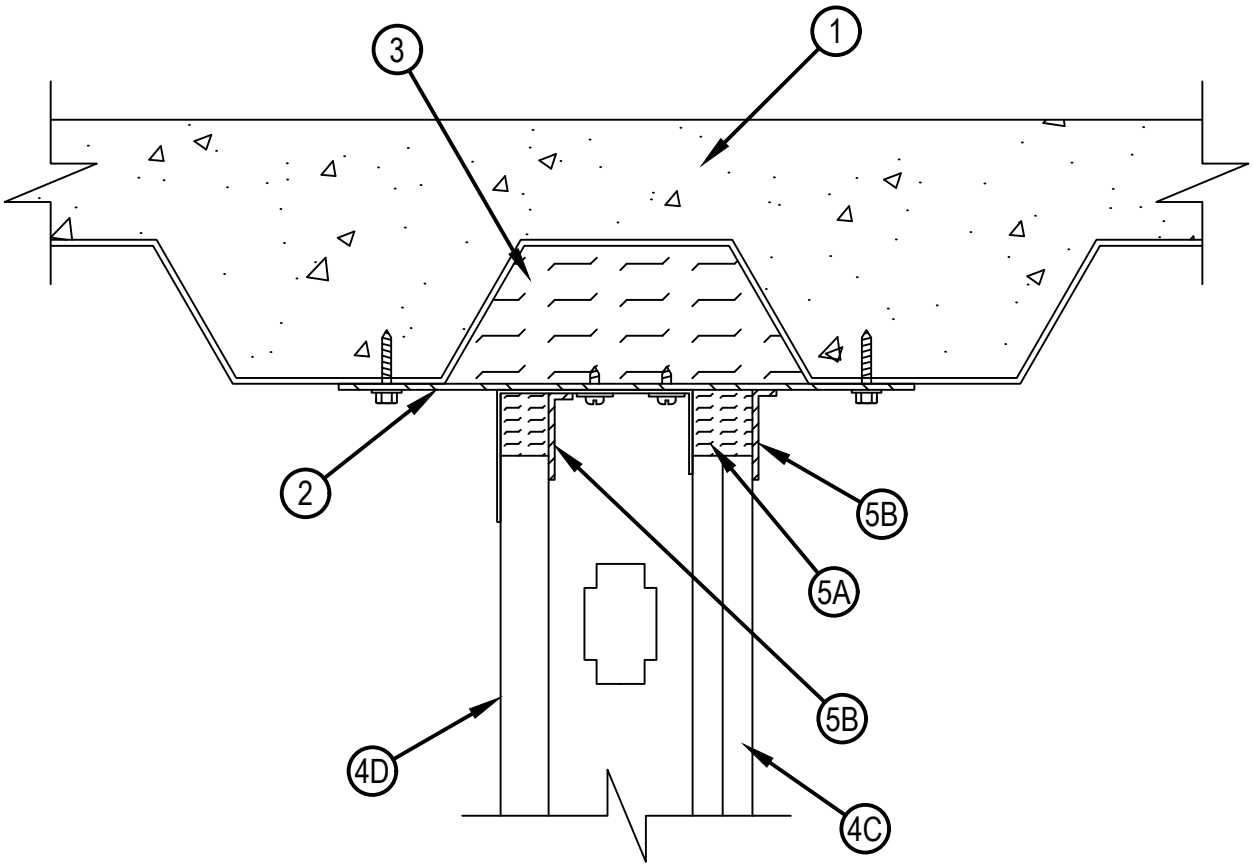
Classified by
Underwriters Laboratories, Inc.
to UL 2079 and CAN/ULC-S115

System No. HW-D-0978

ANSI/UL2079	CAN/ULC S115
Assembly Ratings — 1 and 2 Hr (See Item 4)	F Ratings — 1 and 2 Hr (See Item 4)
Nominal Joint Width — 1-1/2 In.	FT Ratings — 1 and 2 Hr (See Item 4)
Class II Movement Capabilities — 25% Compression or Extension	FH Ratings — 1 and 2 Hr (See Item 4)
L Rating At Ambient — Less Than 1 CFM/lin ft	FTH Ratings — 1 and 2 Hr (See Item 4)
L Rating At 400 F — Less Than 1 CFM/lin ft	Nominal Joint Width – 38 mm
	Class II Movement Capabilities — 25% Compression or Extension
	L Rating At Ambient — Less Than 1.55 L/s/m
	L Rating At 204°C — Less Than 1.55 L/s/m



