

# XHBN.HW-D-0621 - 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.

## Joint Systems

XHBN - Joint Systems

XHBN7 - Joint Systems Certified for Canada

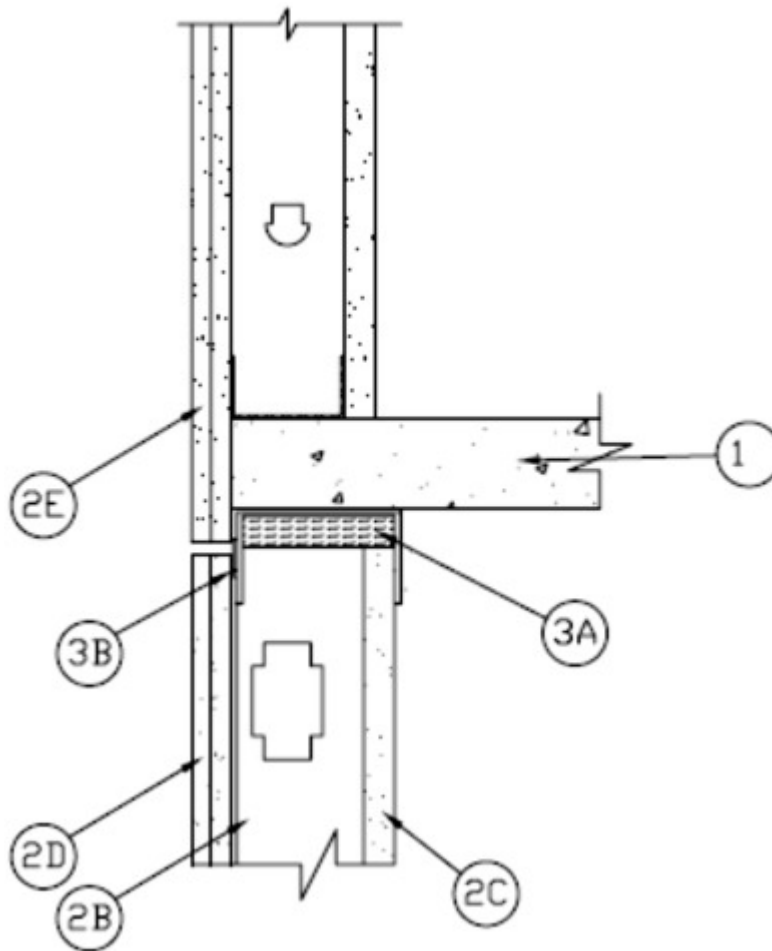
[See General Information for Joint Systems](#)

[See General Information for Joint Systems Certified for Canada](#)

## System No. HW-D-0621

June 2, 2021

ANSI/UL2079	CAN/ULC S115
Assembly Ratings — 1 and 2 Hr (See Item 2)	F Ratings — 1 and 2 Hr (See Item 2)
Nominal Joint Width — 5/8, 3/4 or 1 In. (See Item 2 and 3)	FT Ratings — 1 and 2 Hr (See Item 2)
Class II or III Movement Capabilities — 100% Compression or Extension	FH Ratings — 1 and 2 Hr (See Item 2)
L Rating at Ambient — 2.11 CFM/Lin Ft	FTH Ratings — 1 and 2 Hr (See Item 2)
L Rating at 400°F — 1.33 CFM/Lin Ft	Nominal Joint Width — 5/8, 3/4 or 1 In. (see Item 2 and 3)
	Class II or III Movement Capabilities — 100% Compression or Extension
	L Rating at Ambient — 3.33 L/s/m



1. **Floor Assembly** — Min 4-1/2 in. (114 mm) thick steel reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) structural concrete. Floor may also be constructed of any min 6 in. (152 mm) 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 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 U-shaped, sized to accommodate steel studs (Item 2B), fabricated from min 24 ga galv steel. Legs are to be min 1/4 in. (6 mm) longer than the maximum joint width. 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.

A.1. **Light Gauge Framing\*** — **Slotted Ceiling Track** — (Not Shown) - As an alternate to the Item 2A, a ceiling track consisting of galv steel channel with slotted flanges may be used when Item 3B.1 fill material is utilized. Slotted ceiling track sized to accommodate steel studs (Item 2B). Legs are to be min 1/4 in. (6 mm) longer than the maximum joint width. Attached to concrete deck and spaced max 24 in. (610 mm) OC.

