

Restrained Assembly Ratings — 2 and 3 h

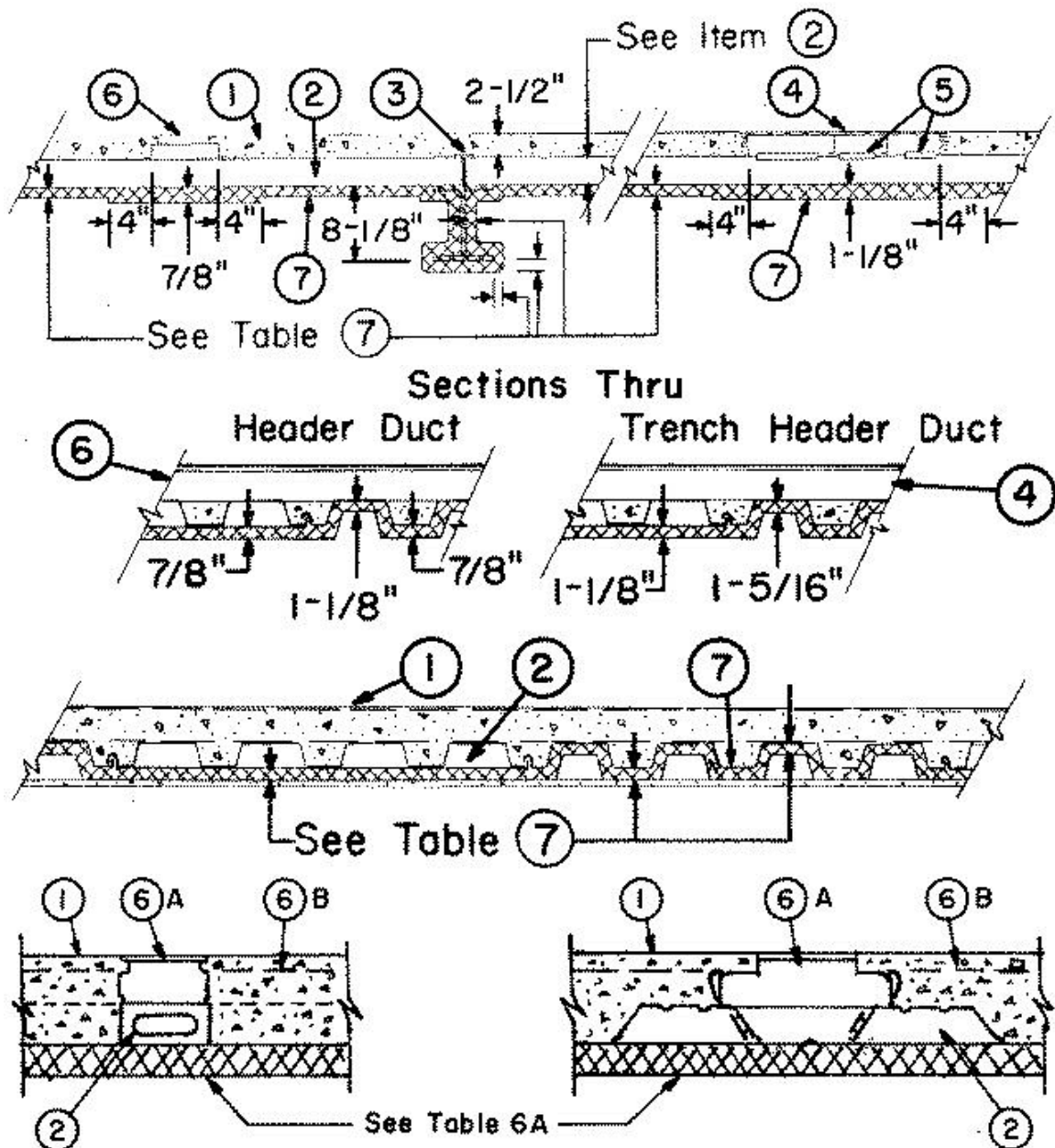
(See Items 4, 6A, 7, 7A and 10).

Unrestrained Assembly Ratings — 1, 1-1/2, 2 and 3 h.

(See Items 4, 7, 7A and 10).

