



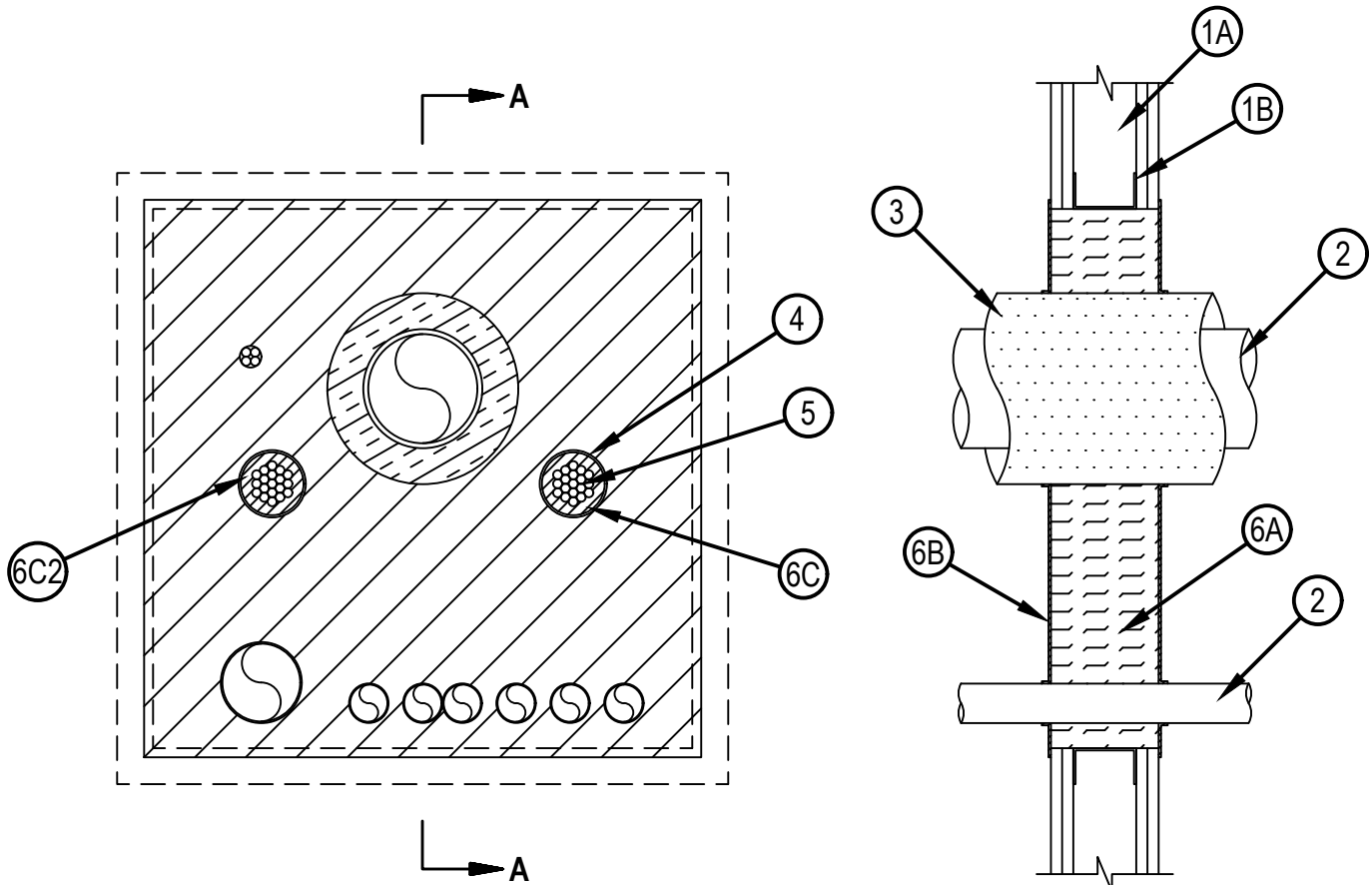
Classified by  
Underwriters Laboratories, Inc.  
to CAN/ULC-S115

## System No. W-L-8134

F Rating – 1 Hr  
FT Rating - 1 Hr  
FH Rating – 0 Hr  
FTH Rating – 0 Hr



WL 8134



**SECTION A-A**

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs — Wall framing may consist of either wood studs or channel shaped steel studs. Wood studs to consist of nom 51 by 102 mm (2 by 4 in.) lumber spaced max 406 mm (16 in.) OC. Steel studs to be min 89 mm (3-1/2 in.) wide and spaced max 610 mm (24 in.) OC. Additional framing members shall be located to completely frame the opening.

B. Gypsum Board\* — The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Wall and Partition Design. Max area of opening is 4645 cm<sup>2</sup> (720 sq in.) with max dimension of 762 mm (30 in.) wide.

