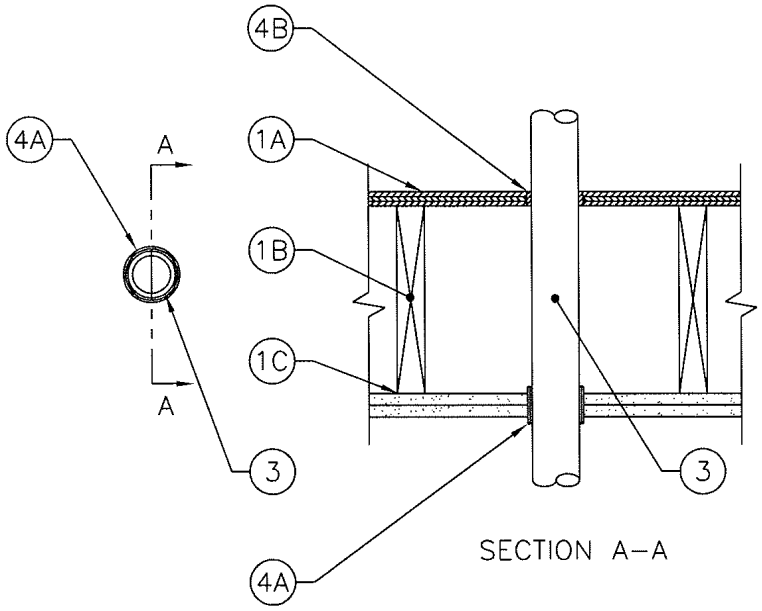

1. **Floor-Ceiling Assembly –** The 2 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 series Floor-Ceiling Design in the UL Fire Resistance Directory, as summarized below:
   - A. **Flooring System –** Lumber or plywood subfloor with finish floor of lumber plywood or **Floor Topping Mixture*** as specified in the individual Floor-Ceiling Design. Diam of opening is dependent on pipe size. See Item 4.
   - B. **Wood Joists*** – Nom 10 in. (254 mm) deep (or deeper) lumber joists spaced 16 in. (406 mm) OC with bridging as required and with ends firestopped.
   - C. **Wallboard, Gypsum*** – Two layers of 5/8 in. (16 mm) thick gypsum board as specified in the individual Floor-Ceiling Design. First layer of wallboard nailed to wood joists. Second layer of gypsum board screw attached to furring channels. Diam of opening is dependent on pipe size. See Item 4.
   - D. **Furring Channels** – (Not Shown) – Resilient galv steel furring channels installed perpendicular to wood joists between first and second layers of gypsum board (Item 1C) and spaced max 24 in. (610 mm) OC.

2. **Chase Wall** – (Optional, Not Shown) – The through penetrants (Item 3) are routed through a 2 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the material and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features.
   - A. **Studs –** Nom 2 by 6 in. (51 by 152 mm) or double 2 by 4 in. (51 by 102 mm) lumber studs.
   - B. **Sole Plate –** Nom 2 by 6 in. (51 by 152 mm) or parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Diam of opening is dependent on pipe size. See Item 4.
   - C. **Top Plate –** The double top plate shall consist of two nom 2 by 6 in. (51 by 102 mm) or two sets of parallel 2 by 4 in. (51 by 102 mm) lumber plates, tightly butted. Max diam of opening is 5-1/4 in. Diam of opening is dependent on pipe size. See Item 4.
   - D. **Gypsum Board* –** Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.

3. **Nonmetallic Penetrant –** One non-metallic pipe or conduit to be centered within the firestop system. Pipe to be rigidly supported on both sides of floor assembly. The following types and sizes of nonmetallic pipes or conduits may be used:
   A. **Polyvinyl Chloride (PVC) Pipe –** Nom 3 in. (76 mm) diam (or smaller) Schedule 40 solid core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
   B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe –** Nom 3 in. (76 mm) diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   C. **Acrylonitrile Butadiene Styrene (ABS) Pipe –** Nom 1-1/4 in. (32 mm) diam (or smaller) Schedule 40 cellular or solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   D. **Rigid Nonmetallic Conduit+ –** Nom 3 in. (76 mm) diam (or smaller) Schedule 40 PVC conduit installed in accordance with the National Electrical Code (NFPA No. 70).

4. **Firestop System** – The firestop system shall consist of the following:
   A. **Fill, Void or Cavity Materials* – Wrap Strip –** Nom 1/8 in. (3.2 mm) thick intumescent material supplied in 2 in. (51 mm) wide strips. The number of layers of wrap strips is dependent on the size of pipe, as shown in the table below. The layers of wrap strip are individually wrapped tightly around penetrant with the ends butted and held in place with aluminum foil tape. Butted ends of successive layers may be staggered or aligned. Layers of wrap strip to be recessed into opening with the bottom surface of wraps extending 1/2 to 1 in. (13 to 25 mm) below bottom of gypsum ceiling or lower top plate.
   Passive Fire Protection Partners – WS1
   B. **Fill, Void or Cavity Material* – Sealant –** Min 3/4 in. (19 mm) thickness of fill material applied within the annulus, flush with top surface of floor or top surface of sole plate. Min 5/8 in. (16 mm) thickness of fill material applied within any annular space between the wrap strip and edge of opening, flush with bottom surface of ceiling.
   Passive Fire Protection Partners – 3600EX
   C. **Foil Tape** – (Not Shown) – Nom 4 mil by 4 in. (102 mm) wide foil tape wrapped tightly around exposed portion of the wrap strip and overlapped onto gypsum ceiling or lower top plate and pipe a min 1 in. (25 mm).

Nom Pipe Size in. (mm)	Pipe Type	Diam of Opening in. (mm)	Number of Wrap Strip Layers	T Rating Hr
1 to 1-1/4 (25 to 32)	PVC, ABS, CPVC, RNC	2 (51)	2	1
2 (51)	PVC, CPVC, RNC	3 (76)	2	1
3 (76)	PVC, CPVC, RNC	4-1/2 (114)	4	3/4

+ Bearing the UL Listing Mark
* Bearing the UL Classification Marking
****Not tested to 50 Pa Pressure Differential as required by Canadian Code Requirements for Combustible Drain, Waste or Vent piping System.**