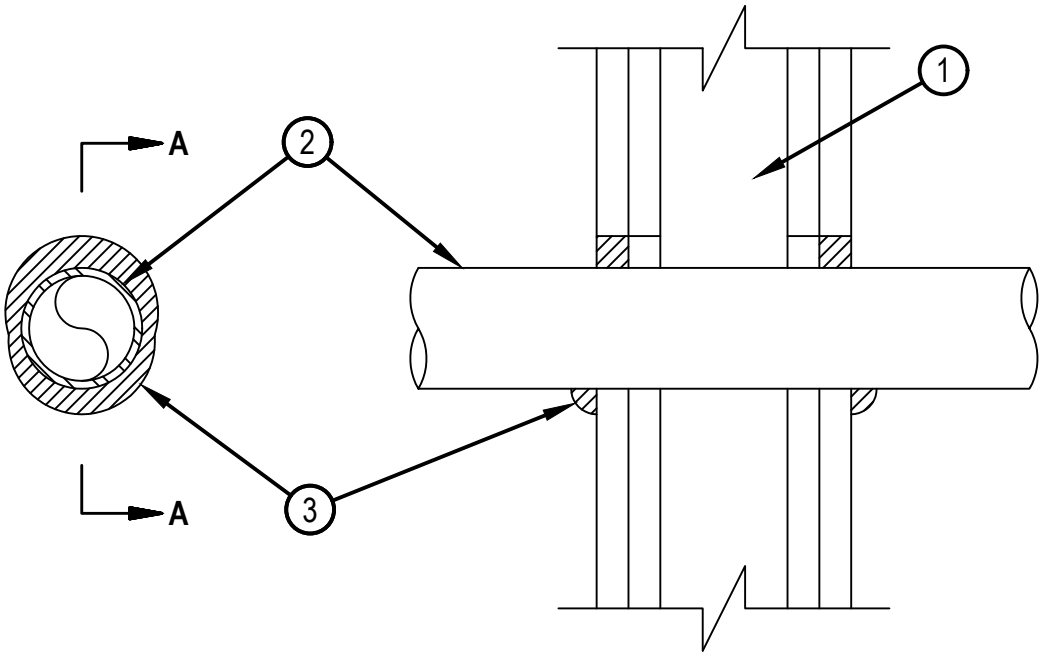
Classified by
Underwriters Laboratories, Inc.
to UL 1479

System No. W-L-2244

F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 0, 1 and 2 Hr (See Item 1)
L Rating (Without Movement) at Ambient - Less Than 1 CFM/sq ft
L Rating (Without Movement) at 400°F - 2 CFM/sq ft
M Rating (Movement) — See Table 1



SECTION A-A

System No. W-L-2244

1. Wall Assembly — The 1 and 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400, V400 or W400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC. For M Rating, and for 1 hr Rated walls with opening diam exceeding 3 in. (76 mm), steel studs to be min 3-5/8 in. (92 mm) wide.
   B. Gypsum Board* — The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Series Design in the UL Fire Resistance Directory. Max diam of opening is 3 in. (76 mm). For M Rating, and as an option for 1 hr F Rating only, max diam of opening is 4-3/8 in. (111 mm).
   The hourly F and T Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed. The M Rating is applicable only to 1 hr rated walls and the T Rating is 0 hr. The T Rating for opening diameters exceeding 3 in. (76 mm) is 0 hr.
2. Through Penetrant — One nonmetallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe and periphery of opening shall be min of 0 in. (point contact) to a max 5/8 in. (16 mm). As an option, for 1 hr F Rating, the annular space between pipe and opening shall be nom 1 in. (25 mm) for cellular core PVC penetrant and L Rating does not apply. Pipe to be rigidly supported on both sides of 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) cellular or solid core Schedule 40 (or heavier) pipe for use in closed (process or supply) piping systems.
   B. Chlorinated Polyvinyl Chloride (CPVC) — Nom 2 in. (51 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
3. Fill, Void or Cavity Material* - Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall. At point contact location, a min 1/2 in. (13 mm) diam bead of fill material shall be applied to the wall/penetrant interface on both surfaces of the wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE MAX Intumescent Sealant

The M Rating for the firestop system is dependent on the variables as noted in the Table 1 below.

Table 1

Movement Direction	Penetrant Item	Nominal Penetrant Diameter	Annular Space	Movement	Sealant Depth	F Rating	L Rating
Y	2A	2 in.	Max 1 in.	5%	5/8 in.	1 hr	N/A
Z	2A	2 in.	1 in.	0.25 in.	5/8 in.	1 hr	N/A

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