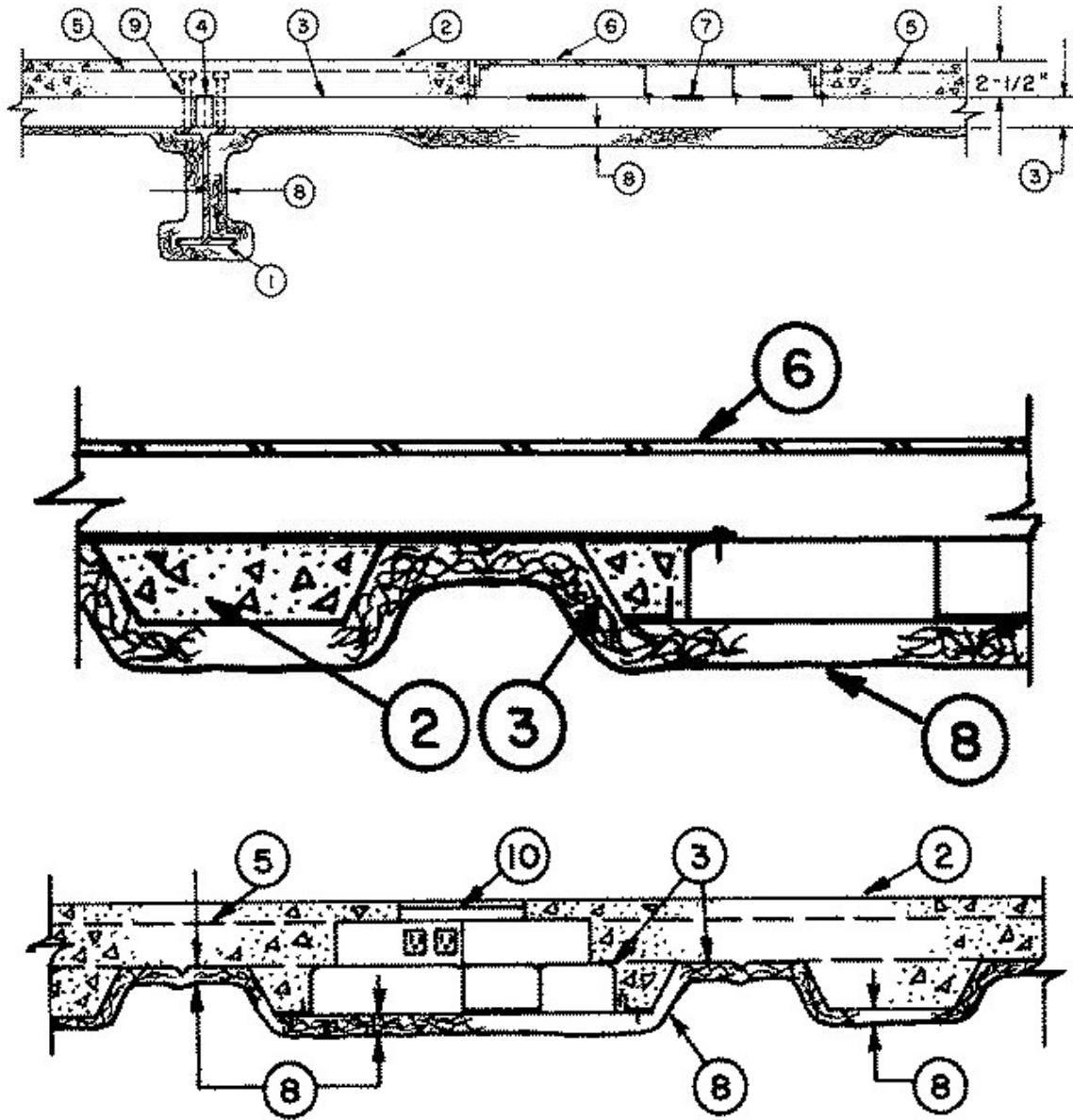


Restrained Assembly Rating - 2 Hr.

Unrestrained Assembly Rating - 1-1/2 and 2 Hr.

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



1. **Beam.** — W8x15 or W10x25 min. size (See Item 8).

2. **Normal Weight or Lightweight Aggregate Concrete** — Normal weight concrete, carbonate or siliceous aggregate, 137 to 150 pcf unit weight, 3000 psi compressive strength, vibrated. Lightweight concrete, expanded shale, clay, or slate aggregate by rotary kiln method; 112 + 3, -5 pcf unit weight, 3000 psi compressive strength, vibrated.

3. **Steel Floor and Form Units*** — Composite 2 and 3 in. deep galv units. Min gauges are 22 MSG for fluted and 20/20 MSG for cellular. For spans with trench headers, the allowable loadings shall be based on noncomposite design.

