



XHBN.HW-D-0247 - 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

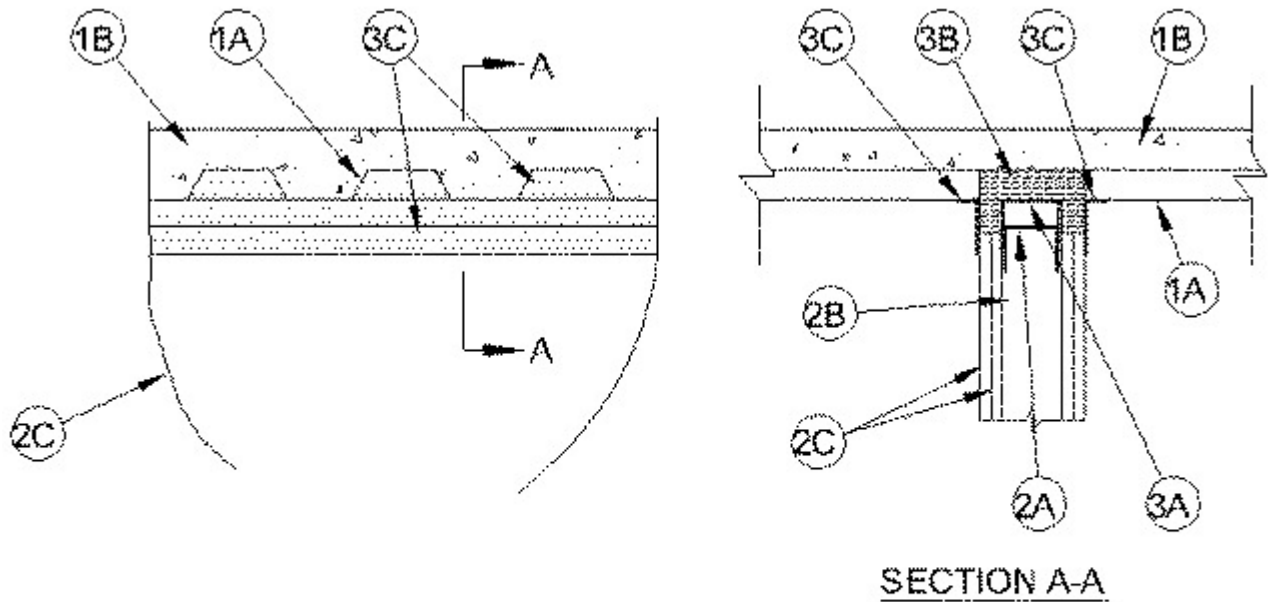
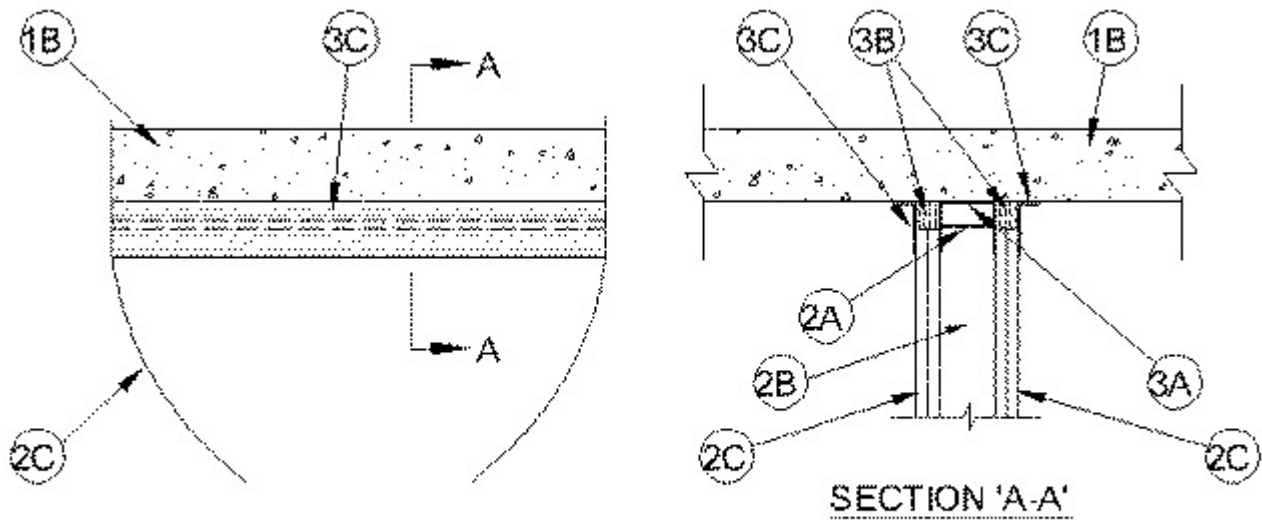
System No. HW-D-0247

June 24, 2011

Assembly Rating — 2 Hr

Nominal Joint Width — 1 Hr

Class II Movement Capabilities — 18.75% Compression or Extension

CONFIGURATION 'A'CONFIGURATION 'B'

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. deep galv steel fluted units.

