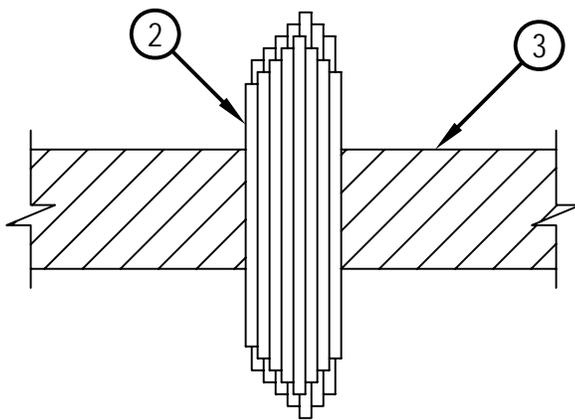
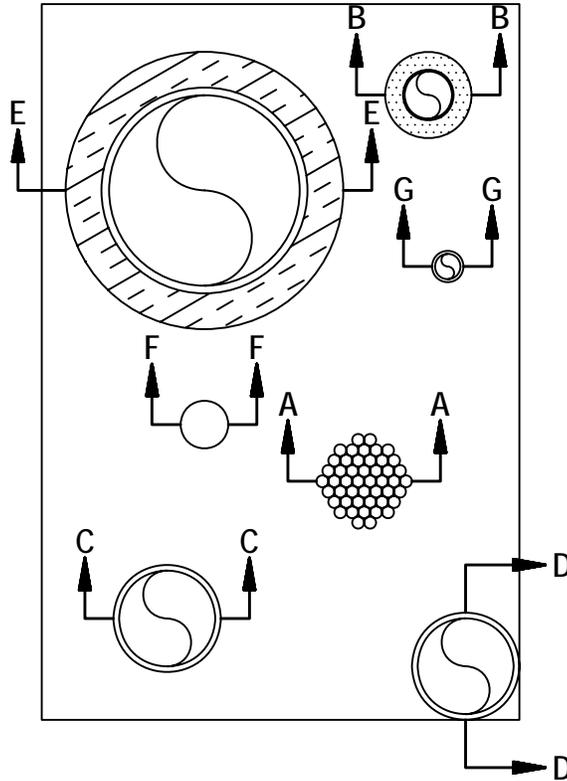




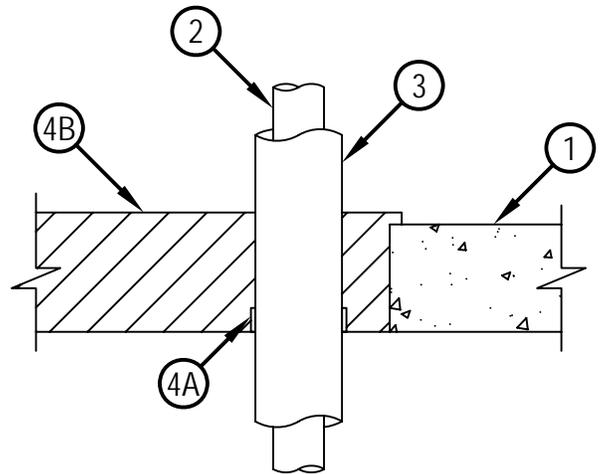
Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. C-AJ-8096
F Rating -- 2 Hr
T Rating -- 0, 1/2 and 2 Hr (See Item 2)

