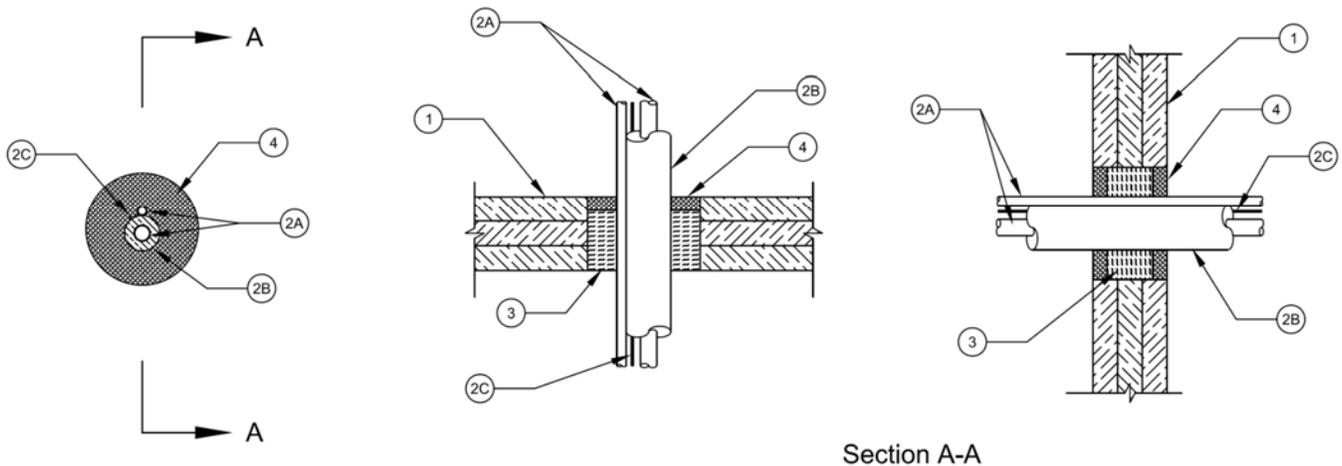


**Specified Technologies, Inc.**  
**Design No. STI/PF 60-02**  
**Through Penetration**  
**SpecSeal® LCI Intumescent Firestop Sealant**  
**ASTM E814, CAN/ULC-S115**  
**Rating: See Table 1**  
**Pressure Differential: Positive, 0.01 in. w.g. (2.5 Pa)**

**TABLE 1. RATINGS**

	<b>ASTM E814</b>	<b>CAN/ULC-S115</b>
<b>F-Rating</b>	<b>1 Hr</b>	<b>1 Hr</b>
<b>T-Rating</b>	<b>0 Hr</b>	<b>NA</b>
<b>FT-Rating</b>	<b>NA</b>	<b>0 Hr</b>
<b>FH-Rating</b>	<b>NA</b>	<b>1 Hr</b>
<b>FTH Rating</b>	<b>NA</b>	<b>0 Hr</b>



**Figure 1. Through Penetration Detail**

**1. SUPPORTING CONSTRUCTION:** Use Cross-laminated timber (CLT) certified in accordance with ANSI/APA PRG 320 (2018 or later). Use a min. 1 hour fire-rated

floor/ceiling assembly or wall assembly constructed in accordance with its listed or prescribed fire-rated design requirements that has a maximum through



opening diameter of 6 in. (152 mm) and meets the following minimum construction requirements:

- A. Cross Laminated Timber (CLT): Use min. 3-15/16 in. (100 mm) thick CLT with a minimum of 3 plies. Min. ply thickness is 1-3/16 in. (30 mm).
- B. Gypsum Board: (Optional, not shown) Gypsum board of any thickness or type may be applied directly to the underside of CLT floor/ceiling assemblies or on both sides of CLT wall assemblies. Secure as recommended by the gypsum manufacturer instructions or as needed to comply with local code requirements.
- C. Floor Topping (For floor configuration only, Optional, Not Shown) – Use a code compliant floor topping when acceptable for use in the listed or prescribed fire rated floor/ceiling design.

**2. PENETRATING ITEM:** Install penetrating items grouped together and centered or offset within the opening. The annular space and offset shall range from min. 1/2 in. (13 mm) to max. 1-3/4 in. (45 mm) within the opening.

A. METALLIC PIPE: Install a max. of two of the following types of pipe or tube:

- Max 1 in. (25mm) diameter Schedule 10 (or thicker) steel pipe.
- Max 1 in. (25mm) diameter cast or ductile iron pipe.
- Max 1 in. (25 mm) diameter copper pipe or tube (Type L or heavier).

B. PIPE INSULATION: A minimum of one metallic pipe (Item 2A) shall be insulated with max. 3/4 in. (19 mm) acrylonitrile butadiene/polyvinyl chloride (AB/PVC)

flexible foam insulation furnished in the form of tubing. Only use insulation certified to ASTM E84 or UL 723 with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less for applications requiring compliance with ASTM E814. Only use insulation certified to CAN/ULC-S102 with a Flame Spread Rating of 25 or less and a Smoke Developed Classification of 50 or less for applications requiring compliance with CAN/ULC-S115.

C. CABLE: A max. of two, 4 Conductor, No. 18 AWG thermostat cable with polyvinyl chloride (PVC) insulation and jacketing may be installed within the opening.

**3. PACKING MATERIAL:** Use only packing material bearing an Intertek Certified Label and meeting the following minimum requirements. Install min. 4 pcf (64-kg/m<sup>3</sup>) mineral wool insulation in the annular space of the opening in the floor/ceiling or wall assembly (Item 1) to the full depth of the supporting construction except recessed nominal 3/4 in. (19mm) from the top of the CLT floor/ceiling assembly or both sides of the CLT wall assembly. Tightly pack the insulation (compress minimum 50%) around the penetrating item (Item 2).

**4. FILL, VOID, OR CAVITY MATERIAL:** Apply the following material in accordance with manufacturer's instructions and in compliance with the requirements below:

Certified Product: Specified Technologies, Inc. SpecSeal® LCI Intumescent Firestop Sealant

Apply nominal 3/4 in. (19 mm) depth of SpecSeal® LCI Intumescent Firestop Sealant over the packing material (Item 3) to fill the



annular space so that it is flush with the top side of the CLT floor/ceiling assembly, or with both sides of the CLT wall assembly.

*Consult the listing report on the Directory of Building Products (<https://bpdirectory.intertek.com>) for the edition of the standard(s) evaluated.*

*Compliance of the assembly described in this Design Listing with the referenced standard relies on verification that the assembly constructed in the field is consistent with that described herein. Intertek certified products may be verified by the approved Intertek label; other products must be verified by the Authority Having Jurisdiction as meeting the specifications stated herein.*