

XHBN.HW-D-0455 - Joint Systems

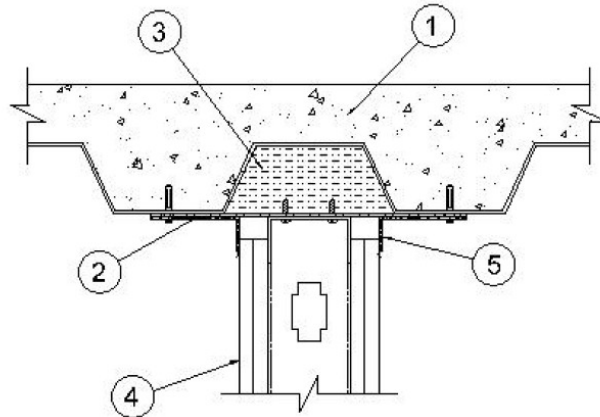
Design/System/Construction/Assembly Usage Disclaimer

- 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-0455

November 23, 2015

Assembly Rating — 1 and 2 Hr (See Item 1)**Nominal Joint Widths — 1/2 in. and 1 in.****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 and Extension**

1. **Floor Assembly** — The fire-rated fluted steel floor unit/concrete floor assembly shall be constructed of the materials and in the manner described in the individual Floor-Ceiling Design in the 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 lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete, as measure from the top plane of the floor units.

2. **Steel Straps** — Min 2 in. (51 mm) wide 16 MSG galv steel straps cut to a length, length to span the flute and overlap the adjacent valleys of fluted floor units by 1-1/2 in. (38 mm). Straps spaced max 24 in. (610 mm) O.C. and fastened to floor assembly with using one min 1-1/4 in. long steel fastener at each end.

3. **Packing Material** — Min 4 pcf (64 kg/m³) mineral wool batt insulation cut to the shape of the fluted deck, approx 33 percent larger than the area of the flutes and compressed into the fluted area of the steel floor or roof deck above the ceiling channel.

4. **Wall Assembly** — The 1 or 2 h fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified 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 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 min 2-1/4 in. (32 mm) flanges for nom 1/2 in. (13 mm) and 1 in. (25 mm) joints respectively. When U-shaped deflection channel is used, ceiling runner is installed within the U-shaped deflection channel (Item 2A1) 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 parallel to direction of fluted steel deck directly beneath steel straps and secured to straps with two min No. 8 steel sheet metal screws per strap.

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 parallel to direction of fluted steel deck directly beneath steel straps and secured to straps with two min No. 8 steel sheet metal screws per strap. 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 parallel to direction of fluted steel deck directly beneath steel straps and secured to straps with two min No. 8 steel sheet metal screws per strap. When slotted ceiling runner is used, deflection channel shall not be used.

CALIFORNIA EXPANDED METAL PRODUCTS CO — CST

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

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 parallel to direction of fluted steel deck directly beneath steel straps and secured to straps with two min No. 8 steel sheet metal screws per strap.

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 parallel to direction of fluted steel deck directly beneath steel straps and secured to straps with two min No. 8 steel sheet metal screws per strap.

THE STEEL NETWORK INC — VertiTrack VTD362, VTD400, VTD600 and VTD800

B. **Studs** — Steel studs to be min 2-1/2 in. (64 mm) wide. Studs cut 1/2 in. (13 mm) to 1-1/4 in. (32 mm) less in length than assembly height with bottom nesting in and resting on the floor runner and with top nesting in ceiling runner without attachment. Stud spacing not to exceed 24 in. (610 mm) O.C.

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. gap shall be maintained between the top of the gypsum board and the bottom plane of the steel deck. 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.

5. **Joint System** — Max separation between bottom of floor and top of gypsum board (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 steel strap with min No. 8 steel sheet metal screws with the intumescent strip against the outer face of gypsum board on both sides of wall.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Firestik F51

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 steel strap with min No. 8 steel sheet metal screws with 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.**

[Last Updated](#) on 2015-11-23

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