B. **Concrete** — Min 2-1/2 in. 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. The roof assembly shall include the following construction features:

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

B. **Roof Insulation** — Min 2-1/4 in. thick poured insulating concrete, as measured from the top plane of the roof deck.

1B. **Floor Assembly** — As an alternate to Item 1, minimum 2-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete.

2. **Wall Assembly** — Wall Assembly The 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-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 (Item 2B). Ceiling runner to be provided with 2 in. flanges and installed perpendicular to direction of fluted steel floor units or roof deck . Ceiling runner may be installed within the optional U-shaped deflection channel (Item 3A) with a 1-1/2 in. gap between the top of the ceiling runner and the top of the deflection channel.

A1. **Light Gauge Framing* Slotted Ceiling Runner** — Slotted ceiling runner may be 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 and secured to valleys with steel fasteners spaced max 12 in. OC. For concrete floors (item 1B), slotted ceiling runner secured to underside of concrete floor with concrete anchors spaced max 12 in. OC. When slotted ceiling runner is used, optional 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. **Studs Steel** — studs to be min 3-5/8 in. wide. Studs cut 1/2 to 3/4 in. less in length than assembly height with bottom nesting in, resting on and attached to the floor runner with sheet metal screws. The top of the studs shall be nesting 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. 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. 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 1 in. gap shall be maintained between the top of the gypsum board and the bottom of the steel floor units or underside of concrete floor . The top row of screws shall be installed into the studs 3-1/2 in. below the lower surface the floor or roof.

3. **Joint System** — **Max separation between bottom of floor and top of wall is 1 in. The joint system is designed to accommodate a max 18.75 percent compression or extension from its installed width.** The joint system consists of deflection channel, forming material and a fill material, as follows:

Joint Configuration A

A. **Deflection Channel** — (Optional) A nom 3-11/16 in. wide by 3 in. deep min No. 22 gauge steel U-shaped channel. Deflection channel installed perpendicular to direction of fluted steel floor units and secured to valleys of steel floor units (Item 1A) or roof deck with steel fasteners or by welds spaced max 12 in. OC. The ceiling runner (Item 2A) is installed within the deflection channel to maintain a 1-1/2 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. **Forming Material*** — Min 4 pcf density mineral wool batt insulation cut approx 33 percent larger than the area of the flutes and with a length equal to the overall width of the wall. Pieces compressed and inserted horizontally into the flutes above the top of the deflection channel. The mineral wool batt insulation shall project beyond each side of deflection channel, flush with both surfaces of wall. Additional min 4 pcf mineral wool batt insulation cut into 1-1/4 in.

wide strips to fill gap between top of gypsum board and bottom of steel floor units or roof deck. The strip of mineral wool are compressed 50 percent in thickness and firmly packed into the gap between the top of the gypsum board and bottom of the steel floor units or roof deck , flush with both surfaces of the wall.

A/D FIRE PROTECTION SYSTEMS INC — A/D FireBarrier Mineral Wool

C. Fill, Void or Cavity Material* — Min 1/8 in. wet thickness of fill material sprayed or brushed on each side of the wall to completely cover mineral wool and overlap a min of 1/2 in. onto gypsum board and steel floor units or roof steel deck.

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Joint Configuration B

A. Deflection Channel — (Optional) A nom 3-11/16 in. wide by 3 in. deep min No. 22 gauge steel U-shaped channel. Deflection channel installed to concrete floor (Item 1B) and secured with concrete fasteners spaced max 12 in. OC. The ceiling runner (Item 2A) is installed within the deflection channel to maintain a 1-1/2 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. Forming Material* — Min 4 pcf density mineral wool batt insulation cut into 1-1/4 in. wide strips to fill gap between top of gypsum board and underside of concrete floor. The strip of mineral wool are compressed 50 percent in thickness and firmly packed into the gap between the top of the gypsum board and underside of concrete floor, flush with both surfaces of the wall.

A/D FIRE PROTECTION SYSTEMS INC — A/D FireBarrier Mineral Wool

C. Fill, Void or Cavity Material* — Min 1/8 in. wet thickness of fill material sprayed or brushed on each side of the wall to completely cover mineral wool and overlap a min of 1/2 in. onto gypsum board and concrete floor.

A/D FIRE PROTECTION SYSTEMS INC — A/D FireBarrier Seal N/S

*** 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 2011-06-24

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