

## XHBN.HW-D-0046 - 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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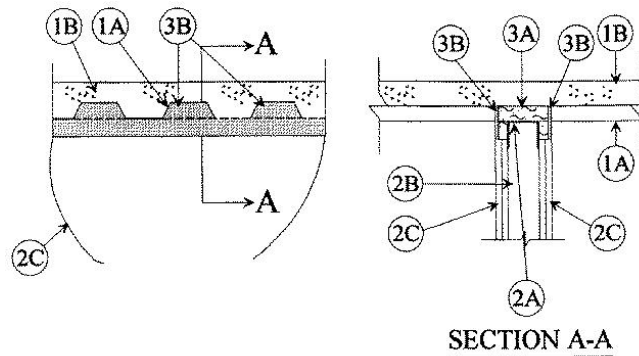
#### System No. HW-D-0046

September 01, 2016

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 — 3/4 in.	FT Rating — 1 and 2 Hr (See Item 2)
Class II Movement Capabilities — 33% Compression or Extension	FH Rating — 1 and 2 Hr (See Item 2)
	FTH Rating — 1 and 2 Hr (See Item 2)
	Nominal Joint Width — 3/4 in.
	Class II Movement Capabilities — 33% Compression or Extension



**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 Floor-Ceiling Design in the 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 Materials** — (Optional, Not Shown) — Prior to or after the installation of the ceiling runner, Forming Material and Fill, Void or Cavity Materials (Items 2A, 3A, 3B, respectively), the steel floor units may be sprayed with a min 5/16 in. (8 mm) to a max 11/16 in. (18 mm) thickness of fire resistive material.

**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. (76 mm) deep galv steel fluted roof deck.

**B. Roof Insulation** — Min 2-1/4 in. (57 mm) 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. (76 mm) deep galv steel fluted roof deck.

**B. Spray Applied Fire Resistive Materials\*** — (Not Shown) — Prior to or after 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.

**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 specified 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 (Item 2B). Flange height of ceiling runner shall be min 1/4 in. (6 mm) greater than max extended joint width. Ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel fasteners, steel masonry anchors or by welds spaced max 24 in. (610 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.

**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 deck and secured to valleys with steel masonry anchors, steel fasteners or welds spaced max 24 in. (610 mm) OC before or after optional spray-applied fire resistive material is used. The use of welds to secure the ceiling runner may only be used prior to the installation of the optional spray-applied material.

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

**CALIFORNIA EXPANDED METAL PRODUCTS CO** — CST

**CLARKDIETRICH BUILDING SYSTEMS** — CW MAXTRAK Types SLT and 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 perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors, steel fasteners or welds spaced max 24 in. (610 mm) OC before or after optional spray-applied fire resistive material is used. The use of welds to secure the ceiling runner may only be used prior to the installation of the optional spray-applied material.

A3. **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 perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors, steel fasteners or welds spaced max 24 in. (610 mm) OC before or after optional spray-applied fire resistive material is used. The use of welds to secure the ceiling runner may only be used prior to the installation of the optional spray-applied material.

**OLMAR SUPPLY INC** — Type SCR

B. **Studs** — Steel studs to be min 2-1/2 in. (64 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. Stud spacing not to exceed 24 in. (610 mm) OC. 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. (610 mm) OC.

C. **Gypsum Board\*** — For 1 hr assembly, one layer of 5/8 in. (16 mm) thick gypsum board is required in the individual Wall and Partition Design. For 2 hr assembly, two layers of 5/8 in. (16 mm) thick gypsum board is required in the individual Wall and Partition Design. For both hourly ratings, a nominal 3/4 in. (19 mm) gap shall be maintained between the top of the gypsum board and the bottom surface of the steel deck and the top row of screws shall be installed into the studs 3 in. (76 mm) below the valleys of the steel deck. **The hourly rating of the joint system is dependent on the hourly rating of the wall.**

3. **Joint System** — **Max separation between bottom of floor or roof and top of wall is 3/4 in. (19 mm). The joint system is designed to accommodate a max 33 percent compression or extension from its installed width.** The joint system consists of a packing material and a fill material between the top of the gypsum board and the bottom of the floor, as follows:

A. **Forming Material\*** — Nom 4 pcf (64 kg/m<sup>3</sup>) mineral wool batt cut to the shape of the fluted deck, approx 20 percent larger than the area of the flutes and compressed into the flutes of the steel deck flutes above the ceiling runner. The mineral wool insulation is to project beyond each side of ceiling runner, recessed 1/4 in. (6 mm) from both wall surfaces. For 2 hr assembly, additional 1-1/2 in. (38 mm) thick by 1 in. (25 mm) wide sections of mineral wool batt insulation compressed 50 percent and installed cut edge first to fill the 3/4 in. (19 mm) gap between the top of gypsum board and bottom of the steel deck. For 1 hr assembly, additional 1-1/2 in. (38 mm) thick by 3/8 in. (10 mm) wide sections of mineral wool batt insulation compressed 50 percent and installed cut edge first to fill the 3/4 in. (19 mm) gap between the top of gypsum board and bottom of the steel deck. The forming material shall be recessed 1/4 in. (6 mm) from each side of the wall.

**ROCK WOOL MANUFACTURING CO** — Delta Board

**ROCKWOOL** — SAFE

**THERMAFIBER INC** — Type SAF

A1. **Forming Material\* — Plugs** — (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 1/4 in. (6 mm) from both wall surfaces. Additional forming material, described in Item 3A, to be used in conjunction with the plugs to fill the gap between the top of gypsum board and bottom of steel floor units.

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

B. **Fill, Void or Cavity Material\* — Sealant** — Min 1/4 in. (6 mm) thickness of fill material installed on each side of the wall in the flutes of the steel deck and between the top of the gypsum board and the bottom of the steel deck, flush with each surface of the wall.

**HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC** — CP601S Elastomeric Firestop Sealant or CFS-S SIL GG Sealant

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

[Last Updated](#) on 2016-09-01

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