1. **Floor or Wall Assembly** - Min 2-1/2 in. (64 mm) thick reinforced lightweight or normal weight (100-150pcf or 1600-2400 kg/m³) concrete floor or 3-1/2 in. (89 mm) thick reinforced lightweight or normal weight concrete wall. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 30 in. (762 mm). See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. **Steel Sleeve** - *(Optional)* - Nom 30 in. (762 mm) diam (or smaller) Sch 10 (or heavier) steel pipe sleeve. Sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces.

2A. **Sheet Metal Sleeve** - *(Optional)* - Max 30 in. (762 mm) diam (or smaller) min 26 ga (0.022 in. or 0.56 mm thick) galv sheet steel sleeve with square anchor flange spot welded to the sleeve at approx mid-height and sized to be a min of 2 in. (51 mm) larger than the sleeve diam cast or grouted into floor or wall assembly, flush with floor or wall surfaces.

2B. **Sheet Metal Sleeve** - *(Optional)* - Max 30 in. (762 mm) diam (or smaller) min 30 ga (0.016 in. or 0.40 mm thick) galvanized sheet steel sleeve cast or grouted into concrete, flush with floor or wall surfaces. The sleeve may extend a max of 1 in. (25 mm) above the top surface of the floor.

3. **Through Penetrants** - One metallic pipe or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or tubing may be used:
   A. **Steel Pipe** - Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Iron Pipe** - Nom 24 in. (610 mm) diam (or smaller) cast or ductile iron pipe.
   C. **Copper Tubing** - Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   D. **Copper Pipe** - Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

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### System No. C-AJ-5397

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<thead>
<tr>
<th>ANSI/UL1479 (ASTM E814)</th>
<th>CAN/ULC S115</th>
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<tbody>
<tr>
<td><strong>F Rating - 2 Hr</strong></td>
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</tr>
<tr>
<td><strong>T Ratings - 0 and 3/4 Hr (See Item 4)</strong></td>
<td><strong>FT Ratings - 0 and 3/4 Hr (See Item 4)</strong></td>
</tr>
<tr>
<td><strong>L Rating At Ambient - Less Than 1 CFM/ft²</strong></td>
<td><strong>FH Rating - 2 Hr</strong></td>
</tr>
<tr>
<td><strong>L Rating At 400 F - Less Than 1 CFM/ft²</strong></td>
<td><strong>FTH Ratings - 0 and 3/4 Hr (See Item 4)</strong></td>
</tr>
</tbody>
</table>

L Rating At Ambient - Less Than 5.1 L/s/m²
L Rating At 400 F - Less Than 5.1 L/s/m²
4. **Pipe Coverings** - One of the following types of pipe coverings shall be used:
   A. **Pipe and Equipment Covering Materials** - Max 1-1/2 in. (38 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m³) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. Annular space shall be min 1/2 in. (13 mm) thick to max 1-7/8 in. (48 mm).

   See **Pipe and Equipment Covering-Materials** (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

   B. **Pipe Covering Materials** - Max 1-1/2 in. (38 mm) thick unfaced mineral fiber pipe insulation having a nom density of 3.5 pcf (56 kg/m³) (or heavier) and sized to the outside diam of pipe or tube. Pipe insulation secured with min No. 18 AWG steel wire spaced max 12 in. (305 mm) OC. Annular space shall be min 1/2 in. (13 mm) thick to max 1-7/8 in. (48 mm).

   **INDUSTRIAL INSULATION GROUP L L C** - High Temperature Pipe Insulation 1200, High Temperature Pipe Insulation BWT or High Temperature Pipe Insulation Thermaloc

   C. **Sheathing Material** - Used in conjunction with Item 4B. Foil-scrim-kraft or all service jacket material shall be wrapped around the outer circumference of the pipe insulation (Item 4B) with the kraft side exposed. Longitudinal joints and transverse joints sealed with metal fasteners or butt tape.

   See **Sheathing Materials** - (BVDV) category in the Building Materials Directory for names of manufacturers. Any sheathing material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

   **When pipe covering is less than 1-1/2 in. (38 mm) thick, the T Rating is 0 Hr.**

5. **Firestop System** - The firestop system shall consist of the following:
   A. **Packing Material** - Min 1-1/2 in. (38 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall to accommodate the required thickness of fill material (Item 5B).

   B. **Fill, Void or Cavity Material** - Sealant - Min 1 in. (25 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall.

   **SPECIFIED TECHNOLOGIES INC** - SpecSeal Series SSS Sealant or SpecSeal LCI Sealant.

   * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.