

## XHBN.HW-D-0088 - 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

### XHBN7 - Joint Systems Certified for Canada

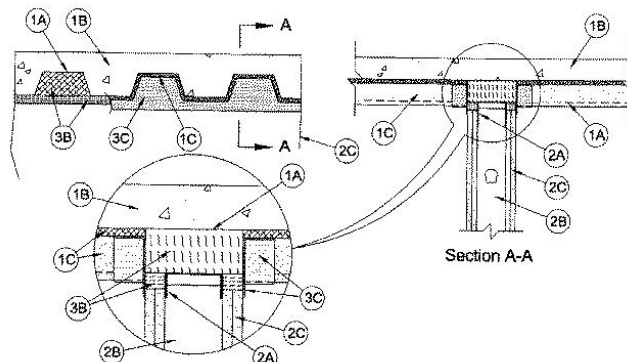
[See General Information for Joint Systems](#)

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#### System No. HW-D-0088

September 26, 2019

ANSI/UL2079	CAN/ULC S115
Assembly Rating — 1 and 2 Hr (See Item 2)	F Rating — 1 and 2 Hr (See Item 2)
Nominal Joint Width — 1 In.	FT Rating — 1 and 2 Hr (See Item 2)
Class II or III Movement Capabilities — 19% Compression or Extension	FH Rating — 1 and 2 Hr (See Item 2)
L Rating At Ambient — Less Than 1 CFM/in ft	FTH Rating — 1 and 2 Hr (See Item 2)
L Rating At 400 F — Less Than 1 CFM/in ft	Nominal Joint Width — 25 mm
	Class II or III Movement Capabilities — 19% Compression or Extension
	L Rating At Ambient — Less Than 1 CFM/in ft
	L Rating At 400 F — Less Than 1 CFM/in 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 D800 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.

**C. Spray-Applied Fire Resistive Material\*** — After installation of the ceiling runner (Item 2A) or deflection track (Item 3A, if used), steel floor units to be sprayed with a min 5/16 in. (8 mm) to max 11/16 in. (18 mm) thickness of material in accordance with the specifications in the individual D700 or D800 Series Design. Material is to be excluded from the steel deck in the area immediately above the wall as well as from the flanges of the ceiling runner or deflection track.

**ISOLATEK INTERNATIONAL** — Type 300, Type II

**GCP APPLIED TECHNOLOGIES INC** — Type MK-6/HY

**1A. Roof Assembly** — (Not Shown) — As an alternate to the floor assembly (Item 1), 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 P700 or P800 Series Roof-Ceiling Design in the UL Fire Resistance Directory. The hourly fire rating of the roof assembly shall be equal to or greater than the hourly fire 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 — Mineral and Fiber Board\*** — Min 3/4 in. (19 mm) thick boards applied in one or more layers directly over steel roof deck or over gypsum board sheathing laid atop steel roof deck.

**C. Roof Covering\*** — Hot-mopped or cold-application materials compatible with mineral and fiber board insulation.

**D. Spray-Applied Fire Resistive Material\*** — After installation of the ceiling runner (Item 2A) or deflection track (Item 3A, if used), steel roof deck to be sprayed with a max 3/4 in. (19 mm) thickness of spray applied fire resistive material as specified in the individual P700 or P800 Series Roof-Ceiling design. Material is to be excluded from the steel deck in the area immediately above the wall as well as from the flanges of the ceiling runner or deflection track.

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**2. Wall Assembly** — The 1 or 2 hr fire-rated gypsum board/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 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. Ceiling runner to be provided with min 1-1/4 in. (32 mm) to max 2 in. (51 mm) flanges. When deflection channel (Item 3A) is used, flange height of ceiling runner is to be equal to or greater than flange height of deflection channel and the ceiling runner is to nest within the deflection channel with a 1/2 in. (13 mm) to 3/4 in. (19 mm) gap maintained between the top of the ceiling runner and the top of the deflection channel. When deflection channel is not used, ceiling runner installed perpendicular to direction of fluted steel deck prior to the application of spray-applied fire resistive material and secured to valleys with steel masonry anchors or welds spaced max 24 in. (610 mm) OC.

**A1. Light Gauge Framing\* — Slotted Ceiling Runner** — As an alternate to the ceiling runner in Item 2A, ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Items 2B). Slotted ceiling runner installed perpendicular to direction of fluted steel deck prior to the application of spray-applied fire resistive material and secured to valleys 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

**QUAIL RUN BUILDING MATERIALS INC** — Slotted Deflection Track

**RAM SALES L L C** — RAM Slotted Track

**SCAFCO STEEL STUD MANUFACTURING CO**

**STEELE INC** — Steeler Slotted Ceiling Runner

**TELLING INDUSTRIES L L C** — True-Action Deflection Track

A2. **Light Gauge Framing\* - Notched Ceiling Runner** — As an alternate to the ceiling runners in Items 2A through 2A2, 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 perpendicular to direction of fluted steel floor deck prior to the application of spray-applied fire resistive material and secured to valleys with steel masonry anchors spaced max 24 in. 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 3-1/2 in. (89 mm) wide. Studs cut 1/2 in. (13 mm) to 3/4 in. (19 mm) less in length than assembly height with bottom nesting in and secured to floor runner. 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 deflection channel (Item 3A) is used, steel studs attached to ceiling runner with sheet metal screws located 1/2 in. (13 mm) below the bottom of the deflection channel. When deflection channel is not used, studs to nest in ceiling runner without attachment. Stud spacing not to exceed 24 in. (610 mm) OC.

