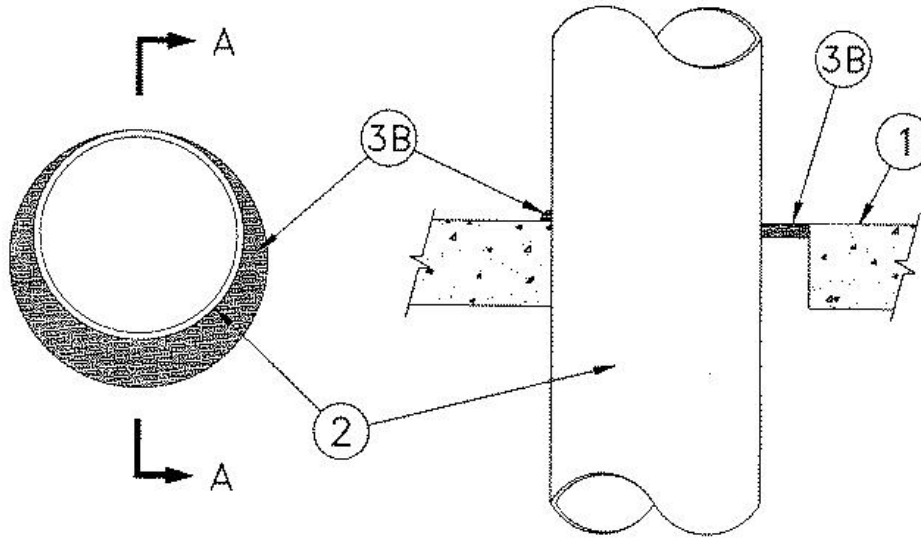


ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 and 3 Hr (See Item 3B)	F Rating — 2 and 3 Hr (See Item 3B)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Rating — 2 and 3 Hr (See Item 3B)
L Rating At 400°F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
W Rating — Class 1 (See Items 2 and 3B)	L Rating At Ambient — Less Than 5.1 L/s/m ²
	L Rating At 204°C — Less Than 5.1 L/s/m ²



SECTION 'A-A'

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced normal weight (140-150 pcf or 2200-2400 kg/m³) concrete. Floor may also be constructed of any min 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units***. **Wall may also be constructed of any UL Classified Concrete Blocks***. Max diam of opening is 26 in. (660 mm). If the firestop system is installed within a hollow-core precast concrete unit, max diam of opening shall be 7 in. (178 mm).

See **Concrete Block** (CAZT) and **Precast Concrete Units** (CFTV) categories in the Fire Resistance Directory for names of manufacturers.

1A. Metallic Sleeve — (Not shown, Optional) — Nom 8 in. (203 mm) diam (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces. The use and the max diam of the steel sleeve is dependent upon the type and max diam of the through penetrant (Item 3) and type and min fill material thickness as tabulated in Item 3B.

2. Through Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe, conduit or tubing and the periphery of the opening shall be min 0 in. (point contact) to a max 1-7/8 in. (48 mm). When W Rating applies, the annular space shall be min 1/2 in. (13 mm). 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 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Iron Pipe** — Nom 24 in. (610 mm) diam (or smaller) cast or ductile iron pipe.

C. **Conduit** — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or nom 6 in. (152 mm) diam (or smaller) steel conduit.

D. **Copper Tubing** — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.

E. **Copper Pipe** — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

3. Firestop System — The firestop system shall consist of the following:

A. Packing Material — (Not shown) Min 4 pcf (64 m³) mineral wool batt insulation firmly packed into opening or min 1 in. (25 mm) diam backer rod friction fitted into the opening as a form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material. When the floor is constructed of hollow-core precast concrete units, packing material shall be recessed from both surfaces of floor to accommodate the required thickness of fill materials. In floors, the packing material may be removed after the fill material cures when the W Rating does not apply.

B. Fill, Void or Cavity Material* — Sealant — Fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. At the point contact location between through penetrant and concrete, a min 3/8 in. (10 mm) diam bead of fill material shall be applied at the concrete/through penetrant interface on the top surface of floor and on both surfaces of wall. When the floor is constructed of hollow-core precast concrete units, fill material shall be installed symmetrically on both sides of floor, flush with both floor surfaces. The F Rating of the firestop system is dependent upon the use and the max diam of the steel sleeve, type and max diam of the through penetrant and type and min fill material thickness as tabulated below:

Use of Steel Sleeve	Max Diam of Steel Sleeve In.	Type of Through Penetrant	Max Diam of Through Penetrant In.	Type of Fill Mtl	Min Fill Mtl Thkns In.	F Rating Hr
Not permitted	-	Steel or Iron Pipe	24 (610)	FS1900, Metacaulk 1000, Metacaulk 350i, Biostop 350i or Biostop 500+	1 (25)	3
Permitted	8 (203)	Steel or Iron Pipe	6 (152)	FS1900, Metacaulk 1000, Metacaulk 350i, Biostop 350i or Biostop 500+	1 (25)	3
Permitted	8 (203)	Copper Pipe,	6 (152)	FS1900, Metacaulk 1000, Metacaulk 350i, Biostop 350i or Biostop 500+	1 (25)	3
		Copper Tube or				
		Steel Conduit				
Permitted	6 (152)	Steel EMT	4 (102)	FS1900, Metacaulk 1000, Metacaulk 350i, Biostop 350i or Biostop 500+	1 (25)	3

Permitted	6 (152)	Steel or Iron Pipe	4 (102)	FS1900, Metacaulk 1000, Metacaulk 350i, Biostop 350i or Biostop 500+	1/2 (13)	2
Permitted	6 (152)	Copper Pipe,	4 (102)	FS1900, Metacaulk 1000, Metacaulk 350i, Biostop 350i or Biostop 500+	1/2 (13)	2
		Copper Tube or				
		Steel Conduit				
Permitted	6 (152)	Steel EMT	4 (102)	FS1900, Metacaulk 1000, Metacaulk 350i, Biostop 350i or Biostop 500+	1/2 (13)	2
Not permitted	-	Steel or Iron Pipe	24 (610)	FS900/FS900+, Biostop BF 150+, Metacaulk MC 150+	1/2 (13)	3
Permitted	8 (203)	Steel or Iron Pipe	6 (152)	FS900/FS900+, Biostop BF 150+, Metacaulk MC 150+	1/2 (13)	3
Permitted	8 (203)	Copper Pipe,	6 (152)	FS900/FS900+, Biostop BF 150+, Metacaulk MC 150+	1/2 (13)	3
		Copper Tube or				
		Steel Conduit				
Permitted	6 (152)	Steel EMT	4 (102)	FS900/FS900+, Biostop MC 150+, Metacaulk MC 150+	1/2 (13)	3

RECTORSEAL — FlameSafe® FS1900, Flamesafe® FS900, FlameSafe® FS900+, Metacaulk MC 150+, Metacaulk 1000, Metacaulk 350i, Biostop BF 150+, Biostop 350i or Biostop 500+.

W Rating applies only when Metacaulk MC 150+, Metacaulk 1000, Biostop BF 150+, FlameSafe FS900+ or FlameSafe FS1900 is used.

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



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