

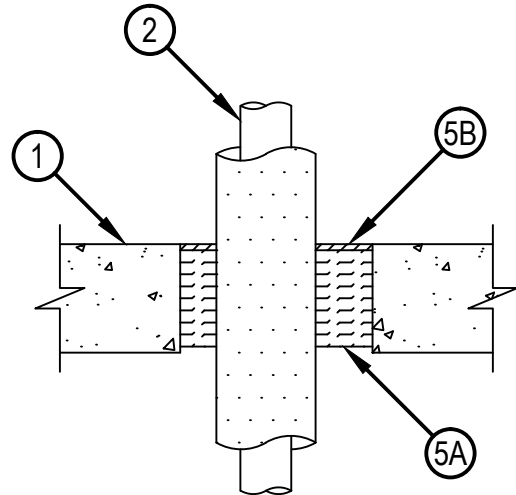
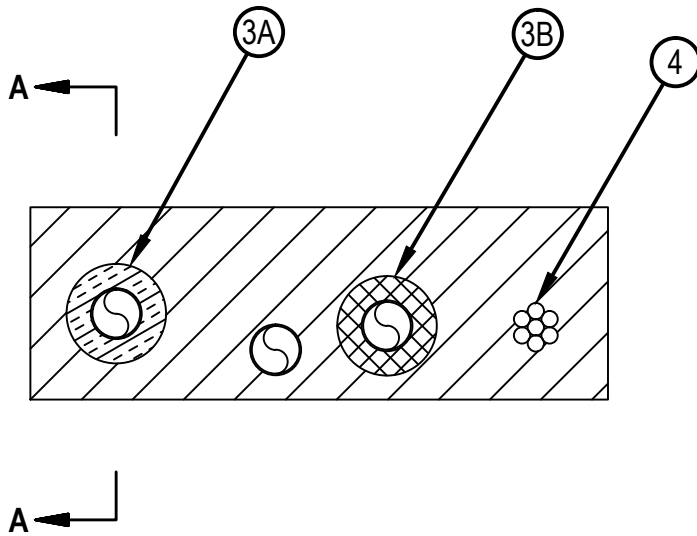


Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. F-A-8027

FA 8027

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 2 Hr
	FTH Rating — 0 Hr



SECTION A-A

1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf) (1600 - 2400 kg/m³) concrete floor. Max area of square, rectangular or circular opening is 192 sq in. (1239 cm²) with max dimension of 24 in. (610 mm)
2. Through-Penetrant — One or more pipes or tubes to be installed within the opening. The total number of through-penetrants is dependent on the size of the opening and types and sizes of the penetrants. Any combination of the penetrants described below may be used provided that the following parameters relative to the annular spaces and the spacing between the pipes are maintained. The separation between cable bundle, tubes and insulated tubes shall be a min 1 in. to max 3-1/8 in. (79 mm). The annular space between penetrants and the periphery of opening shall be a min 1/4 in. (6 mm) to max 5 in. (127 mm) Pipes or tubes to be rigidly supported on both sides of floor assembly. The following types and sizes of metallic pipes or tubes may be used.
 - A. Copper Tubing — Nom 2 in. (51 mm) diam (or smaller) Type L (or heavier) copper tube.
 - B. Copper Pipe — Nom 2 in. (51 mm) diam (or smaller) Regular (or heavier) copper pipe.
 - C. Steel Pipe — Nom 2 in. (51 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - D. Iron Pipe — Nom 2 in. (51 mm) diam (or smaller) cast or ductile iron pipe.
 - E. Conduit — Nom 2 in. (51 mm) (or smaller) electric metallic tubing (EMT) or steel conduit.
 - F. Flexible Steel Conduit+ — Nom 1 in. (25 mm) diam (or smaller) flexible steel conduit.

See Flexible Metal Conduit (DXUZ) category in the Electrical Construction Material Directory for names of manufacturers.



Hilti Firestop Systems

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3. Pipe Insulation — (Optional)—The following types of pipe insulation may be used:

A. Pipe Covering* — Nom 1 in. (25 mm) thick (or thinner) hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m³) 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.

B. Tube Insulation-Plastics+++ — Nom 1 in. (25 mm) thick (or thinner) acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing.

See Plastics+++ (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.

4. Cables — Max 2 in. (51 mm) diam tight bundle of cables installed within the opening and rigidly supported on both sides of floor assembly. The space between the cables and periphery of the opening and between cables and other penetrants shall range from min 2 in. (51 mm) to max 4 in. (102 mm). Any combination of the following types and sizes of metallic conductor of fiber optic cable may be used:

A. Max 500 kcmil single copper connector power cable with thermoplastic insulation and polyvinyl chloride (PVC) jacket.

B. Max 300 pair No. 24 AWG copper conductor telecommunication cables with PVC insulation and jacket material.

C. Max 7/C copper conductor No. 12 AWG multiconductor power and control cables with PVC or cross-linked polyethylene (XLPE) insulation and PVC jacket.

D Multiple fiber optical communication cables jacketed with PVC and having a max outside diam of 1/2 in.

E Max 3/C copper conductor No. 12 AWG with bare aluminum ground, PVC insulated steel Metal-Clad cable.

5 Firestop System — The firestop system shall consist of the following:

A. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor to accommodate the required thickness of fill material.

B. Fill Void or Cavity Materials* - Sealant — Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with top surface of floor.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 604, CFS-S SIL GG or CFS-S SIL Sealant

+++Bearing the UL Recognized Component Marking

*Bearing the UL Classification Mark

+Bearing the UL Listing Mark

