

UL System No. HW-D-0552

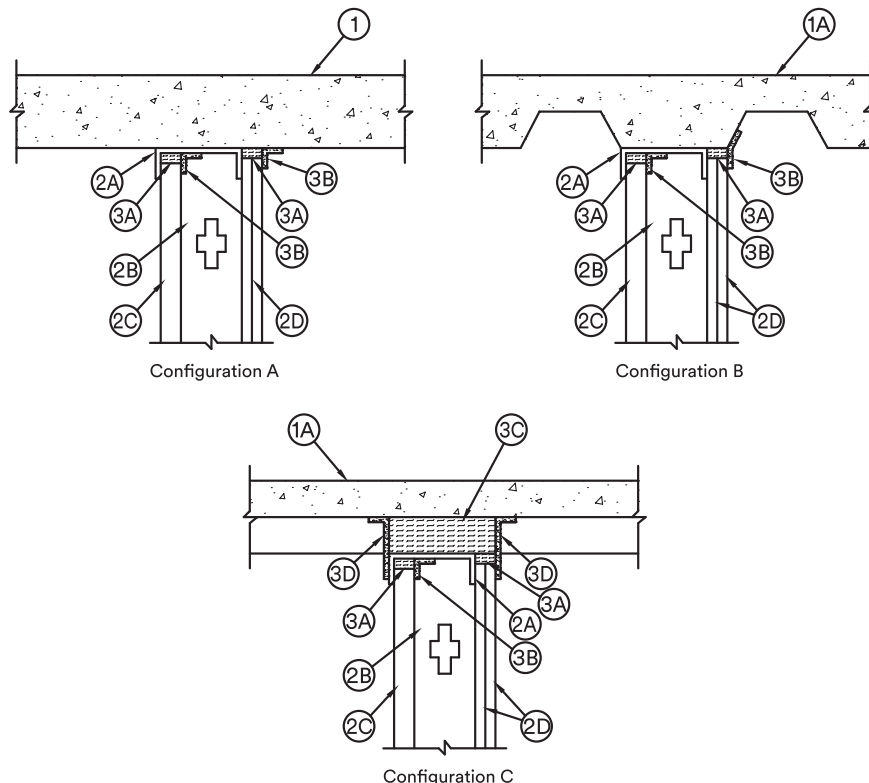
February 13, 2017

ANSI/UL2079

Assembly Rating – 2 Hr
Nominal Joint Width – 3/4 in.
Class II Movement Capabilities – 19% Compression or Extension

CAN/ULC S115

F Rating – 2 Hr
FT Rating – 2 Hr
FH Rating – 2 Hr
FTH Rating – 2 Hr
Nominal Joint Width – 19 mm
Class II Movement Capabilities – 19% Compression or Extension



- 1. Floor Assembly** – Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) structural concrete. Floor may also be constructed of any UL Classified hollow-core **Precast Concrete Units***.

See **Precast Concrete Units** (CFTV) in Fire Resistance Directory for names of manufacturers.

- 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 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.

- 2. Shaft Wall Assembly** – The 2 hr fire rated shaft 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 galv steel channels sized to accommodate steel “C-H” studs. Flange height of ceiling runner shall be min 1/2 in. (13 mm) greater than nom joint width. Ceiling runner secured with steel masonry anchors spaced max 24 in. (610 mm) OC.
- B. Steel Studs** – “C-H”-shaped steel studs to be min 2-1/2 in. (64 mm) wide and formed of min 24 MSG galv steel. 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 or slotted ceiling track. Studs spaced 24 in. (610 mm) OC. After installation of gypsum board liner panels (Item 2D), studs secured to flange of floor runner on finished side of wall only with No. 6 by 1/2 in. (13 mm) long self-drilling, self-tapping steel screws. Studs secured to flange of slotted ceiling track on finished side of wall only with No. 8 by 1/2 in. (13 mm) long self-drilling, self-tapping wafer head steel screws at slot mid height.
- C. Gypsum Board*** – 1 in. (25 mm) thick by 24 in. (610 mm) wide gypsum board liner panels. Panels cut 1 in. (25mm) less in length than floor to ceiling height. Vertical edges inserted in “H”-shaped section of “C-H” studs. Free edge of end panels attached to long leg of “J” runner (Item 2A) with 1-5/8 in. (41 mm) long Type S steel screws spaced max 12 in. (305 mm) OC.
- D. Gypsum Board*** – Gypsum board sheets, 1/2 or 5/8 in. (13 or 16 mm) thick, applied vertically or horizontally in two layers on finished side of wall as specified in the individual U400 or V400-Series Wall and Partition Design. A max 1 in. (25 mm) gap shall be maintained between the top of the gypsum board and the bottom surface of the concrete floor. The screws attaching the gypsum board layers to the C-H studs shall be located 1 in. (25 mm) below the bottom of the slotted ceiling track (Item 2C). No gypsum board attachment screws are to penetrate the slotted ceiling track.

Construction Joints

Head of Wall

HW-D

3. Joint System – Max separation between bottom of floor and top of liner panel (Item 2D) and between bottom of floor and top of gypsum board sheets (Item 2E) at time of installation of joint system is 3/4 in. (19 mm). The joint system is designed to accommodate a maximum 19 percent compression or extension from its installed width. The joint system consists of the following:

Configuration A, B, and C

- A. Forming Material*** – Min 4 pcf (64 kg/m³) density mineral wool batt insulation cut to a thickness equal to the overall thickness of the gypsum board and shaft liner and compressed 50 percent in height and inserted between the top of the gypsum board and bottom of floor on both sides of the wall.
- B. Fill, Void or Cavity Material* – Sealant** – Prior to the installation of the gypsum board (Item 2D), 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 inside of ceiling runner to completely cover mineral wool and overlap a min of 1/2 in. (13 mm) onto shaft liner (Item 2C) and runner (Item 2A). After installation of gypsum board (Item 2D) 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 gypsum board on the wall to completely cover mineral wool and overlap a min of 1/2 in. (13 mm) onto wall and floor

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3M FIRE PROTECTION PRODUCTS – FireDam Spray 200

- B1. Fill, Void or Cavity Material* – Tape** – Alternate to Item B. Prior to the installation of the gypsum board (Item 2D), Tape cut to size and press applied on inside of ceiling runner to completely cover mineral wool and overlap a min of 1 in. (25 mm) onto shaft liner (Item 2C) and runner (Item 2A). After installation of gypsum board (Item 2D) , Tape cut to size and press applied over the mineral wool forming material and lapping min 1 in. (25 mm) onto the steel floor units and gypsum wall. Tape applied in minimum 1 ft (305 mm) lengths along joint and adjoining lengths of Tape shall overlap min 1/2 in. (13 mm).

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Configuration C Only


- C. 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 deck between the top of the ceiling runner and the steel deck.
- D. Fill, Void or Cavity Material*** – Min 1/16 in. (1.6 mm) dry (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 bottom edge of the ceiling runner or top of the gypsum board, and the bottom of the steel floor to completely cover mineral wool and overlap a min of 1/2 in. (13 mm) on to gypsum board, ceiling runner and steel floor deck on both sides of wall.

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- D1. Fill, Void or Cavity Material* – Tape** – As an alternate to Item D, 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 (finished side of wall) and ceiling runner (shaft side of 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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