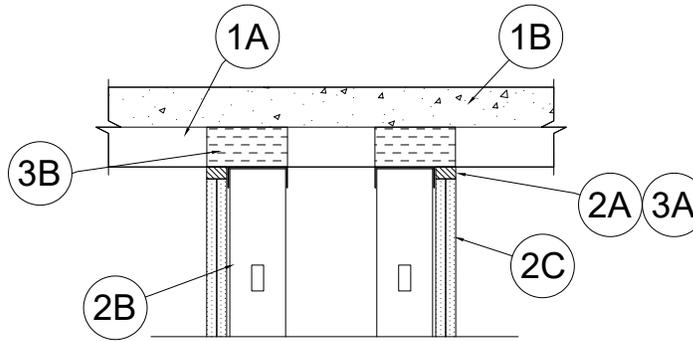


SYSTEM NO. HW-D-0553

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

L Rating at Ambient - Less Than 1 CFM/Lin Ft
L Rating at 400°F - Less Than 1 CFM/Lin Ft



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 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.

- 1A. **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 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.

- 1B. **Roof Assembly** — (Not Shown) - As an alternate to the floor assembly, a fire rated fluted steel deck roof assembly may be used. The roof shall be constructed of the materials and in the manner described in the individual P900 Series Roof-Ceiling designs in the UL Fire Resistance Directory. The hourly rating of the roof assembly shall be equal to or greater than the hourly rating of the wall assembly. The roof assembly shall include the following construction features:
 - A. **Steel Roof Deck** — Max 3 in. 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, as measured from the top plane of the roof deck.

- 1C. **Roof Assembly** — (Not Shown) - As an alternate to the floor assembly, a fire rated fluted steel deck roof assembly may be used. The roof shall be constructed of the materials and in the manner described in the individual P700 Series Roof-Ceiling designs in the UL Fire Resistance Directory. The hourly rating of the roof assembly shall be equal to or greater than the hourly rating of the wall assembly. The roof assembly shall include the following construction features:
 - A. **Steel Roof Deck** — Max 3 in. 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, as measured from the top plane of the roof deck.
 - C. **Spray-Applied Fire Resistive Material*** — After installation of the ceiling runner (Item 2A), steel deck to be sprayed with thickness of material as specified in the individual D700 Series Design. The spray-applied fire resistive material shall be excluded from the steel deck in the area immediately above the wall, for the full thickness of the wall. No spray-applied fire resistive material shall be applied on the flanges of the ceiling runner.

- 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 runners of wall assembly shall consist of min No. 25 ga galv steel channels sized to accommodate steel studs (Item 2B). Floor runner to be provided with min 1-1/4 in. (32mm) flanges. The ceiling runners are provided with a fill, void or cavity material and are described in Item 3.

SYSTEM NO. HW-D-0553

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

L Rating at Ambient - Less Than 1 CFM/Lin Ft
L Rating at 400°F - Less Than 1 CFM/Lin Ft

A1. Light Gauge Framing* — Slotted Ceiling Track — (Not Shown) - As an alternate to the Item 2A, a ceiling track consisting of galv steel channel with slotted flanges may be used when Item 3A.1 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. Studs — Steel studs to be min 2-1/2 in. (64 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 nested in non-slotted ceiling runner without attachment or secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at mid-height of exposed slot.

B1. Framing Members – Steel Studs* — In lieu of Item B - Proprietary channel shaped studs, 3-5/8 in. wide spaced a max of 24 in. OC. Studs to be cut 5/8 to 1-1/4 in (16 to 32 mm) less than the assembly height with bottom nesting in and secured to floor runner. Steel studs nested in non-slotted ceiling runner without attachment or secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at mid-height of slot.

CALIFORNIA EXPANDED METAL PRODUCTS CO — ViperStud™
MARINO/WARE, DIV OF WARE INDUSTRIES INC — ViperStud™

C. Gypsum Board* — Gypsum board sheets installed to a min total 5/8 in. (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 and the bottom of the steel floor units or steel deck. The screws attaching the gypsum board to the studs along the top of the wall shall be located 1 to 3-1/2 in. (25 to 89 mm) below the bottom of the ceiling runner legs. No gypsum board attachment screws shall be driven into the ceiling runner.

