



## XHBN.HW-D-0559 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 Listed or Classified 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 as Classified, Listed, or Recognized.
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### Joint Systems

[See General Information for Joint Systems](#)

#### System No. HW-D-0559

August 05, 2009

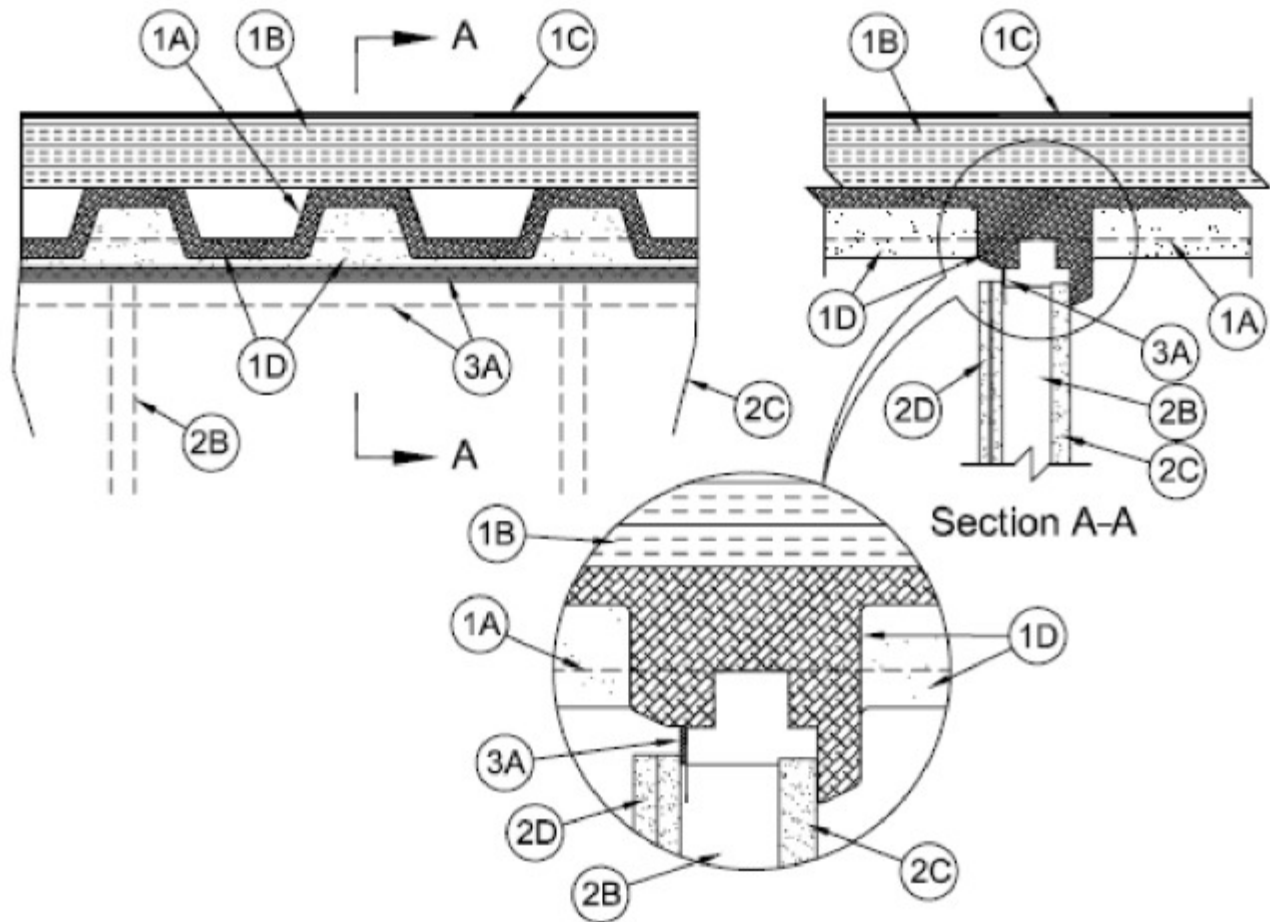
**Assembly Ratings — 1 and 2 Hr (See Item 2)**

**L Rating At Ambient — Less Than 1 CFM/LIN Ft**

**L Rating At 400 F — Less Than 1 CFM/LIN Ft**

**Maximum Joint Width — 3/4 to 1-1/2 in.**

**Class II and III Movement Capabilities — 100% Compression**



1. **Roof Assembly** — The fire-rated fluted steel deck roof assembly shall be constructed of the materials and in the manner described in the individual P700 or P800 Series Roof-Ceiling designs 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 (Item 2). 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** — Roof insulation to consist of **Mineral and Fiber Boards\*** or **Foamed Plastic\*** boards which are applied in one or more layers directly over steel deck or over gypsum board sheathing as specified in the individual design.

C. **Roof Covering\*** — Consisting of hot mopped or cold application materials compatible with roof insulation (Item 2B) and which provide Class A, B or C coverings. See Roofing Materials and Systems Directory-Roof Covering Materials (TEVT).

