

UL System No. HW-D-0376

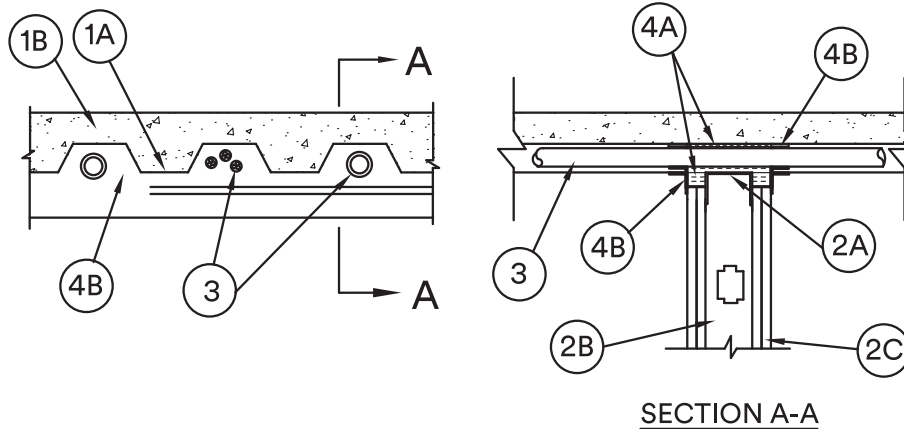
December 09, 2016

ANSI/UL2079

Assembly Rating – 1 and 2 Hr (See Item 2)
 Nominal Joint Width – 2 in.
 Class II Movement Capabilities – 25% Compression or Extension

CAN/ULC S115

F Ratings – 1 and 2 Hr (See Item 2)
 FT Ratings – 1 and 2 Hr (See Item 2)
 FH Ratings – 1 and 2 Hr (See Item 2)
 FTH Ratings – 1 and 2 Hr (See Item 2)
 Nominal Joint Width – 51 mm
 Class II Movement Capabilities – 25% Compression or Extension



SECTION A-A

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 units.
- B. **Concrete** – Min 2-1/2 in. (64 mm) thick reinforced concrete, as measured from the top plane of the floor units.

2. **Wall Assembly** – The 1 or 2 hr fire rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 or V400 Series Wall and Partition Designs 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 galv steel channels sized to accommodate steel studs (Item 2B). Flange height of ceiling runner shall be min 3/4 in. (19 mm) greater than nom joint width. Ceiling runner installed perpendicular to direction of fluted steel floor units and secured with steel fasteners or by welds spaced max 24 in. (610 mm) OC.

- A1. **Light Gauge Framing* – Slotted Ceiling Runner** – As an alternate to the ceiling runner in Item 2A, slotted ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Item 2B). Flange height of ceiling runner shall be min 3/4 in. (19 mm) greater than nom joint width. Slotted ceiling runner installed perpendicular to direction of fluted steel floor units and secured to valleys with steel fasteners spaced max 24 in. (610 mm) OC.

BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS – SLP-TRK

- A2. **Light Gauge Framing* – Clipped Ceiling Runner** – As an alternate to the ceiling runner in Items 2A and 2A1, clipped runner to consist of galv steel channel with clips preformed in track flanges which positively engage the inside flange of the steel studs (Item 2B). Track sized to accommodate steel studs (Item 2B). Flange height of ceiling runner shall be min 3/4 in. (19 mm) greater than nom joint width. Clipped ceiling runner installed perpendicular to direction of fluted steel floor units and secured to valleys with steel fasteners spaced max 24 in. (610 mm) OC.

TOTAL STEEL SOLUTIONS LLC – Snap Trak

- B. **Studs** – Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut 1/2 to 3/4 in. (13 to 19 mm) less in length than assembly height with bottom nesting in and resting on floor runner and with top nesting in ceiling runner without attachment. When slotted ceiling runner (Item 2A1) is used, steel studs secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at midheight of slot on each side of wall. Stud spacing not to exceed 24 in. (610 mm) OC.
- C. **Gypsum Board*** – Gypsum board sheets installed to a min total thickness of 5/8 in. (16 mm) and 1-1/4 in. (32 mm) on each side of wall for 1 and 2 hr rated assemblies, respectively. Wall to be constructed as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory, except that a max 2 in. (51 mm) gap shall be maintained between the top of the gypsum board and the bottom of the steel floor units and the top row of screws shall be installed into the studs 3-1/2 in. (89 mm) below the lower surface of the floor.

