

XHBN.HW-D-0020 - 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

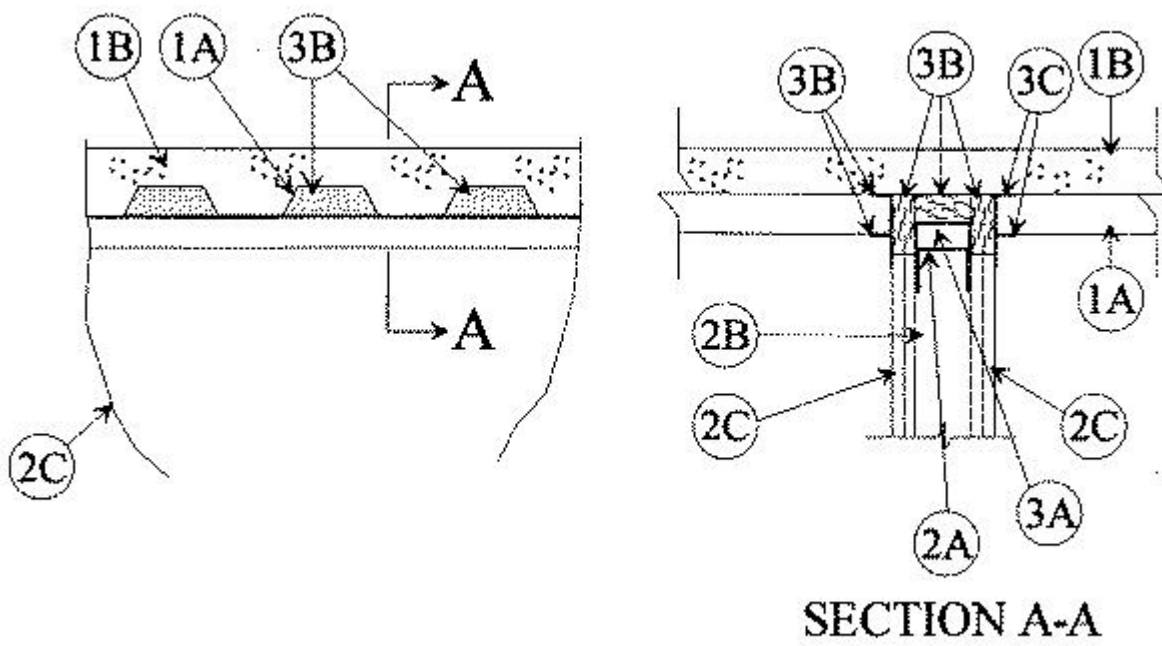
See General Information for Joint Systems

See General Information for Joint Systems Certified for Canada

System No. HW-D-0020

January 23, 2018

ANSI/UL2079	CAN/ULC S115
Assembly Ratings — 1 and 2 Hr (See Items 2 and 3B)	F Ratings — 1 and 2 Hr (See Items 2 and 3B)
Nominal Joint Width - 1 In.	FT Ratings — 1 and 2 Hr (See Items 2 and 3B)
Class II Movement Capabilities — 25% Compression or Extension	FH Ratings— 1 and 2 Hr (See Items 2 and 3B)
L Rating At Ambient — Less Than 1 CFM/sq ft (See Item 3C)	FTH Ratings — 1 and 2 Hr (See Items 2 and 3B)
L Rating At 400 F — Less Than 1 CFM/sq ft (See Item 3C)	Nominal Joint Width - 25 mm
	Class II Movement Capabilities — 25% Compression or Extension
	L Rating At Ambient — Less Than 1.55 L/s/lin m (See Item 3C)
	L Rating At 400 F — Less Than 1.55 L/s/lin m (See Item 3C)



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 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 deck.

A1. **Spray Applied Fire Resistive Material*** — (Optional, Not Shown) — Prior to the installation of the Deflective Channel, Forming Material and Fill, Void or Cavity Material (Items 3A, 3B, 3C), the steel floor units may be sprayed with a min 5/16 in. (8 mm) thickness to max 11/16 in. (18 mm) thickness of fire resistive material
GCP APPLIED TECHNOLOGIES INC — Type MK-6/HY

B. **Concrete** — Min 2-1/2 in. (64 mm) thick reinforced concrete, as measured from the top plane of the floor units.

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** — Max 2-1/4 in. (57 mm) thick poured insulating concrete, as measured from the top plane of the floor units.

