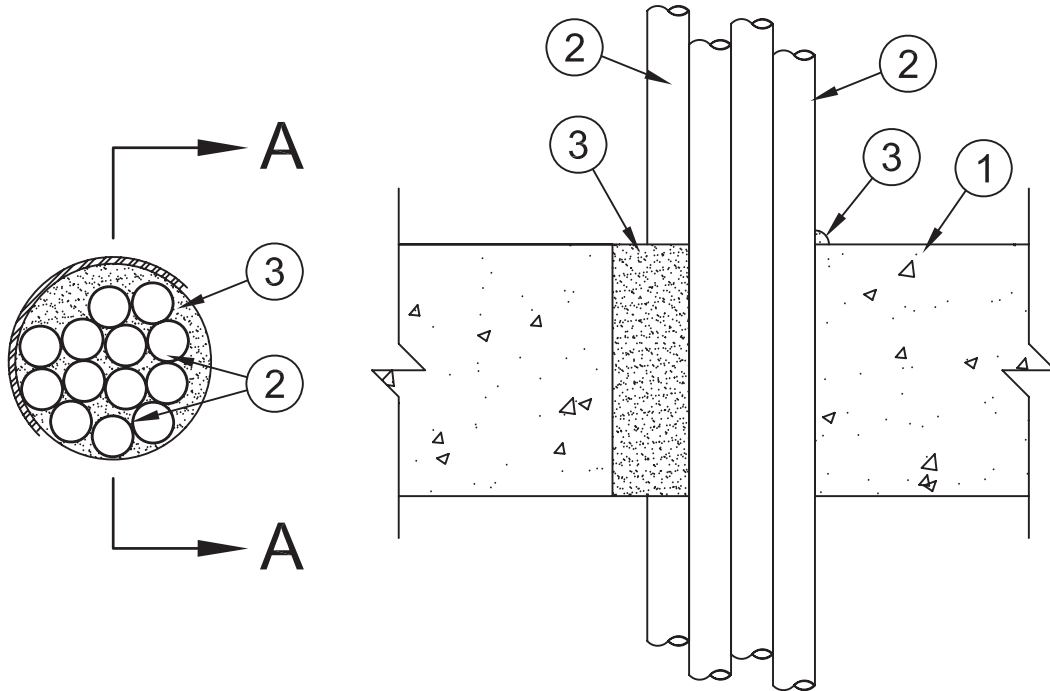


# System No. C-AJ-3321

July 29, 2013

**ANSI/UL1479 (ASTM E814)**  
 F Ratings – 2 Hr  
 T Rating – 1/4 Hr  
 L Rating at Ambient - Less than 1 CFM/sq ft  
 L Rating at 400 F - Less than 1 CFM/sq ft

**CAN/ULC S115**  
 F Ratings – 2 Hr  
 FT Rating – 1/4 Hr  
 FH Ratings – 2 Hr  
 FTH Rating – 1/4 Hr  
 L Rating at Ambient - Less than 1 CFM/sq ft  
 L Rating at 400 F - Less than 1 CFM/sq ft



## SECTION A-A

1. **Floor or Wall Assembly** – Min 2-1/2 in. (64 mm) thick lightweight or normal weight (100-150 pcf or 1600-2400 kg/m<sup>3</sup>) concrete. Max diam of opening is 6 in. (152 mm).
2. **Cables** – Aggregate cross-sectional area of cables to be max 65 percent of the cross-sectional area of the opening. The annular space between cables and between cables and periphery of opening shall be min of 0 in. (point contact) to max 2 in. (51 mm). Any combination of the following types and sizes of cables may be used:
  - A. Max 200 pair No. 22 AWG (or smaller) copper conductor with polyvinyl chloride (PVC) insulation and jacketing material.
  - B. Max 1/C No. 750 kcmil (or smaller) copper conductor cable with cross-linked polyethylene (XLPE) jacket.
  - C. Max 7/C No. 12 AWG (or smaller) copper conductor power and control cables with XLPE or PVC insulation with XLPE or PVC jacket.
  - D. Max 3/C No. 4/0 AWG (or smaller) copper or aluminum conductor SER cables with PVC or XLPE insulation and jacket.
  - E. Max 3/C No. 2/0 AWG (or smaller) copper conductor PVC jacketed aluminum clad or steel clad TECK 90 cable.
  - F. Max 110/125 fiber optic (F.O.) cable with PVC insulation and jacket.
  - G. Max 3/C with ground No. 8 AWG (or smaller) copper conductor NM cable with PVC insulation and jacket.
  - H. RG/U coaxial cable with fluorinated ethylene (FE) or PVC insulation and jacket.
  - I. Max 4 pair No. 24 AWG (or smaller) copper conductor data cable with Hylar jacket and insulation.
  - J. Max three conductor No. 12 AWG (or smaller) MC (BX) copper cable with polyvinyl chloride insulation and jacket materials.
  - K. **Through Penetrating Product\*** – Any cables, **Armored Cable+** or **Metal Clad Cable+** currently Classified under the **Through Penetrating Product** category.

See **Through Penetrating Product** (XHLY) category in the Fire Resistance Directory for names of manufacturers.
3. **Fill, Void or Cavity Material\*** – **Foam** – Min 2-1/2 in. (64 mm) thickness of fill material applied within the annulus, flush with top surface of floor or both surfaces of wall. Foam to be injected into the interstices between all cables. An additional 1/2 in. (13 mm) bead of foam shall be applied at the point contact locations.

**3M COMPANY** – Fire Barrier Rated Foam, FIP 1-Step

\*Bearing the UL Classification Mark

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Through Penetrations

Cables

3000 Series

Concrete

CAJ