

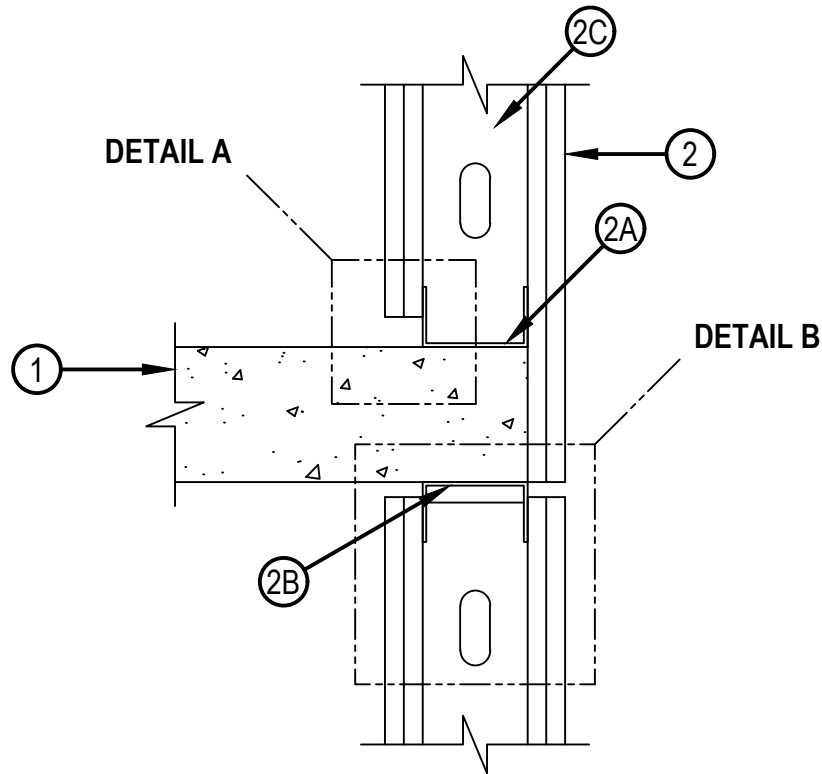


Classified by
Underwriters Laboratories, Inc.
to UL 2079 and CAN/ULC-S115

System No. HW-D-0958

HWD 0958

ANSI/UL2079	CAN/ULC S115
Assembly Ratings — 1 and 2 Hr (See Item 2)	F Ratings — 1 and 2 (See Item 2)
Nominal Joint Width — 1/2, 3/4 or 1 In. (See Table 1)	FT Ratings — 1 and 2 (See Item 2)
Class II Movement Capabilities — See Table 1	FH Ratings — 1 and 2 Hr (See Item 2)
L Rating At Ambient — See Table 1	FTH Ratings — 1 and 2 Hr (See Item 2)
L Rating At 400°F — See Table 1	Nominal Joint Width — 13, 19 or 25 mm (See Table 1)
	Class II and III Movement Capabilities — See Table 1
	L Rating At Ambient — See Table 1
	L Rating At 204°C — See Table 1