System No. HW-D-0978

1. Floor Assembly —The fire-rated fluted steel floor unit/concrete floor assembly shall be constructed of the materials and in the manner described in the individual D700 or D900 Series Floor-Ceiling Design in the 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 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.
   C. Spray-Applied Fire Resistive Material* —(Optional. Not Shown) - After installation of the steel straps (Item 2), the steel floor units may be sprayed with the min thickness of material specified in the individual D700 Series Design.
   ISOLATEK INTERNATIONAL — Type 300
   GCP APPLIED TECHNOLOGIES INC — Types MK-6/HY or MK-10HB

1A. 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 or 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. (76 mm) 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* —(Optional. Not Shown) - After installation of the steel straps (Item 2), all surfaces of the steel deck may be sprayed with the thickness of material as specified in the individual P700 Series Floor-Ceiling Design. The flutes of the steel deck above the steel straps and wall may be filled with material as an alternate to the Forming Material (Item 3).
   ISOLATEK INTERNATIONAL — Type 300
   GCP APPLIED TECHNOLOGIES INC — Types MK-6/HY or MK-10HB

2. Steel Straps —Min. 2 in. (51 mm) wide 16 MSG galv steel straps cut to a length to span the flute and overlap the adjacent valleys of fluted floor units or roof deck by 1-1/2 in. (38 mm). Straps spaced max 24 in. (610 mm) OC and fastened to floor or roof assembly with masonry anchors or steel fasteners. As an alternate, min 1 in. (25 mm) long Hilti X-DNI 27 P8 S15 or Hilti X-U 27 P8 S15 powder actuated floor pins with integral min 9/16 in. (14 mm) diam washer may be used to secure steel straps to floor or roof assembly.

3. Forming Material* - Plugs —Preformed mineral wool plugs, formed to the shape of the fluted floor units or roof deck, friction fit to completely fill the flutes above the steel straps. Adjacent lengths of plugs to be tightly butted with butted seams spaced min 24 in. (610 mm) apart along the length of the plugs.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP777 Speed Plugs

3A. Forming Material* — As an alternate to Item 3, min 4 pcf (64 kg/m3) mineral wool batt insulation forming material cut to the shape of the fluted floor units or roof deck and friction fit to completely fill the flutes above the steel straps. Adjacent lengths of batts to be tightly butted with butted seams spaced min 24 in. (610 mm) apart along the length of the flutes.

JOHNS MANVILLE INTERNATIONAL INC — MinWool-1200 Safing
ROCKWOOL MALAYSIA SDN BHD — SAFE
ROCKWOOL — SAFE
THERMAFIBER/OWENS CORNING — Type SAF

4. Shaft Wall Assembly —The 1 or 2 hr fire rated shaft wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Floor and Ceiling Runners —Min 2-1/2 in. (64 mm) wide, and equal in width to the steel wall studs, with legs of min 2-1/2 in. (64 mm), fabricated from min 25 MSG galv steel. Floor runner may also be J-shaped runner, equal in width to steel wall studs, with unequal legs of 1 in. (25 mm) and 2 in. (51 mm), fabricated from min 25 MSG galv steel; runners positioned with short leg toward finished side of wall. Runners attached to floor with steel fasteners spaced max 24 in. (610 mm) OC. Ceiling runner installed parallel with or perpendicular to direction of fluted steel deck and secured to steel deck valley with steel fasteners or welds spaced max 24 in. (610 mm) OC.

A1. Light Gauge Framing* - Slotted Ceiling Track — 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 2C). Flange height of slotted ceiling runner shall be min 1/4 in. (6 mm) greater than max extended joint width. Slotted ceiling runner installed perpendicular to direction of fluted steel deck and secured to steel deck valleys before or after optional spray-applied fire resistive material is used with steel masonry anchors spaced max 12 in. (305 mm) OC. The use of welds to secure the ceiling runner may only be used prior to the installation of the optional spray-applied material.

