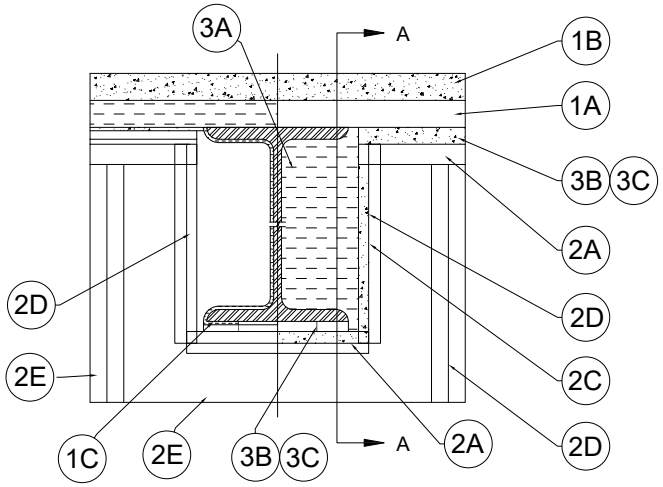
HW-D-0573

ANSI/UL2079 Assembly Ratings - 1 and 2 Hr	Nominal Joint Width - See Chart, Section 3 Class II or III Movement Capabilities - See Chart, Section 3	-- --



1. **Floor Assembly —** The fire-rated fluted steel deck/concrete floor assembly shall be constructed of the materials and in the manner described in the individual D700 or D900 Series Floor-Ceiling Design in the UL Fire Resistance Directory and shall include the following construction features:

   A. **Steel Floor and Form Units* —** Max 3 in. (76 mm) deep galv steel fluted floor units.
   B. **Concrete —** Min 2-1/2 in. (64 mm) thick reinforced concrete, as measured from the top plane of the floor units.
   C. **Structural Steel Support —** Steel Beam or open web steel joist, as specified in the individual D900 Series Floor- Ceiling Design, used to support steel floor units. Structural steel support oriented perpendicular to wall assembly.
   D. **Spray-Applied Fire Resistive Material* —** (Not shown) - As specified in the D700 or D900 Series Floor-Ceiling Design after installation of the steel floor units, ceiling runner (Item 3), attachment clips (Item 2B), and track frame (Item 2C), all surfaces of the structural steel support to be sprayed with the thickness of material specified in the individual design. The area between the structural steel support, track frame (Item 2C), and surrounding both sides of the attachment clips (Item 2B) are to be filled with material to a combined thickness of the wall framing when forming material (Item 3A) is not used.

      ISOLATEK INTERNATIONAL — Type 300
      GCP APPLIED TECHNOLOGIES INC — Type MK-6/HY

1A. **Roof Assembly —** (Not shown) - As an alternate to the floor assembly, a fire rated fluted steel deck roof assembly maybe used. The roof shall by constructed of the materials and in the manner described in the individual P700 or P900-Series Roof-Ceiling designs in the UL Fire Resistance Directory. The hourly rating of the roof assembly shall be equal to or greaterthan the hourly rating of the wall assembly. The roof assembly shall include the following construction features:

   A. **Steel Roof Deck —** Max 3 in. (76 mm) deep galv steel fluted roof deck.
   B. **Roof Insulation —** Roof insulation to consist of min 2-1/4 in. (57 mm) thick poured insulating concrete, asmeasured from the top plane of the roof deck.
   C. **Structural Steel Support —** Steel Beam, as specified in the individual P900 Series Roof-Ceiling Design, used tosupport steel floor units. Steel Beam oriented perpendicular to wall assembly.
   D. **Spray-Applied Fire Resistive Material* —** As specified in the individual P700 or P900 Series Floor-Ceiling Designafter installation of the ceiling runner (Item 3B), attachment clips (Item 2B), track frame (Item 2C), all surfaces of the structural steel support to be sprayed with the thickness of material as specified in the individual design. The area between the structural steel support, track frame (Item 2C), and surrounding both sides of the attachment clips (Item 2B) are to be filled with material to a combined thickness of the wall framing when forming material (Item 3A) is not used.

      ISOLATEK INTERNATIONAL — Type 300
      GCP APPLIED TECHNOLOGIES INC — Type MK-6/HY

2. **Wall Assembly —** The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

   A. **Steel Floor and Ceiling Runners —** Floor and ceiling runners of wall assembly shall consist of min No. 25 ga galv steel channels sized to accommodate steel studs (Item 2D). Floor and ceiling runner to be provided with min 1-1/4 in. (32mm) legs. The floor or ceiling runners are

provided with a fill, void or cavity material and are described in Item 3B. Floor or ceiling runner to be attached to steel deck (after spray-applied fire resistive material is applied, if used) with steel fasteners spaced a max of 24 in. (610 mm) O.C. Ceiling runner to be attached to steel attachment clips (Item 2B)with steel fasteners or welds spaced a max of 16 in. O.C.

A1. **Light Gauge Framing* —** Slotted Ceiling Track — (Not Shown) - As an alternate to the Item 2A, a ceilingtrack consisting of galv steel channel with slotted flanges may be used when Item 3B fill material is utilized. Slotted ceiling track sized to accommodate steel studs (Item 2B). Legs are to be min 1/4 in. (6 mm) longer than the maximum joint width. Attached to steel deck with steel fasteners or welds spaced max 24 in. (610 mm) OC.

BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS — SLP-TRK
CALIFORNIA EXPANDED METAL PRODUCTS CO — CST, CST 325
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Type SLT

B. **Steel Attachment Clips —** Z-shaped clips formed from min 20 ga galv steel. Clips are to be attached along the bottom flange of beam (prior to application of spray-applied fire-resistive materials) with steel fasteners or welds.