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 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). When optional deflection channel (Item 3A) is used, ceiling runner to be provided with 3 in. (76 mm) flanges. Ceiling runner installed within the deflection channel with 1 in. (25 mm) gap maintained between the top of ceiling runner and top of deflection channel. When deflection channel is not used, flange height of ceiling runner shall be min 3/4 in. (19 mm) greater than nom joint width. Ceiling runner is installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors or by welds spaced max 24 in. (610 mm) OC. When optional spray-applied fire resistive material is used on the steel deck and when

deflection channel is not used, ceiling runner secured through spray-applied material to each valley of steel deck with min 3/16 in. (5 mm) diam steel masonry anchors spaced max 12 in. (305 mm) 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 deck 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. When optional spray-applied fire resistive material is used on the steel deck, slotted ceiling runner secured through spray-applied material to each valley of steel deck with min 3/16 in. (5 mm) diam steel masonry anchors spaced max 12 in. (305 mm) OC.

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

CALIFORNIA EXPANDED METAL PRODUCTS CO — CST

CLARKDIETRICH BUILDING SYSTEMS — Type SLT, SLT-H

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — SDT250, SDT300

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

METAL-LITE INC — The System

OLMAR SUPPLY INC — STT250, STT300

R & P SUPPLY — SCT250, SCT300

RAM SALES L L C — RAM Slotted Track

SCAFCO STEEL STUD MANUFACTURING CO

STEELER INC — Steeler Slotted Ceiling Runner

TELLING INDUSTRIES L L C — True-Action Deflection Track

A2. Light Gauge Framing* — Floor and Ceiling Runners — As an alternate to the ceiling and floor runners in Item 2A, 2A1 and 2A2, floor and ceiling runners to consist of galv steel channel sized to accommodate the **Light Gauge Framing* Slotted Stud** (Item 2B1) or **Light Gauge Framing* Slider C-Clip System** (Item 2B2). Floor and ceiling runners to be provided with min 1-1/4 in. and 3 in. (32 and 76 mm) flanges, respectively. Ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors spaced max 12 in. (305 mm) OC. When ceiling runner is used, deflection channel (Item 3A) shall not be used. When optional spray-applied fire resistive material is used on the steel deck, ceiling runner is secured through spray-applied material to each valley of steel deck with min 3/16 in. (5 mm) diam steel masonry anchors spaced max 12 in. (305 mm) OC.

STEELER INC — Floor and Ceiling Runners

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 spaced max 24 in. (610 mm) OC. When notched ceiling runner is used, deflection channel (Item 3A) shall not be used. When optional spray-applied fire resistive material is used on the steel

deck, notched ceiling runner secured through spray-applied material to each valley of steel deck with min 3/16 in. (5 mm) diam steel masonry anchors spaced max 12 in. (305 mm) OC.

OLMAR SUPPLY INC — Type SCR

A4. Light Gauge Framing* — Floor and Ceiling Runners — As an alternate to the ceiling and floor runners in Item 2A, through 2A4, floor and ceiling runners to consist of galv steel channel sized to accommodate the **Light Gauge Framing* Steel Studs** (Item 2B3). Floor and ceiling runners to be provided with min 1-3/4 in. flanges. Ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors spaced max 12 in. (305 mm) OC. When ceiling runner is used, deflection channel (Item 3A) shall not be used. When optional spray-applied fire resistive material is used on the steel deck, ceiling runner is secured through spray-applied material to each valley of steel deck with min 3/16 in. (5 mm) diam steel masonry anchors spaced max 12 in. (305 mm) OC.

CALIFORNIA EXPANDED METAL PRODUCTS CO — ViperTrack™

B. Studs — Steel studs to be min 3-1/2 in. (89 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.

B1. Light Gauge Framing* — Slotted Studs — Slotted steel stud to be used in conjunction with **Light Gauge Framing* — Floor and Ceiling Runners** (Item 2A3). Slotted studs to be min 3-1/2 in. (89 mm) wide. Slotted steel studs cut 1 in. (25 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.

STEELER INC — Slotted Stud

B2. Light Gauge Framing* — Slider C-Clip System — As an alternate to the **Light Gauge Framing* — Slotted Steel Studs** (Item 2B1), a Slider C-Clip System consisting of a C shaped steel clip with a slotted opening and a steel stud to be used in conjunction with **Light Gauge Framing* — Floor and Ceiling Runners** (Item 2A3). Steel clips and studs to be min 3-1/2 in. (89 mm) wide. Steel clip inserted into inside flange of steel stud without attachment. Total length of steel stud cut 1 in. (25 mm) less than assembly height with bottom of steel stud nesting in and secured to floor runner. Floor runner attached to bottom of steel stud by means of No. 8 by 1/2 in. (13 mm) long pan head steel screw. Ceiling runner secured to steel C-Clip by means of No. 10 by 3/4 in. (19 mm) long pan head steel screw located 3/8 in. (10 mm) below top of ceiling runner. Top row of gypsum board screws shall be centered within the preformed slot of the C-Clip. Steel stud and steel clips spacing not to exceed 24 in. (610 mm) OC.

