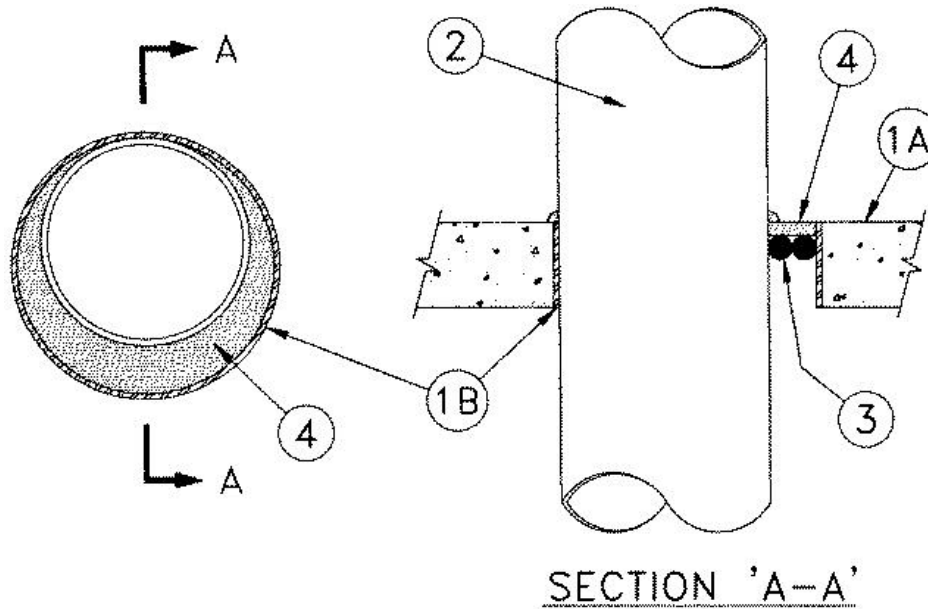


ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 2 Hr
	FTH Rating — 0 Hr



**1A. Floor or Wall Assembly** — Min 2-1/2 in. (64 mm) thick reinforced light weight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete. Floor may also be constructed of any min 6 in. thick UL Classified hollow-core precast units. Wall may also be constructed of any UL Classified **Concrete Blocks**\*. Max diam of opening is 10-3/4 in. (273 mm).

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

**1B. Metallic Sleeve (optional)** — Nom 10 in. (254 mm) (or smaller), Schedule 10 (or heavier) steel pipe sleeve, cast or grouted into floor or wall assembly, flush with floor or wall surfaces.

**2. Through Penetrants** — One metallic pipe or tubing to be installed concentrically or eccentrically into opening such that the annular space between the pipe and the periphery of the opening is min 0 in. (point of contact) to max 2-1/8 in. (54 mm) Pipe to be firmly supported on both sides of opening. The following types and sizes of pipes may be used:

A. **Steel Pipe** — Nom 8 in. (203 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.

B. **Iron Pipe** — Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.

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

D. **Copper Tubing** — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.

E. **Copper Pipe** — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

**3. Packing Material** — Min 1 in. (25 mm) diam backer rod firmly pressed into opening as a permanent form. Forming material to be recessed by min depth of 1/2 in. (13 mm) from top surface of floor or both surfaces of wall.

**4. Fill, Void, or Cavity Materials\* - Caulk** — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor or both surfaces of wall. A min 1/4 in. (6 mm) crown of the caulking material shall be applied around the entire circumference of the pipe at the level of the floor surface or both wall surfaces. When floor is constructed of hollow-core precast concrete units, fill material shall be installed symmetrically on both sides of the floor.

**RECTORSEAL** — FlameSafe® FS1900, [Metacaulk 1000](#), [Metacaulk 350i](#), Biostop 350i or Biostop 500+

\*,+ 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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