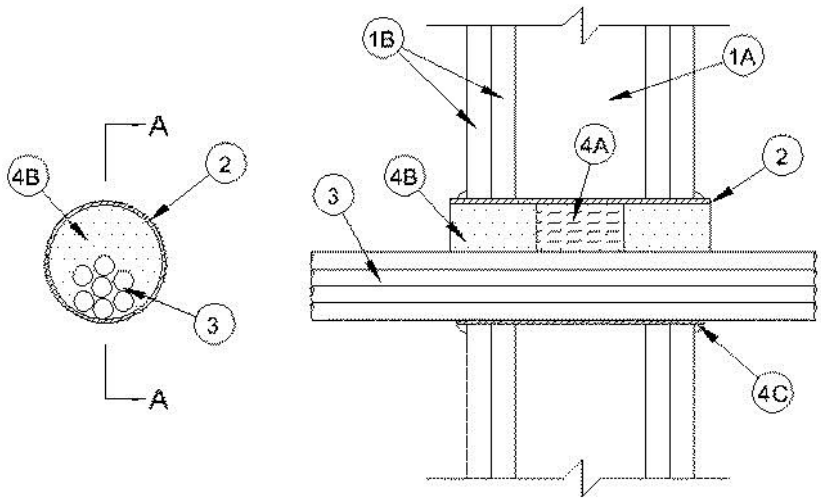
Through-penetration Firestop Systems

System No. W-L-3298

November 13, 2013

F Ratings — 1 and 2 Hr (See Item 1)

T Rating — 0 Hr



Section A-A

1. **Wall Assembly —** The 1 or 2 hr fire-rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Wall framing shall consist of 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 3-5/8 in. (92 mm) wide and spaced 24 in. (610 mm) OC.

B. **Gypsum Board* —** Min 5/8 in. (16 mm) thick gypsum board. Max diam of opening shall be 3 in. (76 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. **Metallic Sleeve —** Cylindrical sleeve fabricated from min 0.034 in. (0.86 mm) thick galv sheet steel and having a min 1/2 in. (13 mm) lap along the longitudinal seam. In 2 hr wall assemblies, length of steel sleeve to be equal to the thickness of the wall plus a min 1/2 in. (13 mm), such that when installed, the ends of the steel sleeve extend a min 1/4 in. (6 mm) to a max 1 in. (25 mm) beyond each surface of the wall. In 1 hr wall assemblies, length of steel sleeve to be equal to the thickness of the wall plus a nom 2 in. (51 mm), such that when installed, the ends of the steel sleeve extend a nom 1 in. (25 mm) beyond each surface of the wall. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the opening and releasing the coil to let it uncoil against the circular cutouts in the gypsum board layers.

3. **Cables —** Aggregate cross-sectional area of cables in opening to be max 34 percent of the aggregate cross-sectional area of the opening. The annular space between the cable bundle and the periphery of the opening

shall be min 0 in. (0 mm, point contact) to max 1-1/4 in. (32 mm). Cables to be rigidly supported on both surfaces of the wall assembly. Any combination of the following types and sizes of cables may be used:

A. Max 4 pair No. 24 AWG copper conductor Cat5e or Cat 6 telephone cable with polyvinyl chloride (PVC) insulation and jacket materials.

B. Max 12 core No. 26 AWG shielded multi coax cable with foam high density polyethylene insulation and PVC jacket.

C. Max 1/C No. 8 AWG copper conductor cable with PVC insulation and nylon jacket materials.

D. Max 100 pair No. 24 AWG copper conductor telephone cable with PVC insulation and jacket materials.

E. Max RG/6 (or smaller) coaxial cable with fluorinated ethylene (FE) or PVC insulation and jacket materials.

F. Max 7/C No. 12 AWG copper conductors with PVC insulation and jacket materials.

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

A. **Packing Material —** Min 2-1/8 in. (54 mm) thickness of min 4 pcf (64 kg/m^3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from both surfaces of wall as required to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Materials* - Foam —** Min 2-1/4 in. (57 mm) thickness of fill material applied within the annulus on both sides of mineral wool insulation. Foam installed flush with both ends of steel sleeve.

ACCUMETRIC L L C — Boss 813 FR Expanding Foam

C. **Fill, Void or Cavity Material* - Sealant —** Min 1/4 in. (6 mm) diam bead of fill material applied at the steel sleeve/gypsum board interface on both sides of wall.

ACCUMETRIC L L C — Boss 814 Sealant or Boss 816 Sealant

*Bearing the UL Classification Mark