



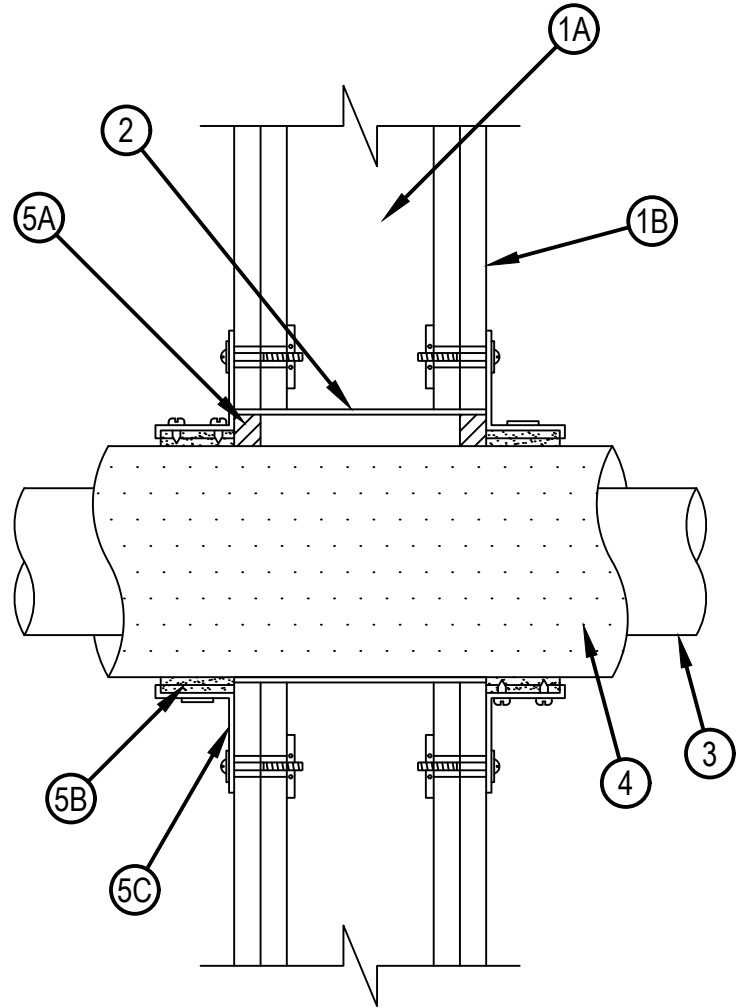
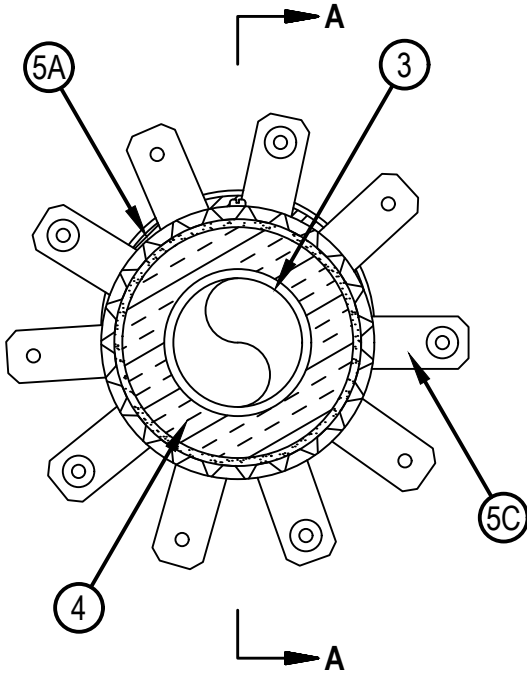
Classified by  
Underwriters Laboratories, Inc.  
to UL 1479

# System No. W-L-5335

F Rating - 2 Hr

T Ratings — 1-1/2 and 2 Hr (See Items 3, 4 and 4A)