STEELER INC — Slider C Clip System

B3. Light Gauge Framing* — Steel Studs — Steel Studs to be used in conjunction with **Light Gauge Framing* — Floor and Ceiling Runners** (Item 2A5). 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. Stud spacing not to exceed 24 in (610 mm) OC.

CALIFORNIA EXPANDED METAL PRODUCTS CO — ViperStud™

C. Gypsum Board* — Gypsum board sheets installed to a min total thickness of 5/8 in. and 1-1/4 in. (16 and 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 bottom of the steel floor or roof deck and the top row of screws shall be installed into the studs 3-1/2 in. (89 mm) below the lower surface the floor or roof deck. **The hourly fire rating of the joint system is equal to the hourly fire rating of the wall.**

The hourly Assembly, F, FH FT and FTH Ratings of the joint system are equal to the hourly fire rating of the wall.

3. Joint System — Max separation between bottom of floor or roof 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 an optional deflection channel, forming material and a fill material, as follows:

A. Deflection Channel — (Optional) — A nom 3-5/8 in. (92 mm) wide by 3 in. (76 mm) deep min 24 ga steel U-shaped channel. Deflection channel installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors or by welds spaced max 24 in. (610 mm) OC. When optional spray-applied fire resistive material is used on the steel deck, deflection channel secured through spray-applied material to each valley of steel deck with min 1-1/2 in. (38 mm) long by min 3/16 in. (5 mm) diam steel masonry anchors spaced max 12 in. (305 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.

B. Forming Material* — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m³) density mineral wool batt insulation cut to the shape of the fluted deck, approx 20 percent larger than the area of the flutes and compressed into flutes of the steel floor or roof deck between the top of the deflection channel or ceiling runner and the steel deck. Additional pieces of min 4 pcf (64 kg/m³) mineral wool batt insulation are to be cut to the contour of the flutes with an additional 1-3/8 in. (35 mm) high section at the bottom of the shapes to fill the 1 in. (25 mm) gap between the top of the gypsum board and bottom of the steel floor or roof deck. The additional pieces of mineral wool are compressed and firmly packed into the flutes and the gap between the top of the gypsum board and bottom of the steel floor units on both sides of the wall and shall be a min 3/4 in. (19 mm) thick for 1 hr Rated Design and a min 1-1/2 in. (38 mm) thick for 2 hr Rated Design.

INDUSTRIAL INSULATION GROUP L L C — MinWool-1200 Safing

ROCK WOOL MANUFACTURING CO — Delta Board or Delta-8

ROCKWOOL MALAYSIA SDN BHD — Type Safe

ROCKWOOL — Type 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* — Min 1/16 in. (1.6 mm) dry (1/8 in. or 3.2 mm wet) thickness of fill material sprayed or brushed on each side of the wall in the flutes of the steel floor or roof deck units and between the top of the gypsum board and the bottom of the steel floor or roof deck units to completely cover mineral wool and overlap a min of 1/2 in. (13 mm) into gypsum board and steel floor deck on both sides of wall. When the steel floor deck is coated with spray-applied material (Item A1), the fill material shall overlap min 2 in. (51 mm) onto the spray-applied material.

3M COMPANY — FireDam™ Spray 200

C1. Fill, Void or Cavity Material* — Tape — As an alternate to Item C, Tape cut to size and press applied within fluted areas of joint to completely cover mineral wool lapping min 1 in. (25 mm) onto the contour of the steel floor units, or min 2 in. (51 mm) onto the spray applied fire resistive material (Item 1A1) on the steel floor units, and extending to lap min 1 in. (25 mm) onto the gypsum board. Additional pieces of Tape are applied along the joint to completely cover the remaining mineral wool between bottom of steel deck and top edge of gypsum board along length of joint, lapping min 1 in. (25 mm) onto the steel floor units, or min 2 in. (51 mm) onto the spray applied fire resistive material (Item 1A1) on the steel floor units, and min 1 in. (25 mm) onto gypsum board. Adjoining lengths of Tape shall overlap min 1/2 in. (13 mm). Tape shall be applied at both sides of wall.

3M COMPANY — 3M Fire and Water Barrier Tape

L Ratings apply only when FireDam™ Spray 200 is used.

*** 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 2018-01-23

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service. Always look for the Mark on the product.

UL permits the reproduction of the material contained in the Online Certification Directory subject to the following conditions: 1. The Guide Information, Assemblies, Constructions, Designs, Systems, and/or Certifications (files) must be presented in their entirety and in a non-misleading manner, without any manipulation of the data (or drawings). 2. The statement "Reprinted from the Online Certifications Directory with permission from UL" must appear adjacent to the extracted material. In addition, the reprinted material must include a copyright notice in the following format: "© 2020 UL LLC"