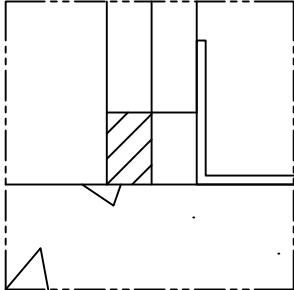


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September 02, 2024

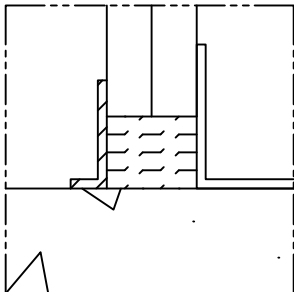
DETAIL A

DETAIL B

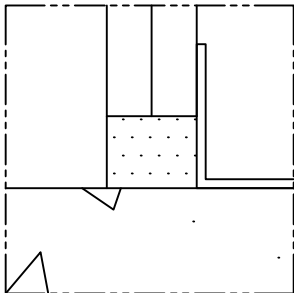
CONFIG 1 - 3A



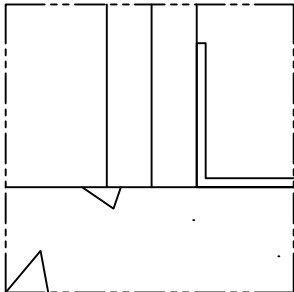
CONFIG 2 - 3B



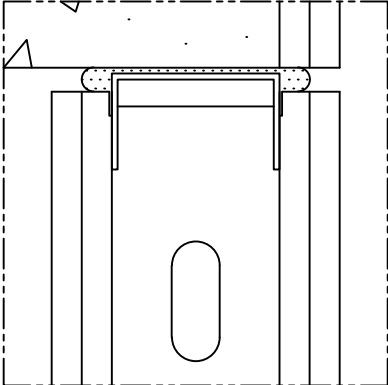
CONFIG 3 - 3C



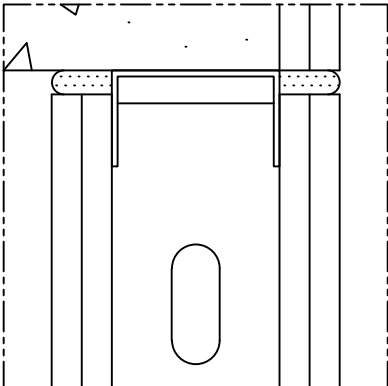
CONFIG 4 - 3D



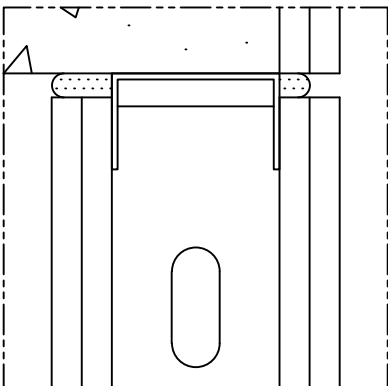
CONFIG 1



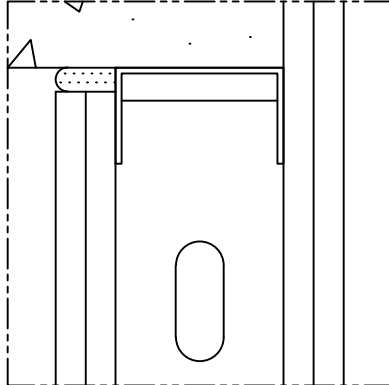
CONFIG 2



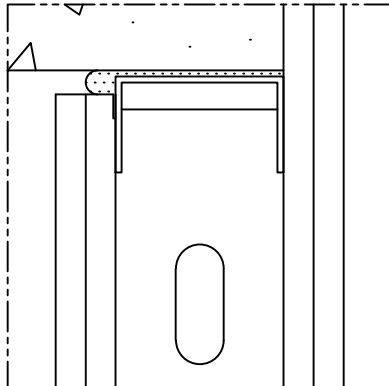
CONFIG 3



CONFIG 4



CONFIG 5



1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) structural concrete.
2. Wall Assembly — For 1 hr assembly, one layer min. 1/2 in. (13 mm) thick Type C, or min 5/8 in. (16 mm) thick Type X, gypsum board is required in the individual Wall and Partition Design. For 2 hr assembly, two layers of min 1/2 in. (13 mm) thick Type C, or min 5/8 in. (16 mm) thick Type X, gypsum board is required in the individual Wall and Partition Design. Wall to be constructed as specified in the individual U400, V400 or W400 Series Design in the UL Fire Resistance Directory, except that a max 3/4 in. (19 mm) gap shall be maintained between the top of gypsum board and bottom of concrete floor. The screws attaching the gypsum board to the studs at the top of the first layer shall be located 4 in. (102 mm) below the floor. The screws attaching the second layer to the steel studs shall be installed into the studs 3-1/2 in. (89 mm) below the floor. The 1 or 2 hr fire-rated gypsum board /steel stud wall assembly shall be constructed of the materials and in the manner specified 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 — Floor runners of wall assembly shall consist of min No. 25 Ga galvanized steel channels sized to accommodate steel studs (Item 2C). Floor runners to be provided with 1-1/4 in. (32 mm) flanges. Runners secured with steel fasteners spaced 12 in. (305 mm) OC.
 - B. Ceiling Runners — Ceiling runners of wall assembly shall consist of min No. 25 gauge (floor runners) galv or min No. 20 gauge (ceiling runners) galv steel channels sized to accommodate steel studs (Item 2C1). Flange height of ceiling runner shall be min 1/4 in. (6 mm) greater than max extended joint width. Ceiling runner secured to concrete floor slab with steel masonry anchors or steel fasteners spaced 24 in. (610 mm) OC.
- B1. Light Gauge Framing* — Slotted Ceiling Runner — (not shown) - As an alternate to the ceiling runner in Item 2A, slotted ceiling runner to consist of min No. 20 gauge galv steel channel with slotted flanges having flange height of min 2 in. (51 mm) and sized to accommodate the steel studs (Item 2B). Slotted ceiling runner secured to concrete floor slab with steel masonry anchors or steel fasteners spaced max 24 in. (610 mm) OC.

