1. **Floor-Ceiling Assembly** – The 1 hr fire-rated solid wood joist floor-ceiling assembly shall be constructed of the materials and in the manner described in the individual L500 Series Design in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
   A. **Flooring System** – Lumber or plywood subfloor with finish floor as specified in the individual Floor-Ceiling Design. Max size of opening is 55 by 27 in. (1387 by 686 mm).
   B. **Wood Joists** – Nom 10 in. (254 mm) deep (or deeper) wood joists with bridging as required and with ends firestopped. Opening to be framed on all 4 sides with sections of solid wood joist.
   C. **Gypsum Board** – Thickness, type, number of layers and fasteners shall be as specified in individual Floor-Ceiling Design. Max size of opening is 55 by 27 in. (1387 by 686 mm).

   See **Gypsum Board (CKNX)** category in the Fire Resistance Directory for names of manufacturers.

2. **Steel Air Duct** – Max 48 by 20 in. (1220 by 508 mm), min 0.030 in. (0.76 mm) thick (22 GA) galvanized steel duct to be installed either concentrically or eccentrically within the opening. The duct shall be constructed and reinforced in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible. Steel duct to be rigidly supported on both sides of wall assembly.

3. **Duct Wrap Materials** – Nom 1-1/2 in. (38 mm) thick ceramic fiber batt or blanket (min 6 pcf or 96 kg/m³) jacketed with a foil-scrim-poly facing, installed in a telescope, checkerboard or butt-joint-and-collar pattern with 3 in. (76 mm) transverse and longitudinal overlaps, in accordance with the requirements of Ventilation Duct Assembly No. V-27. See Ventilation Duct Assemblies in Vol. 2 of the UL Fire Resistance Directory. Longitudinal and transverse joints sealed with aluminum foil tape. The annular space shall be min 1 in. (25 mm) to max 3 in. (76 mm) within the framed opening.

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4. **Firestop System** – The firestop system shall consist of the following:
   A. **Packing Material** – Min 9-1/2 in. (240 mm) thickness of min 6 pcf (96 kg/m³) density duct insulation compressed 33% minimum or min 5 pcf (80 kg/m³) density UL Classified mineral fiber compressed 50% minimum and installed into the opening. Packing material to be recessed from top surface of floor as required to accommodate the required thickness of fill material.

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   B. **Fill Void or Cavity Material** – Sealant – Min 1/4 in. (6.3 mm) thickness of fill material applied within annulus, flush with surface of floor.

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*Bearing the UL Classification Mark

This material was extracted and drawn by 3M Fire Protection Products from the 2009 edition of the UL Fire Resistance Directory.