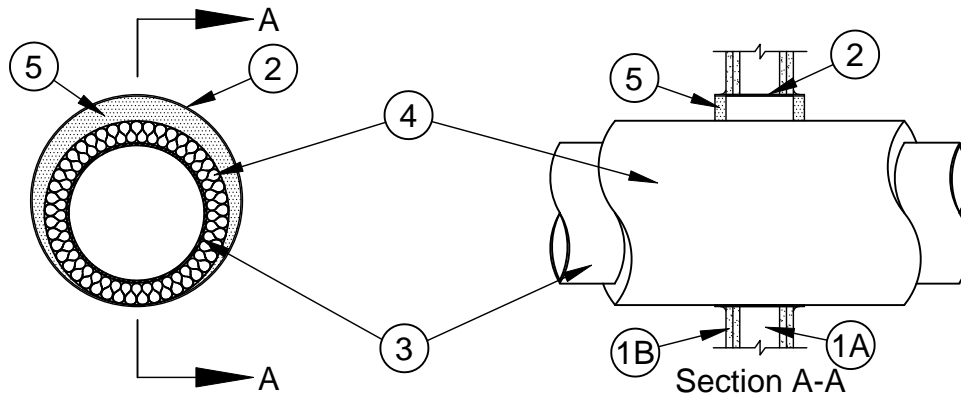




System No. W-L-5091

F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr



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 described in the individual U300 or U400 Series Wall or Partition Designs 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. lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-5/8 in. (92 mm) wide and spaced 24 in. (610 mm) OC.
- B. **Gypsum Board*** - 5/8 in. (16 mm) thick, 4 ft (1.2 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U400 Series Designs in the UL Fire Resistance Directory. Max diam of opening in wood stud walls is 12 in. (305 mm). Max diam of opening in steel stud walls is 19 in. (483 mm)

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. **Steel Sleeve** - Cylindrical sleeve fabricated from 0.0165 in. (0.42 mm) thick (28 gauge) galv sheet steel and having a min 2 in. (51 mm) lap along the longitudinal seam. Length of sleeve to be 2 in. (51 mm) greater than the thickness of the wall. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the openings and releasing the coil to let it uncoil against the circular cutouts in the gypsum wallboard layers. The ends of the steel sleeve shall extend 1 in. (25 mm) beyond each surface of the wall.
3. **Through Penetrants** - One metallic pipe or tube installed concentrically or eccentrically within the firestop system. Pipe or tube to be rigidly supported on both sides of the wall. The following types and sizes of through penetrants may be used:
 - A. Steel Pipe - Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - B. Iron Pipe - Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.
 - C. Copper Tubing - Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
 - D. Copper Pipe - Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
4. **Pipe Covering*** - One of the following types of pipe coverings shall be used:
 - A. **Pipe and Equipment Covering Materials*** - Max 2 in. (51 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 57 kg/m³) 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 butt tape supplied with the product. The annular space between the insulated through penetrant and the steel sleeve shall be min 0 in. (point contact) to max 2-1/4 in. (0 to 57 mm).

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.



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B. **Pipe and Equipment Covering Materials*** - Max 2 in. (51 mm) thick unfaced mineral fiber pipe insulation sized to the outside diam of the pipe or tube. Pipe insulation secured with min 8 AWG steel wire spaced 12 in. (305 mm) OC. The annular space between insulated penetrating item and the edge of the through opening shall be min 0 in. (point contact) to max 2-1/4 in. (0 to 57 mm)

IIG MINWOOL L L C - High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT or High Temperature Pipe Insulation Thermaloc.

C. **Sheathing Material*** - Used in conjunction with Item 4B. Foil-scrim-kraft or all service jacket material shall be wrapped around the outer circumference of the pipe insulation (Item 4B) with the kraft side exposed. Longitudinal and transverse joints sealed with metal fasteners or butt tape.

See **Sheathing Materials*** (BVDV) category in the Building Materials Directory for names of manufacturers. Any sheathing 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. **Fill, Void or Cavity Material* - Sealant** - Min 1 in. (25 mm) thickness of fill material applied within annulus, flush with each end of steel sleeve. At point contact location between insulated through penetrant and steel sleeve, a min 1/4 in. (6 mm) bead of fill material shall be applied to the insulated through penetrant/steel sleeve interface on both sides of the wall. A nom 1/4 in. (6 mm) bead of fill material shall be applied at the wallboard/steel sleeve interface on both sides of the wall.

SPECIFIED TECHNOLOGIES INC - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant

*Bearing the UL Classification Mark



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