UL Product iQ™

XHBN.HW-D-0514 - 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.

XHBN - Joint Systems
XHBN7 - Joint Systems Certified for Canada

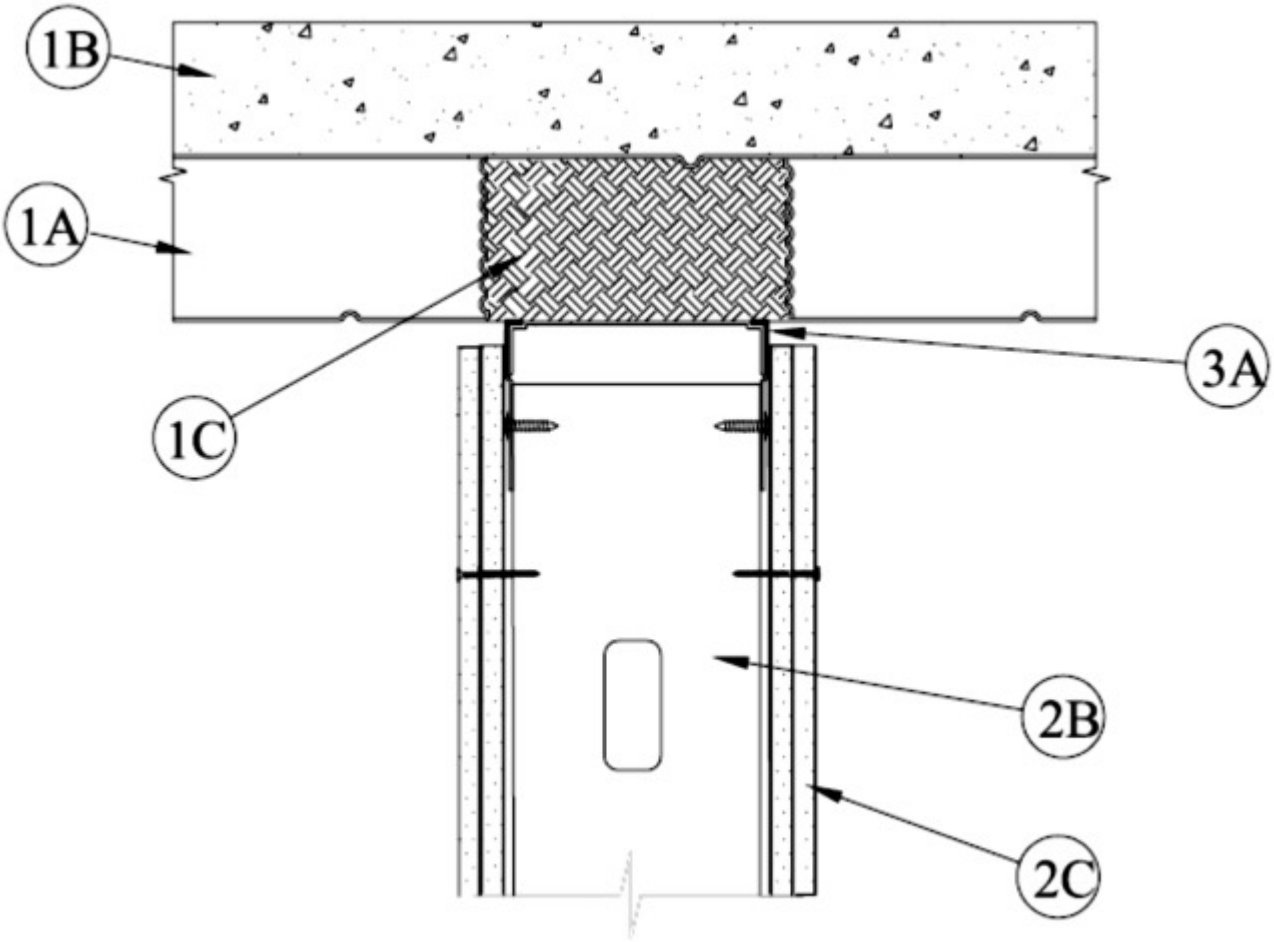
See General Information for Joint Systems

