

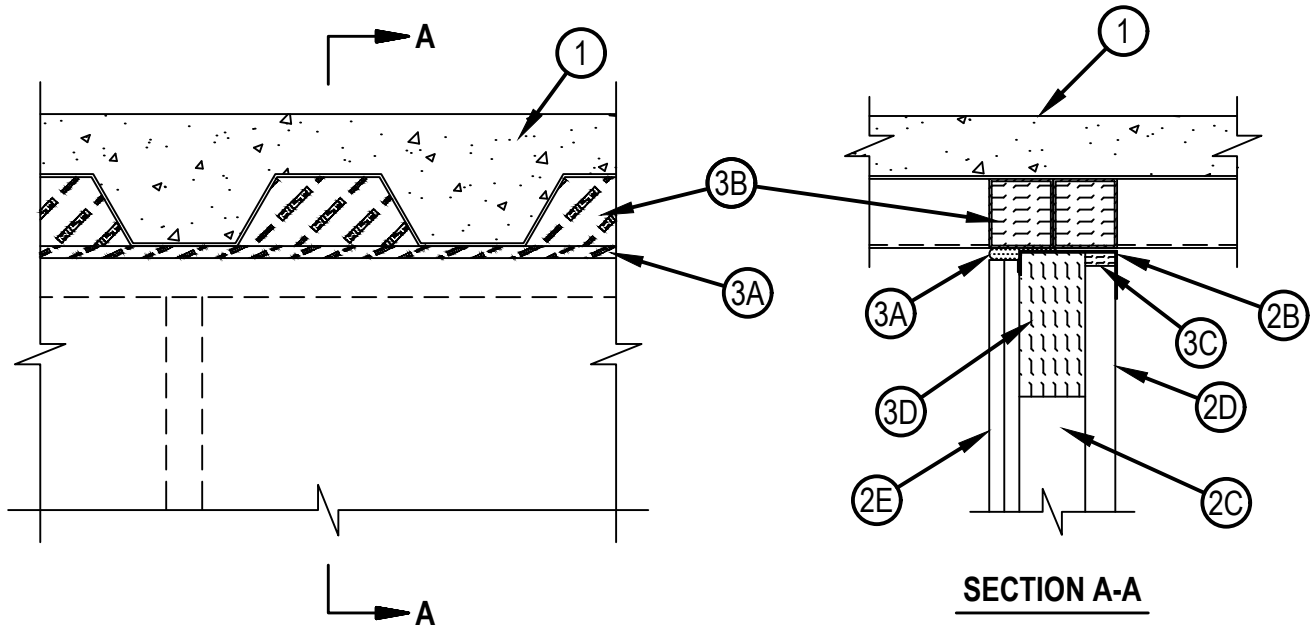


Classified by
Underwriters Laboratories, Inc.
to UL 2079 and CAN/ULC-S115

System No. HW-D-0881

HWD 0881

ANSI/UL2079	CAN/ULC S115
Assembly Ratings — 1 and 2 Hr (See Item 2)	F Rating — 1 and 2 Hr (See Item 2)
Nominal Joint Width — 1/2 In.	FT Rating — 1 and 2 Hr (See Item 2)
Class II or III Movement Capabilities — 50% Compression or Extension	FH Rating — 1 and 2 Hr (See Item 2)
L Rating at Ambient — Less than 1 CFM/Lin Ft (See Items 3D and 3E)	FTH Rating — 1 and 2 Hr (See Item 2)
L Rating at 400°F — Less than 1 CFM/Lin Ft (See Items 3D and 3E)	Nominal Joint Width - 13 mm
	Class II or III Movement Capabilities — 50% Compression or Extension
	L Rating at Ambient — Less than 1.55 L/s/m (See Items 3D and 3E)
	Rating at 204°F — Less than 1.55 L/s/m (See Items 3D and 3E)