CALIFORNIA EXPANDED METAL PRODUCTS CO — CST
CLARKDIETRICH BUILDING SYSTEMS — Types SLT, SLT-H
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Type SLT
METAL-LITE INC — The System
SCAFCO STEEL STUD MANUFACTURING CO — Slotted Track
TELLING INDUSTRIES L L C — True-Action Deflection Track
- B2. Light Gauge Framing* — Vertical deflection Ceiling Runner — (not shown) - As an alternate to the ceiling runners in Items 2B and 2B1, vertical deflection ceiling runner to consist of galv steel channel with slotted vertical deflection clips mechanically fastened within runner. Slotted clips, provided with step bushings, for permanent fastening of steel studs. Flanges sized to accommodate min 3-1/2 in. (89 mm) steel studs (Item 2B). Vertical deflection ceiling runner secured to concrete floor slab with steel fasteners or steel masonry anchors spaced max 24 in. (610 mm) OC.

THE STEEL NETWORK INC — VertiTrack VTD250, VTD362, VTD400, VTD600 and VTD800
- B3. Light Gauge Framing* — Notched Ceiling Runner — (not shown) - As an alternate to the ceiling runners in Items 2B through 2B3, notched ceiling runners to consist of C-shaped galv steel channel with notched return flanges sized to accommodate min 3-1/2 in. (89 mm) steel studs (Item 2C1). Notched ceiling runner secured to concrete floor slab with steel masonry anchors or steel fasteners spaced max 24 in. (610 mm) OC.

OLMAR SUPPLY INC — Type SCR
- C. Studs — Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut 1/2 to 3/4 in. (13 to 19 mm) less in length than assembly height with bottom nesting in, resting on and fastened to floor runner with sheet metal screws. Stud spacing not exceed 24 in. (610 mm) OC.
- C1. Studs — As an alternate to 2C when using Item 2B1 or 2B2- Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut 3/4 to 1 in. (19 to 25 mm) less in length than assembly height with bottom nesting in and resting on floor runner and with top nesting in ceiling runner without attachment. When slotted ceiling runner (Item 2B1) is used, steel studs secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at mid-height of slot on each side of wall. Stud spacing not to exceed 24 in. (610 mm) OC. When vertical deflection ceiling runner (Item 2B2) is used, steel studs secured to slotted vertical deflection clips, through the bushings, with steel screws at mid-height of each slot. As an option, when solid ceiling runner is used, steel studs to be min 3-1/2 in. (89 mm) wide. Stud spacing not to exceed 24 in. (610 mm) OC.

3. Joint System - The joint system configurations at bottom-of-wall to be installed in any combination listed within each configuration. See table 1 for more details.

A. Fill, Void or Cavity Material* * — Displayed in Detail A, Configuration 1, install minimum 1/2 in. (13 mm) of fill material for 1 and 2 hr rated assemblies.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 605 Bottom of Wall Firestop Sealant, CP601S Elastomeric Firestop Sealant, CP606 Flexible Firestop Sealant, CFS-S SIL GG or FS-ONE MAX Intumescent Sealant. L Ratings apply only when CP606 or CFS-S SIL GG Sealant is used.