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Metallic Through-Penetrants — One or more pipes, conduit or tubes to be installed within the opening. The total number of through-penetrants is dependent on the size of the opening and the types and sizes of the penetrants. Any combination of the penetrants described below may be used except that a max of one copper pipe or tube within the opening shall exceed 51 mm (2 in.) diam. The annular space between penetrants shall be min 25 mm (1 in.) to max 279 mm (11 in.). For steel pipe and conduit not exceeding 51 mm (2 in.) diam, the min annular space between penetrants is 0 mm (point contact). The annular space between penetrants and the periphery of opening shall be min 25 mm (1 in.) to max 229 mm (9 in.). Pipes, conduit or tubes to be rigidly supported on both sides of wall assembly. The following types and sizes of pipes, conduit or tubes may be used.



**Hilti Firestop Systems**

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- A. Copper Tubing — Nom 152 mm (6 in.) diam (or smaller) Type L (or heavier) copper tube.
  - B. Copper Pipe — Nom 152 mm (6 in.) diam (or smaller) Regular (or heavier) copper pipe.
  - C. Steel Pipe — Nom 457 mm (18 in.) diam (or smaller) Schedule 10 (or heavier) steel pipe.
  - D. Iron Pipe — Nom 457 mm (18 in.) diam (or smaller) cast or ductile iron pipe.
  - E. Conduit — Nom 102 mm (4 in.) diam (or smaller) electric metallic tubing (EMT) or rigid steel conduit.
  - F. Conduit — Nom 51 mm (2 in.) diam (or smaller) flexible steel conduit.
- T Rating is 0 Hr for firestop systems installed within 1 hr fire rated walls. T Rating for firestop systems installed in 2 hr fire rated walls is 1/4 Hr except that for steel pipes not exceeding nom 2 in. diam, T Rating is 1/2 Hr. and for insulated steel pipes, T Rating is 1 Hr.
3. Pipe Insulation — One or more steel or iron penetrants (Items 2C and 2D) not exceeding 203 mm (8 in.) diam may be provided with the following type of pipe covering. The annular space between the insulated penetrants and the periphery of the opening shall be min 76 mm (3 in.) and the separation between the insulated penetrants and the other penetrants shall be a min 51 mm (2 in.).
    - A. Pipe Covering\* — Nom 38 mm (1-1/2 in.) thick hollow cylindrical heavy density min 56 kg/m<sup>3</sup> (3.5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product.

See Pipe and Equipment Covering - Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
  4. Metallic Sleeve — Nom 102 mm (4 in.) diam electrical metallic tubing (EMT) as sleeve for cable bundles (Item 5). When firestop material specified in Item 6C is used, sleeve shall extend max 305 mm (12 in.) beyond both surfaces of wall. When firestop materials specified in Items 6C1 and 6C2 is used, sleeve shall extend max 254 mm (10 in.) beyond both surfaces of wall. Sleeve to be rigidly supported on one side of wall assembly.
  5. Cable Bundles — Aggregate cross-sectional area of cables in the EMT sleeve to be 25% to max 56% of the aggregate cross-sectional area of the EMT sleeve. Cables to be rigidly supported on both sides of the wall assembly. Any combination of the following types of cables may be used:
    - A. 1/C, 750 kcmil (or smaller) power cable with polyvinyl chloride (PVC) insulation and jacket.
    - B. Max 1 in. diam metal clad TEK cable with PVC jacket.
    - C. Max 300 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation.
    - D. Max 3/C 12 AWG (or smaller) copper conductor steel Metal-Clad cable.
  6. Firestop System — The firestop system shall consist of the following:
    - A. Packing Material — Min 64 kg/m<sup>3</sup> (4 pcf) mineral wool batt insulation cut into strips equal in width to thickness of the wall and tightly-compressed to completely fill opening flush with both wall surfaces.
    - B. Fill, Void, or Cavity Material\* — Spray — Min 3 mm (1/8 in.) wet thickness applied to completely cover mineral wool batt packing material on both sides of wall. Spray material to overlap min 13 mm (1/2 in.) onto wall surfaces and onto pipes or conduits.  
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP672 Firestop Spray
    - C. Fill, Void or Cavity Materials\* - Plug — Plug sized for the steel sleeve friction-fitted within the sleeve such that the outer circumference of the dome-shaped plug is flush with end of sleeve. Plug cut to fit around the cable bundle and installed tightly within the sleeve. Plug is required at one end of sleeve.  
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 658T Firestop
    - C1. Packing Material — As an alternate to Item 6C, min 51 mm (2 in.) thickness of min 64 kg/m<sup>3</sup> (4 pcf) mineral wool batt insulation tightly packed within each end of steel sleeves to completely fill annular space between cable bundle and steel sleeve. Packing material to be recessed from each end of steel sleeve to accommodate the required thickness of fill material (see Item 6C2).
    - C2. Fill, Void or Cavity Material\* — Sealant — Min 13 mm (1/2 in.) thickness of fill material applied within annulus between cables and steel sleeves, flush with both ends of sleeve.  
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant

\*Bearing the UL Classification Mark

