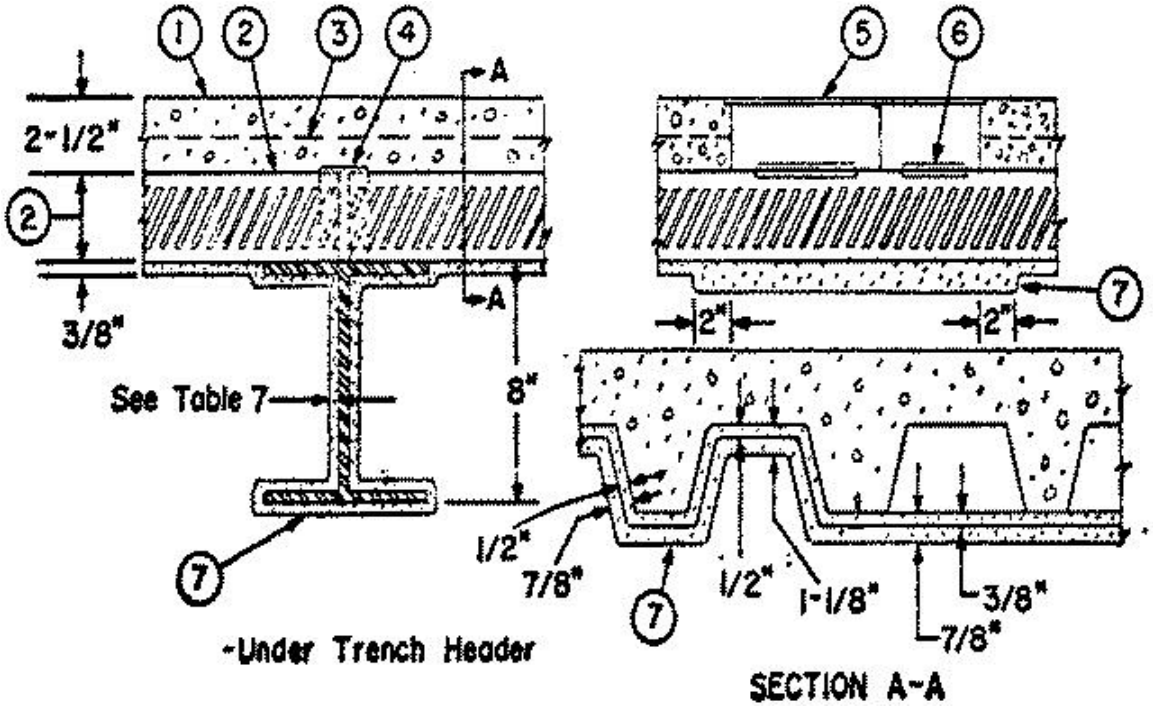
Design No. D852
October 31, 2003

Restrained Assembly Rating — 2 Hr.

Unrestrained Assembly Ratings — 1 and 2 Hr.

Unrestrained Beam Ratings — 1 and 2 Hr.



Beam — W8X24, min size.

1. **Normal Weight or Light Weight Concrete —** Normal weight concrete carbonate aggregate, 150 + or - 3 pcf unit weight, 3500 psi compressive strength, vibrated. Light weight concrete, expanded shale or slate aggregate by rotary-kiln method or expanded clay aggregate by rotary-kiln or sintered-grate method; 1 part portland cement, 2/3 parts sand, 3 parts fine light weight aggregate, 3 parts medium light weight aggregate, by bulk volume, 2 oz air entrainment per bag of cement, 110 + or - 3 pcf unit weight, 3000 psi compressive strength, vibrated.

2. **Steel Floor and Form Units* —** Composite 1-1/2, 2 or 3 in. deep galv units, 24, 30 or 36 in. wide, min 22 MSG for fluted and 20/18 MSG for cellular units, welded to supports 8 or 12 in. O.C.Adjacent units, button-punched or welded together 36 on. O.C. along side joints. For spans containing trench headers allowable loading shall be calculated on the basis of noncomposite design. The following combination of units may be used:

(1) Alternating one 24, 30 or 36 in. wide fluted unit to one 24 in. wide cellular unit.

(2) Alternating one 24 in. wide 18/16 MSG min cellular unit to one 24 in. wide, 16 MSG min fluted unit with every third fluted unit replaced with two 12 in. wide 18/18 MSG min cellular units.

(3) 24 or 36 in. wide 22 MSG min fluted units welded to supports 8 or 12 in. OC.

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

Alternate Construction-Non-composite units of same type listed above may be used provided allowable loading is calculated on the basis of **noncomposite** design.

3. **Welded Wire Fabric —** -6x6, W1.4xW1.4.

4. **Joint Cover —** 2 in. wide pressure sensitive cloth tape.

5. **Trench Header Duct —** (Bearing the UL Listing Mark). Constructed of steel and provided with metal edge screeds. As an alternate construction trench headers and the additional thickness of Spray-Applied Fire Resistive Materials below them may be omitted.

6. **Access Openings —** As required, with grommets.

7. **Spray-Applied Fire Resistive Materials* —** Applied to wetted steel surfaces which are free of dirt, oil or loose scale by spraying with water to the final thickness shown above, and in table below. The use of adhesive and sealer and the tamping of fiber are optional. The min ind density of the finished fiber should be 11 pcf and the specified fiber thicknesses require a min fiber density of 11 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 refer to the Design Information Section.

Min Thkns on Beam In.	Unrestrained Assembly Rating Hr	Restrained Assembly Rating Hr	Unrestrained Beam Rating Hr
1/2	1	2	1
1-1/8	2	2	2

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

8. **Shear-Connector Studs — Optional —** (Not Shown) — 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 beam through the steel form units.

*Bearing the UL Classification Mark