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

3. **Through Penetrants (Not applicable when Item 4B1 is used)** – A max of one nonmetallic or metallic pipe or conduit or a max of three cables may be installed within the individual areas of the flutes of the steel deck above the ceiling runner. Annular space between the penetrants and the steel deck or top of ceiling runner shall be min 1/2 in. (13 mm). Penetrants to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic or metallic pipe or conduit or cables may be used:

- A. **Metallic Pipes** – The following types and sizes may be used:
 - 1. **Steel Pipe** – Nom 1-1/2 in. (38 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
 - 2. **Conduit** – Nom 1-1/2 in. (38 mm) diam (or smaller) electrical metallic tubing or rigid steel conduit.

Construction Joints

Head of Wall

HWD

B. Nonmetallic Pipes – The following types and sizes may be used:

- 1. Polyvinyl Chloride (PVC) Pipe** – Nom 1-1/2 in. (38 mm) diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) piping systems.
- 2. Chlorinated Polyvinyl Chloride (CPVC) Pipe** – Nom 1-1/2 in. (38 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.
- 3. Rigid Nonmetallic Conduit++** – Nom 1-1/2 in. (38 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No. 70).

C. Cables – A max of three cables may be used. A min 1/2 in. (13 mm) annular space must be maintained between cables. Max 3C with ground No. 12 AWG (or smaller) MC (BX) copper cables with polyvinyl chloride insulation.

4. Joint System – Max separation between bottom of floor and top of wall is 2 in. The joint system is designed to accommodate a max 25 percent compression or extension from its installed width. The joint system consists of a forming material and a fill material, as follows:

A. Forming Material* – Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m³) density mineral wool batt insulation cut to the shape of the fluted deck, approx 20 percent larger than the area of the flutes and compressed into flutes of the steel floor units between the top of the ceiling runner and the steel deck and tightly packed around the individual penetrants. Additional pieces of min 4 pcf (64 kg/m³) mineral wool batt insulation are to be cut to the contour of the flutes with an additional 1-3/4 in. (44 mm) high section at the bottom of the shapes to fill the 2 in. (51 mm) gap between the top of the gypsum board and the bottom of the steel floor units. The additional pieces of mineral wool are compressed and firmly packed into the flutes and around the penetrants and into the gap between the top of the gypsum board and the bottom of the steel floor units on both sides of the wall. The additional pieces shall be a 3/4 in. (19 mm) thick for a 1 hr rated design and a 1-1/2 in. (38 mm) thick for a 2 hr rated design.

INDUSTRIAL INSULATION GROUP LLC – MinWool-1200 Safing

ROCK WOOL MANUFACTURING CO – Delta Board or Delta-8

ROCKWOOL MALAYSIA SDN BHD – Type Safe

ROXUL INC – Type Safe

B. Fill, Void or Cavity Material* – 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 each side of the wall in the flutes of the steel floor units and between the top of the gypsum board and the bottom of the steel floor units to completely cover mineral wool and overlap a min of 1/2 in. (13 mm) onto gypsum board and a min 1 in. (25 mm) onto steel deck and penetrants on both sides of wall.

3M COMPANY – FireDam™ Spray 200

B1. Fill, Void or Cavity Material* – Tape (Not applicable when Item 3 is used) – As an alternate to Item 4B, Tape cut to size and press applied within fluted areas of joint to completely cover mineral wool lapping min 1 in. (25 mm) onto the contour of the steel floor units and extending to lap min 1 in. (25 mm) onto the gypsum wall. Additional pieces of Tape are applied along the joint to completely cover the remaining mineral wool between bottom of steel deck and top edge of wall along length of joint, lapping min 1 in. (25 mm) onto the contour of the steel floor units and min 1 in. (25 mm) onto the gypsum wall. Adjoining lengths of Tape shall overlap min 1/2 in. (13 mm). Tape shall be applied at both sides of wall.

3M COMPANY – 3M Fire and Water Barrier Tape

*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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