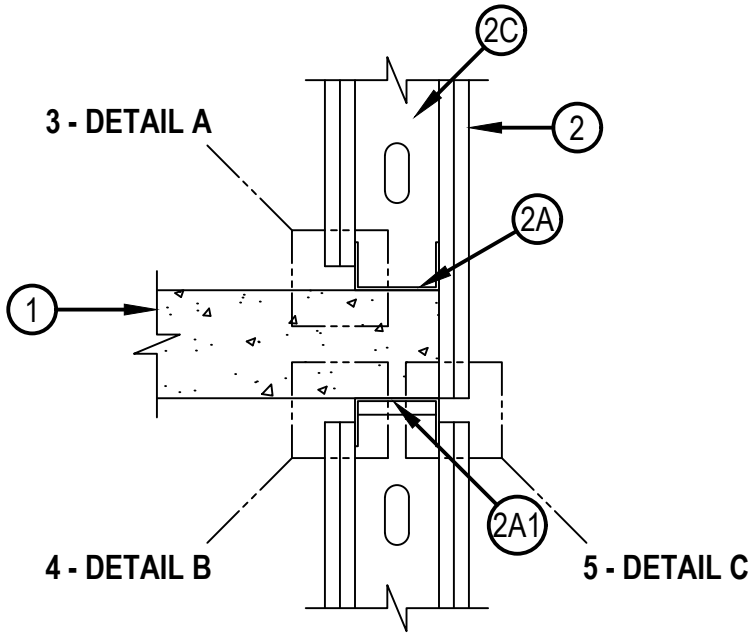
Classified by
Underwriters Laboratories, Inc.
to UL 2079 and CAN/ULC-S115

System No. HW-D-0957

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 – 3/4, 1 or 2 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 – 19, 25 or 51 mm(See Table 1)
	Class II Movement Capabilities — See Table 1
	L Rating At Ambient — See Table 1
	L Rating At 204°C— See Table 1



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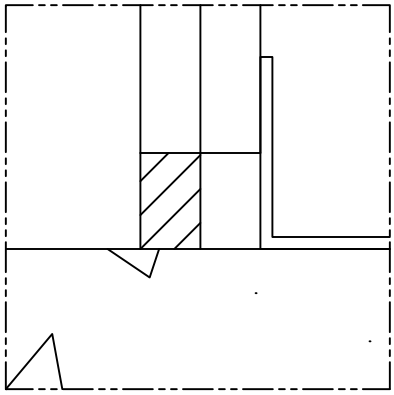
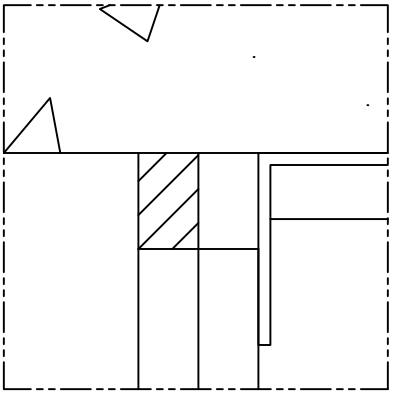
3 - DETAIL A	4 - DETAIL B	5 - DETAIL C

