<table>
<thead>
<tr>
<th>Job Number</th>
<th>Material</th>
<th>Thickness</th>
<th>U300 Rating</th>
<th>U300 Classification</th>
<th>UL Fire Resistance Directory</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wood</td>
<td>1/2 in.</td>
<td>2</td>
<td>L12</td>
<td>T0</td>
</tr>
<tr>
<td>2</td>
<td>Wire</td>
<td>3/8 in.</td>
<td>3</td>
<td>L15</td>
<td>T1</td>
</tr>
<tr>
<td>3</td>
<td>Plastic</td>
<td>5/16 in.</td>
<td>4</td>
<td>L20</td>
<td>T2</td>
</tr>
</tbody>
</table>

For additional information on the details, refer to the most current "Underwriter’s Laboratories Fire Resistance Directory (Volume 2)."
Underwriters Laboratories, Inc.

**DETAILS**

1. Min. 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

2. Min. 1/4 in. (6 mm) diam bead of sealant shall be applied at the duct/gypsum board interface at any point contact location, on both surfaces of wall assembly.

3. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

4. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

5. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

6. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

7. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

8. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

9. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

10. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

11. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

12. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

13. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

14. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

15. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

16. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

17. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

18. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

19. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

20. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

21. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

22. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

23. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

24. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

25. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

26. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

27. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

28. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

29. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

30. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

31. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

32. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

33. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

34. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

35. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

36. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

37. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

38. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

39. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

40. Min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

**Notes:**

1. Refer to section 1503 of the specifications. For Quality Control requirements, refer to the Quality Control portion of the specifications.

2. Details shown are typical details. If field conditions do not match requirements of typical details, approved alternate details shall be used. Field conditions and dimensions need to be verified for compliance with the details, including but not limited to the following:
   - Minimum and maximum Width of Joints
   - Type and thickness of the rated construction. The maximum assembly rating of the firestop assembly shall meet or exceed the highest rating of the adjacent construction.
   - Minimum and maximum thickness of the firestop system shall be the minimum specified for the adjacent construction.
   - Maximum assembly rating of the firestop assembly shall meet or exceed the highest rating of the adjacent construction.

3. If alternate details matching the field conditions are not available, manufacturer's engineering judgment drawings are acceptable. Drawings shall follow the International Firestop Code (IFC) Guidelines for Evaluating Firestop Systems Engineering Judgments.

4. Reference:
   - 2013 Underwriter's Laboratories Fire Resistance Directory, Volume 2
   - NFPA 701 Life Safety Code
   - All governing local and regional building codes

5. Firestop System installation must meet requirements of ASTM E814 and ANSI/UL1479 tested assemblies that provide the rating equal to that of construction being penetrated.

6. All rated through-penetration shall be permanently labeled with the following information:
   - UL System Rating
   - UL System ID
   - UL System Date
   - UL System Description
   - UL System Approval
   - UL System Certification

7. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

8. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

9. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

10. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

11. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

12. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

13. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

14. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

15. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

16. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

17. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

18. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

19. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

20. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

21. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

22. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

23. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

24. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

25. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

26. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

27. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

28. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

29. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

30. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

31. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

32. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

33. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

34. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

35. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

36. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

37. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

38. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

39. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.

40. UL or other Classification or Evaluation Committee, to the nearest current Underwriters Laboratories, Inc. firestop system testing standards.
3. Opening shall be a min of 3/16 in. (5 mm) to a max of 1 in. (25 mm). The space between the tubes shall be a min of 0 in. (point contact) to a max of 1 in. (25 mm). Tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipes may be used:

- Nonmetallic Type M (Schedule 40) would be used for 1-1/2 in. (38 mm) and 2 in. (51 mm) orifice diameters. Piping would be nonmetallic Type L (Schedule 80) for diameters up to 4 in. (102 mm) orifice diameters.

4. Max diam of opening is 3 in. (76 mm).

- Pipe Diameter Requirements:
  - 1 in. (25 mm) - Nonmetallic Schedule 80 Type L.
  - 1-1/2 in. (38 mm) - Nonmetallic Schedule 80 Type L.
  - 2 in. (51 mm) - Nonmetallic Schedule 40 Type M.
  - 2-1/2 in. (64 mm) - Nonmetallic Schedule 80 Type L.
  - 3 in. (76 mm) - Nonmetallic Schedule 80 Type L.

5. Max diam of opening is 5 in. (127 mm).

A) System No. W-C-2310

- System No. W-C-2310 would be used for nonmetallic Schedule 80 Type L piping system.

B) System No. F-C-2310

- System No. F-C-2310 would be used for nonmetallic Schedule 40 Type M piping system.

- Nonmetallic Schedule 40 Type M:
  - Nonmetallic Type M (Schedule 40) would be used for 1-1/2 in. (38 mm) and 2 in. (51 mm) orifice diameters. Piping would be nonmetallic Type L (Schedule 80) for diameters up to 4 in. (102 mm) orifice diameters.

- Nonmetallic Schedule 80 Type L:
  - Nonmetallic Type L (Schedule 80) would be used for 1-1/2 in. (38 mm) and 2 in. (51 mm) orifice diameters. Piping would be nonmetallic Type M (Schedule 40) for diameters up to 4 in. (102 mm) orifice diameters.

C) System No. A-C-2310

- System No. A-C-2310 would be used for nonmetallic Schedule 80 Type L piping system.

- Nonmetallic Schedule 80 Type L:
  - Nonmetallic Type L (Schedule 80) would be used for 1-1/2 in. (38 mm) and 2 in. (51 mm) orifice diameters. Piping would be nonmetallic Type M (Schedule 40) for diameters up to 4 in. (102 mm) orifice diameters.

