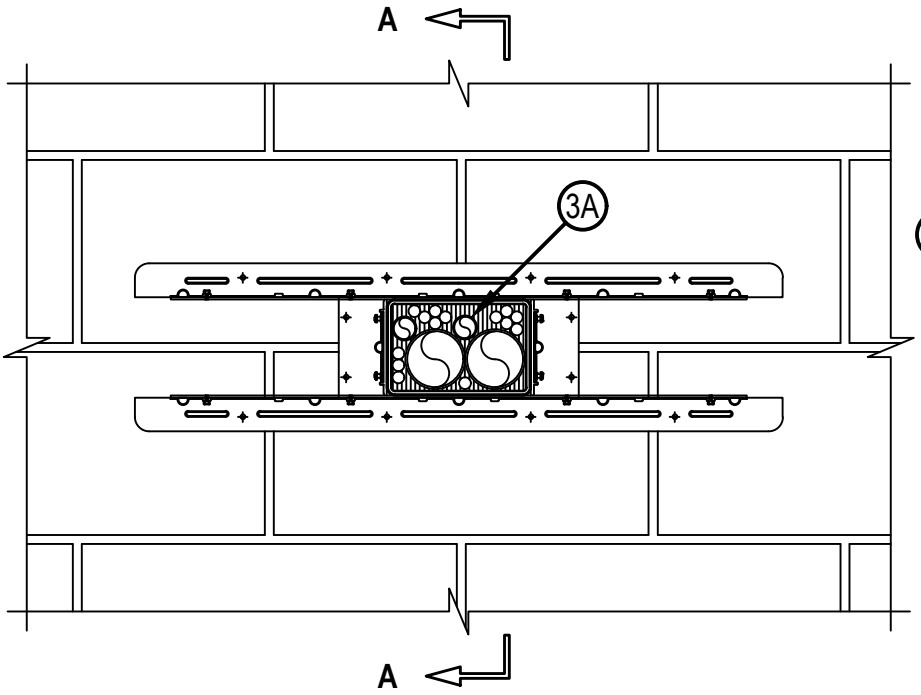
Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

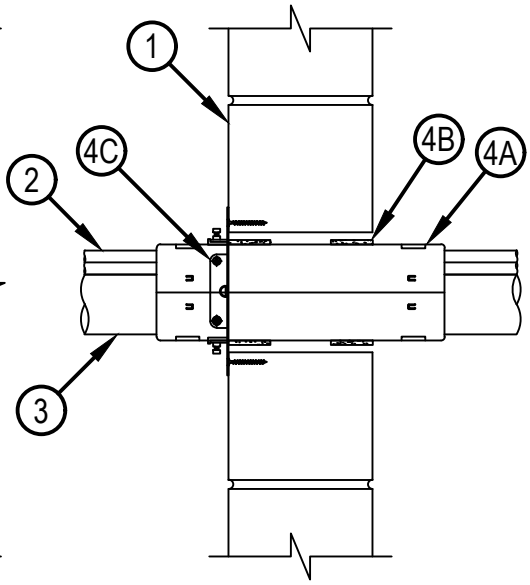
System No. W-J-8109

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 2 Hr	F Ratings — 2 Hr
T Ratings — 1, and 1-1/4 Hr (See Items 1, 2, 3 and 3A)	FT Ratings – 1, and 1-1/4 Hr (See Items 1, 2, 3 and 3A)
	FH Ratings — 2 Hr
	FTH Ratings — 1, and 1-1/4 Hr (See Items 1, 2, 3 and 3A)

FRONT VIEW



SECTION A-A



1. Wall Assembly — Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete for 2 hr fire rated walls, respectively. Wall may also be constructed of any solid or filled UL Classified Concrete Blocks* Opening in wall to be max 6-1/2 in. (165.1 mm) x 4-1/2 in. (114.3 mm).

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

2. Cables — Within the loading area for each firestop device, the cables may represent a 0 to 100 percent visual fill. Cables to be rigidly supported on both sides of wall assembly. Any combination of the following types of cables may be used:

   A. Max 100 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation.

   A1. Max 200 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation.

   B. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation.

   C. Max 4/0 AWG Type RHH ground cable.

   D. Max 4 pr No. 23 AWG Cat 7 computer cables.

   E. Max RG 6/U coaxial cable with fluorinated ethylene insulation and jacketing.

   F. Fiber optic cable with polyvinyl chloride (PVC) or polyethylene (PE) jacket and insulation having a max diam of 1/2 in. (13 mm).