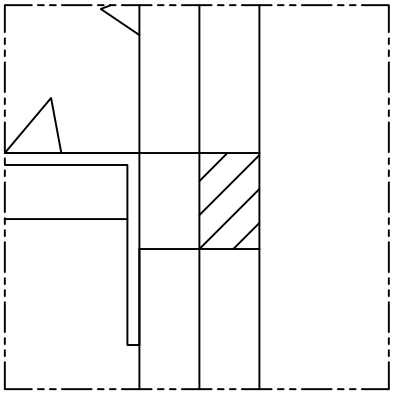
3A - CONFIG 1



4A - CONFIG 1



5A - CONFIG 1



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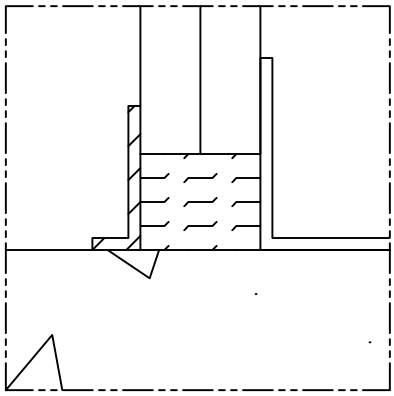
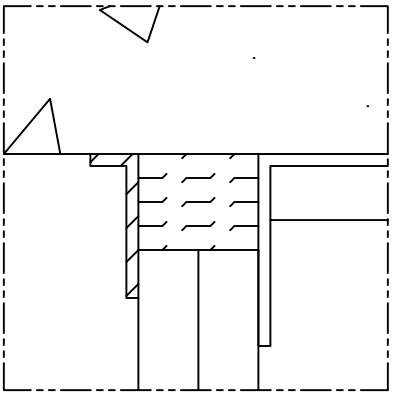


4B - CONFIG 2



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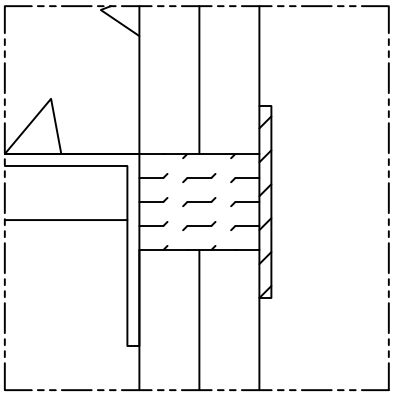
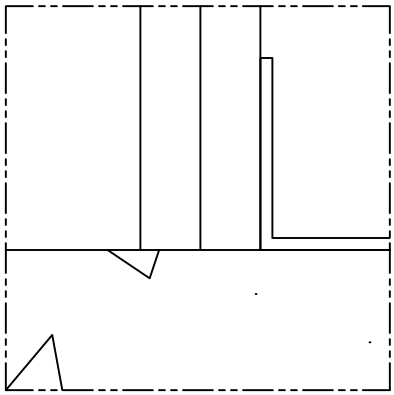
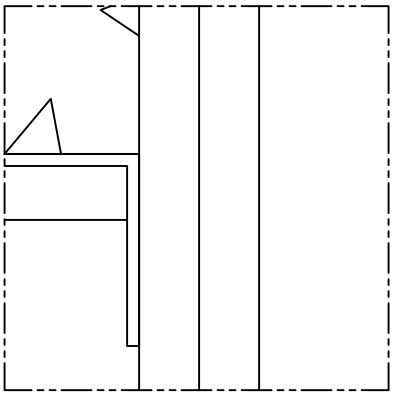


3C - CONFIG 3



5C - CONFIG 3



System No. HW-D-0957

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 or V400 Series Design in the UL Fire Resistance Directory, except that a max 1 in. (25 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 gauge galv 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.

   BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS — SLP-TRK
   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 used with steel floor runners and 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 to exceed 24 in. (610 mm) OC.

   C1. Studs — (not shown) - 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. Fill, Void or Cavity Material* — Firestop material 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, 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 wall surface. Adjoining lengths of batt to be tightly butted with butted seams spaced min 48 in. (1.2 m) apart along the length of the joint.
   ROCK WOOL MANUFACTURING CO — Delta Board
   ROCKWOOL — SAFE
   THERMAFIBER INC — Type SAF
   B2. Forming Material* - Strips — (Optional) As an alternate to Item 3B1A, 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 with nominal ½ in. (13 mm) gypsum board is used. The strips are compressed 50 percent in thickness and f inserted cut-edge first into gap between top of the gypsum board and bottom of the floor assembly, flush with 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 on each side of the 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* — 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. Fill, Void or Cavity Material* — Firestop material at head-of-wall in Detail B 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, install minimum 1/2 in. (13 mm) of fill material for 1 and 2 hr rated assemblies.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP601S Elastomeric Firestop Sealant, CP606 Flexible Firestop Sealant or CFS-S SIL GG.
   L Ratings apply only when CP606 or CFS-S SIL GG Sealant is used.
   B. Fill, Void or Cavity Material* — Displayed in Detail B, 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 top of the gypsum board and bottom of the floor assembly, flush with wall surface. 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 INC — Type SAF