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

3. Joint System — Max separation between bottom of floor and top of gypsum board (at time of installation) is 3/8 in. (10 mm) when Item 3A is used or 3/4 in. (19 mm) when item 3A.1 is used. The joint system is designed to accommodate a max 80 percent compression and or 30 percent extension from its installed width of 1/2 in (13 mm) or less. When Item 3A1 is used the joint system is designed to accommodate 80% compression only from 3/4 in. (19 mm) installed width. When item 3A7 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.

Item	Product	Max Gap	Movement
3A	FAS Track 1000 (CEMCO, MARINO/WARE)	3/8"	80% Comp 30% Ext
3A	FAS Track 1000DL (CEMCO, MARINO/WARE)	3/8"	80% Comp 30% Ext
3A1	DDA-1 (CEMCO)	1/2"	80% Comp 30% Ext
3A2	HOTROD XL (CEMCO, MARINO/WARE, TRIM-TEX)	3/4"	80% Comp 30% Ext
3A3	HOTROD Type-X (CEMCO)	3/4"	80% Comp 30% Ext
3A4	HOTROD Type-X (CEMCO)	1/2"	75% Comp 25% Ext
3A5	Fire Gasket 1 (CEMCO, MARINO/WARE, TRIM-TEX)	1/2"	100% Comp 100% Ext
3A5	Fire Gasket 1 (CEMCO, MARINO/WARE, TRIM-TEX)	1"	100% Comp 0% Ext
3A6	Fire Gasket 1.5 (CEMCO, MARINO/WARE, TRIM-TEX)	3/4"	100% Comp 100% Ext
3A6	Fire Gasket 1.5 (CEMCO, MARINO/WARE, TRIM-TEX)	1-1/2"	100% Comp 0% Ext
3A7	Fire Gasket 0.5 (CEMCO, MARINO/WARE, TRIM-TEX)	1/4"	100% Comp 100% Ext
3A7	Fire Gasket 0.5 (CEMCO, MARINO/WARE, TRIM-TEX)	1/2"	100% Comp 0% Ext

B. Forming Material* — Min 4 pcf (64 kg/m3) mineral wool batt insulation cut to the shape of the flutes and compressed minimum 33 percent into the fluted area of the steel floor or roof deck above the ceiling channels and between the two walls. The forming material shall be installed to extend flush with outside surface of each wall.

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

SYSTEM NO. HW-D-0553

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

L Rating at Ambient - Less Than 1 CFM/Lin Ft
L Rating at 400°F - Less Than 1 CFM/Lin Ft

B1. Forming Material* - Plugs — (Not Shown) — As an alternate to the forming material (Item 3B), mineral wool plugs preformed to the shape of the fluted floor units, may be used within the flutes. Plugs shall be friction fit to completely fill the flutes above each ceiling channel. The plugs shall project beyond each side of the ceiling runner, flush with wall surfaces.

ROCK WOOL MANUFACTURING CO — Delta Deck Plugs

B2. Forming Material* - Metal Clip — (Not Shown) As an alternate to the forming material (Item 3B), a 20 ga. galvanized preformed U-shaped clip sized to fit within the flute void with forming material (Item 3B) 4 pcf (64 kg/m³) mineral wool installed between the flanges of the metal clip and compressed to 33% . The galvanized clips and mineral wool to be installed in flute voids on both sides of the wall.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Spray-less Flute Clip

C. Fill, Void or Cavity Material* — (Optional, Not Shown) when item 3A or 3A.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 3A on one side of the double wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP672 Firestop Spray or CFS-SP WB. Firestop Joint Spray
SPECIFIED TECHNOLOGIES INC — SpecSeal AS200 Elastomeric Spray
UNITED STATES GYPSUM CO — Type AS

D. Packing Material — (Not Shown) - When 3A or 3A.1 is used, a continuous length of open cell polyurethane foam with a nominal diameter of 1/8 in. (3.2 mm) greater than the max width of the joint. The foam shall have a nominal density of 1.7 pcf. The foam is to be placed in the joint above the top edge of the drywall between the concrete slab. Any splices are to be tightly butted. A layer of tape and joint compound can then be applied over the open cell foam.

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

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