

XHBN.HW-D-0278 - Joint Systems

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

XHBN - Joint Systems

[See General Information for Joint Systems](#)

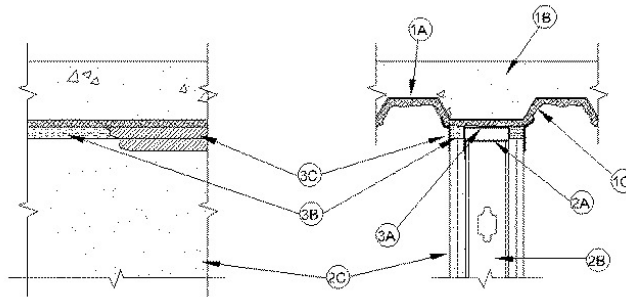
System No. HW-D-0278

December 30, 2019

Assembly Rating — 1 & 2 Hr (See Item 2)

Nominal Joint Width — 1 in.

Class II Movement Capabilities — 25% Compression or Extension



Section A-A

1. **Floor Assembly** — The fluted steel deck/concrete floor assembly shall be constructed of the materials and in the manner described in the individual D700 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 fluted 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 Materials*** — Prior to the installation of the deflection channel, forming material and fill material (Items 3A, 3B, 3C), the steel floor units shall be sprayed with a min 5/16 in. (8 mm) to max 1-3/4 in. (44 mm) thickness of fire resistive material in accordance with the specifications in the individual D700 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 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory. The wall assembly 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 1 in. (25 mm) flanges. Ceiling runner installed within the U-shaped deflection channel (Item 3A) with a 1 in. (25 mm) gap maintained between the top of ceiling runner and top of deflection channel.

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 parallel to direction of fluted steel deck, centered beneath valley, and secured through spray-applied fire resistive material with steel masonry anchors spaced max 24 in. (610 mm) OC. When slotted ceiling runner is used, deflection channel (Item 3A) shall not be used.

BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS — SLP-TRK

CALIFORNIA EXPANDED METAL PRODUCTS CO — CST

CLARKDIETRICH BUILDING SYSTEMS — Type SLT, SLT-H

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

METAL-LITE INC — The System

RAM SALES L L C — RAM Slotted Track

SCAFCO STEEL STUD MANUFACTURING CO

TELLING INDUSTRIES L L C — True-Action Deflection Track

A2. **Light Gauge Framing* — Vertical Deflection Ceiling Runner** — 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 parallel to direction of fluted steel deck, centered beneath valley, and secured through spray-applied fire resistive material with steel masonry anchors spaced max 24 in. (610 mm) OC. When vertical deflection ceiling runner is used, deflection channel (Item 3A) shall not be used.

THE STEEL NETWORK INC — VertiTrack 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 3-1/4 in. (83 mm) Clipped ceiling runner installed parallel to direction of fluted steel deck, centered beneath valley, and secured through spray-applied fire resistive material with steel masonry anchors spaced max 24 in. (610 mm) OC. When clipped ceiling runner is used, deflection channel (Item 3A) shall not be used.

TOTAL STEEL SOLUTIONS L L C — Snap Trak

A4. **Light Gauge Framing* - Notched Ceiling Runner** — As an alternate to the ceiling runners in Items 2A through 2A3, notched ceiling runners to consist of C-shaped galv steel channel with notched return flanges sized to accommodate steel studs (Item 2B). Notched ceiling runner installed parallel to direction of fluted steel deck, centered beneath valley, and secured through spray-applied fire resistive material with steel masonry anchors spaced max 24 in. (610 mm) OC. When notched ceiling runner is used, deflection channel (Item 3A) shall not be used.

OLMAR SUPPLY INC — Type SCR

B. **Studs** — Steel studs to be min 3-5/8 in. (92 mm) wide. 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 without attachment. When slotted ceiling runner (Item 2A1) is used, steel studs secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at midheight of slot on each side of wall. When vertical deflection ceiling runner (Item 2A2) is used, steel studs secured to slotted vertical deflection clips, through bushings, with steel screws at midheight of each slot. Stud spacing not to exceed 24 in. (610 mm) OC.

C. **Gypsum Board*** — Gypsum board sheets installed to a min total thickness of 5/8 in. (16 mm) and 1-1/4 in. (32 mm) 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 nom 1 in. (25 mm) gap shall be maintained between the top of the gypsum board and the lower surface of the floor. The screws attaching the gypsum board to studs (Item 2B) at the top of the wall shall be located 1 in. (25 mm) below the bottom of the deflection channel (Item 3A) or ceiling runner (Item 2A, A1 A2 or A3).

The hourly fire rating of the joint system is dependent on the hourly fire rating of the wall.

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

A. **Deflection Channel** — A nom 5/8 in. (92 mm) wide by min 2 in. (51 mm) deep min 24 ga. steel U-shaped channel. Deflection channel installed parallel to direction of fluted steel deck, centered beneath valley, and secured through spray-applied fire resistive material with steel masonry anchors spaced max 24 in. (610 mm) OC. The ceiling runner (Item 2A) is installed within the deflection channel to maintain a 1 in. (25 mm) gap between the top of the ceiling runner and the top of the deflection channel. The ceiling runner is not fastened to the deflection channel. Deflection channel shall not be used when light gauge framing components (Items 2A1, 2A2 or 2A3) are used.

B. **Forming Material*** — Min 4 pcf (64 kg/m³) mineral wool batt insulation cut into strips to fill gap between top of gypsum board and bottom of protected steel floor units. The width of the strips shall be equal to the total thickness of the gypsum board. The strips are to be compressed a min of 50 percent in thickness and firmly packed into the gap between the top of the gypsum board and bottom of the fire resistive material, flush with both surfaces 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

C. **Fill, Void or Cavity Material*** — 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 each side of the joint system, completely covering forming material and overlapping a min of 1 in. (25 mm) onto gypsum board (Item 2C) and spray-applied fire resistive materials on steel deck on both sides of wall.

PASSIVE FIRE PROTECTION PARTNERS — 3500SI, 5100 SP

*** 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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