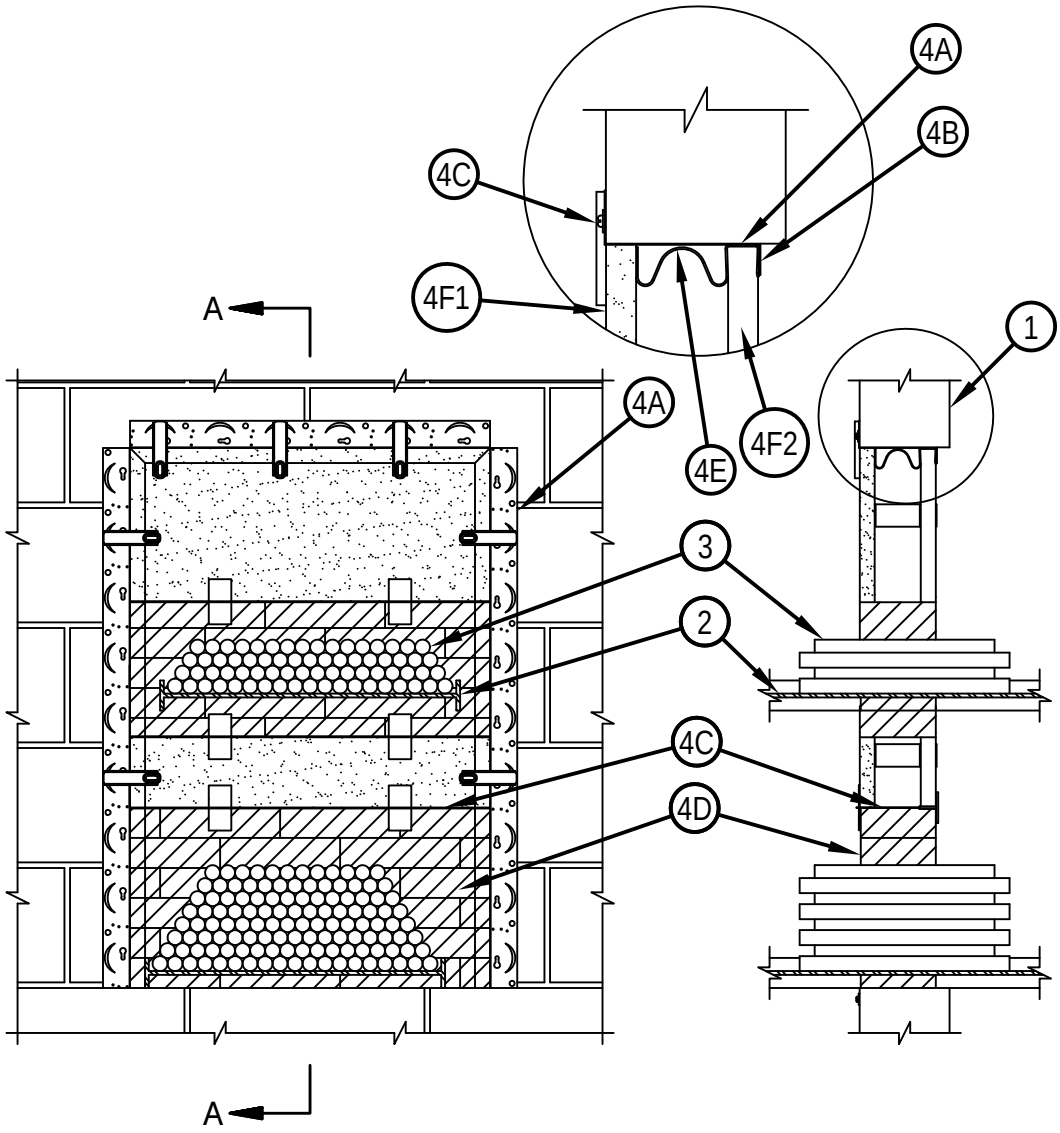
System No. W-J-4049

Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 1/4 Hr	FT Rating — 1/4 Hr
	FH Rating — 2 Hr
	FTH Rating — 1/4 Hr



