

- See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
- 2. Steel Sleeve- (Optional) Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe cast or grouted into floor or wall. Sleeve to be flush with, or project max 3 in. (76 mm) from, top surface of floor or from both surfaces of wall.
- 3. Through Penetrants One or more nonmetallic pipe, conduit or tubing to be installed within the opening. Annular space between the pipes, conduits or tubing and the periphery of the opening shall be min 1/4 in. (6 mm) to max 13/16 in. (21 mm) The annular space between pipes, conduits or tubings shall be nom 1/4 in. (6 mm) Pipes, conduits or tubings 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 or cellular core PVC for use in closed (process or supply) piping systems.

- B. Rigid Nonmetallic Conduit (RNC)+ Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70).
- C. Chlorinated Polyvinyl Chloride (CPVC) Pipe Nom 3 in. (76 mm) diam (or smaller) SDR13.5 CPVC for use in closed (process or supply) piping systems.
- D. Electrical Nonmetallic Tubing (ENT)+ Nom 2 in. (51 mm) diam (or smaller) electrical nonmetallic tubing. Tubing to be installed in accordance with the National Electrical Code (NFPA No.70). See Electrical Nonmetallic Tubing (FKHU) category in the Electrical Construction Material Directory for names of manufacturers.
- E. Optical Fiber Raceway+ Nom 1 in. (25 mm) diam (or smaller) optical fiber raceway formed from polyvinyl chloride (PVC). Raceway to be installed in accordance with the National Electrical Code (NFPA No.70). See Optical Fiber Raceway (QAZM) category in the Electrical Construction Material Directory for names of manufacturers.
- F. Cross Linked Polyethylene (PEX) Tubing Nom 1 in. (25 mm) diam (or smaller) SDR 9 PEX tubing for use in closed (process or supply) piping systems.
- 4. Firestop System The firestop system shall consist of the following:
 - A. Packing Material (Optional) Mineral wool batt insulation firmly packed into the opening as a permanent 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.
 - B. Fill, Void or Cavity Material* Sealant In floors, min 2 in. (51 mm) depth of fill material applied within the annulus flush with the top surface of floor or flush with the top of the steel sleeve. In walls, min 2 in. (51 mm) depth of fill material applied flush with both surfaces of wall or flush with both ends of steel sleeve.

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.

+Bearing the UL Listing Mark



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