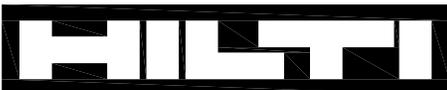
CAJ 8096



SECTION A-A



SECTION B-B



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
July 20, 2005



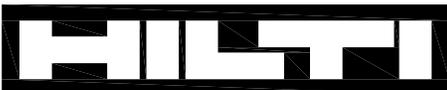
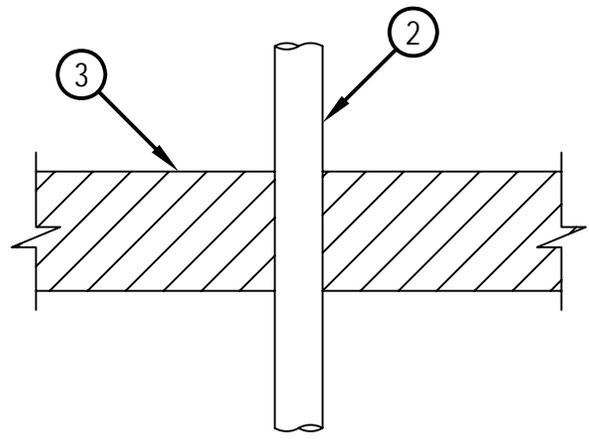
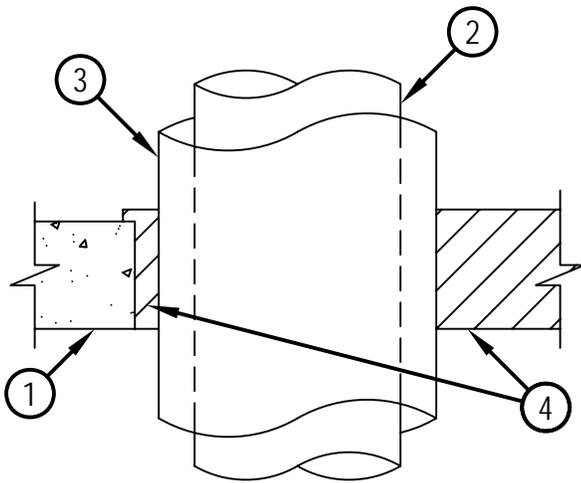
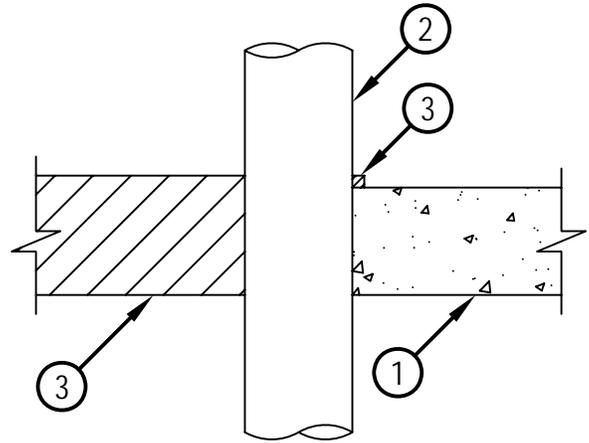
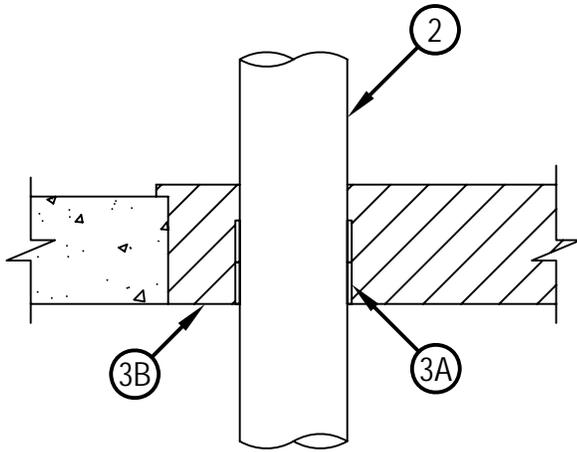
Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. C-AJ-8096

F Rating -- 2 Hr

T Rating -- 0, 1/2 and 2 Hr (See Item 2)

