



## System No. HW-D-0469 XHBN.HW-D-0469 Joint Systems

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### 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](#)

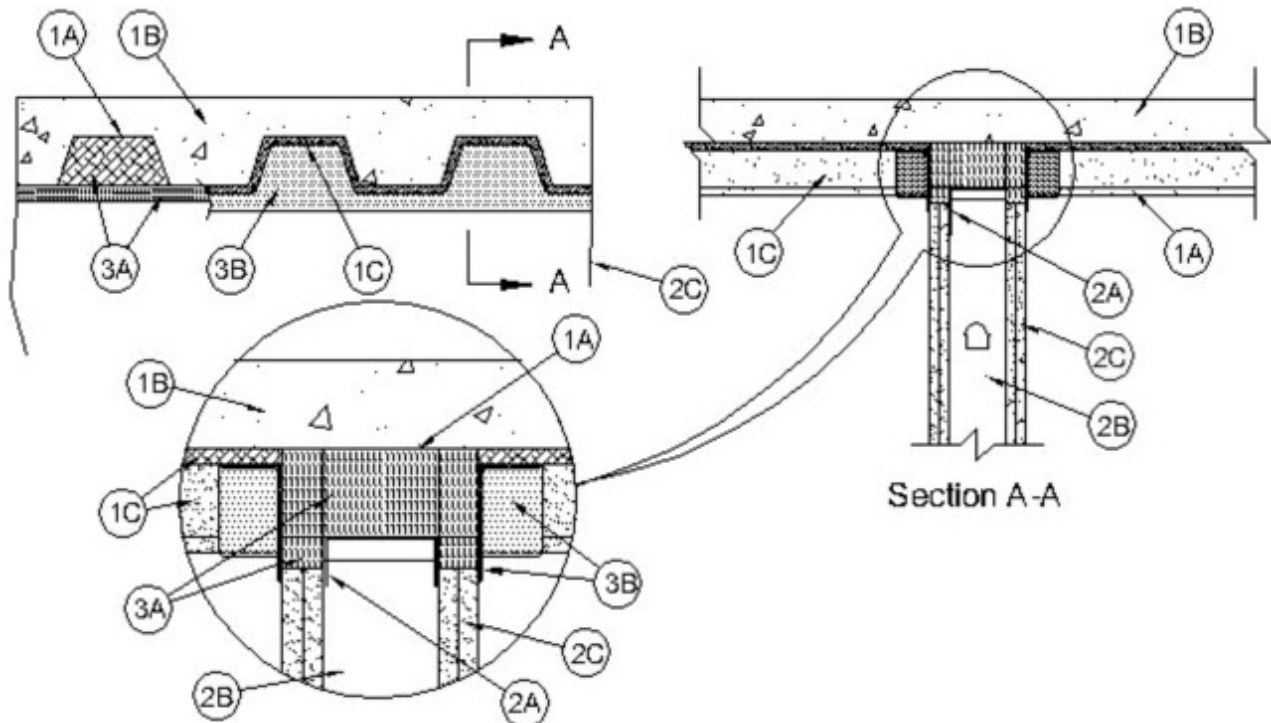
## System No. HW-D-0469

February 16, 2007

**Assembly Rating — 1 and 2 Hr (See Item 2)**

**Nominal Joint Width — 1 in. (25 mm)**

**Class I and II Movement Capabilities — 25% Compression and 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 D700 Series 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 units.

**B. Concrete** — Min 2-1/2 in. (64 mm) thick reinforced concrete, as measured from the top plane of the floor units.

**C. Spray-Applied Fire Resistive Material\*** — After installation of the ceiling runner (Item 2A) steel floor units to be sprayed with a min 5/16 in. (8 mm) to max 11/16 in. (17 mm) thickness of material in accordance with the specifications in the individual D700 Series Design. The spray-applied fire resistive material shall be excluded from the steel deck in the area immediately above the wall as well as from the flanges of the ceiling runner.

