



XHBN.HW-D-0496 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-0496

August 05, 2009

Assembly Ratings — 1, 2 and 3 Hr (See Item 2)

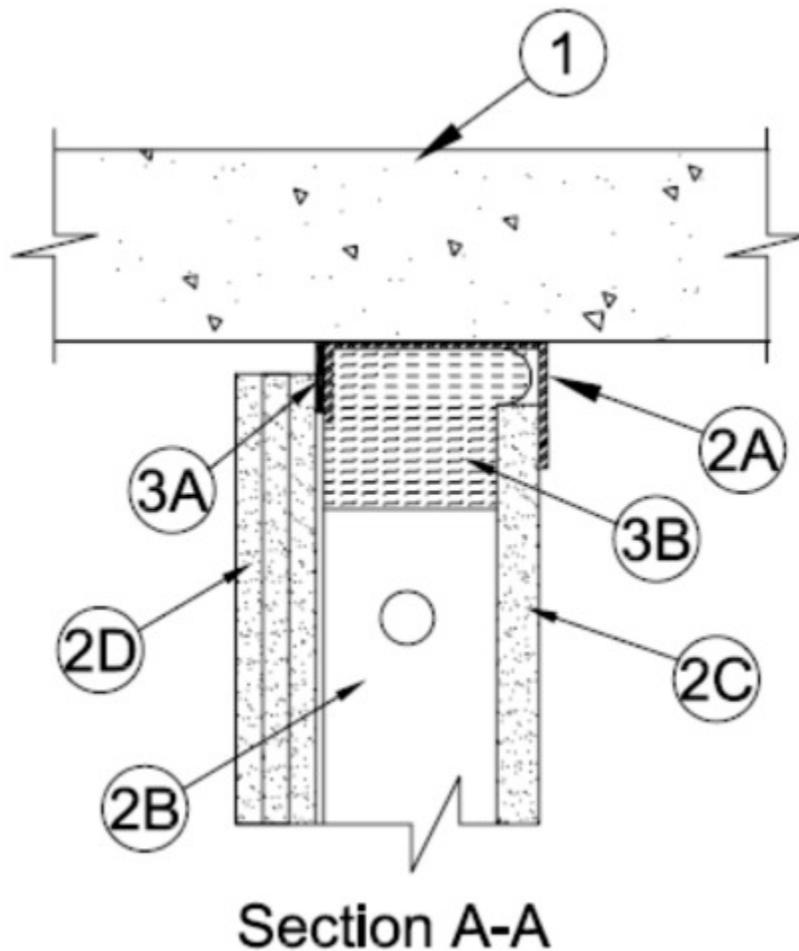
L Rating At Ambient — Less Than 1 CFM/LIN Ft

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

Nominal Joint Width — 3/8 to 3/4 in.

Class II and III Movement Capabilities — 100% Compression or Extension with Nominal Joint of 3/8 or 1/2 in. (See Items 3A and 3A1)

Class II and III Movement Capabilities — 67% Compression or 100% Extension with Nominal Joint 3/4 in. (See Item 3A2)



1. **Floor Assembly** — Min 4 1/2 in. (114 mm) thick steel reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) structural concrete. Floor may also be constructed of any min 6 in. thick UL Classified hollow-core **Precast Concrete Units***.

See **Precast Concrete Units** (CFTV) category in the Fire Resistance Directory for names manufacturers.

The hourly fire rating of the floor assembly shall be equal or greater than the hourly fire rating of the wall assembly.

2. **Shaft Wall Assembly** — The 1, 2 or 3 hr fire rated gypsum board/stud 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 and Ceiling Runners** — Floor runner J-shaped or U-shaped, sized to accommodate steel studs (Item 2B) with unequal legs of 1 in. (25 mm) and 2 in. (51 mm), fabricated from 25 ga galv steel. The ceiling runners are provided with a fill, void or cavity material and are described in Item 3A.

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 1/2 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 DL or JR Series (Item 3) is used. When slotted ceiling runner SL or SS Series (Item 3) is used, steel studs secured to slotted leg of ceiling runner on finished side with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at mid-height of exposed slot. Studs spaced max 24 in. (610 mm) OC.