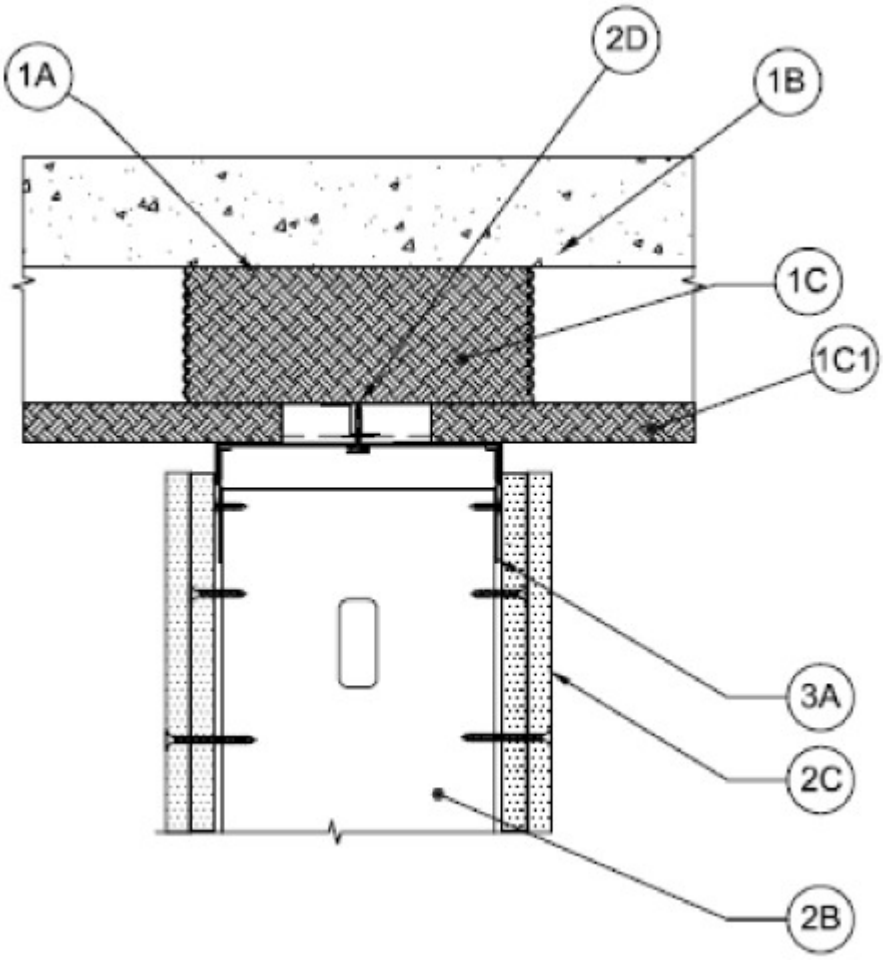
See General Information for Joint Systems Certified for Canada

System No. HW-D-0514

February 18, 2020

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 —3/8, 1/2, 5/8, 3/4, 1, 1-1/2 In. (See Item 3)	FT Ratings — 1 and 2 Hr (See Item 2)
Class II or III Movement Capabilities — 80% Compression and or 30 % Extension or 100% compression and extension (3/8 in. See Item 3)	FH Ratings — 1 and 2 Hr (See Item 2)
L Rating at Ambient — Less than 1 CFM/Lin Ft	FTH Ratings — 1 and 2 Hr (See Item 2)
L Rating at 400°F — Less than 1 CFM/Lin Ft	Nominal Joint Width — 10, 13, 16, 19, 25, 38 mm. (see Item 3)
	Class II or III Movement Capabilities — 80% Compression or 30% Extension or 100% compression and extension (10mm See Item 3)
	L Rating at Ambient — Less than 1.55 L/s/m
	L Rating at 203°C — Less than 1 1.55 L/s/m


