UL Product iQ™

XHBN.HW-D-0363 - 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

See General Information for Joint Systems

System No. HW-D-0363

September 26, 2019

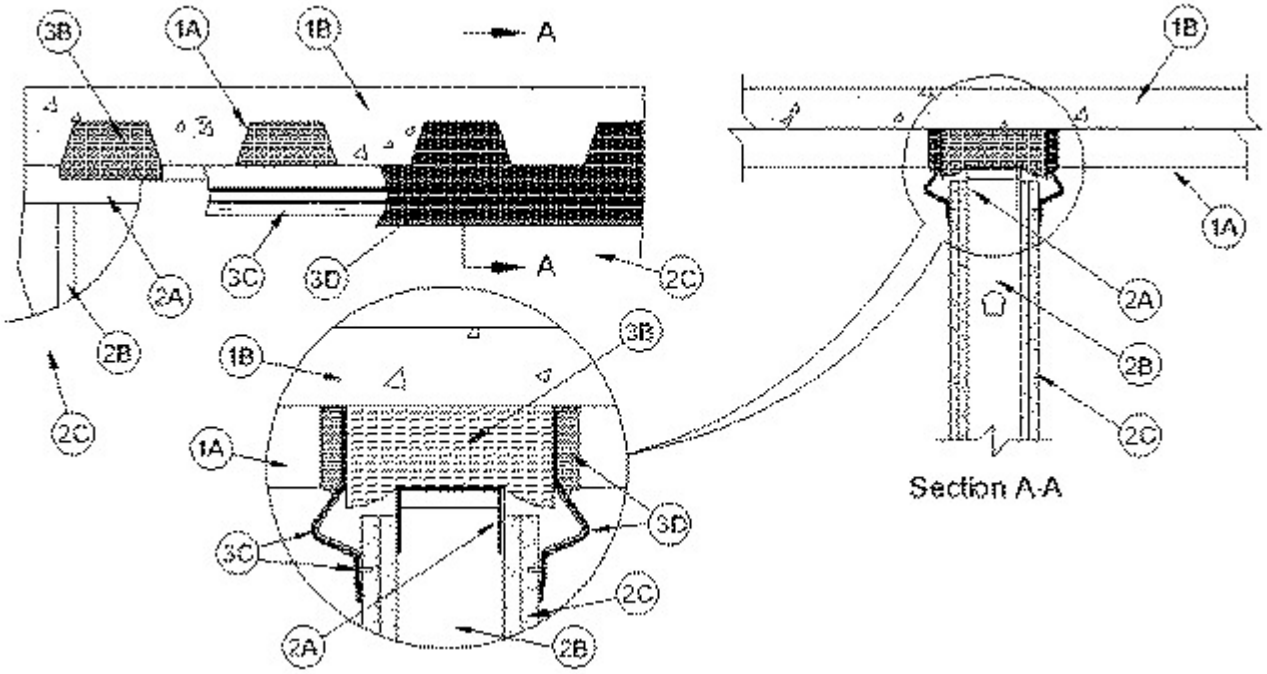
Assembly Ratings — 1 and 2 Hr (See Item 2)

Nominal Joint Width — 1/2 and 3/4 in. (See Items 2A1 and 3)

L Rating At Ambient — Less Than 1 CFM/Lin Ft

L Rating At 400°F — Less Than 1 CFM/Lin Ft

Class II and III Movement Capabilities — 100% Compression or Extension



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 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 units.

