

# UL System No. HW-D-1059

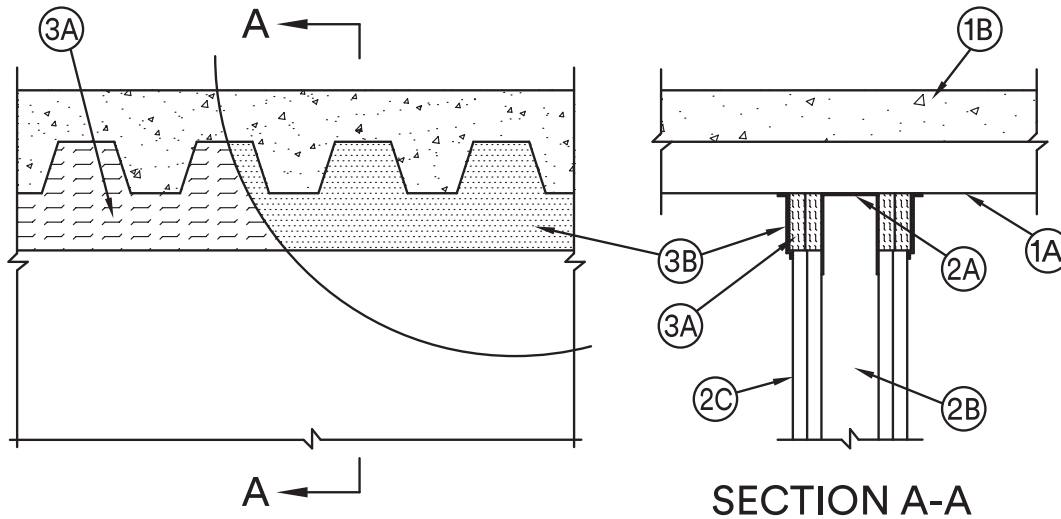
December 16, 2016

## ANSI/UL2079

Assembly Ratings – 1 and 2 Hr (See Item 2)  
 Nominal Joint Width – 4 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 – 102 mm  
 Class II Movement Capabilities – 25% Compression or Extension



**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 UL Fire Resistance Directory. The hourly fire rating of the floor assembly shall be equal to or greater than the hourly fire rating of the wall assembly. The floor assembly shall include the following construction features:

- A. Steel Floor and Floor 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.

**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 or 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 24 gauge galv steel channels sized to accommodate steel studs (Item 2B). Ceiling runner to be provided with flanges sized a min of 1-1/2 in. (38 mm) longer than the nom joint width. The ceiling runner is secured to steel floor units with steel fasteners or welds spaced max 24 in. (610 mm) OC.
- B. Studs** – Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut 1-1/4 in. (32 mm) to 1-1/2 in. (38 mm) less in length than assembly height with bottom nesting in and secured to floor runner. Studs to nest in ceiling runner without attachment.
- 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 4 in. (102 mm) gap shall be maintained between the top of the gypsum board and the bottom plane of the steel deck on both sides of wall assembly. For 1 hr fire rated walls, a min 4 in. wide strip of 5/8 in. thick gypsum board shall be installed flush with the top edge of the gypsum board along its entire length on both sides of the wall to create a nominal 1-1/4 in. wide ledge to support the bottom edge of the forming material (Item 3A). The screws attaching the gypsum board to the studs along the top of the wall shall be located 1-1/2 in. (38 mm) below the bottom of the ceiling runner. 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 plane of steel floor unit and top of gypsum board (at time of installation of joint system) is 4 in. (102 mm). The joint system is designed to accommodate a max 25 percent compression or extension from its installed width as measured between the bottom plane of the steel floor unit and the top of the gypsum board. The joint system shall consist of forming and fill materials, as follows:

- A. Forming Material\*** – Nom 8 pcf (128 kg/m<sup>3</sup>) mineral wool batt insulation. Sections of mineral wool batt cut to a width equal to the thickness of the wall assembly at its top edge and tightly packed into the areas of the fluted deck above the ceiling runner, flush with both surfaces of wall. Additional 1-1/2 in. wide by 2 in. (51 mm) thick sections of nom 8 pcf (128 kg/m<sup>3</sup>) mineral wool batt insulation are compressed 37 percent in the thickness direction and installed to completely fill the gap above the top of the gypsum board on both sides of the wall. As an option for the 1 hr assembly rating, nom 4 pcf (64 kg/m<sup>3</sup>) density mineral wool batt insulation may be used in the gap above the top of the gypsum board.

**ROCK WOOL MANUFACTURING CO** – Delta 8

**ROCKWOOL MALAYSIA SDN BHD** – SAFE

**ROXUL INC** – SAFE

Construction Joints

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## UL System No. HW-D-1059 (cont.)

Construction Joints

**B. Fill, Void or Cavity Material\* – Sealant** – Min 1/8 in. (3.2 mm) wet thickness or 1/16 in. (1.6 mm) dry thickness of fill material spray applied over the forming material on each side of the wall. Fill material to overlap a min of 1/2 in. (13 mm) onto the gypsum board and a min 1 in. (25 mm) onto the steel floor unit on each side of the wall.

**3M COMPANY** – FireDam™ Spray 200

**B1. Fill, Void or Cavity Material\* – Tape** – As an alternate to Item B, 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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