- Nonmetallic Schedule 40 Type M:
  - Nonmetallic Type M (Schedule 40) would be used for 1-1/2 in. (38 mm) and 2 in. (51 mm) orifice diameters. Piping would be nonmetallic Type L (Schedule 80) for diameters up to 4 in. (102 mm) orifice diameters.

D) System No. S-C-2310

- System No. S-C-2310 would be used for nonmetallic Schedule 80 Type L piping system.

- Nonmetallic Schedule 80 Type L:
  - Nonmetallic Type L (Schedule 80) would be used for 1-1/2 in. (38 mm) and 2 in. (51 mm) orifice diameters. Piping would be nonmetallic Type M (Schedule 40) for diameters up to 4 in. (102 mm) orifice diameters.

- Nonmetallic Schedule 40 Type M:
  - Nonmetallic Type M (Schedule 40) would be used for 1-1/2 in. (38 mm) and 2 in. (51 mm) orifice diameters. Piping would be nonmetallic Type L (Schedule 80) for diameters up to 4 in. (102 mm) orifice diameters.

E) System No. T-C-2310

- System No. T-C-2310 would be used for nonmetallic Schedule 80 Type L piping system.

- Nonmetallic Schedule 80 Type L:
  - Nonmetallic Type L (Schedule 80) would be used for 1-1/2 in. (38 mm) and 2 in. (51 mm) orifice diameters. Piping would be nonmetallic Type M (Schedule 40) for diameters up to 4 in. (102 mm) orifice diameters.

- Nonmetallic Schedule 40 Type M:
  - Nonmetallic Type M (Schedule 40) would be used for 1-1/2 in. (38 mm) and 2 in. (51 mm) orifice diameters. Piping would be nonmetallic Type L (Schedule 80) for diameters up to 4 in. (102 mm) orifice diameters.

F) System No. I-C-2310

- System No. I-C-2310 would be used for nonmetallic Schedule 80 Type L piping system.

- Nonmetallic Schedule 80 Type L:
  - Nonmetallic Type L (Schedule 80) would be used for 1-1/2 in. (38 mm) and 2 in. (51 mm) orifice diameters. Piping would be nonmetallic Type M (Schedule 40) for diameters up to 4 in. (102 mm) orifice diameters.

- Nonmetallic Schedule 40 Type M:
  - Nonmetallic Type M (Schedule 40) would be used for 1-1/2 in. (38 mm) and 2 in. (51 mm) orifice diameters. Piping would be nonmetallic Type L (Schedule 80) for diameters up to 4 in. (102 mm) orifice diameters.
5. **Wood Frame**

**SHEET NAME:**
**DETAILS**
**FIRESTOP**
**ISSUE DATE:** January 28, 2015
**DRAWN:**
**JOB NUMBER:**

---

- **A.** Max 25 pair No. 24 AWG telephone cable with polyvinyl chloride (PVC) insulation and jacket.
- **B.** Max 7/C No. 12 AWG copper conductor power and control cable with PVC or cross-linked polyethylene (XLPE) insulation and PVC jacket.
- **C.** Max 3/C No. 8 AWG with bare aluminum ground, PVC insulated steel Metal-Clad Cable currently Classified under the Through Penetrating
- **D.** Max 3/C (with ground) No. 12 AWG (or smaller) nonmetallic sheathed (Romex) cable with PVC insulation and jacket materials.
- **E.** F. RG/U coaxial cable with polyethylene (PE) insulation and polyvinyl chloride (PVC) jacket having a max outside diam of 1/2 in. (13 mm).

---

- **Installation Date**
- **Hourly Rating (F-Rating)**

---

- **NFPA 101 Life Safety Code**

---

- **Underwriter's Laboratories Fire Resistance Directory**

---

- **U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following**

---

- **System tested with a pressure differential of 2.5 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed**

---

- **System No. W-L-8065**

---

- **Underwriter’s Laboratories Fire Resistance Directory (volume 2.)”

---

- **2013 Underwriter’s Laboratories Fire Resistance Directory,”**

---

- **FR20506-C**

---

- **NOTE:**

---

- **Dimensions:** 127 mm.
- **Separation between the insulated penetrants and the other penetrants shall be a min 1 in. (25 mm) to max 22 in. (560 mm).**
- **Annular space between the insulated penetrants and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 5 in. or less may be used.**

---

- **See Pipe and Equipment Covering - Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe**

---

- **See Sheathing Materials (BVDV) category in the Building Materials Directory for names of manufacturers. Any sheathing material meeting the**

---

- **A metal fasteners.**

---

- **5. Firestop System installation must meet requirements of ASTM**

---

- **2. Details shown are typical details. If field conditions do not match**

---

- **3. If alternate details matching the field conditions are not available,**

---

- **The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.**

---

- **If the through penetrants are installed in a steel stud/gypsum board assembly, max area of opening is 182 in2. (1174 cm2) with max**

---

- **A framing member shall be installed in stud cavity containing through-penetrating item to form a rectangular box around the penetrants.**

---

- **The minimum dimension of 22-3/4 in. (578 mm) wide.**

---

- **5B**

---

- **5A**

---

- **4B**

---

- **4A**

---

- **3**

---

- **2**

---

- **1B**

---

- **1A**

---

- **0**

---

- **Notes to designer (delete this note after reading and replace with title block information):**

---

- **1. Any modification to these details could result in an application/system not meeting the**

---

- **2. Details shown are up to date as of February 2015.**

---

- **3. For additional information on the details, refer to the most current “Underwriter's Laboratories Fire Resistance Directory (volume 2.”)"**