

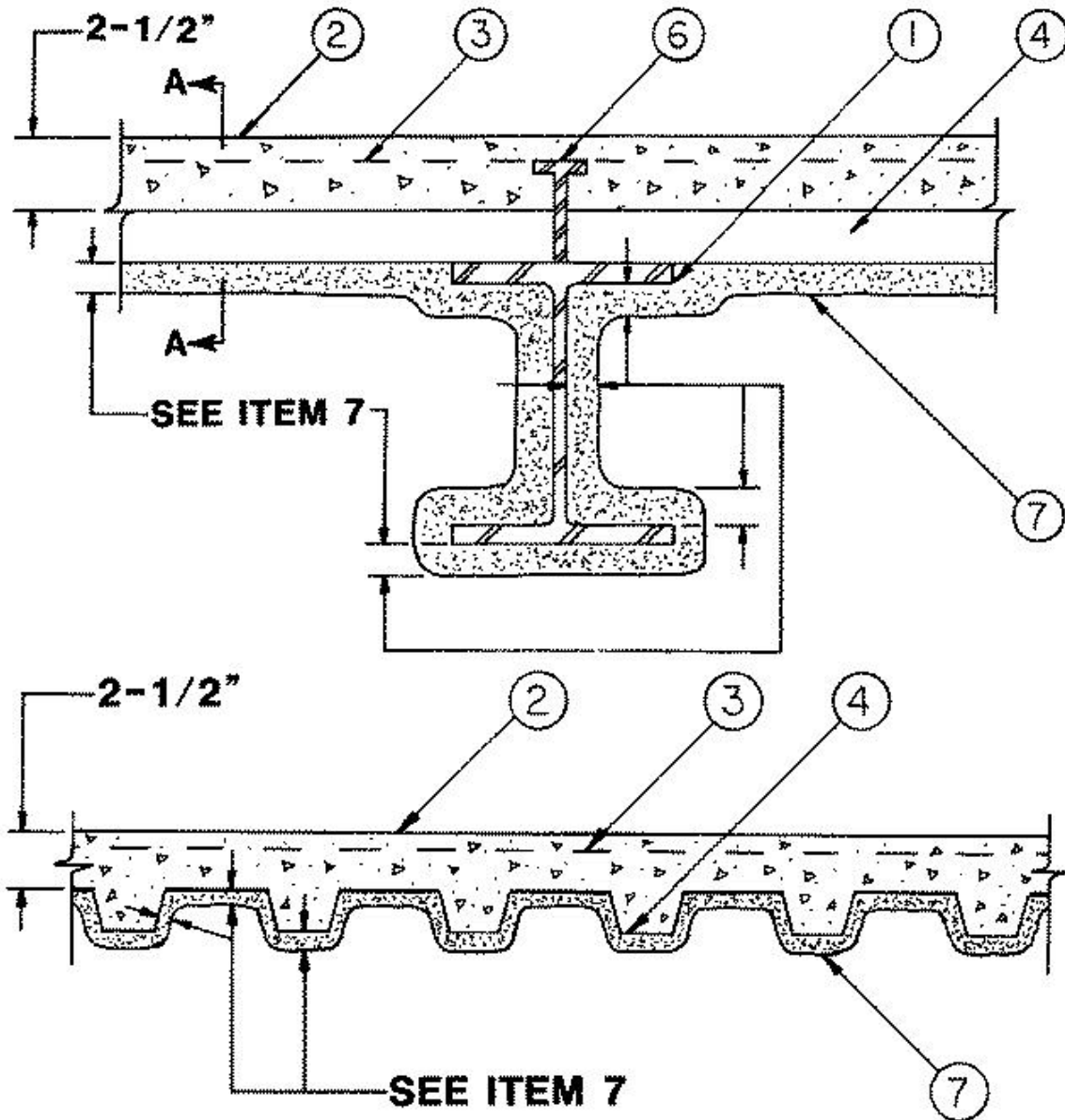
Design No. D760

April 25, 2002

Restrained Assembly Rating — 2, 3 and 4 Hr.

Unrestrained Assembly Rating — 1, 1-1/2, 2, 3 and 4 Hr.

Unrestrained Beam Rating — 1, 1-1/2, 2, 3 and 4 Hr.