   G. Max 20/C No. 22 AWG shielded printer cable with PVC jacket.

   H.1/4 in. (6 mm) diameter S-Video Cable consisting of 2 max 24 AWG 75ohm coax or twisted pair cable with PE insulation and PVC jacket.

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I. Through-Penetrating Product*- Two copper conductors No. 18 AWG (or smaller) Power or Non-Power Limited Fire Alarm Cable with or without a jacket under a metal armor.

AFC CABLE SYSTEMS INC

J. Max 3/C No 12 AWG MC Cable.

K. 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.

If any of the above cables other than Item 2A or 2A2 are used, the T Rating is 1-1/4 hr. If Item 2A or 2A2 is used, the T Rating is 1 hr.

3. Metallic Penetrants — (Optional) One or more metallic pipe/tube to be installed in opening and rigidly supported on both sides of the wall assembly. Metallic penetrants may be bundled together with the other cables (Item 2) and the nonmetallic penetrants (Item 3A). The following types and sizes of metallic through penetrants may be used:

A. Steel Pipe — Nom 2 in. (51 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe — Nom 2 in. (51 mm) diam (or smaller) cast or ductile iron pipe.

C. Conduit — Nom 2 in. (51 mm) diam (or smaller) steel conduit, nom 2 in. (51 mm) diam (or smaller) steel electrical metallic tubing (EMT), or nom 3/4 in. (25 mm) diam (or smaller) flexible steel conduit.

For openings with metallic penetrants in 1 hr fire rated walls, the hourly T, FT, FTH Ratings 0 hr. For openings with metallic penetrants in 2 hr fire rated walls, the hourly T, FT, FTH Ratings are 1 hr.

3A. Nonmetallic Penetrants –(Optional)– One or more nonmetallic penetrants to be installed within the firestop system and rigidly supported on both sides of the wall. The nonmetallic penetrants may be tightly bundled with the cables (Item 2) and the metallic penetrants. The following types and sizes of through penetrants may be used:

3A1. Nom 2 in. (51 mm) diam (or smaller) ENT formed from PVC.

3A2. Nom 3/4 in. (51 mm) diam (or smaller) ENT formed from PVC.

3A3. Nom 2 in. (51 mm) diam (or smaller) ENT formed from high density polyethylene (HDPE).

3A4. Nom 1/2 in. (12.7 mm) diam (or smaller) Dura-Line microduct.

For openings with nonmetallic penetrants in 1 hr fire rated walls, the hourly T, FT, FTH Ratings 0 hr. For openings with nonmetallic penetrants in 2 hr fire rated walls, the hourly T, FT, FTH Ratings are 1-1/2 hr.

4. Firestop System – The firestop system shall consist of the following:

A. Firestop Device* — One or more firestop devices shall consist of a rectangular outer steel sleeve formed with two half housings, connected and secured together. Multiple Firestop devices to be connected together with ganging clips and installed in accordance with the accompanying installation instructions. Devices shall be slid into wall such that ends project an equal distance from the approximate centerline of the wall assembly. The annular space between the device and the periphery of the opening shall be min 3/16 in. (5 mm) to maximum 5/16 in (8 mm). Devices are installed adjacent to one another with gaskets and flanges (Item 4C) installed on the accessible side of wall. Device(s) secured to flange with accompanying screws at minimum every other hole in flange.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-MSL L 6” x 4”, CFS- MSL M 3” x 4”, CFS-MSL S 3” x 2” Modular Sleeve

B. Fill, Void or Cavity Material* — Wrap Strip – A single layer of intumescent wrap strip is continuously wrapped around the firestop sleeve (Item 4A) with ends held in place with tape. Wrap strip to be installed around firestop sleeve such that wrap strip is flush with the surfaces of the wall assembly on both sides of the wall assembly.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-E W25/1" Firestop Wrap Strip

C. Device Flange – Rectangular adjustable flange sized to fit around sleeve or ganged sleeves, bolted together and secured to the accessible side of the wall (Item 1) by means of 1-1/2 in. (38 mm) long masonry screws or anchors along top and bottom of horizontal frame members. Prior to securing flange to wall, gasket to be cut to length of each flange section and applied to back side of flange with integrated tape.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-MSL GPA 24” x 4”

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