CAJ 8096



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
July 20, 2005



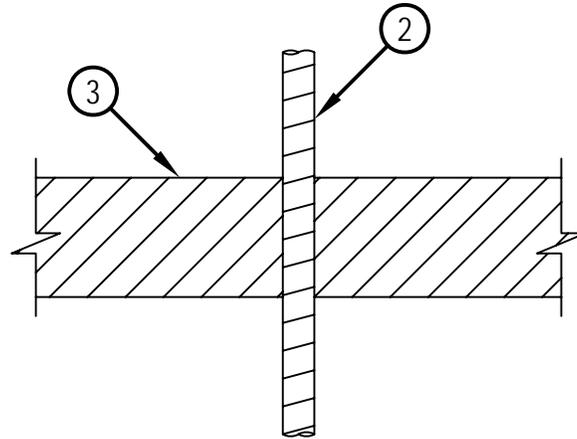
Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. C-AJ-8096

F Rating -- 2 Hr

T Rating -- 0, 1/2 and 2 Hr (See Item 2)

CAJ 8096



SECTION G-G

1. Floor or Wall Assembly -- Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max area of 600 sq in. with max dimension of 30 in

See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. Through Penetrants -- A max of seven firestop configurations may be installed within the opening. The space between firestop configurations shall be as specified in the individual configurations. Unless otherwise indicated, the space between firestop configurations and periphery of opening shall be min 1/2 in. to max 5-1/2 in. Pipe, conduit, tubing or cables to be rigidly supported on both sides of floor or wall assembly. The T Rating of the system is dependent on the firestop configurations, as shown in the table below. Any combination of the following firestop configurations detailed herein may be used:

Firestop Configuration	T Rating Hr
A	1/2
B	1/2
C	0
D	0
E	2
F	1/2
G	0



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.

July 20, 2005



Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. C-AJ-8096

F Rating -- 2 Hr
T Rating -- 0, 1/2 and 2 Hr (See Item 2)

CAJ 8096

Firestop Configuration A

2. Cables -- Max 4 in. diam of tightly bundled cables. The min annular space between adjacent penetrants shall be 4 in. Cable bundle may be any combination of the following types and sizes of cables:
 - A. Max 300 pair No. 24 AWG copper telephone cables with polyvinyl chloride (PVC) insulation and jacket materials.
 - B. Max 500 kcmil single conductor copper power cable with PVC jacket material.
 - C. Max 7/C No. 12 AWG cable with polyvinyl PVC insulation and jacket materials.
 - D. Multiple fiber optical communication cables with PVC jacket material and having a max outside diameter of 3/8 in.
 - E. Max 3/C No. 12 AWG steel clad cables with PVC insulation materials.
 - F. Max 3/C No. 10 AWG cables with ground with PVC insulation and jacket materials.
3. Fill, Void or Cavity Material* - Foam -- Min 5 in. thickness of fill material applied within the annulus, extending 1/2 in. above the top surface of the floor or both surfaces of wall and overlapping the concrete 1/2 in. on all sides of the opening.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP 620 Fire Foam

Firestop Configuration B

2. Copper Tube or Pipe -- Nom 2 in. diam (or smaller) Type L copper tube or nom 2 in diam (or smaller) Regular (or heavier) copper pipe. Min space between adjacent penetrants shall be 3 in.
3. Tube Insulation-Plastics+ -- Nom 3/4 in. thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The min space between adjacent penetrants shall be 3 in. 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. Firestop System -- The firestop system shall consist of the following:
 - A. Fill, Void or Cavity Material* - Wrap Strip -- Min 1 in. wide wrap strip applied in a single wrap installed flush with bottom surface of floor or extending 1/2 in. beyond both surfaces of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP 648E Wrap Strip
 - B. Fill Void or Cavity Materials* - Foam -- Min 5 in. thickness of fill material applied within the annulus, extending 1/2 in. above the top surface of the floor or both surfaces of wall and overlapping the concrete 1/2 in. on all sides of the opening.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP 620 Fire Foam

