



XHBN.HW-D-0749 - 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

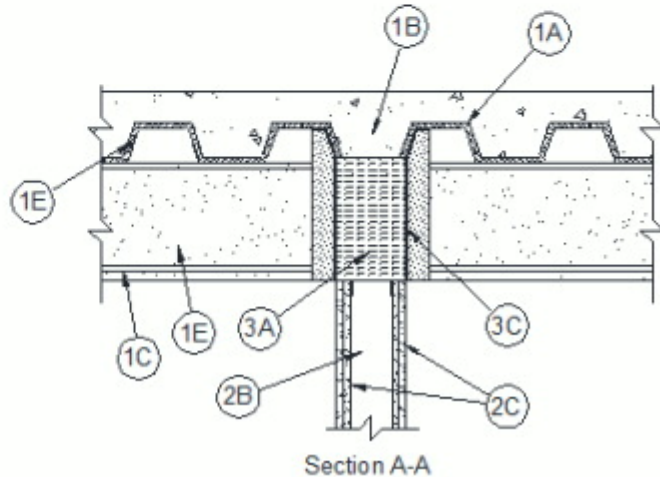
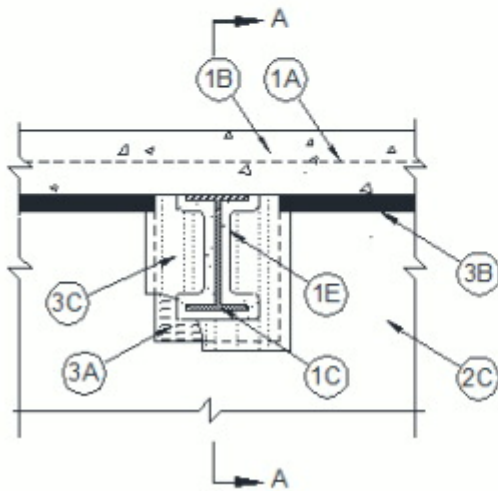
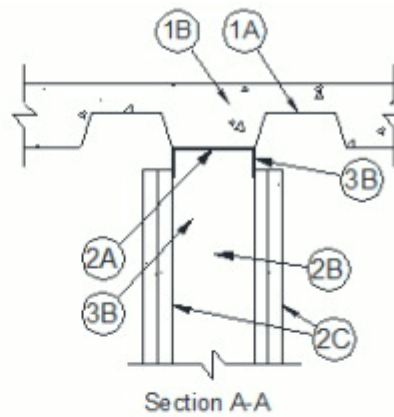
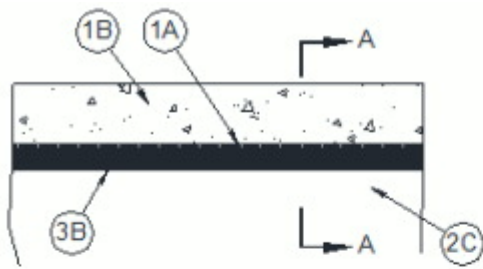
See General Information for Joint Systems

See General Information for Joint Systems Certified for Canada

System No. HW-D-0749

June 16, 2017

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 - 100% 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 - 100% Compression or Extension
	L Rating At Ambient - Less Than 1.55 L/s/m
	L Rating At 400 F - Less Than 1.55 L/s/m



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, D800, or D900 Series Floor-Ceiling Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor and Floor 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. **Structural Steel Support** — (Optional) — Steel beam or open-web steel joist, as specified in the individual D700, D800 or D900 Series Floor-Ceiling Design, used to support steel floor units. Structural steel support oriented perpendicular to wall assembly.

D. **Steel Lath** — Where open-web steel joists pass through the fire rated wall, 3/8 in. (10 mm) diamond mesh expanded steel lath having a nom weight of 1.7 to 3.4 lb per sq yd (0.9 to 1.8 kg/m²) shall be secured to one side of each joist with steel tie wire and the lath shall be fully covered with spray applied fire resistive material with no min thickness requirement.

E. **Spray-Applied Fire Resistive Material*** — After installation of the ceiling runner (Item 2A) or deflection track (Item 3A, if used), steel floor units and structural steel supports to be sprayed with the thickness of material specified in the individual D700, D800, or D900 Series Design. Material is to be excluded from the flanges of the ceiling runner or deflection track. For D900 Series Designs structural steel supports, steel furring and steel lath only to be sprayed in accordance with the specifications in the individual D900 Series Design.

GCP APPLIED TECHNOLOGIES INC — Type MK-6/HY, MK-6/HYES, MK-65 and RG

ISOLATEK INTERNATIONAL — Type 300, Type 400 or Type II

SOUTHWEST FIREPROOFING PRODUCTS CO — Type 5, Type 5GP

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, P800 or P900 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** — Min 2-1/4 in. (57 mm) thick poured insulating concrete, as measured from the top plane of the steel roof deck.

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, 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). Length of flange to equal fully extended width of joint plus 1/4 in. (6 mm). Ceiling runner secured to floor or roof assembly prior to the application of the spray-applied fire resistive material with steel masonry anchors or steel fasteners spaced max of 24 in. (610 mm) OC. A clearance of 1 in. (25 mm) shall be maintained between the end of the ceiling runner and the spray-applied fire resistive material on the structural steel support members.

