

# XHBN.HW-D-0288 - 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

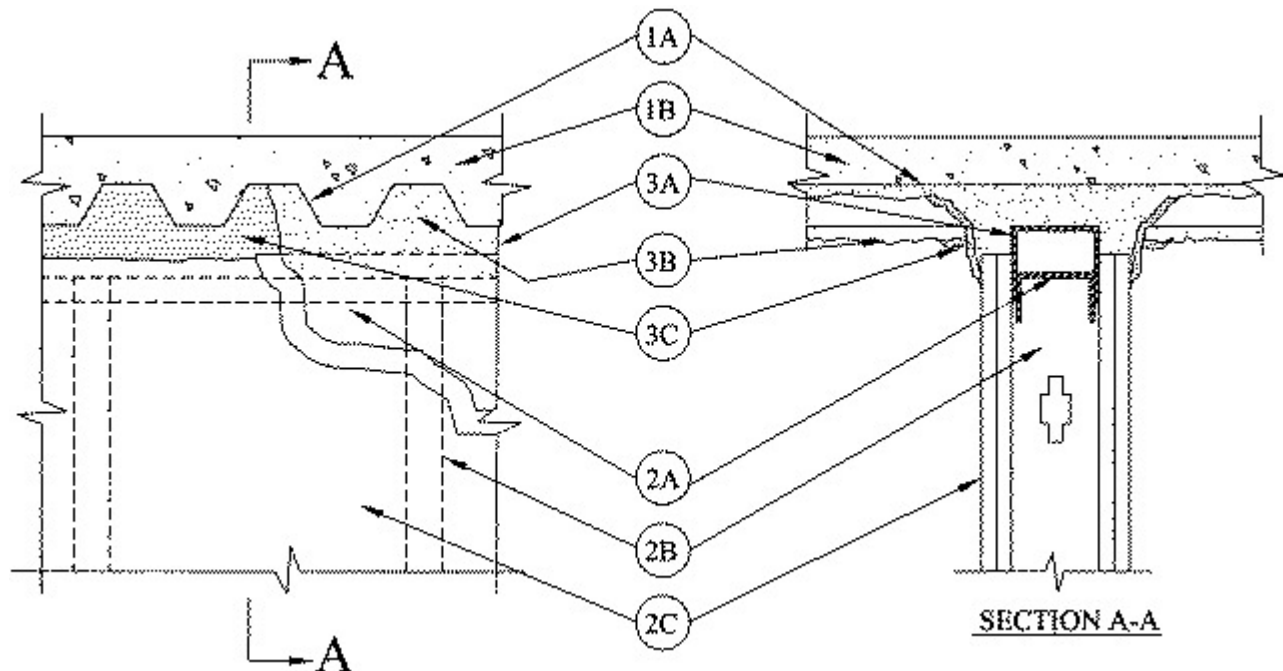
### System No. HW-D-0288

June 27, 2011

### Assembly Rating — 2 Hr

### Nominal Joint Width — 3/4 In.

### Class II Movement Capabilities — 33% Compression or Extension



1. **Floor Assembly** — The 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. deep galv fluted units.

B. **Concrete** — Min 2-1/2 in. thick reinforced concrete, as measured from the top plane of the floor units.

C. **Spray-Applied Fire Resistive Material\*** — After the installation of the ceiling runner (Item 2A) or deflection channel (Item 3A), all surfaces of the steel floor units to be sprayed with the thickness of material specified in the individual D700 Series Design.

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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 P700 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.

A. **Steel Roof Deck** — Max 3 in. deep galv steel fluted roof deck.

B. **Roof Insulation** — As specified in the individual P700 Series Design.

C. **Spray — Applied Fire Resistive Materials\*** — After the installation of the ceiling runner (Item 2A) or deflection channel (Item 3A), the steel roof deck shall be sprayed with the thickness of material specified in the individual P700 Series Design.