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

**CALIFORNIA EXPANDED METAL PRODUCTS CO** — CST, CST 325

**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — Type SLT

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 5/8 to 1-1/4 in (16 to 32 mm) less in length than assembly height with bottom nesting in and secured to floor runner. Steel studs secured to slotted leg of ceiling runner on finished side with No. 8 by 1/2 (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. less in length than floor to ceiling height. 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 in. (25.4 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 between 4 and 5 in. (102 -127 mm) down from ceiling surface.

E. **Gypsum Board\*** — Gypsum board sheets installed to a min total 5/8 in. (16 mm) or 1 -1/4 in. (32 mm) thickness on each side of wall for 1 and 2 hr fire rated assemblies, respectively. Wall to be constructed as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory except shaft side gypsum board to extends below the upper floor line overlapping the ceiling runner (Item 3) so that gypsum board overlaps intumescent strip and attached with typical steel fasteners to the ceiling runner (Item 3) of the lower level a min of 1/8 in. (3 mm).

**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 sheathing (non-shaft side) and gypsum board panels (shaft side) at time of installation is 5/8 in. (16 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width. When Item 3A.1 is used the max nominal width is 1 in. (25 mm). When item 2A.1 is used max nominal width is 3/4 in. (19 mm).

A. **Forming Material\*** — Min 2 in. (51 mm) thick min 4 pcf (64 kg/m<sup>3</sup>) mineral wool batt insulation cut to friction fit 33% compression in width and installed into ceiling runner between leg of track and gypsum liner board.

B1. **Fill, Void or Cavity Material\*** — (Not Shown) A min. 25 ga composite steel angle with one 5/8 in. (16 mm) leg and one 2-1/2 in (64 mm) leg with a 5/8 in. (16 mm) strip of intumescent strip affixed along the inside 2-1/2 in (64 mm) leg. Steel angle is friction fit between the top web of the ceiling runner and the concrete deck on the finish wall side only.

**CALIFORNIA EXPANDED METAL PRODUCTS CO** — DDA (Deflection Drift Angle)

B2. **Fill, Void or Cavity Material\*** — (Not Shown) - As an alternate for item 3B for nominal 3/4 in. (19 mm) gap 80% compression and 30% extension between the edge of the drywall and the floor/ceiling assembly shall be filled with vinyl deflection bead with 5/16 in. (8 mm) intumescent strip and foam applied to horizontal leg that runs above the edge of the drywall. The perforated leg may be attached to the surface of the drywall with 1/2 in. (13 mm) staples every 6-8 in. (152-203 mm).

**CALIFORNIA EXPANDED METAL PRODUCTS CO** — HOTROD XL

**MARINO/WARE, DIV OF WARE INDUSTRIES INC** — HOTROD XL

B3. **Fill, Void or Cavity Material\*** — (Not Shown) - As an alternate for item 3B for nominal joint 3/4 in. (19 mm) 80% compression and 30% extension. Nominal 1 in. (25.4 mm) open cell foam plug having a nominal 5/16 in. (8 mm) intumescent tape applied to the top surface of the foam profile. The foam is sized for 1 or 2 hour walls and shall be placed in the joint above the top edge of the drywall between the concrete slab. A layer of tape and joint compound can then be applied over the HOTROD Type X assembly.

**CALIFORNIA EXPANDED METAL PRODUCTS CO** — HOTROD Type-X

B4. **Fill, Void or Cavity Material\*** — (Not Shown) - As an alternate for item 3B for 1/2 in. (13 mm) nominal gap 75% compression and 25% extension 1 in. (25.4 mm) open cell foam plug having a nom 5/16 in. (8 mm) intumescent tape applied to the top surface of the foam profile. The foam is sized for 1 or 2 hour walls and shall be placed in the joint above the top edge of the drywall between the floor/ceiling assembly.

**CALIFORNIA EXPANDED METAL PRODUCTS CO** — HOTROD Type-X

**B5. Fill, Void or Cavity Material** – As an alternate to Item 3B4 (not shown), fire barrier material adhered to corrugated metal or plastic and provided with flanges of same material. Assembly to be installed on one side between gap in Item 2D where gypsum board extends below the bottom of floor, in accordance with the installation instructions provide with the product.

**CALIFORNIA EXPANDED METAL PRODUCTS CO** — FAS-093X or FAS-093-V

**C. Fill, Void or Cavity Material\* — Sealant** — (Not Shown) -Sealant may be used to seal any gaps above ceiling runner, to maintain L Ratings.

**RECTORSEAL** — Metacaulk 1200, Biostop 750, FlameSafe FS3000, Metacaulk 1500, or Biostop 800 Spray.

**\* 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 2021-06-02

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