

## XHBN.HW-D-0475 - Joint Systems

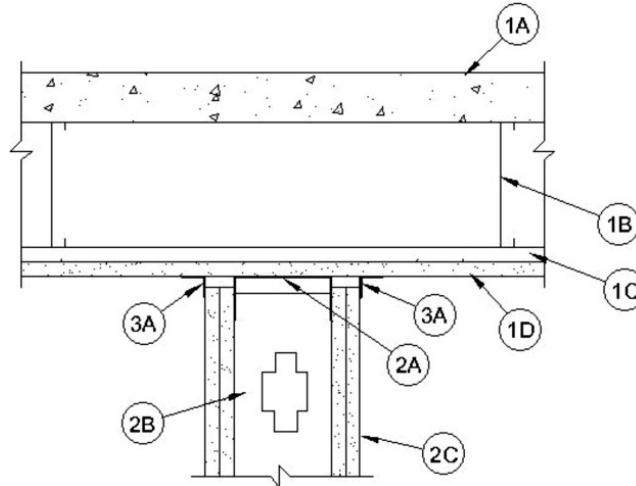
Design/System/Construction/Assembly Usage Disclaimer

- 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-0475

November 23, 2015

**Assembly Ratings — 1 and 2 Hr (See Item 1)****L Rating at Ambient - Less Than 1 CFM/Lin ft****L Rating at 400° F - Less Than 1 CFM/Lin ft****Nominal Joint Width — 1/2 in. and 1 in. (See Item 3)****Class II and III Movement Capabilities — 100% Compression or Extension**

1. **Floor-Ceiling Assembly** — The 1 or 2 hr fire rated concrete and steel joist Floor-Ceiling assembly shall be constructed of the materials and in the manner described in the individual G500 Series Design in the UL Fire Resistance Directory, as summarized below:

- A. **Flooring** — Lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete as specified in the individual G500 Series Design. Max diam of opening is 5-1/2 in. (140 mm).
- B. **Joists** — Steel joists or **Structural Steel Members\*** as specified in the individual G500 Series Design.
- C. **Furring Channels** — Steel furring channels as specified in the individual G500 Series Design, spaced max 16 in. OC.
- D. **Gypsum Board\*** — Min 5/8 in. (16 mm) thick, screw-attached to furring channels as specified in the individual G500 Series Design.

**The hourly rating of the joint system is equal to the lesser of the hourly ratings of the floor-ceiling assembly and the wall assembly.**

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 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 1-1/4 in. (32 mm) or 2-1/4 in. (57 mm) flanges for nom 1/2 in. (13 mm) and 1 in. (25 mm) joints, respectively. When U-shaped deflection channel (Item 2A1) is used, ceiling runner is installed within the U-shaped 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, ceiling runner installed perpendicular to furring channels (Item 1C) and secured to each furring channel through gypsum board (Item 1D) with steel fasteners specified in the individual G500 series design for the attachment of the gypsum board to the furring channels.

A1. **Deflection Channel** — (Optional) - U-shaped channel formed from min 25 gauge galv steel sized to accommodate ceiling runner and provided with 3 in. (76 mm) flanges. Deflection channel installed perpendicular to furring channels (Item 1C) and secured to each furring channel through gypsum board (Item 1D) with steel fasteners specified in the individual G500 series design for the attachment of the gypsum board to the furring channels. 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.

A2. **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 furring channels (Item 1C) and secured to each furring channel through gypsum board (Item 1D) with steel fasteners specified in the individual G500 series design for the attachment of the gypsum board to the furring channels. When slotted ceiling runner is used, deflection channel shall not be used.

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

**CALIFORNIA EXPANDED METAL PRODUCTS CO** — CST

**METAL-LITE INC** — The System

**SCAFCO STEEL STUD MANUFACTURING CO** — Slotted Track

**TELLING INDUSTRIES L L C** — True-Action Deflection Track

A3. **Light Gauge Framing\* — Clipped Ceiling Runner** — As an alternate to the ceiling runner in Item 2A, clipped runner to consist of galv steel channel with clips preformed in track flanges which positively engage the inside flange of the steel studs (Item 2B). Track sized to accommodate steel studs (Item 2B). Track flanges to be min 3 in. (76 mm). Clipped ceiling runner installed perpendicular to furring channels (Item 1C) and secured to each furring channel through gypsum board (Item 1D) with steel fasteners specified in the individual G500 series design for the attachment of the gypsum board to the furring channels. When clipped ceiling runner is used, deflection channel shall not be used.

**TOTAL STEEL SOLUTIONS L L C** — Snap Trak

A4. **Light Gauge Framing\* — Vertical Deflection Ceiling Runner** — As an alternate to the ceiling runner in Items 2A, 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. Track sized to accommodate steel studs (Item 2B). Vertical deflection ceiling runner installed perpendicular to furring channels (Item 1C) and secured to each furring channel through gypsum board (Item 1D) with steel fasteners specified in the individual G500 series design for the attachment of the gypsum board to the furring channels. When slotted ceiling runner is used, deflection channel shall not be used.

**THE STEEL NETWORK INC** — VertTrack VTD362, VTD400, VTD600 and VTD800

B. **Studs** — Steel studs to be min 3-1/2 in. (89 mm) wide. 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 floor runner. When slotted ceiling runner (Item 2A2) is used, steel studs secured to slotted ceiling runner with No. 8 by 1/2 (13 mm) long wafer head steel screws at mid-height of slot on each side of wall. When deflection channel is not used, studs to nest in ceiling runner without attachment.

C. **Gypsum Board\*** — Gypsum board sheets installed to a min total 5/8 in. (16 mm) or 1-1/4 in. (32 mm) thickness on each side of wall for 1 and 2 hr fire rated assemblies, respectively. Wall to be constructed as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory except that a max 1/2 in. (13 mm) or max 1 in. (25 mm) gap shall be maintained between the top of the gypsum board and the bottom of the floor-ceiling assembly. The screws attaching the gypsum board to the studs along the top of the wall shall be located 1 to 3-1/2 in. (25 to 89 mm) below the bottom of the ceiling runner. No gypsum board attachment screws shall be driven into the ceiling runner.

3. **Joint System** — Max separation between bottom of floor and top of wall (at time of installation of joint system) is 1/2 in. (13 mm) or 1 in. (25 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width.

A. **Fill, Void or Cavity Material\*** — For nom 1/2 in. (13 mm) joints, a nom 20 gauge steel angle provided with a nom 1 in. (25 mm) wide intumescent strip on one leg. Angle to be secured to each furring channel through gypsum board (Item 1D) with steel fasteners specified in the individual G500 series design for the attachment of the gypsum board to the furring channels with the intumescent strip against the outer face of gypsum board on both sides of wall.

**CALIFORNIA EXPANDED METAL PRODUCTS CO** — Firestik FS1

A1. **Fill, Void or Cavity Material\*** — For nom 1 in. (25 mm) joints, a nom 20 gauge steel angle provided with a nom 2 in. (51 mm) wide intumescent strip on one leg. Angle to be secured to each furring channel through gypsum board (Item 1D) with steel fasteners specified in the individual G500 series design for the attachment of the gypsum board to the furring channels the intumescent strip against the outer face of gypsum board on both sides of wall.

**CALIFORNIA EXPANDED METAL PRODUCTS CO** — Firestik FS2

**\* 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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