

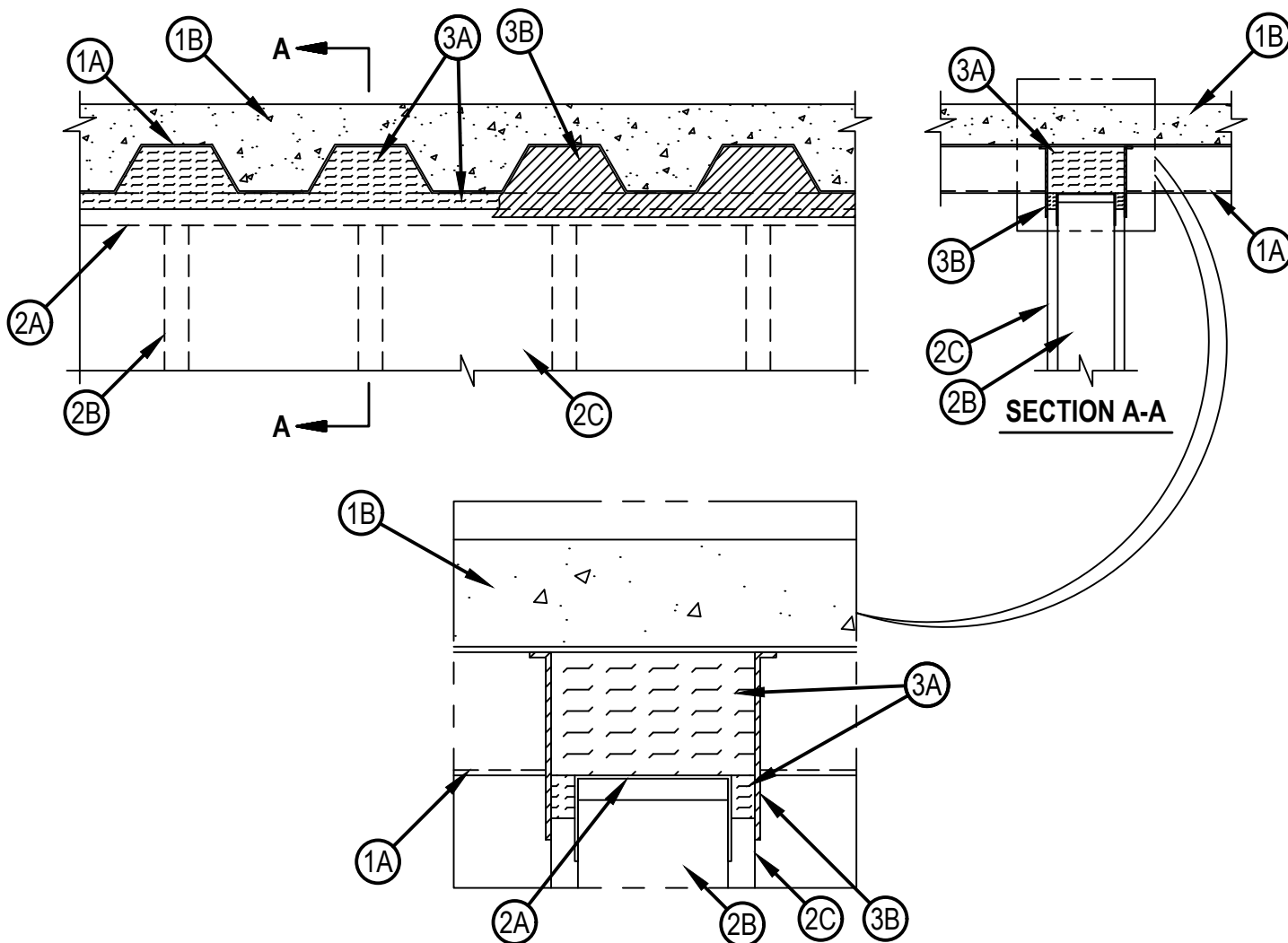


Classified by
Underwriters Laboratories, Inc.
to UL 2079 and CAN/ULC-S115

System No. HW-D-0321

HW-D-0321

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



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 D700 or D900 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. deep galv steel fluted units.
 - B. Concrete — Min 2-1/2 in. thick reinforced concrete, as measured from the top plane of the floor units.
 - C. Spray-Applied Fire Resistive Materials* — (Optional)—(Not Shown)—Prior to the installation of the steel ceiling runners, Forming Material and Fill, Void or Cavity Material (Items 2A, 3A, 3B, respectively) the steel floor units may be sprayed with type and thickness of fire resistive material indicated in the individual D700 Series design.

GCP APPLIED TECHNOLOGIES INC — Type MK-6-HY
- 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 assembly shall be constructed of the materials and in the manner described in the individual P900 Series Roof-Ceiling Design 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. deep galv steel fluted roof deck.
 - B. Roof Insulation — Min 2-1/4 in. thick poured insulating concrete, as measured from the top plane of the floor units.
- 1B. Roof Assembly — As an alternate to Items 1 and 1A, a fire rated protected fluted steel deck roof assembly may be used. The roof assembly shall be constructed of the materials and in the manner described in the individual P700 Series Roof-Ceiling Design 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. deep galv steel fluted roof deck.
 - B. Spray-Applied Fire Resistive Materials* — (Not Shown)—Prior to the installation of the steel ceiling runners, Forming Material and Fill, Void or Cavity Material (Items 2A, 3A, 3B), the roof assembly shall be sprayed with the type and thickness of fire resistive material indicated in the individual P700 Series design.