C. **Gypsum Board*** — 1 in. (25 mm) thick by max 24 in. (610 mm) wide gypsum board liner panels. Panels cut 1 in. (25 mm) less in length than floor to ceiling height when Item 3A is used. Panels cut 1-1/2 in. (38 mm) less in length than floor to ceiling height when Item 3A1 or 3A2 is used. 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*** — Gypsum board 1/2 or 5/8 in. (13 or 16 mm) thick, applied on finished side of wall as specified in the individual Wall and Partition Design. The boards cut a max 3/8 to 3/4 in. (10 to 19 mm) less in length than the floor to ceiling height. The screws attaching the gypsum board layer(s) to the "C-T", "I", or "C-H" studs shall be located 1 in. (25 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 floor and top of gypsum board (at time of installation) is 3/8 to 3/4 in. (10 to 19 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width when Items 3A or 3A1 are used, or max 67% compression and 100% extension from its installed width when Item 3A2 is used .

A. Fill, Void or Cavity Material* — For nom 3/8 in. (10 mm) joints at time of installation, one of the following nom 20 ga tracks shall be used: U-shaped track having 2 in. (51 mm) solid legs, or U-shaped track with one 3 in. (76 mm) solid leg and one 3 in. (76 mm) slotted leg, or J-shaped track having one 2 in. (51 mm) solid leg and one 3 in. (76 mm) slotted leg, or J-shaped track with unequal solid legs of 2 and 3 in. (51 and 76 mm). Track provided with a nom 1 in. (25 mm) wide intumescent strip affixed to the top of the leg or slotted leg facing the finished side of wall. Gypsum board to overlap a min of 5/8 in. (16 mm) over the intumescent strip. Track to be secured to bottom side of floor assembly with steel fasteners spaced a max of 24 in. (610 mm) OC.

JAK INNOVATIONS — BlazeFrame JR1, DL1, SL1 or SS1 series

A1. Fill, Void or Cavity Material* — For nom 1/2 in. (13 mm) joints at time of installation, one of the following nom 20 ga tracks shall be used: J-shaped track having unequal solid legs of 2 and 3 in. (51 and 76 mm), or J-shaped track having one 3 in. (76 mm) solid leg and one 3 in. (76 mm) slotted leg. Track provided with a nom 1-1/4 in. (32 mm) wide intumescent strip affixed to the top of the leg or slotted leg facing the finished side of wall. Gypsum board to overlap a min of 3/4 in. (19 mm) over the intumescent strip. Track to be secured to bottom side of floor assembly with steel fasteners spaced a max of 24 in. (610 mm) OC.

JAK INNOVATIONS — BlazeFrame JRW1 or SSW1 series

A2. Fill, Void or Cavity Material* — For nom 3/4 in. (19 mm) joints at time of installation, one of the following nom 20 ga tracks shall be used: J-shaped track having unequal solid legs of 2 and 3 in. (51 and 76 mm), or J-shaped track having one 3 in. (76 mm) solid leg and one 4 in. (102 mm) slotted leg. Track provided with a nom 1-3/4 in. (44 mm) wide intumescent strip affixed to the top of the leg or slotted leg facing the finished side of wall. Gypsum board to overlap a min of 1 in. (25 mm) over the intumescent strip. Track to be secured to bottom side of floor assembly with steel fasteners spaced a max of 24 in. (610 mm) OC.

JAK INNOVATIONS — BlazeFrame JRX1 or SSX1 series

B. Mineral Wool — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation cut to the width of the ceiling runner and compressed 33 percent in thickness, installed into ceiling runner between leg of track and gypsum liner board.

FIBREX INSULATIONS INC — FBX Safing Insulation

IIG MINWOOL L L C — MinWool-1200 Safing

ROCK WOOL MANUFACTURING CO — Delta Board

ROXUL INC — Safe

THERMAFIBER INC — SAF

*Bearing the UL Classification Mark

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