



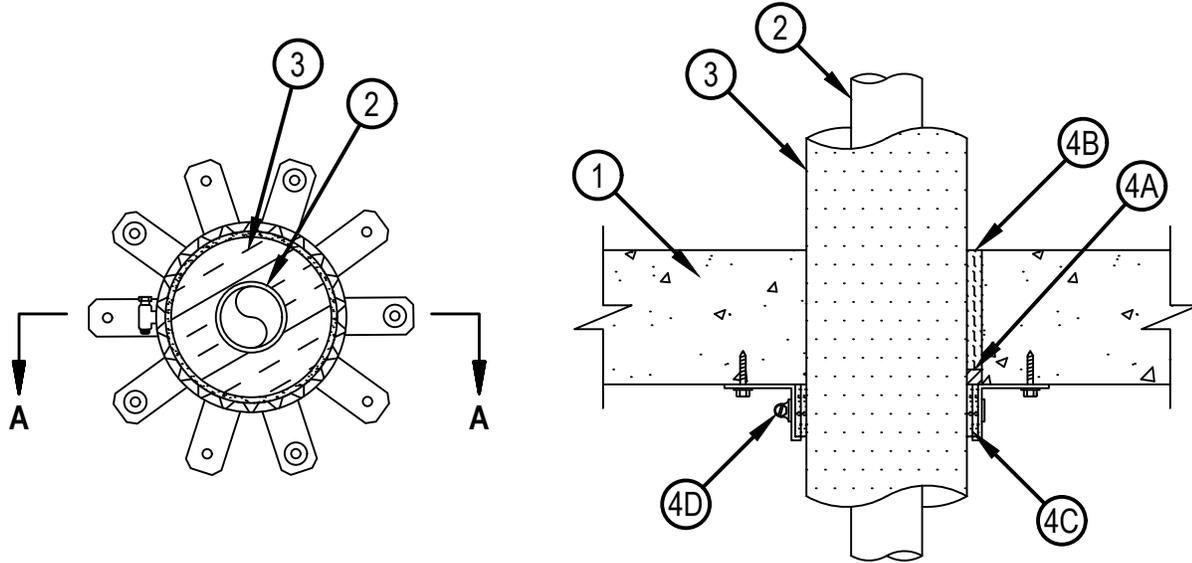
Classified by  
Underwriters Laboratories, Inc.  
to CAN/ULC-S115

## System No. C-AJ-2924

F Rating — 2 Hr  
FT Rating — 2 Hr  
FH Rating — 0 Hr  
FTH Rating — 0 Hr



CAJ 2924



**SECTION A-A**

System tested with a pressure differential of 50 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. Floor or Wall Assembly — Min 114 mm (4-1/2 in.) thick reinforced lightweight or normal weight (1600-2400 kg/m<sup>3</sup> or 100-150 pcf) concrete floor or min 127 mm (5 in.) thick reinforced lightweight or normal weight (1600-2400 kg/m<sup>3</sup> or 100-150 pcf) concrete wall. Floor may also be constructed of any min 152 mm (6 in.) thick UL Classified hollow core Precast Concrete Units\*. Wall may also be constructed of any UL Classified Concrete Blocks\*. Max diam of opening is 152 mm (6 in.).

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

2. Through Penetrants — One nonmetallic pipe to be installed concentrically or eccentrically within the firestop system. The following type and sizes of nonmetallic pipe may be used:

- A. Polypropylene (PP) Pipe — Nom 51 mm (2 in.) diam (or smaller) Schedule 80 PP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
- B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 51 mm (2 in.) diam (or smaller) IPEX AquaRise SDR 11 CPVC for use in closed (process or supply) piping systems.
- C. Polypropylene (PP-R) Pipe — Nom 2 in. (63 mm OD) (or smaller) Aquatherm Greenpipe SDR 7.4 or 11 for use in closed (process or supply) or vented (drain, waste or vent) piping systems
- D. Polypropylene (PP-RCT) Pipe — Nom 2 in. (63 mm OD) (or smaller) Aquatherm Bluepipe SDR 9 or 11 for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
- E. Polypropylene (PP-RCT) Pipe — Nom 2 in. (63 mm OD) (or smaller) Nupi Americas Niron pipe SDR 7.3, 9 or 11 for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
- F. Polypropylene (PP-RCT) Pipe — Nom 2 in. (63 mm OD) (or smaller) Aquatechnik NA Fusion-Tech pipe SDR 7.4 or 11 for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
- G. Polypropylene (PP) Pipe — Nom 2 in. (63 mm OD) (or smaller) Uponor pipe SDR 9 or 11 for use in closed (process or supply) or vented (drain, waste or vent) piping systems.



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3. Pipe Covering\* — Nom 38 mm (1-1/2 in.) thick hollow cylindrical heavy density (min 56 kg/m<sup>3</sup> or 3.5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. An annular space of min 0 mm (point contact) to max 16 mm (5/8 in.) is required within the firestop system.

See Pipe and Equipment Covering - Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

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

A. Fill, Void or Cavity Materials\* — Sealant — Min 13 mm (1/2 in.) thickness of fill material applied within the annulus, flush with bottom surface of floor or both surfaces of wall.

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

B. Packing Material — Min 102 mm (4 in.) thickness of min 64 kg/m<sup>3</sup> (4 pcf) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from bottom surface of floor or from both surfaces of wall to accommodate the required thickness of fill material.

C. Fill, Void or Cavity Material\* — Wrap Strip — Nom 44 mm (1-3/4 in.) wide intumescent wrap strip is continuously wrapped around the insulated pipe two times with ends held in place with tape. Wrap strip butted tightly against bottom surface of floor or both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP648-E W45/1-3/4" Wrap Strip

D. Steel Collar — Steel collar fabricated from coils of precut min 0.4 mm (0.016 in.) thick (No. 28 gauge) galv steel available from fill material manufacturer. Collar shall be nom 44 mm (1-3/4 in.) deep with 25 mm (1 in.) wide by 51 mm (2 in.) long anchor tabs on 44 mm (1-3/4 in.) centers for securement to the underside of floor or both surfaces of wall. The opposite side incorporates retainer tabs, 13 mm (1/2 in.) wide by 5 mm (3/16 in.) long, prebent toward the pipe surface. Collar shall be tightly wrapped over the wrap strip, overlapping min. 25 mm (1 in.) at seam. A nom 13 mm (1/2 in.) wide stainless steel hose clamp shall be secured to the collar at its mid-height. Every other anchor tab of collar secured to concrete slab with 6 mm (1/4 in.) diam by 44 mm (1-3/4 in.) long steel expansion type masonry fasteners, 32 mm (1-1/4 in.) long concrete screw anchors or 3.5 mm (0.145 in.) diam by 32 mm (1-1/4 in.) long powder actuated fasteners utilizing a nom 15 mm (9/16 in.) diam steel washer. As alternates to the anchors specified above, Hilti 6 mm (1/4 in.) diam by 32 mm (1-1/4 in.) long KWIK-CON II+ concrete screw anchor or Hilti 6 mm (1/4 in.) diam by 44 mm (1-3/4 in.) long KWIK-BOLT 3 steel expansion anchor, or Hilti X-DNI 27 P8S15 powder actuated floor pin with integral nom 15 mm (9/16 in.) diam steel washer may be used. In floor assemblies, one collar to be used at the bottom of the concrete floor only. In wall assemblies, a collar is used on both wall surfaces.

\* 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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