C. **Steel Track Frame —** Length of Flexible track (Item 3C) shaped to profile the structural steel support such that the horizontal section is located max 3-1/2in. (89 mm) from any point of the structural steel support. Track is to be fastened to ceiling runners on floor /ceiling assembly and runner attached to bottom of structural steel support with sheet metal fasteners. Steel track frame are provided with a fill, void or cavity material and are described in Item 3C.

D. **Studs —** Steel studs to be min 3-5/8 in. (92 mm) wide. Studs cut 5/8 to 1-1/4 in (16 to 32 mm) less in length than assembly height with bottom nesting in and secured to floor runner. Steel studs secured to slotted ceiling runner with No. 8 by 1/2 (13 mm) long wafer head steel screws at mid-height of exposed slot. Studs are not to be attached to the vertical sections of the steel track frame (Item 2C) or runner on the bottom flange of the structural steel support.

D1. **Framing Members - Steel Studs* —** (As an alternate to Item 2D,) - Proprietary channel shaped studs, 3-5/8 in. wide Steel studs to be min 3-5/8 in. (92 mm) wide. Studs cut 5/8 to 1-1/4 in (16 to 32 mm) less in length than assembly height with bottom nesting in and secured to floor runner. Steel studs secured to slotted ceiling runner with No. 8 by 1/2 (13 mm) long wafer head steel screws at mid-height of exposed slot. Studs are not to be attached to the vertical sections of the steel track frame (Item 2C) or runner on the bottom flange of the structural steel support.

CALIFORNIA EXPANDED METAL PRODUCTS CO — ViperStud ®

E. **Gypsum Board* —** Gypsum board sheets installed to a min total 5/8in. (16 mm) or 1-1/4 in. (32 mm) thickness on each side of wall for 1 and 2 hr fire rated assemblies, respectively. Wall to be constructed as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory except that a max 5/8 in. (16 mm) gap shall be maintained between the top of the gypsum board, the steel floor units. The gypsum board shall be cut to profile the structural steel support with a maximum separation of 5/8 in. (16 mm) between the lowest surface point of the spray applied material on the steel. The screws attaching the gypsum board to the studs along the top of the wall shall be located 1 in. (25mm) below the bottom of the ceiling runner legs. No gypsum board attachment screws shall be driven into the ceiling runner or the steel track frame (Item 2C).

The hourly fire rating of the joint system is equal to the hourly fire rating of the wall.

3. **Joint System —** Max separation between steel floor unit, spray applied material on bottom flange of structural support, and top of gypsum board (at time of installation) is 5/8 in. (16 mm) or 1/2 in. (13 mm) when Item 3B.1 is used or 3/8 (10 mm) when Item 3B.2 is used. The joint system is designed to accommodate a max 100 percent compression or extension from its installed width. When item 3C5 is used the joint will accommodate 100% compression/extension for nominal 1/4 in. (6mm) gaps or compression only for 1/2 in. (12mm) gaps.

A. Forming Material — Nom 4 pcf mineral wool batt insulation cut into strips having a thickness of the wall stacked to maintain a sufficient 50 percent compression between the structural steel support web and the steel track frame (Item 2C). Mineral wool to cover entire area between the structural steel support and the steel track frame. **INDUSTRIAL INSULATION GROUP L L C** — MinWool-1200 Safing

JOHNS MANVILLE — Safing
ROCK WOOL MANUFACTURING CO — Delta Safing Board
ROCKWOOL MALAYSIA SDN BHD — SAFE
ROCKWOOL — SAFE
THERMAFIBER INC — SAF

Item	Product	Max Gap	Movement
3B1	DDA-1 (CEMCO)	1/2"	100% Comp 100% Ext
3B2	FAS Track 1000 (CEMCO, MARINO/WARE)	3/8"	100% Comp 100% Ext
3B2	FAS Track 1000DL (CEMCO, MARINO/WARE)	3/8"	100% Comp 100% Ext
3B3	Fire Gasket 1 (CEMCO, MARINO/WARE, TRIM-TEX)	1/2"	100% Comp 100% Ext
3B3	Fire Gasket 1 (CEMCO, MARINO/WARE, TRIM-TEX)	1"	100% Comp 0% Ext
3B4	Fire Gasket 1.5 (CEMCO, MARINO/WARE, TRIM-TEX)	3/4"	100% Comp 100% Ext
3B4	Fire Gasket 1.5 (CEMCO, MARINO/WARE, TRIM-TEX)	1-1/2"	100% Comp 0% Ext

Item	Product	Max Gap	Movement
3C1	DDA-1 (CEMCO)	5/8"	80% Comp 30% Ext
3C2	HOTROD XL (CEMCO, MARINO/WARE, TRIM-TEX)	5/8"	80% Comp 30% Ext
3C3	HOTROD Type-X (CEMCO)	5/8"	80% Comp 30% Ext
3C4	HOTROD Type-X (CEMCO)	5/8"	75% Comp 25% Ext
3C5	Fire Gasket 0.5 (CEMCO, MARINO/WARE, TRIM-TEX)	1/4"	100% Comp 100% Ext
3C5	Fire Gasket 0.5 (CEMCO, MARINO/WARE, TRIM-TEX)	1/2"	100% Comp 0% Ext

D. **Fill, Void or Cavity Material* —** (Optional, Not Shown) when item 3C.1.1 is utilized a min 1/16 in. (1.6 mm) dry thickness (min 1/8 in. or 3.2 mm wet thickness) of fill material sprayed or brushed on one side of the joint system, completely covering mineral wool forming material of the joint system and overlapping a min of 1/2 in. (13 mm) onto the steel deck and item 3C1.1 on one side of the wall.

RECTORSEAL — Metacaulk 1200, Biostop 750, FlameSafe FS3000, Metacaulk 150, or Biostop 800 Spray.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**