

XHBN.HW-D-0173 - 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

System No. HW-D-0173

December 27, 2019

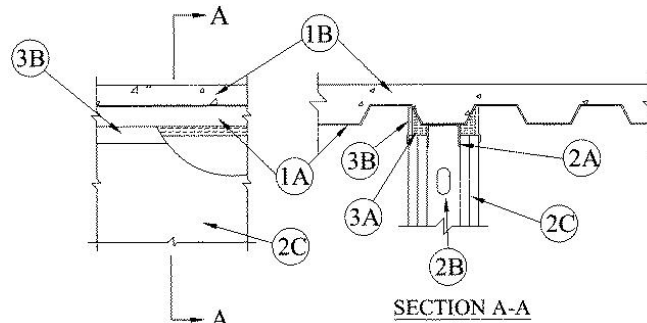
Assembly Rating — 1 & 2 Hr (See Items 2 & 3A)

L Rating at Ambient - Less than 1 CFM/Lin Ft.

L Rating at 400 F - Less than 1 CFM/Lin Ft.

Nominal Joint Width - 1 in.

Class II Movement Capabilities - 25% Compression & 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 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 roof deck.
- 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 and 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 deck.

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 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 min No. 25 gauge galv steel channels sized to accommodate steel studs (Item 2B). Ceiling runner to be provided with min 1-1/2 in. (38 mm) flanges. Ceiling runner installed parallel to direction of fluted steel deck, centered beneath valley, and secured with steel masonry anchors 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, ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Item 2B). Ceiling runner installed parallel to direction of fluted steel deck, centered beneath valley, and secured with steel masonry anchors spaced max 24 in. (610 mm) OC.

SCAFCO STEEL STUD MANUFACTURING CO

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

CALIFORNIA EXPANDED METAL PRODUCTS CO — CST

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

TELLING INDUSTRIES L L C — True-Action Deflection Track

- A2. **Light Gauge Framing* - Notched Ceiling Runner** — As an alternate to the ceiling runners in Items 2A and 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 installed parallel to direction of fluted steel deck, centered beneath valley, and secured with steel masonry anchors spaced max 24 in. (610 mm) OC.

OLMAR SUPPLY INC — Type SCR

- 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 is used, steel studs secured to 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.

- 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 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 lower surface of the floor or roof and the top row of screws shall be installed into the studs 1 in. (25 mm) below the bottom of the ceiling runner.

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 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 the following:

- A. **Forming Material*** — Min 3/8 and 1 in. (10 and 25 mm) wide strips of min 4 pcf (64kg/m³) mineral wool batt insulation for 1 and 2 hr rated assemblies, respectively. Mineral wool strips to be compressed approximately 33 percent in thickness to fill the max 1 in. gap between the top of gypsum board and bottom of steel floor or roof deck on both sides of the wall and recessed from each surface of wall to accommodate the required thickness of fill material.

INDUSTRIAL INSULATION GROUP L L C — MinWool-1200 Safing

JOHNS MANVILLE — Safing

ROCK WOOL MANUFACTURING CO — Delta Board or Delta -8

ROCKWOOL MALAYSIA SDN BHD — Type Safe

ROCKWOOL — Type Safe

THERMAFIBER INC — Type SAF

- B. **Fill, Void or Cavity Material* - Sealant** — Min 1/4 in. (6 mm) thickness of sealant installed on each side of wall in the flutes of steel floor or roof deck and between top of wall and bottom of steel floor or roof deck to completely cover mineral wool, flush with each surface of wall. An additional min 1/8 in. (3.2 mm) thickness of sealant to overlap onto gypsum board a min of 1/2 in. (13 mm)

3M COMPANY — FireBarrier 1000 NS

*** 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 2019-12-27

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