1B
1A
1C
3A
2B
2C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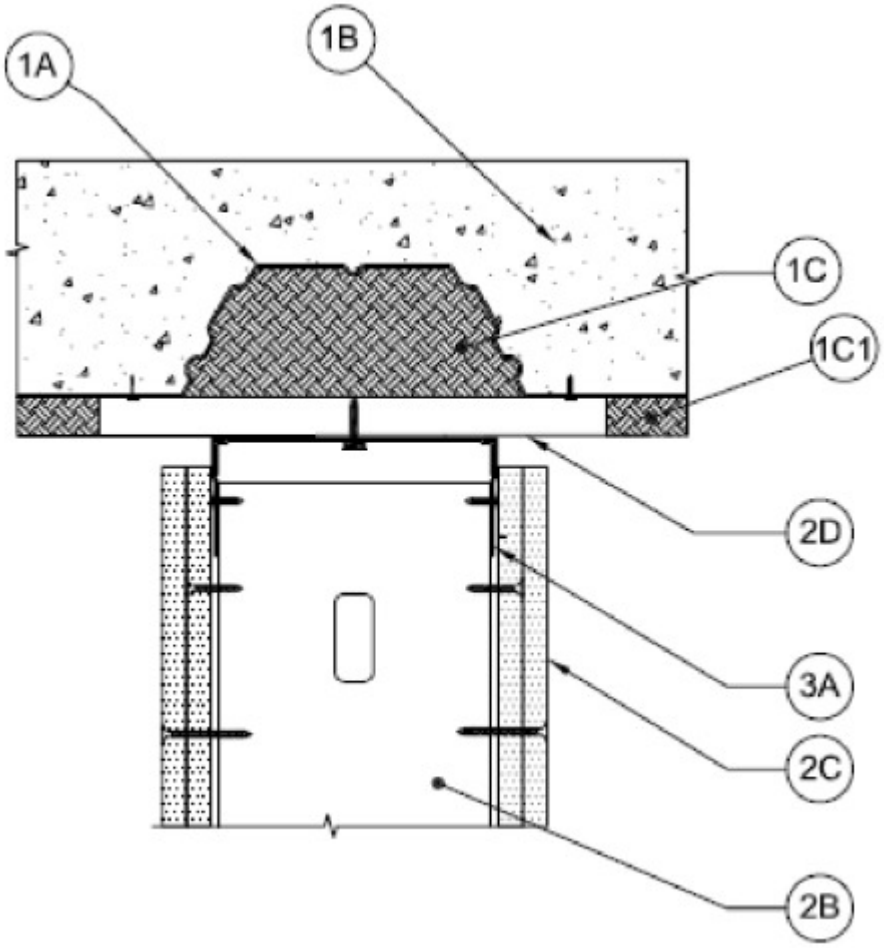
1A
1B
1C
1C1
3A
2C
2B



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* —** As specified in the D700 or D900 Series Floor-Ceiling Design. After installation of ceiling runners (Item 3), the steel floor unit area immediately above the ceiling runner is to be completely filled with spray-applied fire resistive material. Material in flutes to extend 5/8 or 1-1/4 in. (16 or 32 mm) beyond each side of the ceiling runner so as to be approx flush with each surface of the finished wall. No Spray-applied material shall be applied to the flanges of the ceiling runner.
ISOLATEK INTERNATIONAL — Type 300

GCP APPLIED TECHNOLOGIES INC — Type MK-6/HY

C1. **Spray-Applied Fire Resistive Material* —** (Required for Configurations B and C) - As specified in the D700 or D900 Series Floor-Ceiling Design. After installation of ceiling runners (Item 3), the steel floor unit area immediately above the ceiling runner is to be completely filled with spray-applied fire resistive material. Material in flutes to extend 5/8 or 1-1/4 in. (16 or 32 mm) beyond each side of the ceiling runner so as to be approx flush with each surface of the finished wall. No Spray-applied material shall be applied to the flanges of the ceiling runner.
ISOLATEK INTERNATIONAL — Type 300

GCP APPLIED TECHNOLOGIES INC — Type MK-6/HY

1A. **Roof Assembly —** (Not Shown) - As an alternate to the floor assembly, a fire rated fluted steel deck roof assembly may be used. The roof shall by constructed of the materials and in the manner described in the individual P700 or P900-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. 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 min 2-1/4 in. (57 mm) thick poured insulating concrete, as measured from the top plane of the roof deck.