CONFIGURATION A

SECTION A-A

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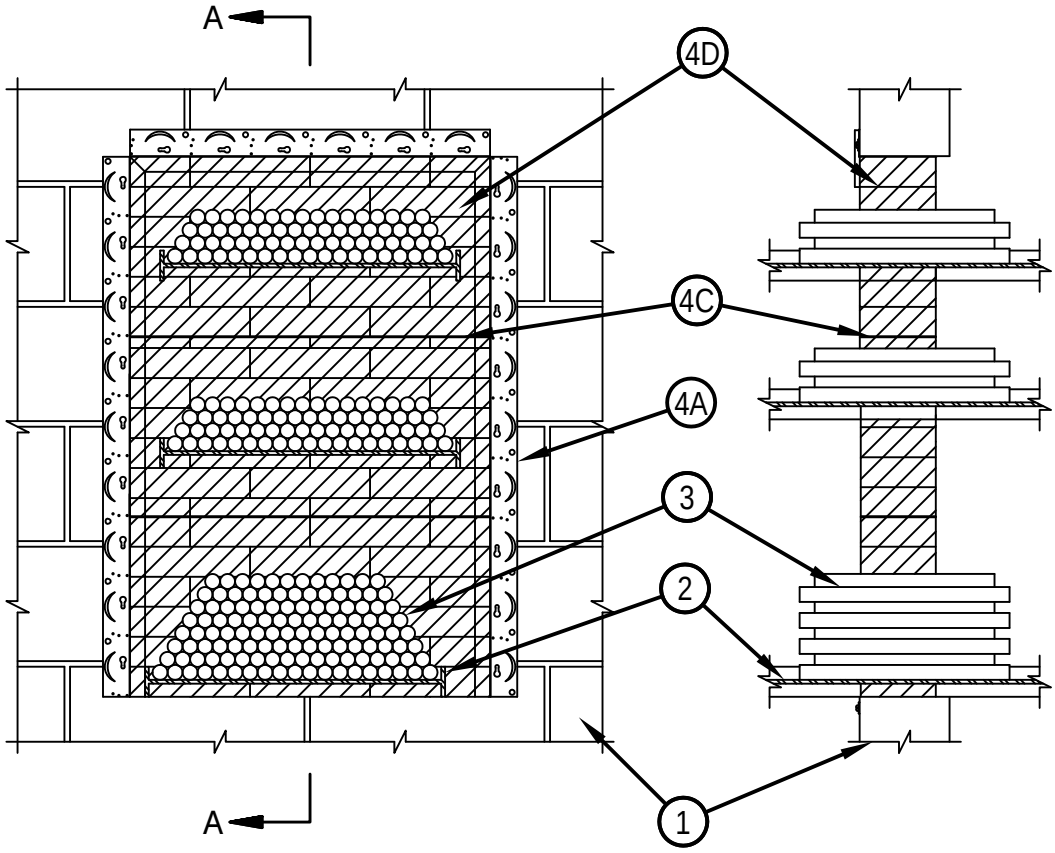

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1. Wall Assembly — Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600 - 2400 kg/m3) concrete. Wall may also be constructed of any solid or filled UL Classified Concrete Blocks*. Max area of opening is 864 sq. in. (5574 cm2) with max dimension of 36 in. (914 mm).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Cable Racks — A max of three cable racks are permitted in the opening. Max 25 in. (635 mm) wide open-ladder steel cable rack with nom 2 in. (51 mm) by 3/8 in. (10 mm) solid steel side rails. Cable rack to be rigidly supported on both sides of wall assembly. The spacing between the cable rack and the periphery of the opening shall be min 0 in. (point contact) to max 34 in. (864 mm).
3. Cables — Max 8 in. (203 mm) cable loading depth within the cable rack. Max 6 in. (152 mm) cable loading depth for cable trays greater than 20 in. (508 mm) wide. Any combination of the following types and sizes of copper conductor cables may be used:
   A. Max 750 kcmil RHW/RHH type power cable or with polyvinyl chloride (PVC) jacket.
   B. Max 3/C No. 12 AWG metal-clad cable.
   C. Max 300 pair No. 24 AWG telephone cable with PVC jacket.
   D. Max 24 fiber, fiber-optic cable with PVC jacket.
   E. Max 7/C No. 12 AWG cable with PVC jacket.
   F. Max 3/C No. 2/0 AWG (or smaller) copper conductor PVC jacketed aluminum clad or steel clad TECK 90 cable.
   G. Through Penetrating Product* — Any cables, Armored Cable+ or Metal Clad Cable+ currently Classified under the Through Penetrating Product category.
      See Through Penetrating Product (XHLY) category in the Fire Resistance Directory for names of manufacturers.