B. Fill, Void or Cavity Material* — Displayed in Detail A, Configuration 2, the firestop system shall consist of the following:

B1. Forming Material* — Min 4 pcf (64 kg/m³) mineral wool batt insulation to completely fill joint, flush with wall surface, for 1 and 2 hr rated assemblies. Mineral wool strips cut to width, compressed 33 percent in thickness and inserted cut-edge first into gap between bottom of the gypsum board and top of the floor assembly, flush with both surfaces of the wall. Adjoining lengths of batt insulation to be tightly butted with seams spaced min 48 in. (1.2 m) apart along the length of the joint.

ROCK WOOL MANUFACTURING CO — Delta Board

ROCKWOOL — SAFE

THERMAFIBER/OWENS CORNING — Type SAF

B2. Forming Material* - Strips — (Optional) As an alternate to Item 3B1, nom 5/8 in. (16 mm) and 1-1/4 in. (32 mm) wide precut mineral wool strips for 1 and 2 hr rated assemblies, respectively. Strips trimmed to be flush with wall surface when nominal 1/2 in. (13 mm) Type C gypsum board is used. The strips are compressed 50 percent in thickness and inserted cut-edge first into gap between top of the gypsum board and bottom of the floor assembly, flush wall surface. Adjoining lengths of strips to be tightly butted with butted seams spaced min 48 in. (1.2 m) apart along the length of the joint.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 767 Speed Strips

B3. Fill, Void or Cavity Material* — Min 1/16 in. (1.6 mm) dry thickness (min 1/8 in. or 3.2 mm wet thickness) of fill material sprayed at surface of wall to completely cover mineral wool forming material and to overlap min 1/2 in. (13 mm) onto the gypsum board and concrete floor assembly.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-SP WB Firestop Joint Spray

C. Fill, Void or Cavity Material* — CFS-BTS is secured to steel floor runner with adhesive backing and resting tight to the top of the concrete floor assembly prior to the installation of gypsum board. Product to be compressed 1/2 in. at seam location by compressing each side evenly prior to installation of gypsum board. The CFS BTS its sized per Assembly Rating, with the CFS-BTS 5/8 for use in 1-hour applications and the CFS-BTS 1-1/4 for use in 2-hour applications.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-BTS 5/8, CFS-BTS 1-1/4,

D. Fill, Void or Cavity Material* - Displayed in Detail A, Configuration 3, when no joint is present firestop material is optional pending approval by local building codes and officials. When the gypsum board is continuous without a joint opening to allow for movement, the joint system shall be limited to static conditions.

4. Joint System - The joint system configurations at head-of-wall to be installed in any combination listed within each configuration. Movement and joint width of the system will be limited to the lowest value of the combination of the firestop material used within the joint. See table 1 for more details.

A. Fill, Void or Cavity Material* - Displayed in Detail B, Configuration 1, firestop top track seal installed over ceiling runner prior to attachment to underside of floor assembly. Factory supplied foam seal sized for width of ceiling runner and installed over the ceiling runner (Item 2B) prior to attachment to underside of concrete floor in accordance with the installation instructions. Butt joints in CFS-TTS shall be compressed min 1/2 in. (13 mm).

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-TTS 358, CFS-TTS 600,



B. Fill, Void or Cavity Material* — Displayed in Detail B, Configuration 2, for 2-hour applications only, the top track seal is to be folded and pushed into the joint on both sides of the wall. Factory supplied foam seal cut in half lengthwise at dotted line or tear strip, and the halves then folded and pushed into the joint to be friction fit and to be flush against the ceiling runner at each side of wall. Butt joints in CFS-TTS shall be compressed 1/4 in. (6 mm).

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC – CFS-TTS R OS or CFS-TTS-OS

C. Fill, Void or Cavity Material* - Displayed in Detail B, Configuration 3, for 2-hour applications only, R firestop top track seal installed on one side of wall over ceiling runner prior to attachment to underside of floor assembly. On opposite side of assembly firestop top track seal cut in half lengthwise at dotted line or tear strip, with one half of material folded and pushed into the joint to be friction fit and to be flush against the ceiling runner. Butt joints in CFS-TTS shall be compressed min 1/2 in. (13 mm).