B1. **Light Gauge Framing\* —Slotted Studs** — Slotted steel stud to be used in conjunction with **Light Gauge Framing\* —Floor and Ceiling Runners** (Item 2A1). Slotted steel studs to be min 3-1/2 in. (89 mm) wide. Slotted steel studs cut 1/2 in. to 3/4 in. (13 to 19 mm) less in length than assembly height with bottom nesting in and secured to both ceiling and floor runners. Ceiling runner secured to preformed slot within steel stud by means of No. 10 by 3/4 in. (19 mm) long low profile head steel screw. Floor runner attached to bottom of steel stud by means of No. 8 by 1/2 in. (13 mm) long pan head steel screw. Slotted steel stud spacing not to exceed 24 in. (610 mm) OC.

**STEELE INC** — Steeler Slotted Stud

C. **Gypsum Board\*** — Gypsum board sheets installed to a min total 5/8 in. (16 mm) or 1-1/4 in. (32 mm) thickness on each side of wall for 1 and 2 hr fire rated assemblies, respectively. Wall to be constructed in the individual U400 Series Design in the UL Fire Resistance Directory, except that a max 1 in. (25 mm) gap shall be maintained between the top of the gypsum board and the bottom surface of the steel floor or roof deck. The screws attaching the gypsum board to the studs along the top of the wall shall be located 1 in. (25 mm) below the bottom of the ceiling runner. No gypsum board attachment screws shall be driven into the ceiling runner or into the optional deflection channel.

**The hourly fire rating of the joint system is equal to the hourly fire rating of the wall.**

3. **Joint System — Max separation between bottom of floor or roof deck and top of gypsum board (at time of installation of joint system) is 1 in. (25 mm). The joint system is designed to accommodate a max 18.75 percent compression or extension from its installed width.** The joint system shall consist of forming and fill materials, with or without a deflection channel (Item 2A), as follows:

A. **Deflection Channel** — (Optional, Not Shown) — Max 2 in. (51 mm) deep min 24 gauge galv steel channel sized to accommodate ceiling runner (Item 2A). Deflection channel installed perpendicular to direction of fluted steel deck prior to the application of spray-applied fire resistive material and secured to steel floor or roof deck valleys with steel masonry anchors fasteners or welds spaced max 24 in. (610 mm) OC. The ceiling runner is installed within the deflection channel to maintain a 1/2 in. (13 mm) to 3/4 in. (19 mm) gap between the top of the ceiling runner and the top of the deflection channel. The ceiling runner nests inside the deflection channel without attachment.

B. **Forming Material\*** — Min 5-5/8 in. (143 mm) or 7 in. (178 mm) thickness of 4 pcf (64 kg/m<sup>3</sup>) mineral wool batt insulation for 1 and 2 hr fire rated assemblies, respectively, cut to the shape of the fluted deck and installed into the flutes of the steel floor or roof deck between the top of the deflection channel and the steel floor or roof deck. The mineral wool batt insulation is to be compressed min 14.3 percent in thickness such that it is flush with the gypsum board surface on both sides of the wall. Additional sections of mineral wool batt insulation are compressed 50 percent in thickness and installed cut edge first to completely fill the gap above the top of the gypsum board. The forming material shall be installed flush with both surfaces of wall.

**INDUSTRIAL INSULATION GROUP L L C** — MinWool-1200 Safing

**ROCK WOOL MANUFACTURING CO** — Delta Board

**ROCKWOOL MALAYSIA SDN BHD** — SAFE

**ROCKWOOL** — SAFE

**THERMAFIBER INC** — Type SAF

B1. **Forming Material\*** — (Optional, Not Shown) - Preformed mineral wool plugs, formed to the shape of the fluted floor units, friction fit to completely fill the flutes above the ceiling channel. The plugs shall project beyond each side of the ceiling runner and shall be recessed from both wall surfaces to accommodate the required thickness of fill material (Item 3C). Additional forming material, described in Item 3B, to be used in conjunction with the plugs to fill the gap between the top of gypsum board and bottom of steel deck.

**THERMAFIBER INC** — TopStop mineral wool deck plugs Type SAF batts

C. **Fill, Void or Cavity Material\*-Sealant** — Min 1/8 in. (3.2 mm) wet thickness or 1/16 in. (1.6 mm) dry thickness of fill material spray applied on each side of the wall in the flutes of the steel floor or roof deck and between the top of the wall and the bottom of the steel floor or roof deck and overlap a min 1/2 in. (13 mm) onto gypsum board and a min 2 in. (51 mm) onto the spray applied material on both sides of wall.

**SPECIFIED TECHNOLOGIES INC** — SpecSeal AS200 Elastomeric Spray

**\* 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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