**GCP APPLIED TECHNOLOGIES INC** — Type MK-6/HY

**1A. Roof Assembly (Not Shown)** — As an alternate to the floor assembly (Item 1), 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 fire rating of the roof assembly shall be equal to or greater than the hourly fire rating of the wall assembly. The roof assembly shall include the following construction features:

**A. Steel Roof Deck** — Max 3 in. (76 mm) deep galv steel fluted roof deck.

**B. Roof Insulation — Mineral and Fiber Board\*** — Min 3/4 in. (19 mm) thick boards applied in one or more layers directly over steel roof deck or over gypsum board sheathing laid atop steel roof deck.

**C. Roof Covering\*** — Hot-mopped or cold-application materials compatible with mineral and fiber board insulation.

**D. Spray-Applied Fire Resistive Material\*** — After installation of the ceiling runner (Item 2A), steel roof deck to be sprayed with a max 3/4 in. (19 mm) thickness of spray applied fire resistive material as specified in the individual P700 Series Roof-Ceiling design. Spray-applied fire resistive material shall be excluded from the steel deck in the area immediately above the wall as well as from the flanges of the ceiling runner.

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**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 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. Ceiling runner to be provided with min 3 in. (76 mm) flanges. Ceiling runner is secured to steel floor or roof deck with steel fasteners or welds spaced max 24 in. (610 mm) OC.

**B. 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 24 in. (610 mm) OC.

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

**A2. Light Gauge Framing\* —Vertical Deflection Clip** — (Optional) Steel clips can be used in conjunction with steel studs (Item 2B) or ceiling runner (Item 2A). Clips installed over the top of studs and inserted within the ceiling runner. Clip shall be secured to the ceiling runner with No. 8 self drilling, self tapping steel fasteners through holes provided within the clip. Clip may be secured to the stud with No. 6 pan head steel screw through holes provided within the clip. As an alternate, the legs of the clip may be installed over the top of the stud without attachment in accordance with manufacturer's installation instructions.

**FLEX-ABILITY CONCEPTS L L C** — Three Legged Dog Deflection Clip

**B. Studs** — Steel studs to be min 3-5/8 in. (92 mm) wide. Studs cut 1/2 in. to 3/4 in. (13 to 19 mm) less in length than assembly height with bottom nesting in and secured to floor runner. Studs to nest 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. (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 5/8 or 1-1/4 in. (16 or 32 mm) thickness on each side of wall for 1 or 2 hr rated walls resp. Wall to be constructed per the individual U400 Series Design in the UL Fire Resistance Directory, except that a max 1 in. gap shall be maintained between the top of the gypsum board and the bottom surface of the steel floor or roof deck. The screws attaching the gypsum board to the studs along the top of the wall shall be located 1 in. (25 mm) below the bottom of the ceiling runner. No gypsum board attachment screws shall be driven into 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 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 a forming material and a fill material, as follows:

**A. Forming Material\*** — Min 4 in. (102 mm) thickness of 4 pcf (64 kg/m<sup>3</sup>) mineral wool batt insulation cut to fit the shape of the fluted deck and installed into the flutes of the steel floor units between the top of the ceiling runner and the steel deck. The mineral wool is to be compressed 33 percent in height and tightly packed such that it is flush with the flanges of the ceiling runner. Additional sections of mineral wool are cut to a thickness of 5/8 or 1-1/4 in. (16 or 32 mm) for 1 or 2 hr rated walls, resp and compressed 50 percent in height to completely fill the gap above the top of the gypsum board and the bottom of the steel deck. The additional sections of forming material are tightly packed and flush with both surfaces of the wall.

**ROCK WOOL MANUFACTURING CO** — Delta Board

**B. Fill, Void or Cavity Material\*** — Min 1/8 in. (3 mm) wet thickness of fill material applied on each side of the wall to completely cover mineral wool and overlap a min of 1/2 in. (13 mm) onto concrete wall and 2 in. (51 mm) onto the sprayed applied material (Item 1C).

**A/D FIRE PROTECTION SYSTEMS INC** — A/D FIREBARRIER Spray Acrylic

**\* 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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