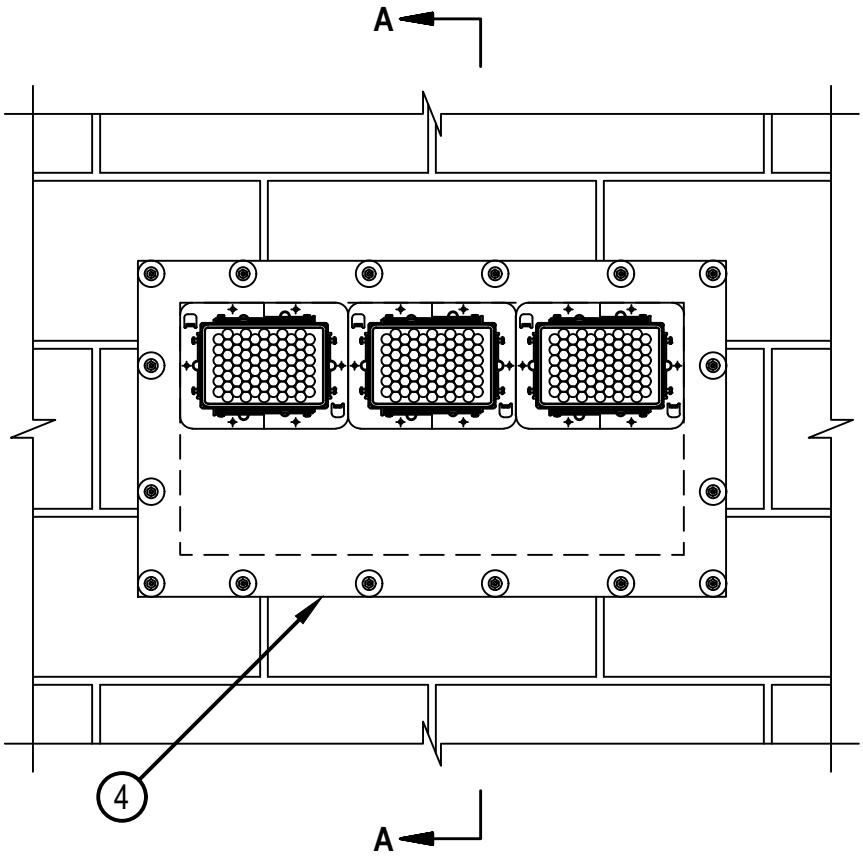
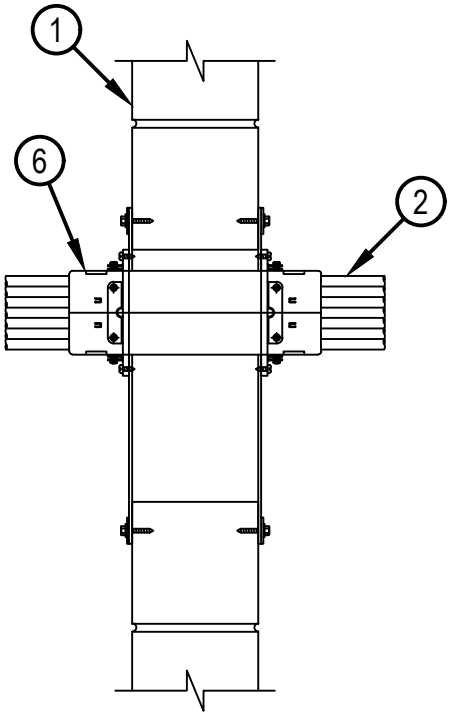
System No. W-J-3282

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

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings – 2 Hr	F Ratings – 2 Hr
T Ratings - 0 Hr	FT Ratings - 0 Hr
	FH Ratings – 2 Hr
	FTH Ratings - 0 Hr



SECTION A-A



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1. Wall Assembly — Min 6 in. (152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Opening to be max 24 in. (610 mm) x 12 in. (305 mm).

See Concrete Blocks (CAZT) 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 tightly bundled within the device and 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.

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

   C. Max 1/C No. 750 kcmil copper conductor power cable with thermoplastic insulation and PVC jacket.

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

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

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

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

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

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

   J. 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

   K. Max 3/C No 12 AWG Metal Clad Cable.

   L. 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.

   M. Single mode fiber optic cable with PVC jacket having a max diam of 13/64 in. (5 mm).

3. Fill, Void or Cavity Material* — Sealant — (Not shown) - Min 1/4 in. (6 mm) diam bead of sealant applied under composite sheet (Item 4) around entire perimeter of through opening.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant

4. Fill, Void or Cavity Materials* — Composite Sheet — Rigid aluminum foil-faced intumescent sheet with steel backer. Sheets cut to tightly follow the contour of the firestop device with an annular space equal to or less than ¼ in. (6 mm). Sheets cut to lap a min of 2 in. (51 mm) onto wall surface around periphery of opening and installed on both sides of wall assembly. Sheet to be installed with the steel backer exposed (aluminum foil facing against wall surface) and secured to wall surface with min 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long steel anchor screws, in conjunction with min 1-1/4 in. (32 mm) diam steel fender washers. Max spacing of fasteners not to exceed 6 in. (152 mm) OC and 2 in. (51 mm) max from ends with additional fasteners located on each side of butted seams or slits made to permit installation or the sheet around the through penetrants. Openings to be spaced a min 2 in. (102 mm) apart.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Hilti CFS-COS Firestop Composite Sheet

5. Cover Strip (Not shown) — Min 2 in. (51 mm) wide strip of min 0.021 in. (0.5 mm) thick (26 ga) steel centered over entire length of the butted seam or slit made in the composite sheet. Steel cover strip secured to galv steel sheet backer of composite sheet with 3/4 in. (19 mm) steel sheet metal screws spaced max 3 in. (76 mm) OC alternating on each side of seam or slit.

6. Firestop Device* — A max of five firestop devices each consist of a rectangular outer steel sleeve formed with two half housings, connected and secured together, and installed in accordance with the accompanying installation instructions, may be installed in the composite sheet. Devices 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 opening in composite sheet shall be min 0 in. (point contact) to max ¼ in. (6.4 mm). Device is installed with gaskets and flanges installed on both sides of wall and secured by means of two nom 1/2 in. (13mm) long steel screws per accompanying installation instructions.

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, CFS-MSL P S 3” x 2”, CFS-MSL P M 3” x 4”, CFS-MSL P L 6” x 4” Modular Sleeve Plates

6b. Firestop Device* (Not shown)- Modular sleeve devices may be installed adjacent to each other with gaskets and flanges installed on both sides of wall and secured by means of nom ½ in (13mm) long steel screws at every other hole in flange.

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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; CFS-MSL GPR 9" X 4", CFS-MSL GPR 12" x 4" Retrofit Gangplate

7. Fill, Void or Cavity Materials* (Not shown) - As an alternate to the gasket (item 6), one layer of 1 in. wide by 1/8 in thick putty strips or ½ in. diam bead of sealant positioned around perimeter of device covering annular space within composite sheet (item 4) prior to flange being installed.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 617 Firestop Putty Pad, CP 619T Firestop Putty Roll or FS-ONE MAX Intumescent Firestop Sealant

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

+Bearing the UL Listing Mark