**SEC. A-A**

1. **Supports** — W 8 x 28 min size steel beams or steel joist or joist girder (not shown) — Composite or noncomposite. Welded or bolted to end supports. Designed per S.J.I. Specifications for a max tensile stress of 30 ksi. May be either uncoated or provided with a shop coat of paint. For the 2 h or less Restrained or Unrestrained Beam Ratings, top and bottom chords shall each consist of two angles with a min total area of 0.96 and 0.77 sq in., respectively. Web members shall be either round bars or angles. Min area of the end diagonal web shall be 0.444 sq in. Min area of each of the first six interior diagonal webs shall be 0.406 sq in. All other interior webs shall

have a min area of 0.196 sq in. For the 3 h Restrained or Unrestrained Beam Ratings, each of the top and bottom chords shall each consist of two angles with a min total area of 1.74 sq in. Web members shall be either round bars or angles. Min area of each of the first five end diagonal webs shall be 0.886 sq in. All other interior webs shall have a min area of 0.441 sq in. Bridging per S.J.I. Specifications is required when noncomposite joists are used. For noncomposite joists, steel filler pieces of proper size, 1 to 2 in. long shall be welded to and between the top chord angles at midway between all top chord panel points.

2. **Normal Weight or Lightweight Concrete** — Normal weight concrete, carbonate or siliceous aggregate, 147 (+ or -) 3 pcf unit weight, 4300 psi compressive strength, vibrated. Lightweight concrete, expanded shale clay or slate aggregate by rotary kiln method; 110 (± 3) pcf unit weight, 3000 psi compressive strength, 4 to 7 percent air entrained, vibrated.

3. **Welded Wire Fabric** — 6 x 6 - W 1.4 x W 1.4.

4. **Steel Floor And Form Units\*** — Composite 1-1/2, 2 or 3 in. deep, 24 or 36 in. wide, galv steel, all fluted units, min gauge is 22 MSG. Units welded to supports not over 12 in. OC. Adjacent units button punches 36 in. OC at side joints.

**CONSOLIDATED SYSTEMS INC** — 24 or 36 in. wide Types CFD-1.5, CFD- 2, CFD-3. 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.

5. **Joint Cover** — (Optional) (not shown) — 2 in. wide pressure-sensitive cloth tape applied following the contour of the steel floor units.

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

7. **Spray-Applied Fire Resistive Materials\*** — Applied by mixing with water and spraying in more than one coat to the final thickness shown in the table below. Steel surfaces must be clean and free of dirt, loose scale and oil before spraying. Min avg and min ind density of 22/19 pcf respectively for Type Z-106. For method of density determination, refer to Design Information Section.

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Spray Applied Fire Resistive Mtl Thkns In. on Steel Deck		Concrete Type
			Crests	Valley	
1	0	1	—	—	LW
1-1/2	1	1	3/8(a)	3/8(a)	NW or LW
1-1/2	1-1/2	1-1/2	3/8(a)	3/8(a)	NW or LW
2	1	1	7/16(b)	7/16	NW or LW
2	2	2	7/16(b)	7/16	NW or LW
3	1-1/2	1-1/2	11/16	9/16	NW or LW
3	3	3	11/16	9/16	NW or

					LW
4	2	2	1-1/2	1-1/8	LW
4	4	4	1-1/2	1-1/8	LW
4	2	2	1-7/16	13/16	NW
4	4	4	1-7/16	13/16	NW

(a) — Min thickness of 7/16 in. required when 1-1/2 in. deep fluted units are used.

(b) — Min thickness of 9/16 in. is required in crests of 1-1/2 in. deep fluted units for the 2 h Restrained Assembly Rating.

Restrained Assembly Rating Hr	Concrete Type	Unrestrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Protection Mtl Thkns In.	
				Beam	Joist & Bridging
1	NW or LW	1	1	7/16	1-1/8
1-1/2	NW or LW	1	1	7/16	1-3/4
1-1/2	NW or LW	1-1/2	1-1/2	3/4	1-3/4
2	NW or LW	1	1	7/16	2-1/4
2	NW or LW	2	2	1	2-1/4
3	NW or LW	1-1/2	1-1/2	3/4	2-7/8
3	NW or LW	3	3	1-5/16	2-7/8
4	NW	2	2	1	N/A
4	NW	4	4	1-5/8	N/A

**W R GRACE & CO - CONN CONSTRUCTION PRODUCTS DIV** — Types Z-106, Z-106/HY, Z-106G, Monokote Acoustic 5.

**GRACE KOREA INC** — Types Z-106, Z-106/HY, Z-106G, Monokote Acoustic 5.

N/A — Not Applicable

**ARABIAN VERMICULITE INDUSTRIES** — Types Z-106, Z-06/G, Z-106/HY.

**W R GRACE & CO - CONN CONSTRUCTION PRODUCTS DIV** — Types Z-106, Z-106/G, Z-106/HY.

**GRACE KOREA INC** — Types Z-106, Z-106/G, Z-106/HY.

N/A-not applicable.

\*Bearing the UL Classification Mark

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