Unrestrained Beam Ratings — 1, 1-1/2, 2 and 3 h

(See Items 4, 7, 7A and 10)



Beam — W8X24 or W8X28, min size; Steel Joist (Not shown) — 10H3 or 12J6 min size (See Items 7 and 10).

1. **Normal-Weight or Lightweight Concrete** — Normal weight concrete, carbonate or siliceous aggregate, 150 + or - 3 pcf unit weight, 3500 psi compressive strength, vibrated. Lightweight concrete, expanded shale, clay or slate aggregate by rotary-kiln method, 112 + or - 3 pcf unit weight, 3000 psi compressive strength, vibrated, 4 to 7 percent entrained air.

2. **Steel Floor and Form Units*** — Classified composite or noncomposite 1-1/2, 2 or 3 in. deep galv or phos/ptd units. Metal lath (Item 2A) must be used with phos/ptd units unless otherwise noted in the individual descriptions below. Min gauges are 22 MSG for fluted and 20/20 MSG for cellular. In spans containing a bottomless trench header, min 20/18 MSG cellular units and/or min 20 MSG fluted units shall be used. For spans with trench headers the allowable loading shall be based on noncomposite design. The following combinations of units may be used:

(1) All fluted.

(2) 1 or more fluted to one cellular.

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

Spacing of welds attaching units to supports shall be at each side and not to exceed 16 in OC between sides. For Type WDR units, welds not to exceed 12 in. OC unless noted otherwise, adjacent units button-punched or welded together 36 in. OC along side joints, unless noted otherwise.

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

2A. **Metal Lath** — (Not shown) — 3/8 in. diamond mesh, min 2.5 lb per sq yd, painted or galv steel, fastened to steel deck by welding or by using fasteners as described in Item 2B.

2B. **Fasteners** — (Not shown) — No. 12 by 1 in. Type AB, with high-low threads and a flat head. For powder actuated attachment, any standard concrete and steel fastener with a min length of 1-1/4 in., min shank diam of 0.145 in. and a min 1/16 in. by 1/2 in. diam washer. Fasteners spaced 12 in. OC in both directions to secure lath to floor units. Fasteners secured only to valleys of the floor units and shall not penetrate into the cells of the cellular floor units.

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

4. **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.

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 or riveted to the cell closers and floor units. A separate U-shaped galv steel channel (min 18 MSG), serving as the power compartment, is welded or riveted 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. For QL-GKX-24 or -30 cellular floor units only, a separate KED-PTs (UL Listed) power transition sleeve is secured to power compartment with one rivet or screw. The use of the bottomless trench header requires additional protection underneath the

trench header. Protection material thickness shall be increased to: 1-5/8 in. for 1-1/2 and 2 h ratings; and 2-1/8 in. for 3 h rating.

4A. Trench Header — With an intermittent bottom (as an alternate to Item 4) when Type WDR cellular units are used (Bearing the UL Listing Mark) — 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 horizontal closure plates, (min 16 MSG) with four threaded studs pre-welded on the top side of each plate near its corners. The plates to be placed over the fluted areas of the floor units and affixed to the units by welds at each corner. Concrete is to be vibrated into the voids formed by the plates and the fluted areas of the units beneath the trench header. The upper side rail is extruded aluminum attached to the lower steel side rail clip with an adjusting screw. The low side rail positioned over the edge of the horizontal closure plates snapped-on the pre-welded threaded studs on top of the plates. For thickness of Spray-Applied Fire Resistive Materials required beneath trench header, see Item 7.

5. Access Openings — As required, with grommets.

6. Header Duct — (Bearing the UL Listing Mark) — 1-1/2 in. deep by 6-7/8 in. wide. Housing constructed of steel.

6A. Electrical Inserts — Classified as "Outlet Boxes and Fittings Classified for Fire Resistance" :

(1) **Robertson Co., H. H.** Inserts.

(Tapmate II, II-EA, II-FB, II-EAFN; Series KEB).

