

XHBN.HW-D-0642 - 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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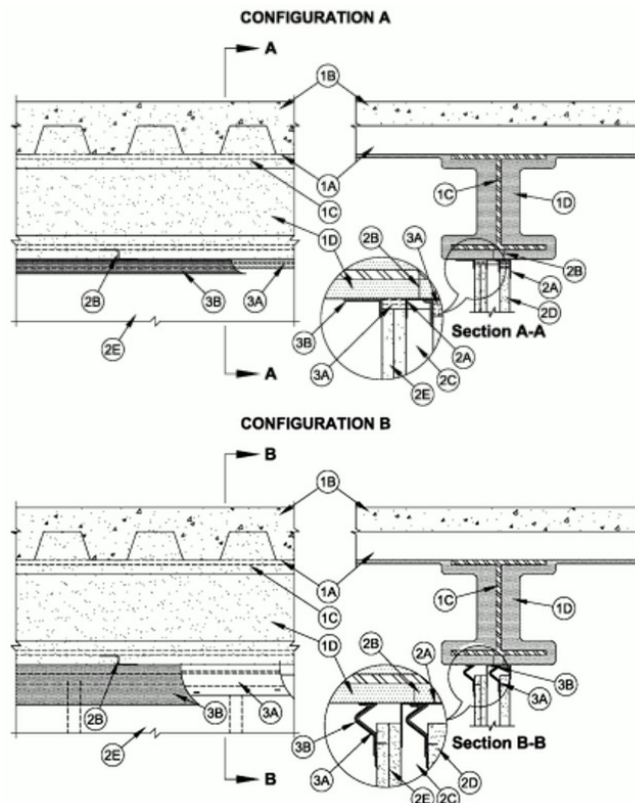
System No. HW-D-0642

September 01, 2016

ANSI/UL2079

CAN/ULC S115

Assembly Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
Nominal Joint Width - 3/4, 1 or 1-1/2 In. (See Item 3)	FT Ratings — 1 and 2 Hr (See Item 1)
Class II Movement Capabilities — 50% or 100% Compression or Extension (See Item 3)	FH Ratings — 1 and 2 Hr (See Item 1)
L Rating At Ambient — Less Than 1 CFM/sq ft	FTH Ratings — 1 and 2 Hr (See Item 1)
L Rating At 400 F — Less Than 1 CFM/sq ft	Nominal Joint Width - 3/4, 1 or 1-1/2 In. (See Item 3)
	Class II Movement Capabilities — 50% or 100% Compression or Extension (See Item 3)
	L Rating At Ambient — Less Than 1 CFM/sq ft
	L Rating At 400 F — Less Than 1 CFM/sq 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, 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** — Steel beam, as specified in the individual D700, D800, or D900 Series Floor-Ceiling Design, used to support steel floor units. Steel beam centered over and parallel with wall assembly.

D. **Spray-Applied Fire Resistive Material*** — After installation of the steel attachment clips (Item 2B), steel floor units and structural steel support to be sprayed with the min thickness of material specified in the individual D700, D800, or D900 Series Design. The flutes of the steel floor units are to be filled with material across the entire top flange of the steel beam. **Additional material shall be applied to the web of the steel beam on each side of the wall. For a 1 hr Assembly Rating, the thickness of material applied to each side of the steel beam web shall be 13/16 in. (21 mm). For a 2 hr Assembly Rating, the thickness of material applied to each side of the steel beam web shall be 1-3/8 in. (35 mm).** SOUTHWEST FIREPROOFING PRODUCTS CO — Type 5, Type 5GP

