

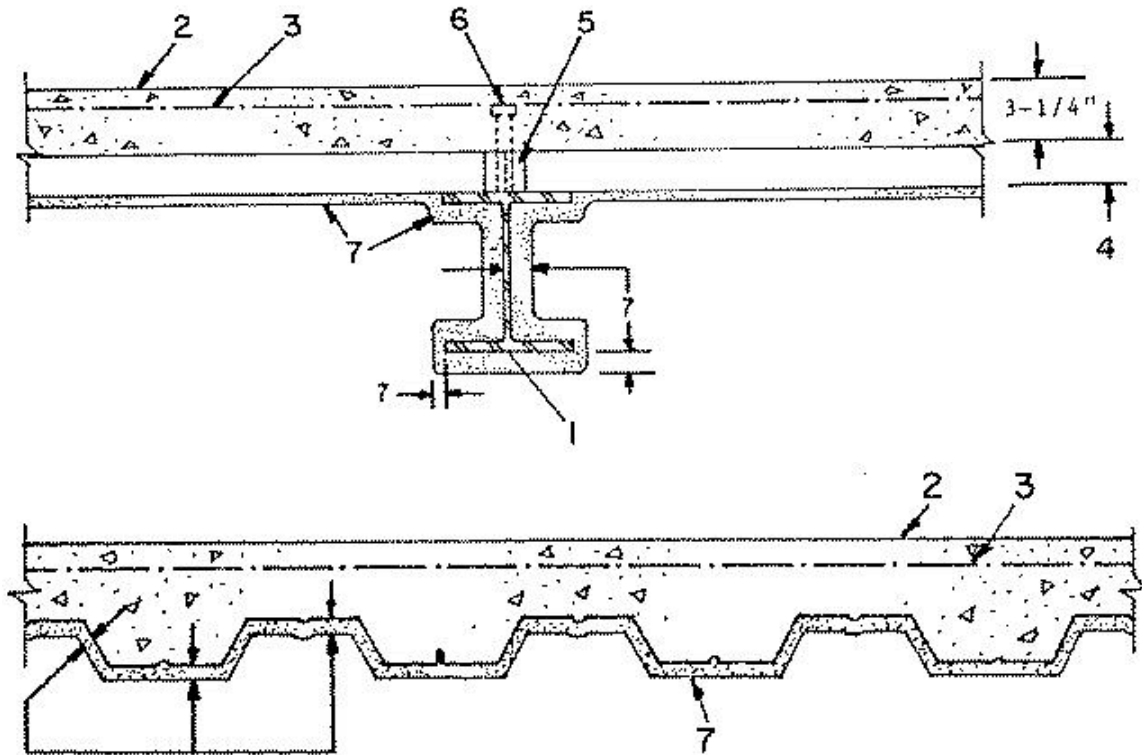
Design No. D777

July 31, 2000

Restrained Assembly Rating — 3 & 4 Hr

Unrestrained Assembly Ratings — 1-1/2 & 2 Hr

Unrestrained Beam Ratings — 1-1/2 & 2 Hr



1. **Beam** — W8 x 28 min size.

2. **Light — Weight Concrete** — Expanded shale, clay or slate aggregate by rotary kiln method; 118 (+ or -) 3 pcf unit weight, 2500 psi compressive strength, vibrated; 2 to 5 percent entrained air.

3. **Welded Wire Fabric** — 6 x 6 — W1.4 x W1.4.

4. **Steel Floor and Form Units*** — Composite 1-1/2, 2 or 3 in. deep galv fluted units. Min gauge is 22 MSG. Spacing of welds attaching units to supports shall be at each side of joint and not to exceed 12 in. OC between joints. Adjacent units button punched or welded together 36 in. O.C. at joints.

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

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

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

6. **Shear Connector** — (Optional) — Studs, 3/4 in. diam by 3-3/8 in. long, headed type or equivalent per AISC specifications. Welded to the top flange of beam through the steel floor units.

7. **Spray-Applied Fire Resistive Materials*** — Applied by mixing with water and spraying in one coat to a final thickness as shown above, to steel surfaces which must be clean and free of dirt, loose scale and oil. Min avg and min ind density of 15/14 pcf respectively for the Type 15 and 15-High Yield, 22/18 pcf, respectively for the Type 22, 40/37 respectively for the Type 40, 28/25 respectively for the Type 239, 44.5/42 respectively for the Type 240-High Yield and 55/50 respectively for the Type 241. For method of density determination see Design Information Section.

Use of studs with discs is required on fluted units for 4 hr restrained assembly Rating and optional on other steel surfaces. Studs consist of No. 12 SWG galv steel-wire, 1-3/8 in. long with one end welded to 1-3/8 in. diam No. 28 MSG galv steel disc. Total number of studs shall Avg. at least one stud per 236 sq in.

The thickness of material required on the steel beam for the individual Unrestrained Beam Ratings and Restrained Assembly Ratings is shown in the following table:

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Min Required Unrestrained Beam Rating Hr	Min Spray Applied Fire Resistive Mtl Thkns In.
3	1-1/2	1-1/2	3/4*
4	2	2	1

*Lower flange tips may be reduced to 3/8 in.

The thicknesses of material required on the steel floor units for the individual Restrained and Unrestrained Assembly Ratings are shown in the following table:

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Min Required Unrestrained Beam Rating Hr	Min Spray Applied Fire Resistive Mtl Thkns In.	
			Crests	Valley
3	1-1/2	1-1/2	3/8	3/8
4	2	2	11/16	1/2

CARBOLINE CO — Types 15, 15-High Yield, 22, 40, 239, 240-High Yield, 241 .

CARBOLINE KOREA LTD — Types 15, 15-High Yield, 22, 40, 239, 240-High Yield, 241 .

STONCOR MIDDLE EAST L L C — Types 15, 15-High Yield, 22, 40, 239, 240-High Yield, 241 .

CARBOLINE SOUTHEAST ASIA PTE LTD — Types 15, 15-High Yield, 22, 40, 239, 240-High Yield, 241 .

CDC CARBOLINE (INDIA) PVT LTD — Types 15, 15-High Yield, 22, 40, 239, 240-High Yield, 241, CDC Crete 15, CDC Crete 15-High Yield, CDC Crete 22, CDC Crete 40, CDC Crete 239, CDC Crete 240 High Yield, CDC Crete 241 .

CENTRAL PAINTS IND INC LTD — Types 15, 15HY, 22.

8. **Metal Lath (not shown)** — Where Types 40, 239, 240 High-Yield and 241 are applied to steel deck, 3/8 in. metal ribbed lath weighing 3.4 lb/yd² shall be secured to the underside of the steel deck (ribs upward) with S-12 by 3/8 in. long panhead, self-tapping steel screws spaced 12 in. OC in all directions. Steel screws shall be fitted with 1/2 in. diameter steel washers. Adjacent pieces of lath shall be overlapped 1 in. min.

*Bearing the UL Classification Mark

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