MSG for cellular. Fluted units may be phos/ptd. The following combinations of units may be used:

- (1) All fluted.
- (2) A blend of one or more fluted units to one 24 in. wide cellular unit.

CONSOLIDATED SYSTEMS INC — 24 or 36 in. wide Type CFD-2 or CFD-3; 24, 30 or 36 in. wide Type CFD-1.5. Units may be phos/ptd.

Spacing of welds attaching units to supports shall be 12 in. OC for 12, 24 and 36 in. wide units, four welds per sheet for 30 in. wide units. Adjacent units button-punched or welded together 36 in. OC along side joints.

The Unrestrained Assembly Rating is 1-1/2 Hr. for the following units and limitations:

- (a) 1-1/2 in. deep, 24 in. wide, 22 MSG or thicker fluted with clear spans not more than 7 ft 8 in.
- (b) 1-1/2 in. deep, 24 in. wide, 20 MSG or thicker fluted with clear spans not more than 8 ft 8 in.
- (c) 1-1/2 in. deep, 24 in. wide, 16 MSG or thicker fluted and 18/18 MSG or thicker cellular with clear spans not more than 9 ft 11 in.
- (d) 3 in. deep, 36 in. wide, 18 MSG or thicker fluted and 24 in. wide, 20/18 MSG or thicker cellular with clear spans not more than 13 ft 2 in.

4. **Spray-Applied Fire Resistive Materials*** — Spray applied in one coat to a final tamped or untamped thickness as shown in table below, to steel surface which must be clean and free of dirt, oil, and loose scale. Use of adhesive and tamping is optional. Min avg density of 11 pcf with min ind density of 9 pcf. For areas where the fiber density is between 8 and 11 pcf, the fiber thickness shall be increased in accordance with the following formula:

$$\text{Thickness, in.} = \frac{(11) (\text{Design Thickness, in.})}{\text{Actual Fiber Density, pcf}}$$

Fiber density shall not be less than 8 pcf. For method of density determination, see Design Information Section.

Unrestrained Beam Rating Hr	Restrained Assembly Rating Hr	Concrete (Type)	Min. Thkns In. (Beam)
1	1, 1-1/2, 2	Normal Weight	1/2
1	1, 2	Lightweight	5/8
1-1/2	3	Normal Weight	1-1/16
1-1/2	3	Lightweight	1-1/8

A/D FIRE PROTECTION SYSTEMS INC — A/D Type FP.

5. **Shear-Connector Studs** — (Optional) — Studs, 3/4 in. diam by 3 in. long, for 1-1/2 in. deep form units to 5-1/4 in. long for 3 in. deep form units, 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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