A1. **Light Gauge Framing* - Vertical Deflection Ceiling Runner** — As an alternate to the ceiling runner in Item 2A, vertical deflection ceiling runner to consist of galv steel channel with slotted vertical deflection clips mechanically fastened within runner. Slotted clip provided with step bushings for permanent fastening of steel studs. Flanges sized to accommodate steel studs (Item 2B). Vertical deflection ceiling runner secured to floor or roof assembly prior to the application of the spray-applied fire resistive material with steel masonry anchors or steel fasteners spaced max of 24 in. (610 mm) OC. A clearance of 1 in. (25 mm) shall be maintained between the end of the ceiling runner and the spray-applied fire resistive material on the structural steel support members.

THE STEEL NETWORK INC — VertiTrack VTD358, VTD400, VTD600 and VTD800

A2. **Light Gauge Framing* - Notched Ceiling Runner** — As an alternate to the ceiling runners in Items 2A or 2A1, 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 secured to floor or roof assembly prior to the application of the spray-applied fire resistive material with steel masonry anchors or steel fasteners spaced max of 24 in. (610 mm) OC. A clearance of 1 in. (25 mm) shall be maintained between the end of the ceiling runner and the spray-applied fire resistive material on the structural steel support members.

OLMAR SUPPLY INC — Type SCR

A3. **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 secured to floor or roof assembly prior to the application of the spray-applied fire resistive material with steel masonry anchors or steel fasteners spaced max of 24 in. (610 mm) OC. A clearance of 1 in. (25 mm) shall be maintained between the end of the ceiling runner and the spray-applied fire resistive material on the structural steel support members.

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

CALIFORNIA EXPANDED METAL PRODUCTS CO — CST

CLARKDIETRICH BUILDING SYSTEMS — Type SLT, SLT-H

METAL-LITE INC — The System

RAM SALES L L C — RAM Slotted Track

SCAFCO STEEL STUD MANUFACTURING CO — Slotted Track**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Type SLT slotted track

B. Studs — Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut 1 in. (25 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. Studs to nest in ceiling runner without attachment. When vertical deflection ceiling runner (Item 4A1) is used, steel studs secured to slotted vertical deflection clips, through bushings, with steel screws at mid-height of each slot. When slotted ceiling runner (Item 4A3) is used, steel studs secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at mid-height of slot on each side of wall. A framed opening shall be constructed around each structural steel support member. A min 1 in. (25 mm) to max 3 in. (76 mm) clearance shall be maintained between the framing and the spray-applied fire resistive material on the two sides of the structural steel support member flanges. The clearance between the framing and the spray-applied fire resistive material on the bottom of the structural steel support member shall be max 1 in. (25 mm). Steel 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 1-1/4 in. (13 to 32 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 — Steeler Slotted Stud

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 fire 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. (25 mm) gap shall be maintained between the top of the gypsum board and the spray-applied fire resistive material on the structural steel support member and between the top of the gypsum board and the bottom surface of the floor or roof assembly. The top row of screws shall be installed into the steel studs 1 to 5 in. (25 to 127 mm) below the bottom edge of the ceiling runner.

The hourly fire rating of the joint system is dependent on the hourly fire rating of the wall assembly in which it is installed.

3. Joint System — Max separation between bottom plane of floor or roof assembly and top of gypsum board (at time of installation of joint system) is 1 in. (25 mm). Max separation between spray-applied fire resistive material on bottom of structural steel support member and framed opening in top of wall is 1 in. (25 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width as measured between bottom plane of floor or roof assembly and top of gypsum board. The joint system shall consist of the following:

A. Forming Material* — Nom 4 pcf (64 kg/m³) mineral wool batt insulation cut to a length approx 1 in. (25 mm) longer than overall thickness of wall and inserted edge-first into the spaces between the spray applied fire resistive material on the structural steel member and the framed opening at the top of the wall. The thickness of forming material shall be sufficient to attain a min compression of 20 percent between the sides of the framed notch and the protected structural steel member and a min compression of 33 percent between the bottom of the framed notch and the bottom of the protected structural steel member. The mineral wool batt insulation is to be additionally compressed in the length direction such that it is flush with the gypsum board surface on both sides of the 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

B. Fill, Void or Cavity Material* — Factory-supplied intumescent gasket installed and nominally centered over the ceiling runner (Item 2A, 2A1, 2A2, 2A3) prior to attachment to underside of floor or roof assembly. Gypsum wallboard layers to be installed on both sides of the wall maintaining a minimum 1/8 in. (3 mm) overlap over the intumescent paper profile at time of installation.

SPECIFIED TECHNOLOGIES INC — Speed Flex Track Top Gasket

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 over the forming material (Item 3A) on each side of the wall. Fill material to overlap a min of 1/2 in. (13 mm) onto the gypsum board and a min 2 in. (51 mm) onto the spray-applied fire resistive material on the floor or roof assembly and on the structural steel support on both sides of wall. Overlap onto the steel floor or roof assembly may be decreased to 1/2 in. (13 mm) when spray applied material is omitted.

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.**

Last Updated on 2017-06-16

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