Installed per accompanying installation instructions over factory-punched holes in QL-AKX or QL-WKX floor units. Inserts are used in the pre-active, active, or abandoned condition. Spacing shall be not more than one insert in each 7-1/2 sq ft of floor area with not less than 25-1/2 in. between edges of adjacent inserts. Required spray-applied resistive material thicknesses on floor units with inserts are:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Spray Applied Fire Resistive Mtl Thkns In.
Tapemate II, II-EA			
2	QL-AKX, -WKX	NW	7/8
2	QL-AKX	LW	1-1/16
2	WL-WKX	LW	15/16
3	QL-AKX	NW	1-1/4
3	QL-AKX	LW	1-1/2
3	QL-WKX; Metric	NW	1-3/16
	Units-QLC-78-900		
3	QL-WKX; Metric	LW	1-3/8
	Units-QLC-78-900		
(Tapmate II-FN or II-EAFN)			
2	QL-AKX, -WKX; Metric	NW	17/16
	Units-QLC-78-900		

2	QL-AKX, -WKX; Metric	LW	3/4
	Units-QLC-78-900		
3	QL-AKX, -WKX; Metric	NW	3/4
	Units-QLC-78-900		

The required thickness below inserts shall be sprayed the entire width and length of floor units between supports and extend beyond the edge of inserts onto adjacent units for a horizontal width of 12 in. The hole cut in insert cover for passage of wires shall be no more than 1/8 in. larger diam than the wire. For abandonment of Tapmate inserts, see installation instructions.

The Tapmate II-FN insert may use KEM-HP-1 outlet box fittings in lieu of the KEB-PC flush covering fittings.

(Tapmate II-EAFN-FC1; Series KEB)

Installed per accompanying installation instructions over factory-punched holes in QL-WKX floor units. Inserts are used in the pre-active, active, or abandoned condition. Spacing shall be not more than the insert in each 7-1/2 sq ft of floor area with not less than 25-1/2 in. between edges of adjacent inserts. Required spray-applied resistive material thicknesses on floor units with inserts are:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Spray Applied Fire Resistive Mtl Thkns In.
2	QL-WKX	NW	7/16

The required thickness below inserts shall be sprayed the entire width and length of floor units between supports and extend beyond the edge of inserts onto adjacent units for a horizontal width of 12 in. For abandonment, see installation instructions.

(Tapmate III-FN, III-EAFN; Series KEC)

Installed per accompanying installation instructions over factory-punched holes in QL-AKD or QL-WKD floor units. Inserts are used in the pre-active, active, or abandoned condition. Spacing shall be not more than one insert in each 7-1/2 sq ft of floor area with not less than 25-1/2 in. between edges of adjacent inserts. Required spray-applied resistive material thicknesses on floor units with inserts are:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Spray Applied Fire Resistive Mtl Thkns In.
(Tapmate III-FN or III-EAFN)			
2	QL-AKD, WKD; Metric	NW	1/2
	Units-QLC-78-C-900,		
	-78-E-900, -78-F-900		
2	QL-AKD, WKD; Metric	LW	13/16
	Units QLC-78-C-900,		

	-78-E-900, -78-F-900		
3	QL-AKD, -WKD	NW	3/4
(Tapmate III-EAFN-FC1)			
2	QL-WKD	NW	1/2
	QL-WKD	LW	13/16
3	QL-AKD, -WKD; Metric	NW	3/4
	Units-QLC-78-C-900,		
	-78-E-900, -78-F-900		

The required thickness below inserts shall be sprayed the entire width and length of floor units between supports and extend beyond the edge of inserts onto adjacent units for a horizontal width of 12 in. The hole cut in insert cover for passage of wires shall be not more than 1/8 in. larger diam than the wire. For abandonment of Tapmate inserts, see installation instructions.

The Tapmate insert may use KEB-HP-1, Series KEC outlet box fittings with the same hourly rating, insert spacing and fireproofing thicknesses as specified for the Tapmate II-EAFN electrical inserts.