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC – CFS-TTS 212, CFS-TTS 358, CFS-TTS 600, CFS-TTS R OS or CFS-TTS-OS

D. Fill, Void or Cavity Material* - Displayed in Detail B, Configuration 4, for 2-hour applications only, when gypsum board is continuous on cantilevered side of wall firestop material on this side is optional pending approval by local building codes and officials. On accessible side of wall assembly factory supplied foam seal cut in half lengthwise at dotted line or tear strip, and the halves then folded and pushed into the joint to be friction fit and to be flush against the ceiling runner. Butt joints in CFS-TTS shall be compressed min 1/4 in. (6 mm).

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC – CFS-TTS R OS or CFS-TTS-OS

E. Fill, Void or Cavity Material* - Displayed in Detail B, Configuration 5 when gypsum board is continuous on cantilevered side of wall firestop material on this side is optional pending approval by local building codes and officials. When the gypsum board is continuous without a joint opening to allow for movement, the joint system shall be limited to static conditions. Factory supplied foam seal sized for width of ceiling runner and installed over the ceiling runner (Item 2B) prior to attachment to underside of concrete floor in accordance with the installation instructions. Butt joints in CFS-TTS shall be compressed min 1/2 in. (13 mm).

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC – CFS-TTS 358, CFS-TTS 600,



System No. HW-D-0958

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Table 1

DETAIL A (Item 3)

Configurations of Item 3 Above	Material	Nominal Joint Size, in (mm)	Cycling Movement, %		Air Leakage, CFM/Lin ft (L/s/m)	
1	CP606 Flexible Firestop Sealant	1 (25)	Compression/Extension	N/A	Ambient	≤1 (1.55)
	CFS- SIL GG Sealant					
	CP601S Elastomeric Firestop Sealant					
	FS-ONE MAX Intumescent Sealant					
	CP 605 Bottom of Wall Firestop Sealant				400°F (204°C)	≤1 (1.55)
2	CFS-SP WB Acrylic Firestop Sealant	1 (25)	Compression	N/A	Ambient	(1.55)
			Extension	N/A	400°F (204°C)	(1.55)
3	CFS-BTS Bottom Track Seal	3/4 (19)	Compression	N/A	Ambient	(1.55)
			Extension	N/A	400°F (204°C)	(1.55)
4	Not Applicable if Approved by Authority Having Jurisdiction	No Joint	Compression	N/A	Ambient	(1.55)
			Extension	N/A	400°F (204°C)	(1.55)



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HWD 0958

DETAIL B						
Configurations of Item 4 Above	Material	Nominal Joint Size, in (mm)	Cycling Movement, %		Air Leakage, CFM/Lin ft (L/s/m)	
1	CFS-TTS 358, CFS-TTS 600	1/2 (13)	Compression	50	Ambient	≤1 (1.55)
			Extension	50	400°F (204°C)	≤1 (1.55)
		3/4 (19)	Compression	66	Ambient	≤1 (1.55)
			Extension	0	400°F (204°C)	≤1 (1.55)
2	CFS-TTS OS, or CFS-TTS R OS	1/2 (13)	Compression	50	Ambient	≤1 (1.55)
			Extension	50	400°F (204°C)	≤1 (1.55)
		3/4 (19)	Compression	66	Ambient	≤1 (1.55)
			Extension	0	400°F (204°C)	≤1 (1.55)
3	CFS-TTS 212, CFS-TTS 358, CFS-TTS OS, or CFS-TTS R OS	1/2 (13)	Compression	50	Ambient	≤1 (1.55)
			Extension	50	400°F (204°C)	≤1 (1.55)
		3/4 (19)	Compression	66	Ambient	≤1 (1.55)
			Extension	0	400°F (204°C)	≤1 (1.55)
4	CFS-TTS R OS	3/4 (19)	Compression	N/A	Ambient	≤1 (1.55)
			Extension	N/A	400°F (204°C)	≤1 (1.55)
5	CFS-TTS 212, CFS-TTS 358, CFS-TTS 600	3/4 (19)	Compression	N/A	Ambient	≤1 (1.55)
			Extension	N/A	400°F (204°C)	≤1 (1.55)

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



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