D. **Spray-Applied Fire Resistive Material\*** — As specified in the P700 or P800 Series Roof-Ceiling Design. After installation of the ceiling runners (Item 3A), the steel roof deck and structural supports are to be sprayed with the thickness and density of material specified in the individual P700 or P800 Series Roof-Ceiling Design. The steel roof deck area above the track web and the offset legs as well as the upper recess inside the ceiling runner (Item 3A) are to be completely filled with the spray applied fire resistive material. Lower leg of ceiling runner on unfinished side of wall to be coated with a min 1 in. (25 mm) thickness of material. Lower leg of ceiling runner and intumescent strip on finished side of wall to be scraped clean after spray application.

**ISOLATEK INTERNATIONAL** — Type 300

**W R GRACE & CO - CONN** — Type MK-6/HY

2. **Wall Assembly** — The 1 hr or 2 hr fire rated gypsum board/steel stud shaft 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 Runners** — (Not Shown) - The J-shaped or U-shaped steel channel floor runners are to be sized to accommodate steel studs (Item 2B) and attached to floor with steel fasteners located not greater than 2 in. (51 mm) from ends and not greater than 24 in. (610 mm) OC.

B. **Studs** — "C-T", "I", or "C-H" shaped steel studs to be min 2 1/2 in. (64 mm) wide and formed of min

24 ga galv steel. Studs cut not less than the nom joint width and 3/4 in. to 1-1/2 in. (19 to 38 mm) less in length than floor-to-ceiling height as measured to shoulder of ceiling runner (Item 3A) with bottom nesting in and secured to floor runner. Studs to nest in ceiling runner (Item 3A) without attachment. Studs spaced max 24 in. (610 mm) OC.

C. **Gypsum Board\*** — Nom 1 in. (25 mm) thick by max 24 in. (610 mm) wide gypsum board liner panels applied on unfinished side of wall. Panels cut not less than nom joint width and 3/4 in. to 1-1/2 in. (19 to 38 mm) less in length than floor-to-ceiling height as measured to shoulder of ceiling runner (Item 3A). Vertical edges inserted into "T" shaped section of "C-T" studs, into holding tabs of "I" studs or into "H"-shaped section of "C-H" studs.

D. **Gypsum Board\*** — Nom 1/2 or 5/8 in. (13 or 16 mm) thick gypsum board sheets applied on finished side of wall as specified in the individual Wall and Partition Design. Boards cut a max of 3/4 in. (19 mm) to 1-1/2 in. (38 mm) less in length than the floor to ceiling height below **Spray Applied Fire Resistant Material\***. The screws attaching the gypsum board layer(s) to the "C-T", "I", or "C-H" studs shall be located 1-1/2 to 2-1/2 in. (38 to 64 mm) below the bottom of the ceiling runner legs. 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 Spray Applied Fire Resistant Material on steel deck and top of gypsum board on finished side of wall (at time of installation) is 3/4 to 1-1/2 in. (19 to 38 mm). The joint system is designed to accommodate a max 100 percent compression from its installed width.**

A. **Fill, Void or Cavity Material\*** — For nom 3/4 in. (19 mm) joints, a stepped-leg galv steel channel track having unequal legs with the height of the upper portion of track legs equal to or greater than the required thickness of **Spray Applied Fire Resistant Material\*** on steel roof deck. Lower portion of shorter track leg is provided with a nom 1 in. (25 mm) wide intumescent strip and is to be located on the finished side of wall. Track to be secured to steel deck with steel fasteners or welds spaced a max of 24 in. (610 mm) OC. Gypsum board to overlap bottom of intumescent strip a min of 1/4 in. (6 mm).

**JAK INNOVATIONS** — BlazeFrame OJR1 series

A1. **Fill, Void or Cavity Material\*** — For nom 1 in. (25 mm) joints, a stepped-leg galv steel channel track having unequal legs with the height of the upper portion of track legs equal to or greater than the required thickness of **Spray Applied Fire Resistant Material\*** on steel roof deck. Lower portion of shorter track leg is provided with a nom 1-1/4 in. (32 mm) wide intumescent strip and is to be located on the finished side of wall. Track to be secured to steel deck with steel fasteners or welds spaced a max of 24 in. (610 mm) OC. Gypsum board to overlap bottom of intumescent strip a min of 1/4 in. (6 mm).

**JAK INNOVATIONS** — BlazeFrame OJRW1 series

A2. **Fill, Void or Cavity Material\*** — For nom 1-1/2 in. (38 mm) joints, a stepped-leg galv steel channel track having unequal legs with the height of the upper portion of track legs equal to or greater than the required thickness of **Spray Applied Fire Resistant Material\*** on steel roof deck. Lower portion of shorter track leg is provided with a nom 1-3/4 in. (44 mm) wide intumescent strip and is to be located on the finished side of wall. Track to be secured to steel deck with steel fasteners or welds spaced a max of 24 in. (610 mm) OC. Gypsum board to overlap bottom of intumescent strip a min of 1/4 in. (6 mm).

**JAK INNOVATIONS** — BlazeFrame OJRX1 series

\*Bearing the UL Classification Mark

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