(Tapmate IV, IV-EA, IV-H, IV-H-M, IV-S)

Installed per accompanying installation instructions over factory-punched holes in QL-GKX-24 or -30 floor units. Inserts are used in the pre-active, active or abandoned condition. Required spray-applied resistive material thicknesses on floor units with inserts are:

Restrained Assembly Rating Hr	Floor Unit (s) Type & Blend	Concrete Type	Min Insert Spacing & Density	Min Spray Applied Fire Resistive Mtl Thk In.
(Tapmate IV, IV-H, IV-H-M, IV-S)				
1	B1	NW, LW	a, b	3/8
1	B2	NW, LW	c, d	3/8
1	C	NW, LW	e, f	3/8
1-1/2	B1	NW, LW	a, b	9/16+
1-1/2	B2	NW, LW	c, d	9/16+
1-1/2	C	NW, LW	e, f	9/16+
2	B1	NW	a, b	11/16++
2	B2	NW	c, d	11/16++
2	C	NW	e, f	11/16++
2	B1	LW	a, b	3/4
2	B2	LW	c, d	3/4
2	C	LW	e, f	3/4
3	B1,B2,C	NW	g, h	1-1/4

3	B1,B2,C	LW	g, h	1-1/2
(Tapmate IV-EA)				
1	B1	NW, LW	a, b	7/16
1	B2	NW, LW	c, d	7/16
1	C	NW, LW	e, f	7/16
1-1/2	B1	NW	a, b	9/16
1-1/2	B2	NW	c, d	9/16
1-1/2	C	NW	e, f	9/16
1-1/2	B1	LW	a, b	5/8
1-1/2	B2	LW	c, d	5/8
1-1/2	C	LW	e, f	5/8
2	B1	NW	a, b	3/4
2	B2	NW	c, d	3/4
2	C	NW	e, f	3/4
2	B1	LW	a, b	7/8
2	B2	LW	c, d	7/8
2	C	LW	e, f	7/8

+1/2 in. thickness may be used for 2 ft, 6 in. OC or greater spacing of inserts along cellular units with NW concrete.

+-5/8 in. thickness may be used for 2 ft, 6 in. OC or greater spacing of inserts along cellular units with NW concrete.

B1=QL-GKX-24 or -30/QL-99-36 blend of one or more fluted to one cellular.

B2=QL-GKX-24 or -30/QL-99-24 blend of one or more fluted to one cellular.

C=QL-GKX-30 full cellular.

a=2 ft - 6 in. OC spacing with not more than one insert per 12.5 sq ft of floor area.

b=2 ft - 0 in. OC spacing with not more than one insert per 10.0 sq ft of floor area.

c=2 ft - 6 in. OC spacing with not more than one insert per 10.0 sq ft of floor area.

d=2 ft - 0 in. OC spacing with not more than one insert per 8.0 sq ft of floor area.

e=2 ft - 6 in. OC spacing with not more than one insert per 6.25 sq ft of floor area.

f=2 ft - 0 in. OC spacing with not more than one insert per 5.0 sq ft of floor area.

g=Spacing of inserts shall be not less than 25-1/2 in. between edges of adjacent inserts with not more than one insert per 7.5 sq ft of floor area when QL-GKX-24 floor units are used.

h=Spacing of inserts shall be not less than 23-3/8 in. between edges of adjacent inserts with not more than one insert per 6.25 sq ft of floor area when QL-GKX-30 floor units are used.

The required thickness below inserts shall be sprayed the entire width and length of floor units between supports and extend beyond the edge of inserts onto adjacent floor units for a horizontal width of 12 in. The holes cut in insert cover for passage of wires shall be no more than 1/8 in. larger diam than the wire. For abandonment of inserts see installation instructions.

Type KED-HP-1 outlet box fittings may be used with Tapmate IV box assemblies or in lieu of Tapmate IV or IV-EA fittings with the same hourly ratings, insert spacings and protection material thicknesses as specified for the above electrical inserts.

(Tapmate IV-FB-S, IV-FBN-H, IV-EAFB; Series KED)

Installed per accompanying installation instructions over factory-punched holes in QL-GKX-24 or -30 floor units. Inserts are used in the pre-active, active, or abandoned condition. Spacing of inserts shall be not more than one insert per each 7.5 sq ft of floor area with not less than 25-1/2 in. between edges of adjacent inserts when inserts are installed on QL-GKX-24 floor units. Spacing of inserts shall be not more than one insert per each 6.25 sq ft of floor area with not less than 23-3/8 in. between edges of adjacent inserts when installed on QL-GKX-30 floor units. Required Spray-Applied Fire Resistive Materials thicknesses on floor units with inserts are:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Spray Applied Fire Resistive Mtl Thkns In.
(Tapmate IV-FN-S, IV-FN-H, IV-EAFN)			
2	QL-GKX	NW	1/2
2	QL-GKX	LW	13/16
3	QL-GKX	NW	3/4