Firestop Configuration C

2. Polyvinyl Chloride (PVC) Pipe -- Nom 4 in. diam (or smaller) Schedule 40 solid or cellular core PVC pipe for used in closed (process or supply) or vented (drain, waste or vent) piping systems. The min space between adjacent penetrants shall be 4-1/2 in.
3. Firestop System -- The firestop system shall consist of the following:
 - A. Fill, Void or Cavity Material* - Wrap Strip -- Two stacks of min 1-3/4 in. wide wrap strips, each applied in a single wrap and tightly butted, installed flush with bottom surface of floor or both surfaces of wall or extending 1/2 in. beyond both surfaces of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP 648E Wrap Strip
 - B. Fill Void or Cavity Materials* - Foam -- Min 5 in. thickness of fill material applied within the annulus flush with bottom surface and extending 1/2 in. above the top surface of the floor or extending 1/2 in. beyond both surfaces of wall and overlapping the concrete 1/2 in. on all sides of the opening.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP 620 Fire Foam



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
July 20, 2005



Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. C-AJ-8096

F Rating -- 2 Hr
T Rating -- 0, 1/2 and 2 Hr (See Item 2)

CAJ 8096

Firestop Configuration D

2. Through Penetrant -- One metallic pipe, conduit or tube to be installed either concentrically or eccentrically within the firestop system. The min annular space between the pipe, conduit of tube and periphery of opening shall be 0 in. (point contact). The min space between adjacent penetrants shall be 4 in. Pipe, conduit of tube to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubes may be used:
 - A. Nom 4 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - B. Nom 4 in. diam (or smaller) cast or ductile iron pipe.
 - C. Nom 4 in. diam (or smaller) rigid steel conduit.
 - D. Nom 4 in. diam (or smaller) steel electrical metallic conduit.
 - E. Nom 4 in. diam (or smaller) Type L (or heavier) copper tubing.
 - F. Nom 4 in. diam (or smaller) Regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material*-Foam -- Min 5 in. thickness of fill material applied within the annulus, extending 1/2 in. above the top surface of the floor or both surfaces of wall and overlapping the concrete 1/2 in. on all sides of the opening.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP 620 Fire Foam

Firestop Configuration E

2. Steel Pipe -- Nom 8 in. diam (or smaller) Schedule 40 (or heavier) steel pipe.
3. Pipe Covering Materials* -- Nom 1-1/2 in. thick hollow cylindrical heavy density (min 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 of with butt tape supplied with product. The min space between adjacent penetrants shall be 3 in.
See Pipe and Equipment Covering - Materials (BRGU) Category in the Building Materials Directory for names of manufacturers. Any pipe covering 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. Fill, Void or Cavity Material*-Foam -- Min 5 in. thickness of fill material applied within the annulus, extending 1/2 in. above the top surface of the floor or both surfaces of wall and overlapping the concrete 1/2 in. on all sides of the opening.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP 620 Fire Foam

Firestop Configuration F

2. Cable -- Nom 2 in. diam (or smaller) TEK cable with cross-linked polyethylene insulation. The min space between adjacent penetrants shall be 3 in.
3. Fill, Void or Cavity Material*-Foam -- Min 5 in. thickness of fill material applied within the annulus, extending 1/2 in. above the top surface of the floor or both surfaces of wall and overlapping the concrete 1/2 in. on all sides of the opening.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP 620 Fire Foam

Firestop Configuration G

2. Flexible Conduit -- Nom 1 in. diam (or smaller) flexible aluminum conduit. The min space between adjacent penetrants shall be 5 in.
3. Fill, Void or Cavity Material*-Foam -- Min 5 in. thickness of fill material applied within the annulus, extending 1/2 in. above the top surface of the floor or both surfaces of wall and overlapping the concrete 1/2 in. on all sides of the opening.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP 620 Fire Foam

*Bearing the UL Classification Mark



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
July 20, 2005