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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 Floor-Ceiling Design 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 Form Units* — Min 2-1/2 in. (64 mm) thick reinforced (100-150 pcf or 1600-2400 kg/m³) concrete, as measured from the top plane of the floor units.
 - B. Concrete — Wallboard sheets installed to a min total thickness of 1-1/4 in. on each side of wall.
2. Shaft Wall Assembly — The 1 hr or 2 hr fire rated gypsum board/steel stud 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. Floor and Wall Runners — (Not Shown) - J-shaped runner, equal in width to steel studs (Item 2C), with unequal legs of 1 in. (25 mm) and 2 in. (51 mm), fabricated from 20 MSG galv steel. Runners positioned with short leg toward finished side of wall. Runners attached to floor with steel masonry anchors, steel fasteners or welds located not greater than 2 in. (51 mm) from ends and not greater than 24 in. (610 mm) OC.
 - B. Ceiling Runner — Ceiling runner of wall assembly shall consist of J-shaped runner, equal in width to steel studs (Item 2C), with unequal legs of min 1 in. (25 mm) and 2 in. (51 mm), fabricated from 20 MSG galv steel. Ceiling runner installed perpendicular to direction of fluted steel deck and secured to steel deck valleys with steel masonry anchors or steel fasteners spaced max 24 in. (610 mm) OC after installation of the Top Track Seal (Item 3A).
 - C. Steel Studs — C-H or -T shaped studs, min 4 in. (102 mm) wide, fabricated from min 20 MSG galv steel, cut to lengths 1/2 in. (13 mm) less than floor to ceiling height and spaced max 24 in. (610 mm) OC.
 - D. Gypsum Board* — Nom 1 in. (25 mm) thick gypsum board liner panels. Panels cut 3/4 in. (19 mm) less in length than floor to ceiling height. Vertical edges inserted in H-shaped section of C-H or -T studs. At the ends of the assembly, the free edge of the end panels are attached to the long leg of vertical J-runners (Item 2A) with 1-5/8 in. (41 mm) long Type S steel screws spaced max 12 in. (305 mm) OC.
 - E. Gypsum Board* — Nom 5/8 in. (16 mm) thick Type C gypsum board applied in one or two layers for 1 hr and 2 hr fire rated assemblies, respectively, in accordance with the individual U400 or V400 design except that a maximum 1/2 in. high gap shall be maintained between the top edge of the gypsum board and the bottom plane of the floor assembly. The screws attaching the gypsum board layers to the C-H studs shall be located 3-1/2 to 5-1/2 in. (89 to 140 mm) below the bottom plane of the floor. No gypsum board attachment screws are to penetrate 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 the bottom of steel floor unit and top of gypsum board on finished side of wall at time of installation is 1/2 in. (13 mm). The joint system is designed to accommodate a max 50 percent compression or extension from its installed width. The joint system consists of the following:
- A. Fill, Void or Cavity Material* — Top Track Seal — Factory supplied foam seal installed over the ceiling runner (Item 2B) on finished side of wall prior to attachment to underside of steel floor unit in accordance with the installation instructions. Butt joints in the Top Track Seal shall be compressed min 1/2 in. (13 mm).
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-TTS MD OS Firestop Top Track Seal
 - B. Forming Material* — Flute Plugs — The fluted area of steel floor is filled with preformed flute plugs, formed to the shape of the flutes. The plug size to match deck height and to be friction fit above the ceiling runner, flush with both sides of the wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-TTS MD P 1.5, CFS-TTS MD P2, CFS-TTS MD P3 Firestop Top Track Plug
 - C. Forming Material* — Min 4 pcf (64 kg/m³) mineral wool batt insulation cut into 1 in. (25 mm) wide by 1-1/2 in. (38 mm) thick strips. Mineral wool to be compressed 50 percent in thickness and installed edge first into gap between top of gypsum liner panel and ceiling runner.
INDUSTRIAL INSULATION GROUP L L C — MinWool-1200 Safing
JOHNS MANVILLE — Safing
ROCK WOOL MANUFACTURING CO — Delta Board or Delta -8
ROCKWOOL MALAYSIA SDN BHD — Type Safe
ROCKWOOL — Type Safe
THERMAFIBER INC — Type SAF
 - D. Forming Material* — Min 4 pcf (64 kg/m³) mineral wool batt insulation cut into 6 in. (152 mm) wide pieces with a thickness equal to the width of the ceiling runner. Mineral wool to be compressed in thickness and installed edge first between 1 in. (25 mm) leg of ceiling runner and gypsum liner panel. In addition, for L Rating, when gaps are present above ceiling runner at steel deck seams or embossments in steel deck valleys, a sliver of mineral wool batt insulation shall be used to seal each gap on finished side of wall.
INDUSTRIAL INSULATION GROUP L L C — MinWool-1200 Safing
JOHNS MANVILLE — Safing
ROCK WOOL MANUFACTURING CO — Delta Board or Delta -8
ROCKWOOL MALAYSIA SDN BHD — Type Safe
ROCKWOOL — Type Safe
THERMAFIBER INC — Type SAF
 - E. Fill, Void or Cavity Material* — Sealant — (Not Shown) - As an alternate to sliver of mineral wool batt insulation in Item 3D, sealant may be used to seal each gap at steel deck seams or embossments in steel deck valleys to attain L Ratings.
See Fill, Void or Cavity Material (XHHW) category in the Fire Resistance Directory for names of sealant manufacturers.

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