The required thickness below inserts shall be sprayed the entire width and length of floor units between supports and extend beyond the edge of inserts onto adjacent units for a horizontal width of 12 in. The hole cut in insert cover for passage of wires shall be no more than 1/8 in. larger diam than the wire. For abandonment see installation instructions. Type KED-HP-1 outlet box fittings may be used with Tapmate IV box assemblies or in lieu of Tapmate IV-FN-S, IV-FN-H, IV-EAFN fittings with the same hourly ratings insert spacing and protection material thicknesses as specified for the above electrical inserts.

H H ROBERTSON — Tapmate II, II-EA, II-FN, II-EAFN, II-EAFBN-FC1; Series KEB. Tapmate III-FN, III-EAFN, III-EAFN-FC1; Series KEC. Tapmate IV, IV-EA, IV-EAFN, IV-FN-S, IV-FN-H, IV-H, IV-H-M, IV-S.

(2) Consolidated Systems, Inc. — MSIX inserts.

May be used for 2 hr Restraining Assembly Rating only with normal weight or lightweight concrete. Installed per accompanying installation instructions over factory punched knockouts or factory installed over pre-punched knockout holes in Mac-Way 1- or 3-633 MTWA cellular 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. OC spacing of adjacent inserts. Required Spray-Applied Fire Resistive Materials thicknesses on cellular floor units with inserts are:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Spray Applied Fire Resistive Mtl Thkns In.
2	Mac-Way 2-, 3-633 MTWA	NW	1/2
2	Mac-Way 2-, 3-633 MTWA	LW	7/8

(3) **Walker Systems Inc.** — After-Set Inserts (Types TSAR, TSACR).

After set inserts installed per accompanying installation instructions in holes core-drilled through concrete topping to top of cells of the cellular floor units. Types TSAR and TSACR for use in 7 in. diam holes. Spacing shall be not more than one insert in each 4 sq ft of floor area with not less than 2 ft center to center of adjacent inserts. The spray-applied resistive material on floor units with inserts shall be sprayed the entire length of units between supports. The required spray-applied resistive material thicknesses on floor units with inserts are shown below:

Restrained Assembly Rating Hr	Floor Unit Type	Concrete Type	Min Spray Applied Fire Resistive Mtl Thkns In.
(Types TSAR, TSACR)			
1	2 or 3 in. WDR	NW, LW	1/2
1-1/2	2 or 3 in. WDR	NW, LW	3/4

WALKER SYSTEMS INC — After-Set inserts, Types TSAR, TSACR.

6B. **Welded Wire Fabric** — 6 by 6 - W1.4xW1.4. Required only when electrical inserts (Item 6A) are used.

7. **Spray-Applied Fire Resistive Materials*** — For these ratings, no metal lath (Item 2A) is required on the underside of the steel floor units. Prepared by mixing with water and spray-applied in one or more coats to steel surfaces which are free from dirt, oil or scale. Min avg density of 17.5 pcf with min ind density of 17.0 pcf. The following thicknesses and hourly ratings apply:

						Min Required Spray Applied Fire Resistive Mtl Thkns In.	
Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Unrestrained Beam Rating Hr	Concrete Type	Joist **	Beam *	Steel Deck	
						Valley	Crests & Sidess
For all 2 or 3 in. deep H. H. Robertson fluted galv steel floor units.							
2	1	1	NW or LW	1-1/2	1/2	3/8	1/2
For Wheeling Corrugating Company's 1-3/4 in. deep fluted galv steel floor units:							
2	3/4	1	NW or LW	1-1/2	1/2	3/8	3/8

*Min W8x28 beam.

**Min 10H3 joist.

CIL GROUP LTD — Type 280. Type EBS sealer optional.

ISOLATEK INTERNATIONAL — Type 280. Type EBS sealer optional.