C. **Spray-Applied Fire Resistive Material* —** As specified in the P700 or P900 Series Floor-Ceiling Design. After installation of ceiling runners (Item 3), the steel deck unit area immediately above the ceiling runner is to be completely filled with spray-applied fire resistive material. Material in flutes to extend 5/8 or 1-1/4 in. (16 or 32 mm) beyond each side of the ceiling runner so as to be approx flush with each surface of the finished wall.
ISOLATEK INTERNATIONAL — Type 300

GCP APPLIED TECHNOLOGIES INC — Type MK-6/HY

C1. **Spray-Applied Fire Resistive Material* —** (Required for Configurations B and C) - As specified in the P700 or P900 Series Roof-Ceiling Design. After installation of ceiling runners (Item 3), the steel floor unit area immediately above the ceiling runner is to be completely filled with spray-applied fire resistive material. Material in flutes to extend 5/8 or 1-1/4 in. (16 or 32 mm) beyond each side of the ceiling runner so as to be approx flush with each surface of the finished wall. No Spray-applied material shall be applied to the flanges of the ceiling runner.
ISOLATEK INTERNATIONAL — Type 300

GCP APPLIED TECHNOLOGIES INC — Type MK-6/HY

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 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 runners of wall assembly shall consist of min No. 25 ga galv steel channels sized to accommodate steel studs (Item 2B). Floor runner to be provided with min 1-1/4 in. (32mm) flanges. The ceiling runners are provided with a fill, void or cavity material and are described in Item 3. Ceiling runner attached to steel deck with steel fasteners or welds spaced max 24 in. (610 mm) OC

A1. **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 3A.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 steel deck or item 2D steel attachment clips with steel fasteners or welds 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 —** Steel studs to be min 2-1/2. (64 mm) wide. Studs cut 5/8 to 3/4 in. (16 to 19 mm) less in length than assembly height with bottom nesting in and secured to floor runner. Steel studs nested in non-slotted ceiling runner without attachment or secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at mid-height of slot.

B1. **Framing Members - Steel Studs* —** In lieu of Item B - Proprietary channel shaped studs, 2-1/2 in. wide spaced a max of 24 in. OC. Studs to be cut 5/8 to3/4 in (16 to 19 mm) less than the assembly height with bottom nesting in and secured to floor runner. Steel studs nested in non-slotted ceiling runner without attachment or secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at mid-height of exposed slot.
CALIFORNIA EXPANDED METAL PRODUCTS CO — ViperStud™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — ViperStud™

C. **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 that a max 5/8 in. (16 mm) gap shall be maintained between the top of the gypsum board and the bottom of the floor assembly. The screws attaching the gypsum board to the studs along the top of the wall shall be located 4 to 5 in. (102 to 127 mm) down from deck at time of installation. No gypsum board attachment screws shall be driven into the ceiling runner.

D. **Steel Attachment Clips —** (Required for Configurations B and C, Not for use on Configuration A) - Z-shaped clips formed of min 20 ga galv steel. Clips sized to extend through the thickness of the spray-applied fire resistive material on the bottom of the steel deck with 1-1/2 in. (38 mm) long upper and lower legs. Legs of clips fastened to bottom of the deck (prior to application of spray-applied fire-resistive materials) and top of ceiling runner with steel fasteners or welds. Clips spaced max 24 in. (610 mm) OC. For Configuration C the clips are to extend a min of 1-1/2 in. (38 mm) onto the valley of the deck on either side of the wall.

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 5/8 in. (16 mm) or 3/4 in. (19 mm) when 3A.1 is utilized, 1/2 in. (13 mm) when Item 3A.2 is utilized or 3/8 when Item 3A is utilized. The joint system is designed to accommodate a max 80 percent compression and or 30 percent extension from its installed width. When Item 3A6 is used the joint will accommodate 100 % compression/extension for nominal 1/2 in. (12 mm) gaps or compression only for nominal 1 in. (25 mm) gaps. When Item 3A7 is used the joint will accommodate 100% compression/ extension for nominal 3/4 in. (19 mm) gaps or compression only for 1-1/2 in. (38 mm) gaps.