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 (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 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 or V400 Series Wall or 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. 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 min 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, flange height of ceiling runner shall be min 1 in. (25 mm) greater than nom joint width. Ceiling runner secured to valleys of steel floor or roof deck, perpendicular to steel deck direction, with steel fasteners 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., slotted ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Item 2B). Ceiling runner installed perpendicular to direction of fluted steel floor or roof deck and secured to valleys with steel fasteners spaced max 24 in. (610 mm) OC. When slotted ceiling runner is used, deflection channel (Item 3A) shall not be used. Nominal joint size is 1/2 in. when slotted ceiling runner is used.
CALIFORNIA EXPANDED METAL PRODUCTS CO — CST

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

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

A2. **Light Gauge Framing* - Vertical Deflection Ceiling Runner —** As an alternate to the ceiling runner 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. Vertical deflection ceiling runner installed perpendicular to direction of fluted steel floor or roof deck and secured to valleys with steel fasteners spaced max 24 in. (610 mm) OC. When slotted ceiling runner is used, deflection channel (Item 3A) shall not be used.

A3. **Light Gauge Framing* - Slotted Ceiling Runner —** As an alternate to the ceiling runner in Items 2A, 2A1, 2A2 and 2A3, slotted ceiling runner to consist of galv steel channel with 3-1/4 in. (83 mm) high slotted flanges sized to accommodate steel studs (Item 2B). Ceiling runner installed perpendicular to direction of fluted steel floor or roof deck and secured to valleys with steel fasteners 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 — SLPTRK325

B. **Studs —** Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut min 3/4 in. (19 mm) less in length than assembly height with bottom nesting in and secured to floor runner. When deflection channel (Item 3A) is used, steel studs attached to ceiling runner with sheet metal screws located 1 in. (25 mm) below the bottom of the deflection channel. When deflection channel is not used, studs to nest 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. 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* —** Gypsum board sheets installed to a min total thickness of 5/8 in. (16 mm) or 1-1/4 in. (32 mm) on each side of wall for 1 and 2 hr fire rated assemblies, respectively. Wall to be constructed in the individual U400 or V400 Series Design in the UL Fire Resistance Directory, except that a max 3/4 in. (19 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 3/4 in. (19 mm) or 1/2 in. (13 mm) when Item 2A1 is used. The joint system is designed to accommodate a max 100 percent compression or extension from it's installed width.** The joint system shall consist of forming and fill materials, with or without a deflection channel (Item 3A), as follows:

A. **Deflection Channel —** (Optional, Not Shown)—Max 2 in. (51 mm) deep min 25 gauge galv steel channel sized to accommodate ceiling runner (Item 2A). Deflection channel secured to valleys of steel floor or roof deck, perpendicular to steel deck direction, with steel fasteners or welds spaced max 24 in. (610 mm) OC. The ceiling runner is installed within the deflection channel to maintain a min 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* —** Nom 4 pcf (64 kg/m3) mineral wool batt cut to the shape of the steel deck flute with a height 1 in. (25 mm) greater than height of flutes and with a length 3/4 to 1 in. (19 to 25 mm) greater than the overall thickness of the wall assembly. Mineral wool batt compressed and installed into each flute above the ceiling runner with its ends projecting 3/8 to 1/2 in. (10 to 13 mm) beyond the wall surfaces.
ROCK WOOL MANUFACTURING CO — Delta Board

ROCKWOOL MALAYSIA SDN BHD — Safe

ROCKWOOL — Safe

THERMAFIBER INC — SAF

C. **Forming Material* —** Nom 3/16 in. (4.8 mm) thick by 4 in. (102 mm) high joint forming material profile installed on both sides of the wall assembly. Profile installed by first marking a line across the top of the wall 3 in. (76 mm) below the bottom plane of the steel floor or roof deck valleys. Joint profile material positioned with its top edge against both the underside of the steel deck and the end of the mineral wool batt plugs (Item 3B) and with its bottom edge on the line scribed on the wall assembly. Bottom of the joint profile attached to 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

D. **Fill, Void or Cavity Material* - Sealant —** Min 1/8 in. (3.2 mm) wet thickness (min 1/16 in. or 1.6 mm dry thickness) of fill material spray applied to completely cover forming materials on each side of the wall with a min 1/2 in. (13 mm) overlap onto gypsum board and steel deck on both sides of the 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.

Last Updated on 2019-09-26