7A. Spray-Applied Resistive Materials* — For the ratings below, metal lath (Item 2A) is required on the entire surface of the floor bottom. Prepared by mixing with water and spray applied in one or more coats to final thicknesses as shown in the tables below, to metal lath (Item 2A) attached to steel deck. Avg air dry density of spray-applied resistive material mixture is 17.5 pcf with min ind density of 17.0 pcf. For method of density determination, refer to Design Information Section. The required thicknesses of spray-applied resistive materials for floor conditions and ratings are tabulated below:

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Min Required Unrestrained Beam Rating Hr	Concrete Type	Steel Joist	Min Spray Applied Fire Resistive Mtl Thk In. to Metal Lath on Underside of Steel Floor Unit
1+	1+	1+	NW or LW	1-1/2	3/8*
1-1/2++	1-1/2++	1-1/2++	NW or LW	2-1/4	1/2#*

+ -Applicable only when min 10H3 steel joist is used.

++ -Applicable only when min 12J6 steel joist with metal lath is used on one side.

-5/8 in. on floor units for 12 in. width beyond both edges of beam flange.

* -When Mac-Way 2- or 3-633 MTWA cellular units are used with steel joists, the min Spray-Applied Fire Resistive Materials thickness on the units shall be 1/2 and 5/8 in. for the 1 and 1-1/2 h ratings, respectively.

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Min Required Unrestrained Beam Rating Hr	Concrete Type	Beam	Min Spray Applied Fire Resistive Mtl Thk In. to Metal Lath on Underside of Steel Floor Unit
2	1	1	NW or LW	1/2	3/8
				+++	
3	1-1/2	1-1/2	NW or LW	5/8	1/2
				+++	1/2
Note: Ratings, concrete types, and thickness shown below applicable when min W8x24 beam is used.					
2	1	1	NW or LW	5/8	3/8
3	1-1/2	1-1/2	NW or LW	3/4	1/2
2	2	2	NW or LW	1-1/8	3/8

3	3	3	NW	1-3/8	1/2
3	3	3	LW	1-7/16	1/2
Note: Mac-Way W and 3-633 MTWA cellular units are covered only for the ratings, concrete types and thicknesses shown below:					
2	1, 1-1/2 or 2	1, 1-1/2 or 2	NW or LW	++++	1/2
3	1, 1-1/2, 2 or 3	1-1/2, 2 or 3	NW or LW	++++	5/8

+++ - Applicable only when min W8x28 beam is used.

++++ - See above beam thickness for applicable Unrestrained Beam and Unrestrained Assembly ratings.

When Type WDR cellular units are used, for the general floor area without trench headers or electrical inserts, the following thicknesses of Spray-Applied Fire Resistive Materials are required on the steel floor units for the various Restrained and Unrestrained Assembly Ratings only when min W8x24 steel beam is used:

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Min Required Unrestrained Beam Rating Hr	Concrete Type	Beam	Min Spray Applied Fire Resistive Mtl Thk In. to Metal Lath on Underside of Steel Floor Unit
1	1	1	NW	1/2	3/8
1, 1-1/2, 2	1	1	LW	5/8	1/2
1-1/2	1	1	NW	1/2	3/8
1-1/2	1-1/2	1-1/2	NW	7/8	3/8
2	1	1	NW	1/2	1/2
2	2	2	NW	1-1/16	1/2
3	1-1/2	1-1/2	NW	7/8	15/16
3	2	2	NW	1-1/16	15/16
3	3	3	NW	1-3/8	15/16

When the intermittent bottom trench header (Item 4A) is used with Type WDR cellular units, the following thicknesses of Spray-Applied Fire Resistive Materials are required below this trench header for the various Restrained and Unrestrained Assembly Ratings.

Restrained Assembly Rating Hr	Unrestrained Assembly Rating Hr	Type Concrete	Min Spray Applied Fire Resistive Mtl Thkns In.
1	1	LW, NW	1
1-1/2	1-1/2	NW	1-1/4
1-1/2	1	LW	1-1/4
2	2	NW	1-5/8
2	1	LW	1-5/8

CIL GROUP LTD — Type 280. Type EBS sealer optional.

ISOLATEK INTERNATIONAL — Type 280. Type EBS sealer optional.

8. **Shear Connector Studs** — Optional — (Not Shown) — Studs, 3/4 in. diam by 3 in. long for 1-1/2 in. deep floor units to 5-1/4 in. deep for 3 in. units, headed type or equivalent per AISC specifications. Welded to top beam flange through steel floor units.