A. **Fill, Void or Cavity Material* —** For 3/8 in (10mm) gap Min 20 ga steel channel track with 2, or 2-3/4 in. (51, or 70 mm) legs with or without slots having nom 1/2 in. (13 mm) wide intumescent strips affixed to the top web along the outer corner on both sides and sized to accommodate steel studs. Track attached to concrete deck with steel fasteners or welds spaced max 24 in. (610 mm) OC.
CALIFORNIA EXPANDED METAL PRODUCTS CO — FAS Track 1000, FAS Track 1000DL

MARINO/WARE, DIV OF WARE INDUSTRIES INC — FAS Track 1000, FAS Track 1000DL

A1. **Fill, Void or Cavity Material* —** (Not Shown) as an alternate 3A 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 Item 2A and the fluted steel deck or Item 2D steel attachment clips.
CALIFORNIA EXPANDED METAL PRODUCTS CO — DDA (Deflection Drift Angle)

A2. **Fill, Void or Cavity Material* —** As an option to item 3A a min 25 ga composite steel angle with one 5/8 in. (16 mm) leg and one 1-1/4 in (32 mm) leg with a strip of intumescent strip affixed along the inside 1-1/4 in (32 mm) leg. Steel angle is friction fit between the top web of the ceiling runner and the concrete deck.
CALIFORNIA EXPANDED METAL PRODUCTS CO — DDA-1 (Deflection Drift Angle)

A3. **Fill, Void or Cavity Material* —** (Not Shown) - as an alternate to 3A 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 bed 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 surface of 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

TRIM-TEX INC — HOTROD XL

A4. **Fill, Void or Cavity Material* —** (Not Shown) - as an alternate to 3A 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 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 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

A5. **Fill, Void or Cavity Material* —** (Not Shown) - as an alternate to 3A 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

A6. **Fill, Void or Cavity Material* —** (Not Shown) -For nominal 1/2 in. (12 mm) gaps 100% compression/ extension or 1 in. (25 mm) compression only. As an alternate to DDA-1 (Item A2) a composite corrugated vinyl profile with a 1-1/2 in. (38 mm) wide leg and a 3/8 in. (10 mm) bubble gasket along the upper edge. A 5/8 in. (16 mm) wide intumescent strip affixed along the inside 1-1/2 in. (38 mm) leg. Composite vinyl profile is attached to the leg of the ceiling runner/track with 1/2 in. (13 mm) No. 8 framing screws or adhesively attached with double sided foam tape.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Fire Gasket 1

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Fire Gasket 1

TRIM-TEX INC — Trim Tex-Fire Gasket 1

A7. **Fill, Void or Cavity Material* —** (Not Shown) -For nominal 3/4 in. (19 mm) gaps 100% compression/extension or 1-1/2 in. (38 mm) compression only. As an alternate to DDA-1 (Item A2) a composite corrugated vinyl profile with a 2 in. (50 mm) wide leg and a 3/8 in. (10 mm) bubble gasket along the upper edge. A 1 in. (25 mm) wide intumescent strip affixed along the inside 1-1/2 in. (38 mm) leg. Composite vinyl profile is attached to the leg of the ceiling runner/track with 1/2 in. (13 mm) No. 8 framing screws or adhesively attached with double sided foam tape.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Fire Gasket 1.5

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Fire Gasket 1.5

TRIM-TEX INC — Trim Tex-Fire Gasket 1.5

B. **Packing Material —** (Not Shown) - When 3A, 3A1, or 3A2 is used a continuous length of open cell polyurethane foam with a nominal diameter of 1/8 in. (3.2 mm) greater than the max width of the joint. The foam shall have a nominal density of 1.7 pcf. The foam is to be placed in the joint above the top edge of the drywall between the concrete slab. Any splices are to be tightly butted. A layer of tape and joint compound can then be applied over the open cell foam.

* 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 2020-02-18