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2. **Wall Assembly** — The 2 hr fire-rated gypsum wallboard/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 - Series Wall or Partition Design in the UL Fire Resistance Directory. The wall assembly 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 (Item 2B). When U-shaped deflection channel (Item 3A) is used, ceiling runner installed within the deflection channel with 3/4 to 1 in. gap maintained between the top of ceiling runner and top of deflection channel. When deflection channel is not used, ceiling runner installed perpendicular to direction of the fluted steel floor units or roof deck prior to the application of the spray-applied fire resistive material and secured with valleys of fluted steel floor units or roof deck with steel fasteners or by welds spaced max 24 in. OC.

A1. **Light Gauge Framing\*** — Slotted Ceiling Runner - When the thickness of spray-applied fire resistive material does not exceed 1 in., slotted ceiling runner maybe used 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 direction of fluted steel floor units or roof deck prior to the application of spray-applied fire resistive material and secured to valleys with steel fasteners spaced max 24 in. OC. When slotted ceiling runner is used deflection channel (Item 3A) shall not be 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

B. **Steel Studs** — Studs to be min 3-5/8 in. wide. Studs cut 1/2 to 3/4 in. less in length than assembly height. Studs attached to ceiling runner (Item 2A) with sheet metal screws a min of 1/2 in. below bottom of deflection channel (Item 3A), when deflection channel is used. When deflection channel is not used, studs shall not be secured to ceiling runner.

When slotted ceiling runner is used, studs secured to slotted ceiling runner with No. 8 by 1/2 in. long wafer head steel screws at midheight of slot on each side of wall. Stud spacing not to exceed 24 in. OC.

C. **Gypsum Board\*** — Gypsum board sheets installed to a min total thickness of 1-1/4 in. and 1-1/4 on each side of wall. Wall to be constructed as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory, except that a nom 3/4 in. gap shall be maintained between the top of the gypsum board and the lower surface of the floor or roof deck. The screws attaching the gypsum board to studs (Item 2B) at the top of the wall shall be located 1 in. below the bottom of the ceiling runner (Item 2A, U-shaped), deflection channel (Item 3A) or slotted ceiling runner (Item 2A1).

**3. Joint System — Max separation between bottom of floor or roof deck and top of wall is 3/4 in. The joint system is designed to accommodate a max 33 percent compression or extension from its installed width.** The joint system consists of a deflection channel, forming material and a fill material as follows:

A. **Deflection Channel (Optional)** — Nom 3 in. deep by min 25 gauge galv steel U-shaped channel sized to accommodate ceiling runner (Item 2A). Deflection channel installed perpendicular to direction of the fluted steel floor units or roof deck prior to the application of the sprayed-applied fire resistive material and secured with steel fasteners or by welds spaced max 24 in. OC. The ceiling runner (Item 2A) is installed within the deflection channel to maintain a 3/4 to 1 in. 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.

B. **Spray-Applied Fire Resistive Materials\*** — Min 3/4 in. thickness of spray-applied fire resistive materials applied to all surfaces of steel floor units or roof deck, within the entire joint system, overlapping onto gypsum board a min 1 in. Spray-applied fire resistive materials to form a radius of min 3 in. from steel floor units to joint system. The spray-applied fire resistive material is mixed with water in accordance with the mixing instructions on the bag and is sprayed and/or trowelled to fill the flute above the wall. The minimum average density of the spray-applied fire resistive material shall be 15 pcf with a minimum individual density of 14 pcf. See Design Information of Volume 1 of the Fire Resistance Directory for method of density determination.

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C. **Fill, Void or Cavity Material\*** — Min 1/8 in. wet thickness of fill material sprayed or brushed on each side of the joint system, completely covering radius formed from spray-applied fire resistive materials of the joint system and overlapping a min of 1/2 in. onto gypsum board (Item 2C) on both sides of wall.

**EGS NELSON FIRESTOP** — FSC 3 Coating

**\* 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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