GCP APPLIED TECHNOLOGIES INC — Type MK-6-HY
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, V400 or W400 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 galv steel channels sized to accommodate steel studs (Item 2B). Ceiling runner to be provided with 2 in. flanges. Ceiling runner installed perpendicular to direction of fluted steel floor units and secured to valleys with steel fasteners or welds spaced max 12 in. OC. When optional spray applied fire resistive material is used on the steel floor units, ceiling runner shall be secured through the spray-applied fire resistive material to valleys of floor unit with min 3/16 in. diam steel masonry anchors, spaced 12 in. 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). Slotted ceiling runner installed perpendicular to direction of fluted steel floor units and secured to valleys with steel fasteners spaced max 24 in. OC. When optional spray-applied fire resistive material is used on steel floor units, slotted ceiling runner shall be secured through spray-applied fire resistive material to valleys of floor units with min 3/16 in. diam steel masonry anchors spaced 12 in. OC.

CEMCO, LLC — CST
METAL-LITE INC — The System
BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS — SLP-TRK
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Type SLT



A2. Light Gauge Framing*-Vertical Deflection Ceiling Runner — When the nom joint width is less than or equal to 3/4 in. vertical deflection ceiling runner may be used as an alternate to the ceiling runners in Items 2A and 2A1. Vertical deflection ceiling runner to consist of galv steel channel with slotted vertical deflection clips mechanically fastened within runner. Slotted clips provided with step bushings for permanent fastening of steel studs. Flanges sized to accommodate steel studs (Item 2B). Vertical deflection ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel fasteners spaced max 24 in. OC. When optional spray-applied fire resistive material is used on steel deck, vertical deflection ceiling runner shall be secured through spray-applied fire resistive material to valleys of steel deck with min 3/16 in. diam steel masonry anchors spaced 12 in. OC.

THE STEEL NETWORK INC — VertiTrack VTD250, VTD362, VTD400, VTD600 and VTD800

A3. Light Gauge Framing* - Clipped Ceiling Runner — As an alternate to the ceiling runner in Items 2A, 2A1 and 2A2, 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). Track flanges to be min 2-1/2 in. Clipped ceiling runner installed perpendicular to direction of fluted steel floor units and secured to valleys with steel fasteners spaced max 24 in. OC. When optional spray-applied fire resistive material is used on steel deck, vertical deflection ceiling runner shall be secured through spray-applied fire resistive material to valleys of steel deck with min 3/16 in. diam steel masonry anchors spaced 12 in. OC.

TOTAL STEEL SOLUTIONS L L C — Snap Trak

B. Studs — Steel studs to be min 2-1/2 in. wide. Studs cut 1/2 to 3/4 in. 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. long wafer head steel screws at midheight of slots on each side of wall. When vertical deflection ceiling runner (Item 2A2) is used, steel studs secured to slotted vertical deflection clips, through the bushings, with steel screws at midheight of each slot. Stud spacing not to exceed 24 in. OC.

C. Gypsum Board* — Gypsum board installed to a min total thickness of 5/8 in. and 1-1/4 in. 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 1 in. gap shall be maintained between the top of the gypsum board and the bottom of the steel deck units and the top row of screws shall be installed into the studs 3-1/2 to 4 in. below the lower surface of the floor or roof.

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

3. Joint System — Max separation between bottom of floor or roof and top of wall at time of installation of joint system is 1 in. The joint system is designed to accommodate a max 25 percent compression or extension from its installed width. The joint system consists of forming material and a fill material, as follows:

A. Forming Material* — Nom 0.5 pcf density glass fiber batt insulation cut to a length approx equal to the overall thickness of the wall. Multiple pieces stacked on top of each other, compressed to the maximum extent possible and inserted into the flutes of the steel deck above the top of the ceiling runner cut edge first to tightly pack the opening. The glass fiber batt insulation is to project beyond each side of the ceiling runner, flush with wall surfaces. Additional 5/8 in. and 1-1/4 in. wide strips for 1 and 2 hr rated assemblies, respectively, of nom 0.5 pcf glass fiber batt insulation are to be cut, compressed to the maximum extent possible and tightly packed, cut edge first, into the gap between the top of the gypsum board and bottom of the steel deck on both sides of the wall.

See Batts and Blankets (BKNV) category in the Building Materials Directory for names of manufacturers.

B. Fill, Void or Cavity Material* — Min 1/8 in. wet thickness of fill material sprayed or troweled on each side of the wall to completely cover glass fiber forming material and to overlap a min of 1/2 in. onto gypsum board and steel deck on both sides of wall. When spray-applied fire resistive material is applied to the steel deck, the fill material is to overlap the gypsum board a min of 1/2 in. and the spray-applied fire resistive material a min of 2 in. on both sides of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 672 Firestop Spray or 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.