GCP APPLIED TECHNOLOGIES INC — Type MK-6/HY

D1. **Spray-Applied Fire Resistive Material*** — After installation of the steel attachment clips (Item 2B), steel floor units and structural steel support to be sprayed with the min thickness of material specified in the individual D700, D800, or D900 Series Design. The flutes of the steel floor units are to be filled with material across the entire top flange of the steel beam. **Additional material shall be applied to the web of the steel beam on each side of the wall. For a 1 hr Assembly Rating, the thickness of material applied to each side of the steel beam web shall be 11/16 in. (18 mm). For a 2 hr Assembly Rating, the thickness of material applied to each side of the steel beam web shall be 1-1/2 in. (38 mm).** ISOLATEK INTERNATIONAL — Type 300 or Type II

2. Shaft Wall Assembly — The 1 hr or 2 hr fire rated shaft 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. **Floor, Wall and Ceiling Runners** — "J"-shaped runner, min 2-1/2 in. (64 mm) wide with unequal legs of min 1-1/2 in. (38 mm) and min 2 in. (51 mm), fabricated from min 24 MSG galv steel. Runners positioned with short leg toward finished side of wall. Flange height of ceiling runner shall be min 1/4 in. (6 mm) greater than max extended joint width. Runners attached to steel attachment clips (Item 2B) with welds or steel fasteners spaced max 24 in. (610 mm) OC. As an alternate to the "J"-shaped runner, a min 2-1/2 in. (64 mm) wide by 1 in. or 1 1/4 in. (25 or 32 mm) deep channel formed from min 24 MSG galv steel may be used for the floor runner.

A1. **Light Gauge Framing* - Slotted Ceiling Track** — (Not Shown) - As an alternate to ceiling runner in Item 2A, slotted ceiling track shall consist of galv steel channels with slotted flanges. Slotted ceiling track sized to accommodate steel "C-H" studs (Item 2C) and attached to steel attachment clips (Item 2B) with welds or steel fasteners spaced max 24 in. (610 mm) OC.
BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS — SLP-TRK

CALIFORNIA EXPANDED METAL PRODUCTS CO — CST

CLARKDIETRICH BUILDING SYSTEMS — Type SLT, SLT-H

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

THE STEEL NETWORK INC — VertiTrack VT, series,250VT, 362VT, 400VT, 600VT and 800VT

B. **Steel Attachment Clips** — Z-shaped clips formed from 1 in. (25 mm) wide strips of min 20 ga galv steel. Clips to be sized to extend through the thickness of the spray-applied fire-resistive material on the bottom flange of the steel beam with 2 in. (51 mm) long upper and lower legs. Legs of clips fastened to bottom of beam (prior to application of spray-applied fire-resistive materials) and top of ceiling runner with steel fasteners or welds. Clips spaced max 24 in. (610 mm) OC.

C. **Steel Studs** — "C-H"-shaped steel studs to be min 2-1/2 in. (64 mm) wide and formed of min 24 MSG galv steel. Studs cut 1/2 to 1-1/4 in. (13 to 32 mm) less in length than assembly height beneath protected beam with bottom nesting in and resting on floor runner and with top nesting in ceiling runner or slotted ceiling track. Studs spaced 24 in. (610 mm) OC. After installation of gypsum board liner panels (Item 2D), studs secured to flange of floor runner on finished side of wall with No. 6 by 1/2 in. (13 mm) long self-drilling, self-tapping steel screws. Studs secured to flange of slotted ceiling track on finished side of wall only with No. 8 by 1/2 in. (13 mm) long self-drilling, self-tapping wafer head steel screws at slot midheight.

D. **Gypsum Board*** — 1 in. (25 mm) thick by 24 in. (610 mm) wide gypsum board liner panels. Liner panels cut 1 in. (25 mm) less in length than assembly height beneath protected beam. Vertical edges inserted in "H"-shaped section of "C-H" studs. Free edge of end panels attached to long leg of "J" runner (Item 2A) with 1-5/8 in. (41 mm) long Type S steel screws spaced max 12 in. (305 mm) OC.

