

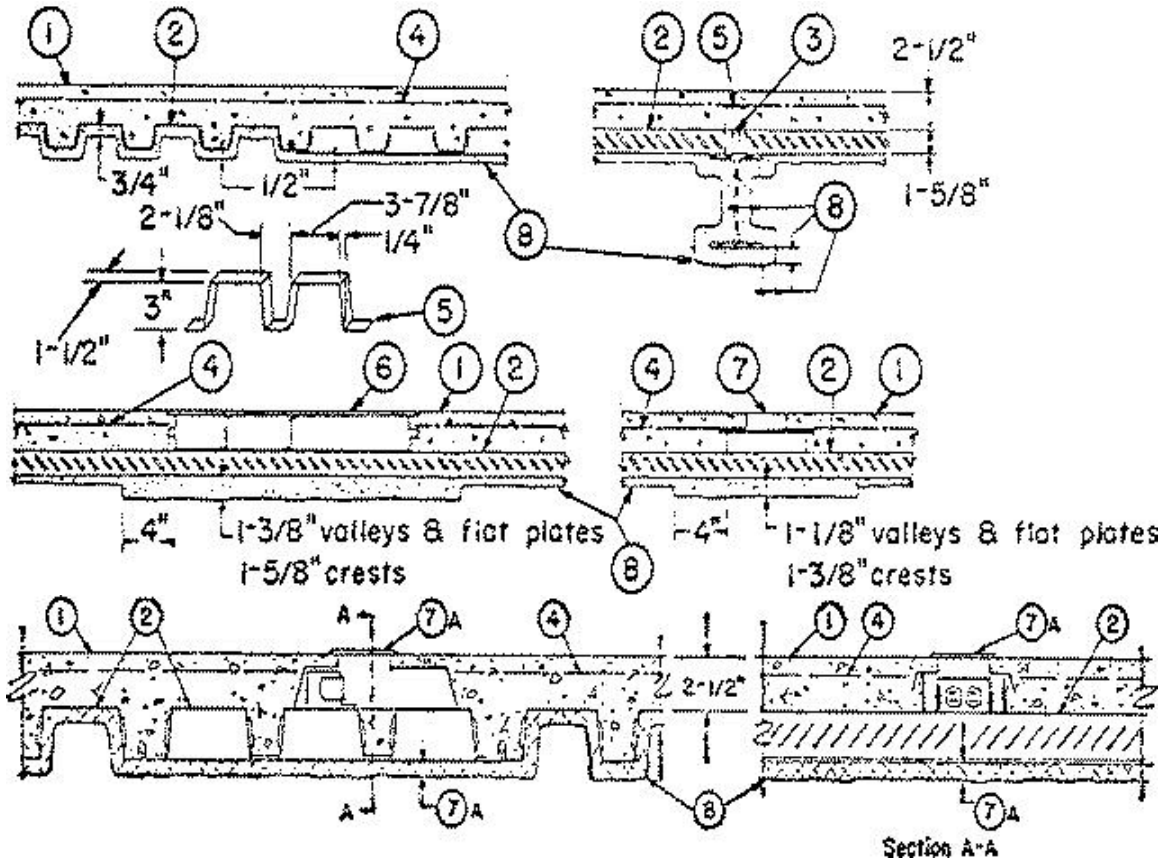
Design No. D831

June 14, 2002

Restrained Assembly Ratings — 2 and 3 Hr. (See Item 8)

Unrestrained Assembly Ratings — 1, 1-1/2 and 2 Hr. (See Item 8)

Unrestrained Beam Ratings — 1, 1-1/2 and 2 Hr. (See Item 8)



Beam — W6x12 or W8x28, min size — see Item 8.

1. **Normal-Weight or Lightweight Concrete** — Normal weight concrete, carbonate or siliceous aggregate, 151 (+ or -) 3 pcf unit weight, 3000 psi compressive strength. Lightweight concrete, expanded shale or slate aggregate by rotary-kiln method, 120 (+ or -) 3 pcf unit weight, 3000 psi compressive strength.

2. **Steel Floor and Form Units*** — Composite nom 1-1/2, 2 or 3 in. deep galv cellular and fluted units. Min gauges of units are 22 MSG for fluted and 20/20 MSG for cellular. In spans containing the bottomless Tench Header (Item 6), min gauges of units are 20 MSG for fluted and 20/18 MSG for cellular. Units welded to supports a max of 12 in. OC. Unless noted otherwise adjacent units button-punched or welded together 36 in. OC max at side joints. The following combinations of units may be used:

(1) One cellular to one or more fluted, or (2) all fluted

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

Alternate Construction — Noncomposite units of the same type listed above may be used provided allowable loading is calculated on the basis of noncomposite design.

3. **Joint Cover** — 2-in. wide cloth adhesive tape applied following the contour of the steel form units.

4. **Welded Wire Fabric** — 6x6 W1.4xW1.4.