WL 5335



**SECTION A-A**

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
  - A. Studs — Wall framing may 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 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
  - B. Gypsum Board\* — One or two layers of nom 5/8 in. (16 mm) thick gypsum board, as specified in the individual Wall and Partition Design. Maximum diam of opening is 6-1/2 in. (165 mm).
2. Sheet Metal Sleeve — (Optional) — Cylindrical steel sleeve fabricated from min 28 ga galv steel and having a min 1 in. (25 mm) overlap along longitudinal seam. Sleeve to be coiled and tightly fitted with inside diam of opening, flush with both surfaces of wall assembly.
3. Through Penetrants — One nonmetallic pipe to be installed within the firestop system. Pipe to be rigidly supported on both sides of the floor assembly. The following types and sizes of the nonmetallic pipes may be used:
  - A. Polypropylene Random (PP-R) Pipe — Nom 3 in. (90 mm) diam (or smaller) Cosmoplast PP-R SDR 6 (PN 20) pipe for use in closed (process or supply) piping systems. The T Rating for the firestop system is 1-1/2 hr when the nom pipe diam exceeds 1-1/2 in. (50 mm).

Note: Metric dimensions shown for pipes in parenthesis are actual metric OD's marked on pipe.



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4. Tube Insulation — Plastics+ — Nom 1 in. (25 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. Annular space between insulated pipe and periphery of opening shall range from a min 0 in. (point contact) to a max 1 in. (25 mm). The T Rating for the firestop system is 2 hr when this pipe covering is used.

See Plastics+ (QMFZ2) category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.

4A. Pipe Covering\* — As an alternate to Item 4, nom 1 in. (25 mm) thick polyolefin pipe insulation. Longitudinal joints sealed with metal fasteners or factory-supplied, self-adhesive. Transverse joints secured with min 4 mil foil tape. Annular space between insulated pipe and periphery of opening shall range from a min 0 in. (point contact) to a max 1 in. (25 mm). The T Rating for the firestop system is 1-1/2 hr when this pipe covering is used.

See Pipe 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.

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

A. Fill, Void or Cavity Material - Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus between insulated pipe and periphery of opening, flush with both surfaces of the wall assembly.

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

B. Fill, Void or Cavity Material\* — Wrap Strip — Nom 3/16 in. (4.6 mm) thick by 1-3/4 in. (44 mm) wide intumescent wrap strip. Min two layers of wrap strip are continuously and tightly wrapped around the outer circumference of the insulated pipe with the ends tightly butted and held in place with masking tape or aluminum tape. The wrap shall be installed on both sides of the wall, butting tightly against the gypsum board/sealant surface.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 648E Wrap Strip

C. Steel Collar — Collar fabricated from coils of precut min 0.017 in. (0.43 mm) thick (No. 28 MSG) galv steel available from the sealant manufacturer. Collar shall be nom 1- 3/4 in. (45 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchors tabs on 2 in. (51 mm) centers for securement to wall assembly. The anchor tabs shall be bent 90 degree outward for securement to the wall assembly. The opposite side incorporates retainer tabs, 1/2 in. (13 mm) wide by 3/16 in. (5 mm) long, prebent toward the pipe surface. Collar shall be tightly wrapped over the wrap strip, overlapping min 1 in. (25 mm) at seam and secured with two No. 8 sheet metal screws. Anchor tabs of collar secured to surface of wall by means of nom 3/16 in. (5 mm) diam by 2-1/2 in. (64 mm) long steel toggle bolts in conjunction with 1-1/4 in. (32 mm) diam steel fender washers at every other anchor tab. As an alternate, in 1 and 2 hr rated walls, every anchor tab of collar may be secured to surface of wall by means of nom 1-1/4 in. (32 mm) long steel laminating drywall screws in conjunction with 1-1/4 in. (32 mm) diam steel fender washers. A collar is used on both sides of wall.

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