CEMCO, LLC — CST, CST325

CLARKDIETRICH BUILDING SYSTEMS — Type SLT, SLT-H

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Type SLT

RAM SALES L L C — RAM Slotted Track

SCAFCO STEEL STUD MANUFACTURING CO — Slotted Track

TELLING INDUSTRIES L L C — True-Action Deflection Track

A2. 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, sized to accommodate steel studs (Item 2C). Flange height of slotted ceiling runner shall be 3-1/4 in. (83 mm) with 2 in. (51 mm) deep slots. Slotted ceiling runner installed perpendicular to direction of fluted steel deck and secured to steel deck valleys as described in Item A1.

SCAFCO STEEL STUD MANUFACTURING CO — Slotted Track-Type SDLT

B. Steel Studs —"C-H" or “C-T”-shaped steel studs to be min 2-1/2 in. (64 mm) wide and formed of min 25 MSG galv steel. Studs cut 1 to 1-1/4 in. (25 to 32 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 2C), studs secured to flange of floor runner on finished side of wall 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 midheight.

C. Gypsum Board* —1 in. (25 mm) thick by 24 in. (610 mm) wide gypsum board liner panels. Panels cut 1 to 1-1/2 in. (25 to 38 mm) less in length than floor to ceiling height. Vertical edges inserted into the "H"-shaped section of "C-H" studs or "T"-shaped section of "C-T" 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, 5/8 in. (16 mm) thick Type C, applied vertically or horizontally in one or two layers for 1 or 2 hr rated walls, respectively, on finished side of wall as specified in the individual U400, V400 or W400 Series Wall and Partition Design. A max 1-1/2 in. (38 mm) gap shall be maintained between the top of the gypsum board and the bottom surface of the floor. The screws attaching the gypsum board layers to the “C-H” and “C-T” 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.

The hourly ratings of the joint system are dependent on the hourly rating of the wall.

5. Joint System —Max separation between bottom of floor and top of wall is 1-1/2 in. (38 mm). The joint system is designed to accommodate a max 50 percent compression or extension from its installed width. The joint system consists of a forming material and a fill material between the top of the gypsum board and the bottom of the floor, as follows:

A. Forming Material* —Min 4 pcf (64 kg/m3) density mineral wool batt insulation cut shall be cut into strips to fill the gap between the top of gypsum board and bottom of the floor units. The width of the strips shall be equal to the total thickness of the gypsum board. The strips of mineral wool are compressed 50 percent in thickness and firmly packed into the gap between the top of the gypsum board and bottom of the mineral wool plug or steel floor units. In addition, min 1 in. (25 mm) thickness of 4 pcf (64 kg/m3) density mineral wool batt insulation sized to attain a min compression rate of 50 percent in the thickness direction and firmly packed to completely fill the space within ceiling runner directly above the gypsum liner board as a permanent form.

JOHNS MANVILLE INTERNATIONAL INC — MinWool-1200 Safing

ROCKWOOL MALAYSIA SDN BHD — SAFE

ROCKWOOL — SAFE

THERMAFIBER/OWENS CORNING — Type SAF

System No. HW-D-0978

A1. Forming Material* - Strips — (Optional) - Nom 5/8 in. (16 mm) and 1-1/4 in. (32 mm) wide precut mineral wool strips for 1 hr and 2 hr rated assemblies respectively. The strips are compressed 50 percent in thickness and firmly packed into the gap between the top of the gypsum board and bottom of the steel floor units. In addition, strips are compressed 50 percent and installed within ceiling runner above top of gypsum liner panel flush with the inside surface of the panel.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 767 Speed Strips

B. Fill, Void or Cavity Material* - Sealant —Min 1/8 in. (3.2 mm) wet thickness (min 1/16 in. or 1.6 mm dry thickness) of fill material sprayed or troweled within stud cavity and on finished side of the shaft wall to completely cover the mineral wool forming material and to overlap a min of 1/2 in. (13 mm) onto gypsum board, steel floor units or roof deck and steel straps and min 2 in. (51 mm) onto spray-applied fire resistive material (Item 1C). Fill material to overlap a min of 1/2 in. (13 mm) onto gypsum board and ceiling runner within stud cavity.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-SP WB Firestop Joint Spray

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