5. **Shear Connector Strap or Shear Studs** — No. 12 MSG uncoated steel strap welded to the top flange of beam through the deck with 1/8 in. fillet welds 1-1/2 in. long and 6 in. O.C. on each side of the strap and across the ends. Studs, 3/4 in. diam by 3 in. long, headed type or equivalent per AISC specifications. Welded to the top flange of beam through the steel form units.

6. **Trench Header** — (Bearing the UL Listing Mark). Constructed of steel and provided with metal edge screeds. When the trench header is located near a support the load carrying capacity of the span may be based on the allowable moment or shear stress of the floor units at the edge of the trench header away from the support, or on the allowable composite moment or shear capacity of the slab at the center of the span, whichever governs.

As an alternate in spans employing min 20/18 MSG cellular floor units and/or min 20 MSG fluted floor units, trench headers (Bearing the UL Listing Mark) without the bottom pan may be used. The allowable superimposed load for spans with a bottomless trench header shall be based on noncomposite design. The bottomless trench header, with a max width of 36 in., consists of two cell closers which conform to the contour of the floor units, placed along the sides of the desired trench header location and welded to the floor units. The side rails, consisting of extruded aluminum screeds secured to galv steel channels (min 18 MSG), are positioned over the cell closers, aligned, and welded to the cell closers and floor units. A separate U-shaped galv steel channel (min 18 MSG), serving as the power compartment, is welded to the floor units. Steel cover plates, 1/4 in. thick, shall be secured to the side rails. In bottomless trench headers wider than 18 in., each side joint of the steel floor units shall be welded with a 1 in. long weld near the trench header centerline. The use of the bottomless trench header requires additional protection underneath the trench header. Fireproofing thickness shall be increased to 2-1/4 in. in crests and 2-1/8 in. on valleys and flat plates.

7. **Header Duct** — (Bearing the UL Listing Mark) 1-1/2 in. deep by 6-3/4 in. wide. Housing constructed of steel.

7A. **Electrical Inserts** — Preset and after set electrical inserts Classified as "**Outlet Boxes and Fittings Classified for Fire Resistance.**"* Unless specified otherwise for a particular preset electrical insert type, the spacing of the preset electrical inserts shall be not less than 24 in. O.C. along cellular steel floor units with not more than one preset electrical insert in each 8 sq ft of floor area. The required thickness of Spray-Applied Fire Resistive Materials on the cellular steel floor units with electrical inserts shall be sprayed the entire length and width of the cellular steel floor units between supports and shall extend onto adjacent floor units for a minimum horizontal width of 12 in.

(2) **Walker Systems Inc.** Preset Inserts.

Installed per accompanying installation instructions over factory-punched holes in 3 in. deep K-Type cellular steel floor units. Either Type RAKM-II, FAKM-II, S36BB, S36BC or S36CC service fittings are installed with Type N-R-G Bloc IV Series preset inserts per accompanying installation instructions. Refer to installation instructions for Classified assemblies. The required Spray-Applied Fire Resistive Materials thicknesses on steel floor units with inserts are tabulated below:

Restrained Assembly Rating, Hr	Floor Unit Type	Concrete Type	Min Spray Applied Fire Resistive Mtl Thk In.
(RAKM-II, S36BB, S36BC, S36CC)			
2	3 in. K	LW or NW	11/16
3	3 in. K	LW or NW	1
(FAKM-II)			
2	3 in. K	LW or NW	7/16
3	3 in. K	LW or NW	13/16

WALKER SYSTEMS INC — Type N-R-G Bloc IV Series inserts; Type RAKM-II, FAKM-II, S36BB, S36BC or S36CC service fittings.

8. **Spray-Applied Fire Resistive Materials*** — Applied in one or more coats, depending on required thickness, by spraying with water to steel surfaces which are free of dirt, oil or scale. No tamping required. Surface of cellular units and fluted units under bottomless trenches must be sprayed with adhesive diluted with water and the first coat of material applied while the adhesive is still tacky. Adhesive is also required on 22 MSG fluted units. Min avg density of fiber is 13 pcf and the min ind value is 11 pcf for Types II or DC/F. Min avg and min ind densities of 22 and 19 pcf, respectively, for Type HP. For method of density determination refer to Design Information Section.

Min Beam Size	Restrained Assembly Rating Hr	Unrestrained Assembly & Beam Rating Hr	Min Thkns on Beam In	
			Normal Weight Concrete	Lightweight Concrete
W6x12	3	2	1	1
W6x12	3	1-1/2	7/8	15/16
W8x28	3	1-1/2	5/8	5/8#
W8x28	2	1	1/2	1/2

#Type D-C/F only.

ISOLATEK INTERNATIONAL — Types D-C/F, HP or II, Type EBS or Type X adhesive. The adhesive may also be used as a surface sealer.

*Bearing the UL Classification Mark

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