

System No. C-AJ-2567

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete floor or min 5 in. (127 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete wall . Wall may also be constructed of any UL Classified Concrete Blocks*. Floor may also be constructed of any 6 in. thick UL Classified hollow core Precast Concrete Units. Max diam of opening is 4 in. (102 mm).

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

- 2. Metallic Sleeve (Optional) Nom 4 in. (102 mm) diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces or extending a max of 3 in. (76 mm) above floor or beyond both surfaces of wall.
- 2A. Sheet Metal Sleeve (Optional) Max 4 in. (102 mm) diam, min 26 ga. galv steel with a nom. 2 in. overlap at the longitudinal seam. The sleeve is to be cast in place and flush with assembly surfaces.
- 3. Through Penetrants One nonmetallic pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe and sleeve (Item 2) shall be min 1/4 in. (6 mm) to max 1-3/8 in. (35 mm). When steel sleeve (Item 2) is not provided, the annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 1-5/8 in. (41 mm). Pipe to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of nonmetallic pipes may be used:
 - A. Polyvinyl Chloride (PVC) Pipe Nom. 2 in. (51 mm) diam (or smaller) Schedule 40 solid-core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
 - B. Polyvinyl Chloride (PVC) Pipe Nom. 2 in. (51 mm) diam. (or smaller) Schedule 80 solid-core or cellular core PVC pipe used in closed (process or supply) piping system.
 - C. Chlorinated Polyvinyl Chloride (CPVC) Pipe Nom 2 in. (51 mm) diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
 - D. Chlorinated Polyvinyl Chloride (CPVC) Pipe Nom 2 in. (51 mm) diam (or smaller) Schedule 40 & Schedule 80 CPVC pipe for use in closed (process or supply) piping systems.
 - E. Rigid Nonmetallic Conduit+ Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA 70).
 - F. Crosslinked Polyethylene (PEX) Tubing Nom 2 in. (51 mm) diam (or smaller) SDR 9 PEX tubing for use in closed (process or supply) piping systems.
 - G. 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) piping systems.
 - H. Polypropylene (PP-RCT) Pipe Nom 2 in. (63 mm OD) (or smaller) Aquatherm Bluepipe SDR 9, 11 or 17.6 for use in closed (process or supply) piping systems.
 - I. Polypropylene (PP-RCT) Pipe Nom 2 in. (63 mm OD) (or smaller) Nupi Americas Niron pipe SDR 7.3, 11 or 17 for use in closed (process or supply) piping systems.
 - J. Polypropylene (PP-RCT) Pipe Nom 2 in. (63 mm OD) (or smaller) Aquatechnik NA Fusion-Tech pipe SDR 7.4, 11 or 17.6 for use in closed (process or supply) piping systems.
 - K. Polypropylene (PP) Pipe Nom 2 in. (63 mm OD) (or smaller) Uponor pipe SDR 9 or 11 for use in closed (process or supply) piping systems.
- 4. Firestop System The firestop system shall consist of the following:
 - A. Packing Material Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or both surfaces of wall to accommodate the required thickness of fill material. When precast concrete units are used, packing material to be recessed from top surface of floor to accommodate the required thickness of fill material.
 - B. Fill, Void or Cavity Material* Sealant 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 assembly. Additionally, nom 1/2 in. (13 mm) bead of fill material applied between concrete and penetrant interface.



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Penetration Type (Item 3)	Firestop Sealant (Item No. 4B)	Opening Sleeved	Does the sleeve extend beyond assembly surfaces	T-Rating (Hours)	W-Rating
All	FS-ONE Max	No	N/A	2	Item No. 4c is Required
All	FS-ONE Max	Item No. 2 of 2A Sleeve Used	No	1-1/4	Item No. 4c is Required
All	FS-ONE Max	Item No. 2 of 2A Sleeve Used	Yes	0	Item No. 4c is Required
B&D	CFS-S SIL GG or CFS-S SIL SL	No	N/A	2	Yes
B & D	CFS-S SIL GG or CFS-S SIL SL	Item No. 2 of 2A Sleeve Used	No	2	Yes
B & D	CFS-S SIL GG or CFS-S SIL SL	Item No. 2 of 2A Sleeve Used	Yes or No	0	Yes
F	CFS-S SIL GG or CFS-S SIL SL	No	N/A	1-1/4	Yes
F	CFS-S SIL GG or CFS-S SIL SL	Item No. 2 of 2A Sleeve Used	No	1-1/4	Yes
F	CFS-S SIL GG or CFS-S SIL SL	Item No. 2 of 2A Sleeve Used	Yes or No	0	Yes

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant, CFS-S SIL GG or CFS-S SIL SL Sealant C. Fill, Void or Cavity Material* — Sealant — (Optional, Not Shown) — When min annular space is 3/16 in. (4.8 mm) and when the FS-One Sealant (Item 4B) is recessed 1/4 in. (6 mm) from the top surface of the floor, flush with top surface of floor, to attain the W Rating. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-S SIL GG or CFS-S SIL SL (floors only) Sealant

* 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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