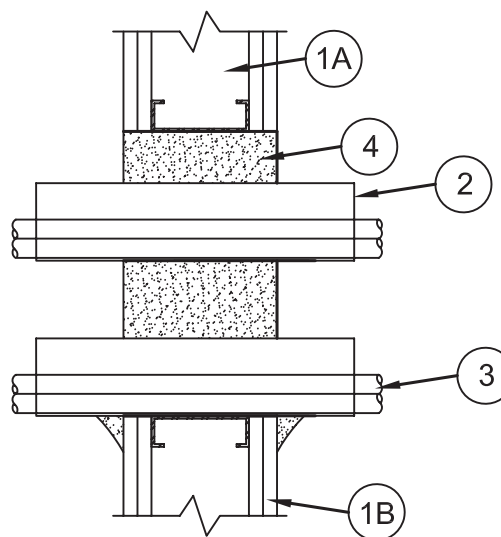
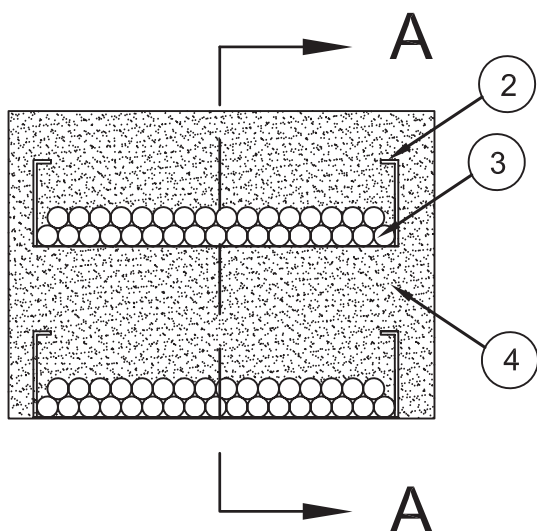


System No. W-L-4082

August 01, 2013

ANSI/UL1479 (ASTM E814)
 F Ratings – 2 Hr
 T Rating – 1/2 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 – 1/2 Hr
 FH Ratings – 2 Hr
 FTH Rating – 1/2 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. **Wall Assembly** – The 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 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 min 3-1/2 in. (89 mm) wide steel studs spaced max 24 in. (610 mm) OC. Opening is to be completely framed with additional studs.
 - B. **Gypsum Board*** – Min two layers of 5/8 in. gypsum board attached to studs with fasteners, as specified in the individual U400, V400 or W400 Series design. The area of the opening shall be max 512 in.2 (3303 cm²) with a max dimension of 32 in. (813 mm).
2. **Cable Tray*** – Max two 24 in. (610 mm) wide by max 6 in. (151 mm) deep open-ladder cable tray with channel-shaped side rails formed of 0.065 in. (1.651 mm) to 0.10 in. (2.54 mm) thick aluminum or min 0.060 in. (1.65 mm) thick galv steel. The annular space between the cable trays shall be min 2 in. (51 mm). The annular space between the cable tray and the periphery of the opening shall be min 0 in. (point contact) to max 2 in. (51 mm). Cable tray to be rigidly supported on both sides of wall assembly.
3. **Cables** – Aggregate cross-sectional area of cables in cable tray to be max 45 percent of the cross-sectional area of the cable tray based on a max 5 in. (127 mm) cable loading depth within the cable tray. Any combination of the following types and sizes of copper conductor or fiber optic 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.
4. **Fill, Void or Cavity Material*** – **Foam** – Min 6 in. (152 mm) thickness of fill material applied within the annulus, flush with 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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3M Fire Protection Products
 Through Penetrations Applicators and Specifiers Guide

Through Penetrations
Cable Trays
4000 Series
Gypsum
WL