CONFIGURATION A

4. Firestop System — The firestop system shall consist of the following:
   A. Firestop Device* — Z-Frame — Z-frame cut to length for the top and both sides of the opening. Each piece of Z-frame fastened to the face of the wall at each end and no greater than 12 in. (305 mm) OC along its length with 3/16 in. (5 mm) by 1-1/4 in. (32 mm) long steel concrete screw anchors.
      HILTI CONSTRUCTION CHEMICALS, DIV OF
      HILTI INC — CP 675T Z-Frame
   B. Fill, Void or Cavity Material* — Putty — Nom 1/4 in. (6 mm) thick by 1 in. (25 mm) wide strip of putty material applied on the back lip of the Z-frame and T-bar.
      HILTI CONSTRUCTION CHEMICALS, DIV OF
      HILTI INC — CP 619T Firestop Putty Roll or CP 618 Firestop Putty Stick or CP 617 Firestop Putty Pad
   C. Firestop Device* — T-Bar — T-Bar cut 1/4 in. (6 mm) shorter than opening dimension.
      Horizontal Installation - T-Bar fastened to back lip of firestop Z-Frame (Item 4A) using one 3/8 in. (10 mm) long No. 8 steel screw at each end. T-Bar located max 6 in. (152 mm) below each cable rack and directly above the top row of blocks (Item 4D).
      Vertical Installation (Not Shown) - T-Bar fastened to the back lip of the top firestop Z-Frame (Item 4A) using one 3/8 in. (10 mm) long No. 8 steel screw. T-Bar located down the center of the opening when the opening is greater than 24 in. (610 mm) wide.
      HILTI CONSTRUCTION CHEMICALS, DIV OF
      HILTI INC — CP 675T T-Bar

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	FTH Rating — 1/4 Hr

D. Fill, Void or Cavity Material* — Block — Min 5 in. (127 mm) depth to fill area between cable rack/cables, wall, and T-bars. Max three rows of blocks above the cable and max three rows of blocks beneath and beside cable racks. Blocks installed with 5 in. (127 mm) dimension projecting through openings flush with back lip of Z-Frame (Item 4A). Either one or a combination of the block types specified below may be used.
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — FS 657 Fire Block or CFS-BL Firestop Block

E. Firestop Device* — Distance Holder — Distance holders clipped over perimeter of first layer of board (Item 4F1), spaced 8 in. (203 mm) OC.
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — CP 675T Distance Holders

F. Firestop Device* — Board — Board cut to fit within opening with max 1/4 in. (6 mm) gap around perimeter. Board layers installed as described in Items 4F1 and 4F2. When gap between board and opening is 1/8 in. (3.2 mm) to 1/4 in. (6 mm), the gap shall be filled to a 1 in. (25 mm) depth with one of the materials specified in Item 4B.
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — CP 675T Firestop Board

F1. Board - First Layer — First layer of board placed into opening with distance holders (Item 4E) against back lip of Z-frame (Item 4A) and putty (Item 4B).

F2. Board - Second Layer — Second layer of board placed into opening against back of distance holders (Item 4E). The meeting edges between the board and block, including over T-bar latches (Item 4H), shall be covered with a strip of putty (Item 4B).

G. Firestop Device* — Z-Frame Latch — Secured to Z-frame with integral fasteners, and rotated to locked position over second layer of board (Item 4F2). Z-Frame latches shall be located 12 in. (305 mm) OC, with a minimum of two latches per side. The four meeting edges between the wall and the board (including at the Z-Frame latches) shall be covered with a strip of putty (Item 4B).
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — CP 675T Z-Frame Latch

H. Firestop Device* — T-Bar Latch — Min two T-bar latches spaced max 10 in. (254 mm) OC slid into T-bar (Item 4C) at each interface of board (Item 4F2) and block (Item 4D).
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — CP 675T T-Bar Latch

CONFIGURATION B

4. Firestop System — The firestop system shall consist of the following:
A. Firestop Device* — Z-Frame — See Item 4A, Configuration A.
B. Fill, Void or Cavity Material* — Putty — See Item 4B, Configuration A.
C. Firestop Device* — T-Bar — See Item 4C, Configuration A.
D. Fill, Void or Cavity Material* — Block — See Item 4D, Configuration A.

*Bearing the UL Classification Mark
+Bearing the UL Listing Mark