



XHBN.HW-D-0504 Joint Systems

[Page Bottom](#)

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.
-

Joint Systems

[See General Information for Joint Systems](#)

System No. HW-D-0504

August 05, 2009

Assembly Rating — 2 Hr

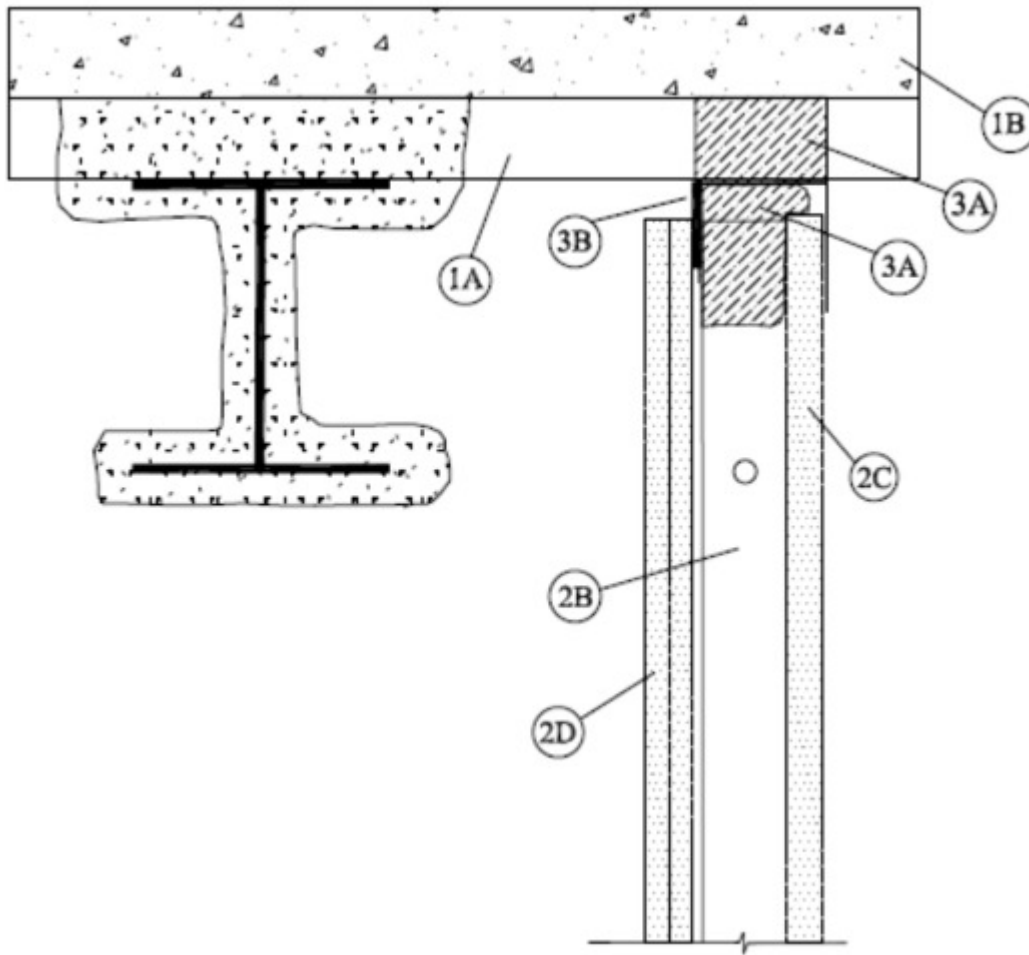
L Rating At Ambient — Less Than 1 CFM/LIN Ft

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 3B and 3B1)

Class II and III Movement Capabilities — 67% Compression or 100% Extension with Nominal Joint of 3/4 in. (See Item 3B2)



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 or D900 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 floor 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*** — Steel floor units and structural steel supports to be sprayed with the thickness of material specified in the individual D700 or D900 Series Design. The flutes of the steel floor units above the structural steel supports shall be filled with spray-applied fire resistive material. The spray-applied fire resistive material in the flutes above the wall shall be applied to follow the contour of the steel floor units.

ISOLATEK INTERNATIONAL — Type 300

W R GRACE & CO - CONN — Type MK-6/HY

- D. **Structural Steel Support** — (Optional) Steel Beam or open web steel joist, as specified in the individual D900 Series Floor-Ceiling Design, used to support steel floor units. Structural steel support oriented parallel to wall assembly.

