Tech Solutions 215.0

Residential Applications Using Froth-Pak™ Foam Insulation and Froth-Pak™ Foam Sealant Kits

Introduction

Froth-Pak™ Foam Insulation* and **Froth-Pak™ Foam Sealant** kits are easy-to-apply, portable solutions to help reduce drafts and moisture intrusion – major causes of a home's energy loss (Figure 1). The products also help minimize compromised indoor air quality and structural damage that can result from trapped moisture.

Froth-Pak™ products are two-component, quick-cure polyurethane foams that expand when applied to fill interior/exterior cavities, penetrations and gaps 3" (75 mm) or greater.** **Froth-Pak™ Foam Sealant** is used primarily as an air sealant at openings around vents, pipes, ducts, cables and wires at ceiling and floor level.† **Froth-Pak™ Foam Insulation** may be used as an air sealant, but with a flame spread index of 25 or less, it is more commonly used to insulate along sill plate, rim and band joist areas, as well as wall cavities.

Froth-Pak™ products are offered in a wide selection of kits with theoretical yields from 12 to 620 board feet (.03 to 1.46 cubic meters).

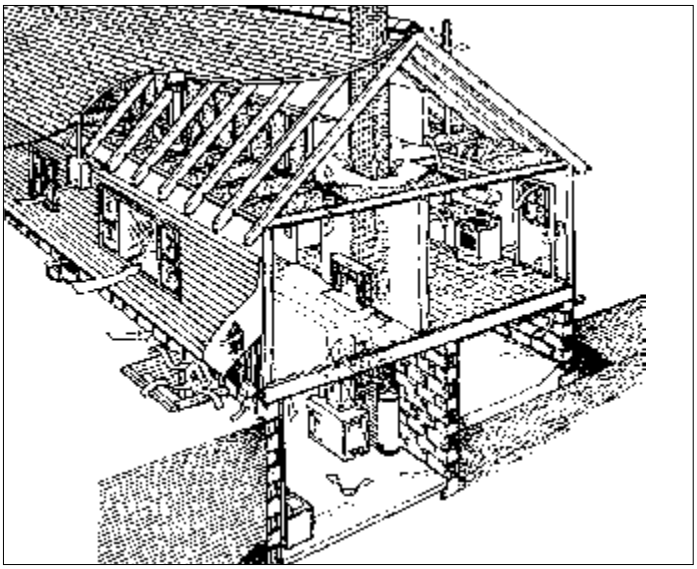

Figure 1: According to the Air Barrier Association of America (ABAA), a typical 2,500 ft² home has over 1/2 mile of cracks and crevices. For a closer look at these problem areas and how Froth-Pak™ products can close the gap, see pages 2-4.

Safety and Conditions of Use

- Read the instructions and Material Safety Data Sheets carefully before use.
- **Froth-Pak™ spray polyurethane foam** contains isocyanate, hydrofluorocarbon blowing agent and polyol. Do not breathe vapor or mist. Use only in well-ventilated areas or with proper respiratory protection. Supplied air or an approved air-purifying respirator equipped with an organic vapor sorbent and a P100 particulate filter may be required to maintain exposure levels below ACGIH, OSHA, WEEL or other applicable limits. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure, air-supplying respirator (air line or self-contained breathing apparatus).
- Isocyanate is irritating to the eyes, skin and respiratory system, and may cause sensitization by inhalation or skin contact.
- **Froth-Pak™ foam** will adhere to most surfaces and skin. Do not get foam on skin. Wear protective clothing (including long sleeves), gloves, and goggles or safety glasses. Cured foam must be mechanically removed or allowed to wear off in time.
- The contents are under pressure.
- **Froth-Pak™ foam** should not be used around heaters, furnaces, fireplaces, recessed lighting fixtures or other applications where the foam may come in contact with heat-conducting surfaces. Cured Froth-Pak™ foam is combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F (116°C).

*Froth-Pak™ foam Insulation is available in the United States only.
**For exterior applications, a coating must be applied for ultraviolet (UV) protection.
†Check with your local code official. Froth-Pak™ foam Insulation is not an approved fireblock.

Advantages

Froth-Pak™ foam Insulation and **Froth-Pak™ Foam Sealant** can effectively protect against air infiltration, which accounts for up to 25-40 percent of a home's energy loss.†† **Froth-Pak™** products also help seal out moisture, dust, smoke, outside noise and insects.

Froth-Pak™ Fills the Void

Froth-Pak™ Foam Sealant and **Froth-Pak™ Foam Insulation** help to quickly put an end to air leakage paths that lead to energy loss and accompanying moisture problems.

See Figures 2, 3, 4, 5, 6 and 9 for examples of air-sealing applications where either **Froth-Pak™ Foam Sealant** or **Froth-Pak™ Foam Insulation** may be used. Some applications may require an ignition barrier to meet code requirements. **Froth-Pak™ Foam Insulation** can be used as both an insulation and an air sealant, helping reduce energy loss in both of these ways. See Figures 7, 8 and 10 for examples of **Froth-Pak™ Foam Insulation** applications.

TIP
Make sure the area being foamed is free from dust and debris. Set up the **Froth-Pak™** kit as directed in the supplied instructions. For best results, spray foam in a side-to-side motion in even thicknesses.