CONSOLIDATED SYSTEMS INC — 24 or 36 in. wide Types CFD-1.5, CFD-2, CFD-3. Types CFD-1.5, CFD-2, CFD-3 may be phos/ptd. Type EBS adhesive is required on phos/ptd units (See Item 8).

Spacing of welds attaching units to supports shall not exceed 12 in. OC. Unless otherwise noted, adjacent fluted and cellular units button-punched or welded together 30 in. OC. along side joints.

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

4. **Joint Cover** — 2 in. wide pressure-sensitive cloth tape applied following the contour of the steel floor units.

5. **Welded Wire Fabric** — 6 by 6-W1.4xW1.4.

6. **Trench Header** — (Bearing the UL Listing Mark) with an intermittent bottom. The allowable superimposed load for spans with an intermittent bottom trench header shall be based on noncomposite design. The intermittent bottom trench header, with a max width of 36 in., consists of a horizontal closure plate (min. 22 MSG) over the fluted deck sections at the desired trench header location and affixed to the floors by welding or screws (No. 14 by 3/4 in. long self-tapping, self-drilling). The side rails consist of extruded aluminum screeds secured to galv steel channels (min. 18 MSG), positioned over the edge of the horizontal closure plates, aligned, and welded to the cells and fluted floor units. A separate U-shaped galv steel channel (min 18 MSG), serving as the power compartment, is welded to the horizontal closure plates and floor units. Steel cover plates, 1/4 in. thick, shall be screw-attached to the side rails. For intermittent bottom trench headers wider than 24 in., each side joint of the steel floor units inside the trench header, shall be screwed (No. 14 by 3/4 in. long, self-tapping, self-drilling) or welded (1 in. long weld) together near the trench header centerline.

As an alternate trench headers, (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 of 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 additional alternate, 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 header wider than 18 in., each side joint of the steel floor unit shall be welded with a 1 in. long weld near the trench header centerline.

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

8. **Spray-Applied Fire Resistive Materials*** — Applied by spraying with water, in one coat to a final thickness as shown in table below, to steel surfaces which are free of dirt, oil or scale. Use of adhesive is required under bottomless and intermittent bottom trench headers. Min average density is 13 lb/cu ft with min individual density of 11 lb/cu ft 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.

General Floor Area (without electrical inserts)

Unrestrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Min Beam Size	Min Mtl Thkns on Beam In.			
1	1	W10x25	1/2			
1-1/2	1-1/2	W8x15	11/16			
1-1/2	1-1/2	W10x25	7/8			
Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Type Floor Unit	Type Concrete	Min Mtl Thkns In.		
				Crests	Valley	Flat Plate
2	1-1/2	fluted	NW or LW	1/2	3/8	—
			LW			
2	1-1/2	cellular	NW or LW	—	—	1/2
Floor With Electrical Inserts						
2	1-1/2	cellular	NW	—	—	1/2
2	1-1/2	cellular	LW	—	—	7/8
Under Standard Trench						
Or Intermittent Bottom Trench Header (24 in. wide or less)						
2	2	fluted	NW or LW	1-1/8	1-1/8	—
2	2	cellular	NW or LW	—	—	1-1/8
Under Bottomless Trench Header						
(Or Intermittent Bottom Trench Header greater than 24 in. wide)						
2	2	fluted	NW or LW	1-3/4	1-5/8	—
2	2	cellular	NW or LW	—	—	1-5/8

NOTE: Unrestrained Assembly rating cannot exceed Unrestrained Beam rating

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

9. **Shear-Connector Studs** — Optional — Studs, 3/4 in. diam by 3-1/2 in. long after welding for 2 in. deep floor units or 4-1/2 in. long after welding for 3 in. deep floor units, headed type or equivalent, per AISC specifications. Welded to the top flange of beam through the floor units.

10. **Electrical Inserts** — Classified as "Outlet Boxes and Fittings Classified for Fire Resistance" *. Installed per accompanying installation instructions over factory pre-punched knockouts or factory installed over pre-punched knockout holes in Mac-Way 2 or 3-633 MTWA cellular steel floor units. Spacing shall be not more than one insert in each 7-1/2 sq ft of floor area with not less than 2 ft, 6 in. center to center of adjacent inserts. Either Type MSH-400 or MSH-450 fittings are installed with MSIX insert per accompanying installation instructions. The holes cut in the activation covers for passage of wires shall be no more than 1/8 in. larger diam than the wire. Abandonment requires use of insert cover with no holes in it. Required Spray-Applied Fire Resistive Materials thickness (See Item 8) on cellular steel floor units with inserts shall be sprayed the entire length of units between supports.

CONSOLIDATED SYSTEMS INC — -MSIX inserts; MSH400 or MSH450 fittings.

*Bearing the UL Classification Mark

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