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 2 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) wide with unequal legs of 1 in. and 2 in. (25 and 51 mm), fabricated from 24 MSG galv steel. Runner positioned with short leg toward finished side of wall. Runners attached to floor with steel fasteners located not greater than 2 in. from ends and not greater than 24 in OC. The ceiling runners are provided with a fill, void or cavity material and are described in Item 3.

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 JR or DL Series (Item 3) is used. When slotted ceiling runner SL 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 3B is used. Panels cut 1-1/2 in. (38 mm) less in length than floor to ceiling height when Item 3B1 or 3B2 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 1/2 to 3/4 in. (13 to 19 mm) less in length (Item 3) 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. (51 mm) below the bottom of the ceiling runner legs. No gypsum board attachment screws shall be driven into the ceiling runner. Where the top of the wall assembly is inaccessible above the lowest elevation of the structural steel support, the gypsum board attachment screws may be located below the bottom of the ceiling runner legs at the lowest elevation of the structural steel support.

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 3B or 3B1 are used, or max 67 percent compression and 100 percent extension from its installed width when Item 3B2 is used.

A. Forming Material* — Min 4 pcf (64 kg/m³) mineral wool insulation cut to the shape of the fluted steel floor units, approx 33% larger than the area of the flutes. Pieces compressed and inserted into the flutes above the top ceiling runner flush with the finished wall surface. Min 4 in. (102 mm) thick 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

ROXUL INC — Safe

ROCK WOOL MANUFACTURING CO — Delta Board

THERMAFIBER INC — SAF

B. Fill, Void or Cavity Material* — For nom 3/8 in. (10 mm) joints, a nom 20 ga J-shaped track having one 2 in. (51 mm) and one 3 in. (76 mm) leg or a 20ga U-shaped track having 2 in. (51mm) solid legs or nom 20 ga J-shaped track having one 2 in. (51 mm) solid leg and one 3 in. (76 mm) slotted leg or nom 20 ga J-shaped track having one 3 in. (51 mm) solid leg and one 3 in. (76 mm) slotted leg with a nom 1 in. (25 mm) wide intumescent strip affixed to the top of the leg facing the finished side of wall. Gypsum board to overlap a min of 5/8 in. (16 mm) over the intumescent strip. The intumescent strip is set 1/2 in. (13 mm) down from the top of the legs on the SL1CD series track for use in D700 assemblies. 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 SL1CD series

B1. Fill, Void or Cavity Material* — For nom 1/2 in. (13 mm) joints, a nom 20 ga J-shaped track with unequal legs of 2 in. (51 mm) and 3 in. (76 mm) or nom 20 ga U-shaped track having one 3 in. (76 mm) solid leg and one 3 in. (76 mm) slotted leg 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. The intumescent strip is set 1/2 in. (13 mm) down from the top of the legs on the JRW1CD and SSW1CD series track for use in D700 assemblies. Track to be secured to bottom side of floor assembly with steel fasteners a max of 24 in. (610 mm) OC.

JAK INNOVATIONS — BlazeFrame JRW1, JRW1CD, SSW1, or SSW1CD series

B2. Fill, Void or Cavity Material* — For nom 3/4 in (19 mm) joints, a nom 20 ga J-shaped track with unequal legs of 2 1/2 in. (64 mm) and 3 in. (76 mm), or nom 20 ga U-shaped track having one 3 in. (76

mm) solid leg and one 4 in. (102 mm) slotted leg 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. The intumescent strip is set 1/2 in. (13 mm) down from the top of the legs on the JRX1CD and SSX1CD series track for use in D700 assemblies. Track to be secured to bottom side of floor assembly with typical steel fasteners a max of 24 in. (610 mm) OC.

JAK INNOVATIONS — BlazeFrame JRX1, SSX1, JRX1CD, or SSX1CD series

*Bearing the UL Classification Mark

Last Updated on 2009-08-05

[Questions?](#)

[Print this page](#)

[Notice of Disclaimer](#)

[Page Top](#)

[Copyright © 2010 Underwriters Laboratories Inc.®](#)

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Listed and covered under UL's Follow-Up Service. Always look for the Mark on the product.

UL permits the reproduction of the material contained in the Online Certification Directory subject to the following conditions: 1. The Guide Information, Designs and/or Listings (files) must be presented in their entirety and in a non-misleading manner, without any manipulation of the data (or drawings). 2. The statement "Reprinted from the Online Certifications Directory with permission from Underwriters Laboratories Inc." must appear adjacent to the extracted material. In addition, the reprinted material must include a copyright notice in the following format: "Copyright © 2010 Underwriters Laboratories Inc.®"

An independent organization working for a safer world with integrity, precision and knowledge.