9. **Roof Covering** — Optional — (Not Shown) — Class A, B or C Built-Up Roof Covering Materials consisting of asphalt (or coal tar pitch) and felt in alternate layers placed over concrete slab.

See Roofing Systems* (TGfU) in the Building Materials Directory for list of manufacturers.

10. **Insulation** — (Not Shown) — Optional — Rigid Insulation Boards installed as specified below:

A. **Foamed Plastic*** — Rigid polystyrene foamed plastic insulation boards of 2.5 pcf max density with no restriction on thickness. Installed with or without adhesion, over roof covering (Item 9). Covered with min 10 psf crushed stone or concrete pavers.

See Foamed Plastic*(BRYX) category in the Building Materials Directory or Foamed Plastic*(CCVW)category in the Fire Resistance Directory for list of manufacturers.

B. **Mineral and Fiber Board*** — (For use in 2 h assembly and beam ratings only) — Any perlite board, mineral wool or glass fiber type UL Classified Mineral and Fiber Board insulation applied over concrete floor with no restriction on thickness. When mineral and fiber board is used, roof covering material (Item 9) shall be used on top of the insulation.

11. **Vermiculite Concrete** — (Not Shown) — Optional — Min 2 in. thick, consisting of 6 cu ft Vermiculite Aggregate* to 94 lb Portland cement and 0.5 lb air entraining agent, poured over Zonolite Foamed Plastic* insulation (Item 10A). May be covered with any built-up or single ply Roof Covering Materials*.

ELASTIZELL CORP OF AMERICA — Types MS 16-U, MSV 200.

MANDOVAL LTD

W R GRACE & CO - CONN CONSTRUCTION PRODUCTS DIV

A. Perlite Concrete Mix consists of 6.2 cu ft Perlite Aggregate* to 94 lbs. of Portland cement and 1-1/2 pt air entraining agent. Compressive strength 80 psi min.

See Perlite Aggregate (CFFX) category for names of Classified companies.

11A. **Cellular Concrete — Roof Topping Mixture*** — (Not Shown) — Optional — Foam concentrate mixed with water and Portland cement per manufacturer's application instruction. 28 day compressive strength of min 190 psi as determined in accordance with ASTM C495-86. Min 2 in. thick, poured above the foamed plastic (Item 10A). May be covered with any built-up or single ply roof covering materials*.

CELLULAR CONCRETE L L C — Cast dry density of 37 (+ or -) 3.0 pcf.

ELASTIZELL CORP OF AMERICA — Type II. Mix #1 of cast dry density 39 (+ or -) 3.0 pcf, Mix #2 of cast dry density 40 (+ or -) 3.0 pcf, Mix #3 of cast dry density 47 (+ or -) 3.0 pcf.

LITE-CRETE INC — Cast density 29 (+ or -) 3.0 pcf.

12. **Metal Lath** — (Not Shown) — 3/8 in. diamond mesh, expanded steel weighing 1.7 lb per sq yd secured to one side of joist using No. 16 SWG galv steel tie wire located at the mid height of every other web. The use of metal lath is optional with the 10H3 joist.

13. **Glass Fiber Mesh** — An alternate to metal lath (Item 13), min 3/32 in. square mesh, coated fiberglass scrim fabric weighing a min of 1.9 oz per sq yd shall be attached to one side of each joist web member. The method of attachment must be sufficient to hold the mesh and protection material during application and curing of the material. An acceptable method of attaching the mesh is by embedding the mesh in min 1/4 in. long beads of hot melted glue. The beads of glue shall be spaced min 12 in. OC along the top chord of the bar joists. Another method of attachment is by the use of 1-1/4 in. long, 1/2 in. wide hairpin clips formed from 0.064 in. diam steel wire, alternating from top to bottom of the joist web member.

14. **Bridging** — (Not Shown) — Min 1/2 in. diam steel bar, welded to top and bottom chords of each joist, spaced in accordance with Steel Joist Institute specifications. The bridging bars to be protected with the same thickness of Spray-Applied Fire Resistive Materials as applied to the joists.

*Bearing the UL Classification Mark

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