

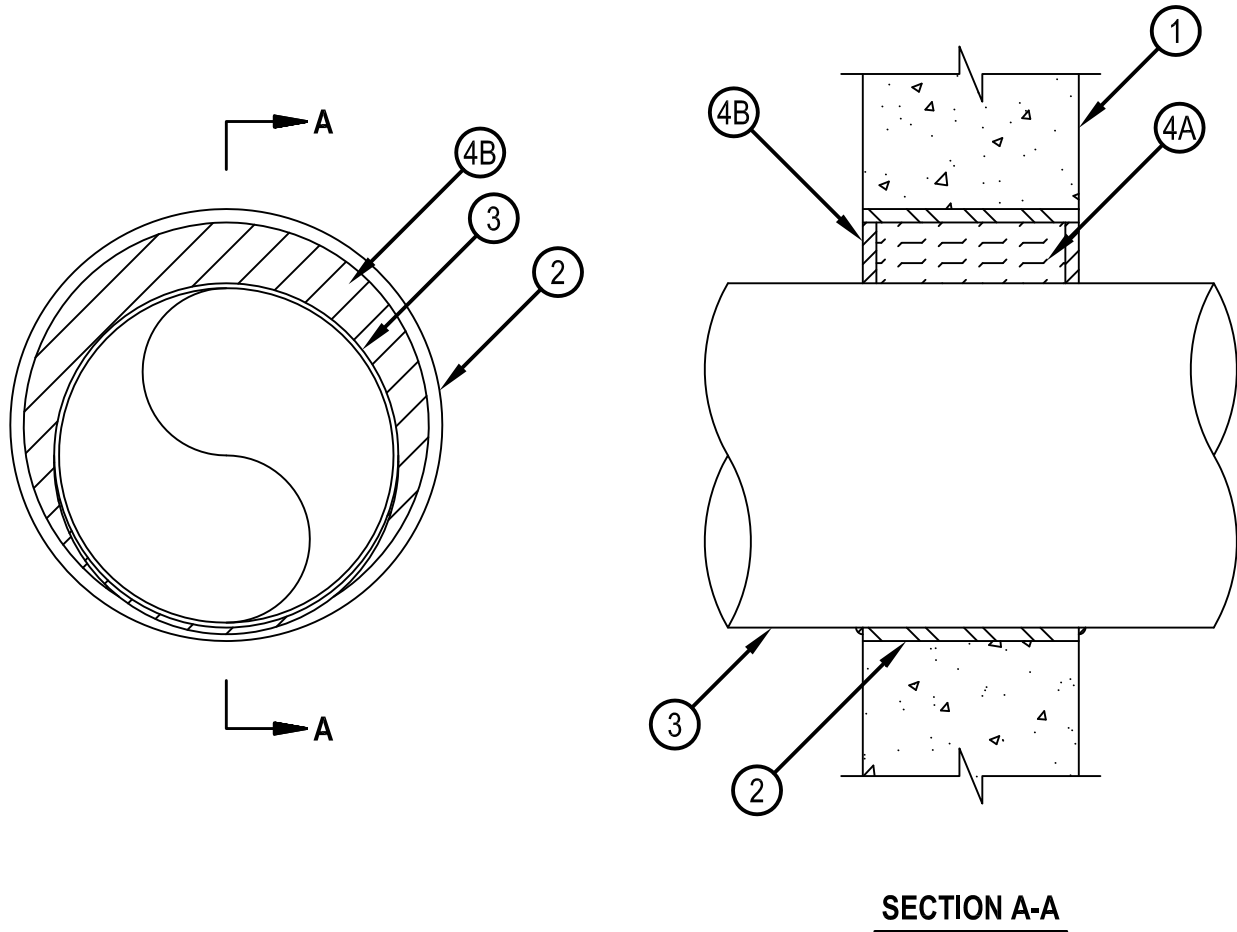


Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

# System No. W-J-1193

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/Sq Ft	FH Rating — 2 Hr
L Rating At 400°F — 4 CFM/Sq Ft	FTH Rating — 0 Hr
	L Rating At Ambient — Less Than 1 CFM/Sq Ft
	L Rating At 400°F — 4 CFM/Sq Ft

WJ 1193



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## System No. W-J-1193

WJ 1193

1. Wall Assembly — Min 6 in. (127 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete. Wall may also be constructed of any UL Classified Concrete Blocks\*. Max diam of opening is 16 in. (406 mm).  
See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Steel Sleeve — Nom 16 in. (406 mm) diam (or smaller) Schedule 40 (or lighter) steel sleeve friction fitted into opening. Length of steel sleeve to be equal to the thickness of wall.
3. Through Penetrants — One metallic pipe, tubing or conduit to be installed concentrically or eccentrically within opening. The annular space between the pipes and conduits and the edges of the opening shall be min 0 in. (0 mm, point contact) to max 3-7/8 in. (98 mm). Through penetrant to be rigidly supported on both sides of wall assembly. The following types and sizes of through penetrants may be used:
  - A. Steel Pipe — Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
  - B. Iron Pipe — Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.
  - C. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tube.
  - D. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
  - E. Conduit — Nom 6 in. (152 mm) diam (or smaller) electrical metallic tubing (EMT) or rigid steel conduit.
4. Firestop System — The firestop system shall consist of the following:
  - A. Packing Material — Min 5 in. (1 mm) thickness of min 4 pcf (64 kg/m<sup>3</sup>) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material.
  - B. Fill Void or Cavity Materials\* — Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of fill material applied to the through penetrant/steel sleeve interface at the point contact locations on both sides of the wall.  
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**

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