B2. Forming Material* - Strips — (Optional) As an alternate to Item 4B1, 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 ½ in. (13 mm) Type C gypsum board is used. The strips are compressed 50 percent in thickness and f inserted cut-edge first into gap between top of the gypsum board and bottom of the floor assembly, flush with 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

5. Fill, Void or Cavity Material* — Firestop material at head-of-wall in Detail C 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 C, 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 — CP601S Elastomeric Firestop Sealant, CP606 Flexible Firestop Sealant or CFS-S SIL GG.

L Ratings apply only when CP606 or CFS-S SIL GG Sealant is used.

B. Fill, Void or Cavity Material* — Displayed in Detail C, 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 gypsum board, flush wall surface. 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 INC — Type SAF

B2. Forming Material* - Strips — (Optional) As an alternate to Item 4B1, 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 ½ in. (13 mm) Type C gypsum board is used. The strips are compressed 50 percent in thickness and f inserted cut-edge first into gap between gypsum board, flush with 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 SprayC. Fill, Void or Cavity Material* - Displayed in Detail C, Configuration 3, when gypsum board is continuous on cantilevered side of wall firestop material is optional on this side 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.

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DETAIL A						
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	N/A	Ambient	≤ 1 (1.55)
	CFS- SIL GG Sealant		Extension	N/A	400°F (204°C)	≤ 1 (1.55)
	CP601S Elastomeric Firestop Sealant		Compression	N/A	Ambient	≤ 1 (1.55)
	FS-ONE MAX Intumescent Sealant		Extension	N/A	400°F (204°C)	≤ 1 (1.55)
	CP 605 Bottom of Wall Firestop Sealant					
2	CFS-SP WB Acrylic Firestop Sealant	1 (25)	Compression	N/A	Ambient	1 (1.55)
			Extension	N/A	400°F (204°C)	1 (1.55)
3	Not Applicable if Approved by Authority Having Jurisdiction	No Joint	Compression	N/A	Ambient	1 (1.55)
			Extension	N/A	400°F (204°C)	1 (1.55)

DETAIL B						
Configurations of Item 4 Above	Material	Nominal Joint Size, in (mm)	Cycling Movement, %		Air Leakage, CFM/Lin ft (L/s/m)	
1	CP606 Flexible Firestop Sealant	1	Compression	18.75	Ambient	≤ 1 (1.55)
			Extension	18.75	400°F (204°C)	≤ 1 (1.55)
	CFS- SIL GG Sealant		Compression	18.75	Ambient	≤ 1 (1.55)
			Extension	18.75	400°F (204°C)	≤ 1 (1.55)
2	CFS-SP WB Firestop Joint Spray	2	Compression	20	Ambient	≤ 1 (1.55)
			Extension	20	400°F (204°C)	≤ 1 (1.55)

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DETAIL C						
Configurations of Item 5 Above	Material	Nominal Joint Size, in (mm)	Cycling Movement, %		Air Leakage, CFM/Lin ft (L/s/m)	
1	CP606 Flexible Firestop Sealant	1	Compression	18.75	Ambient	≤ 1 (1.55)
			Extension	18.75	400°F (204°C)	≤ 1 (1.55)
	CFS- SIL GG Sealant		Compression	18.75	Ambient	≤ 1 (1.55)
			Extension	18.75	400°F (204°C)	≤ 1 (1.55)
	CP601S Elastomeric Firestop Sealant		Compression	18.75	Ambient	N/A
			Extension	18.75	400°F (204°C)	N/A
2	CFS-SP WB Firestop Joint Spray	2	Compression	20	Ambient	≤ 1 (1.55)
			Extension	20	400°F (204°C)	≤ 1 (1.55)
3	Not Applicable if Approved by Authority Having Jurisdiction	No Joint or	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.