



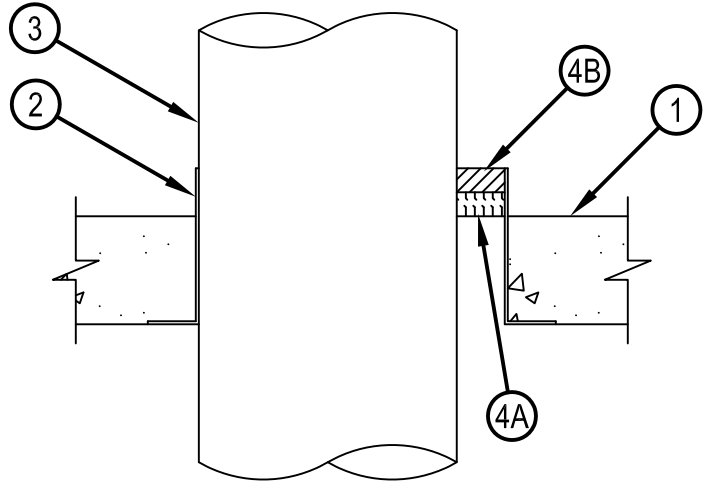
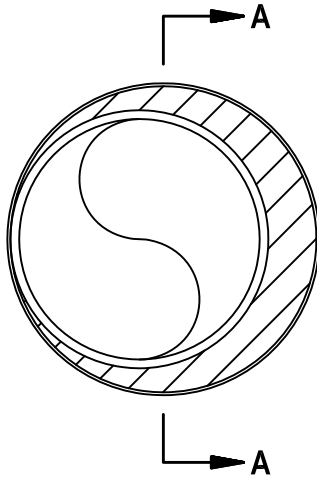
Classified by
Underwriters Laboratories, Inc.
to CAN/ULC-S115

System No. C-AJ-1023

F Rating — 2 Hr
FT Rating — 0 Hr
FH Rating — 0 Hr
FTH Rating — 0 Hr



CAJ 1023



SECTION A-A



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
January 06, 2015

System No. C-AJ-1023

CAJ 1023

1. Floor or Wall Assembly — Min 64 mm (2-1/2 in.) thick reinforced lightweight or normal weight (1600-2400 kg/m³ or 100-150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 784 mm (30-7/8 in.).
See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
- 1A. Floor Assembly - (Optional - Not Shown) — The fire rated unprotected concrete and steel floor assembly shall be constructed of the materials and in the manner specified in the individual D900 Series designs in the UL Fire Resistance Directory and as summarized below:
 - A. Concrete — Min 64 mm (2-1/2 in.) thick reinforced lightweight or normal weight (1600-2400 kg/m³ or 100-150 pcf) concrete.
 - B. Steel Floor and Form Units* — Composite or non-composite max 76 mm (3 in.) deep galv steel fluted units as specified in the individual Floor-Ceiling Design.
2. Steel Sleeve — (Optional) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly. Sleeve may extend a max of 51 mm (2 in.) above top of floor or beyond either surface of wall. As an alternate, in floors only, min 26 gauge galvanized sheet steel sleeve provided with a min. 26 gauge galvanized steel square flange spot welded to the bottom of the sleeve and sized to be a min of 51 mm (2 in.) larger than the sleeve diam. The sheet metal sleeve is to be cast in place and may extend a max of 51 mm (2 in.) above the top surface of the concrete floor, except that when sleeve is greater than nom 330 mm (13 in.) diam, sleeve shall be installed flush with both surfaces of floor.
3. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening or sleeve shall be min 0 mm (point contact) to max 73 mm (2-7/8 in.). Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
 - A. Steel Pipe — Nom 762 mm (30 in.) diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - B. Iron Pipe — Nom 762 mm (30 in.) diam (or smaller) cast or ductile iron pipe.
 - C. Conduit — Nom 152 mm (6 in.) diam (or smaller) rigid steel conduit.
 - D. Conduit — Nom 102 mm (4 in.) diam (or smaller) electrical metallic tubing (EMT).
 - E. Copper Tubing — Nom 152 mm (6 in.) diam (or smaller) Type L (or heavier) copper tubing.
 - F. Copper Pipe — Nom 152 mm (6 in.) diam (or smaller) regular (or heavier) copper pipe.
4. Firestop System — The firestop system shall consist of the following:
 - A. Packing Material — Min 25 mm (1 in.) thickness of polyethylene backer rod, mineral wool batt or glass fiber insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor/sleeve or from both surfaces of wall/sleeve to accommodate the required thickness of fill material (Item 4B).
 - A1. Forming Materials* — (Optional, Not Shown) As an alternate to Item 4A, min 25 mm (1 in.) thickness of forming material to be foamed into the opening as a permanent form. Forming material to be recessed from top surface of floor/sleeve or from both surfaces of wall/sleeve to accommodate the required thickness of fill material (Item 4B).

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CF812 or CF-AS CJP Foam Sealant

- B. Fill, Void or Cavity Materials* — Sealant — Min 1 in. (25 mm) thickness of fill material applied to fill the annular space flush with top surface of floor/sleeve. In wall assemblies, fill material to be installed symmetrically on both sides of wall, flush with wall/sleeve surface. An additional bead of fill material shall be applied at the point contact location between penetrant and sleeve or between penetrant and concrete, at top surface of floor/sleeve and at both surfaces of wall/sleeve. The bead shall be min 13 mm (1/2 in.) diam and shall extend over the point contact location to the 6 mm (1/4 in.) annular space.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of
Underwriters Laboratories, Inc.
January 06, 2015

Page: 2 of 2