# XHEZ.W-L-4033
# Through-Penetration Firestop Systems

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## Through-Penetration Firestop Systems

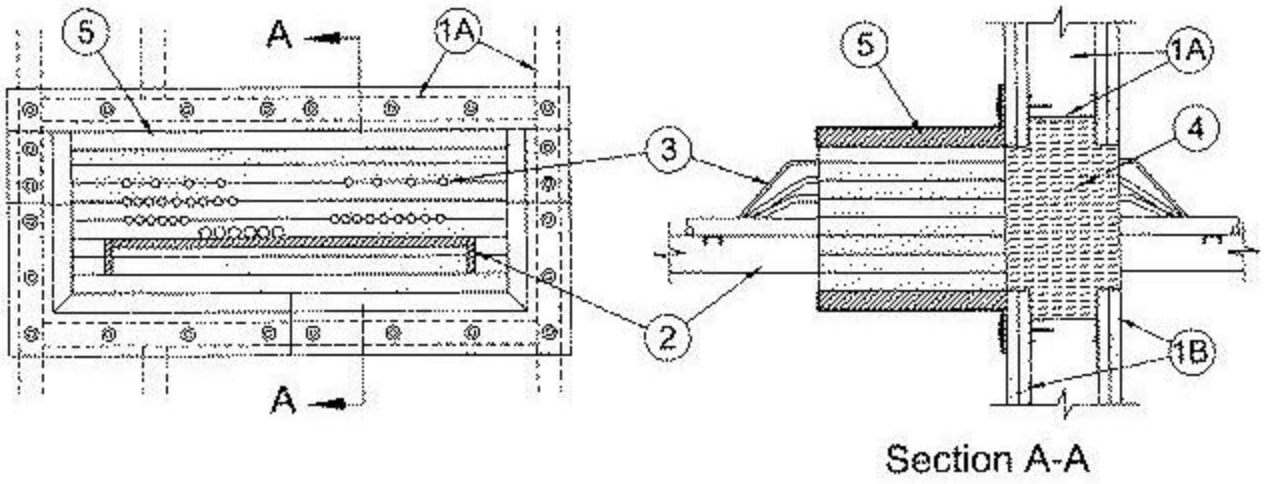
Guide Information

## System No. W-L-4033

November 30, 2000

**F Rating — 1 and 2 Hr (See Item 1)**

**T Rating — 1 Hr**




1. **Wall Assembly** The 1 or 2 hr fire-rated gypsum wallboard/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall and Partition Design in the UL Fire

Resistance Directory and shall include the following construction features:

A. **Steel Studs** Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC. The opening in the wall to accommodate the cable rack (Item 2) shall be framed on all sides. The studs on each side of the framed opening and the stud sections used for the header and sill of the framed opening shall be located as required to accommodate the mounting holes in the flanged steel casing of the fill material kit (Item 5) around the perimeter of the opening.

B. **Gypsum Board*** 5/8 in. thick, 4 ft wide, with square or tapered edges. The gypsum board type, number of layers, fastener type and board orientation shall be as specified in the individual Wall and Partition Design. The cutout in the gypsum board shall be concentric with and at least 1 in. smaller in height and width than the inside dimensions of the flanged steel casing of the fill material kit (Item 5). When optional mounting bracket or frame (Item 5) is used, the cutout in the gypsum board shall be equal to the inside dimensions of the flanged steel casing of the fill material kit. **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. **Cable Rack** Max 20 in. wide open ladder cable rack consisting of nom 2 in. high by 3/8 in. thick steel plate side rails with 1 in. wide by 1/2 in. deep channel-shaped rungs formed from nom 1/8 in. thick steel and spaced 9 in. OC. Max one cable rack per opening. Cable rack to be centered horizontally in opening with the bottom edges of the side rails located 2 in. above the bottom of the flanged steel casing of the fill material kit (Item 5). Cable rack to be rigidly supported on both sides of wall assembly.

3. **Cables** Aggregate cross-sectional area of cables in through opening not to exceed 4.5 percent of the area inside the flanged steel casing of the fill material kit. Any combination of the following types and sizes of cables may be used:

A. Max 200 pair No. 24 AWG copper conductor telecommunication/data cable; polyvinyl chloride (PVC) insulation and jacket.

B. 62.5/125 micron fiber optic cable with PVC insulation and jacket.

C. Max 14 AWG multiconductor power and control cables; cross-linked polyethylene insulation, polyvinyl chloride jacket. Cables to be installed min 1/2 in. apart in layers with a layer of intumescent sponge sheet (Item 5) between layers of cable. When diam of cables is larger than 9/16 in., narrow strips of intumescent sponge to be installed between individual cables in each layer of cables.

4. **Mineral-Wool Batt Insulation** Min 6 pcf density mineral wool batts tightly-packed into through opening to completely fill framed opening in wall assembly.

5. **Fill, Void or Cavity Materials* - Fill Material Kit** Fill material kit consists of a nom 10 in. high by 10 in. deep modular steel casing with elastomeric gasket strips, elastomeric liner blocks and intumescent sponge filler sheets. An optional mounting bracket or frame consisting of predrilled No. 16 gauge steel angles with 1/4 in. diam by 1-1/4 in. long threaded studs and sized to accommodate specific fill material kits are available from fill material kit manufacturer and may also be used. The inside width of the steel casing shall be 5 to 8 in. greater than the width of the cable rack. The fill material kit is to be installed in accordance with the accompanying instructions. The fasteners used to secure the steel casing, steel mounting bracket and/or mounting frame to the wall surface shall be min 2-1/4 in. long steel drywall screws in conjunction with steel washers. All voids within the lined steel casing to be

tightly-filled with intumescent sponge sheets. The intumescent sponge sheets shall also be installed between layers of cables on the cable rack.

**BEELE ENGINEERING B V** — Type FSP 300/2, FSP 450/2, FSP 600/2

*Bearing the UL Classification Mark

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