E. **Gypsum Board*** — Gypsum board sheets, 1/2 or 5/8 in. (13 or 16 mm) thick, applied vertically or horizontally in one or two layers on finished side of wall as specified in the individual U400 or V400-Series Wall and Partition Design. A max 3/4 in. (19 mm) gap shall be maintained between the top of the gypsum board and the bottom surface of the protected steel beam. The screws attaching the gypsum board layers to the C-H studs shall be located 1 in. (25 mm) below the bottom of the ceiling runner (Item 2A or 2A1). No gypsum board attachment screws are to penetrate the ceiling runner.

CONFIGURATION A

3. **Joint System** — **Max separation between spray applied fire resistive material on bottom of structural support member and top of gypsum board (Item 2E) at time of installation of joint system is 1-1/2 in. (38 mm). The joint system is designed to accommodate a max 50 percent compression or extension from its installed width as measured between bottom plane of the protective material on the steel beam and the top of the gypsum board.** The joint system shall consist of forming and fill materials, as follows:

A. **Forming Material*** — Sections of nom 4 pcf (64 kg/m³) mineral wool batt insulation to be compressed 50 percent in thickness and installed cut edge first to completely fill the gap above the top of the liner panels (Item 2D) and the gap above the top of the gypsum board (Item 2E).

INDUSTRIAL INSULATION GROUP L L C — MinWool-1200 Safing

JOHNS MANVILLE — Safing

ROCK WOOL MANUFACTURING CO — Delta Board

ROCKWOOL MALAYSIA SDN BHD — SAFE

ROCKWOOL — SAFE

THERMAFIBER INC — Type SAF

B. **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 within the stud cavity prior to installing the finished surface gypsum board and on the finished side of the wall. Fill material to overlap min 1/2 in. (13 mm) onto gypsum board liner panel and ceiling runner within wall cavity, min 1/2 in. (13 mm) onto the finished surface gypsum board and min 2 in. (51 mm) onto the spray applied material (Item 1D) on the steel beam.

SPECIFIED TECHNOLOGIES INC — SpecSeal AS200 Elastomeric Spray

CONFIGURATION B

3. **Joint System** — **Max separation between bottom plane of spray-applied fire resistive material on the steel attachment clip (Item 1D) and the top of the gypsum board is 3/4 in. (19 mm) or 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 the protective material on the steel beam and the top of the gypsum board or max 100 percent compression (only) from its installed width when the joint width is greater than 3/4 in.** The joint system consists of the following:

A. **Forming Material*** — Nom 3/16 in. (4.8 mm) thick by 4 in. (102 mm) high joint forming material profile installed within and on the finished side of the wall assembly. Profile installed on the shaft side of the wall by first marking a line across the top of the wall 3 in. (76 mm) below the web of the "J" runner or ceiling runner channel on the interior surface of the gypsum liner. Joint profile material on shaft side positioned with its top edge against the web of the ceiling runner with its bottom edge on the line scribed on the shaft liner. Profile installed on the finished side of the wall by first marking a line across the top of the wall 3 in. (76 mm) below the bottom plane of the spray-applied fire resistive material. Joint profile material on finished side positioned with its top edge against the underside of the spray-applied fire resistive material with its bottom edge on the line scribed on the finished side of the wall assembly. Bottom of the joint profile attached to gypsum liner panel and gypsum board with nom 1/2 in. (13 mm) long steel staples spaced not greater than 8 in. (203 mm) OC. Adjoining lengths of profile to overlap approx 3/4 in. (19 mm) at shiplapped ends.

SPECIFIED TECHNOLOGIES INC — SpecSeal Speed Flex Joint Profile

B. **Fill, Void or Cavity Material* - Sealant** — Min 1/8 in. (3.2 mm) wet thickness (min 1/16 in. or 1.5 mm dry thickness) of elastomeric spray applied to cover forming material (Item 3A) within wall cavity and on finished side of wall. Maintain min 1/2 in. (13 mm) overlap onto surrounding substrates with min 2 in. (51 mm) overlap onto spray applied fire resistive material on finished side 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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