Using **Froth-Pak™ Foam** Sealant in the ceiling and attic helps prevent air escape and entry from these areas:

- Wall-ceiling joints (Figure 2)
- Attic hatch (Figure 3)
- Attic perimeter, penetrations and ductwork
- Vent pipes through roof and dryer vent
- Interior partitions
- **Froth-Pak™ Foam** is not an approved fireblock

TIP
For maximum value and to enhance performance of batt/blown-in insulation, spray **Froth-Pak™ Foam Sealant** around exterior wall penetrations to block air leakage, moisture and outside allergens. Add insulation to achieve desired R-value (RSI).§

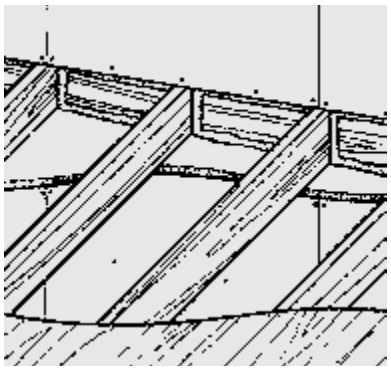

Figure 2: Sealing wall-ceiling joints S I

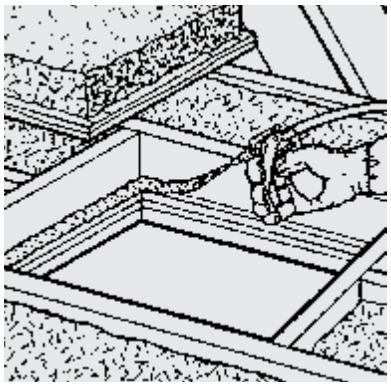

Figure 3: Sealing around attic hatch S I

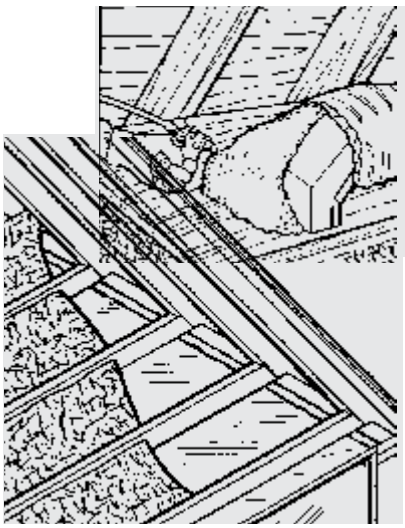

Figure 4: Insulating around attic perimeter/penetrations/ductwork before adding fiberglass batt or blown-in insulation (ignition barrier required) S I

Key
S Froth-Pak™ Foam Sealant
I Froth-Pak™ Foam Insulation

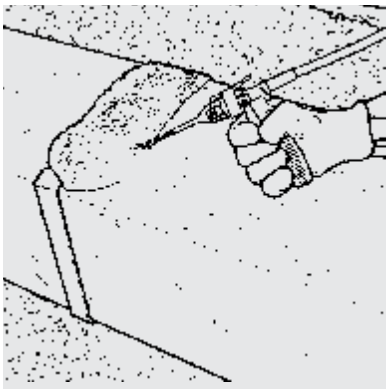

Figure 5: Duct joint sealing (ignition barrier required) S I

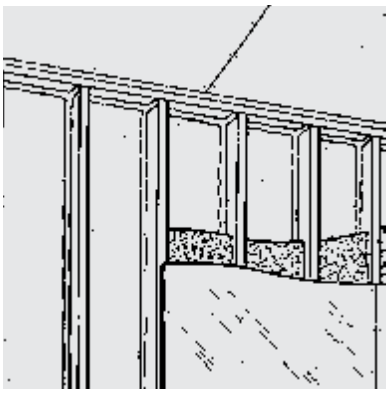

Figure 6: Sealing stud wall cavities (“picture framing”) S I

TIP:
Froth-Pak™ Foam Insulation is approved at 2” (50 mm) thickness for full coverage applications.

Walls

To simply air seal cracks, crevices and penetrations within cavities, use **Froth-Pak™ Foam Sealant**. As a best practice, spray **Froth-Pak™ Foam Sealant** in a “picture frame” fashion in the wall cavity before installing batt insulation to block out drafts and enhance insulation performance (Figure 6). Use **Froth-Pak™ Foam Sealant** to air seal wall-ceiling joints. See Figure 2.

Flash and batt (1/2”-1” [13 mm- 25 mm] foam thickness) is another effective technique to insulate and seal the wall with **Froth-Pak™ Foam Sealant**. See Figure 7.

Froth-Pak™ Foam Insulation is an effective insulation and air sealant for stud wall cavities (Figures 7 and 8). A thermal barrier is required to separate **Froth-Pak™ Foam Insulation** from the interior.

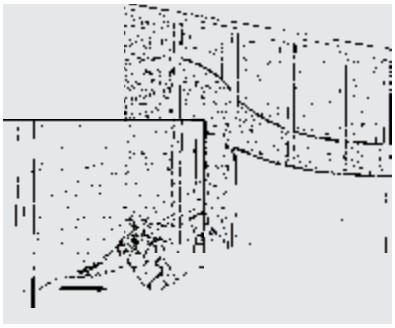

Figure 7: Flash and batt (1/2”-1” [13 mm-25 mm] thickness) I

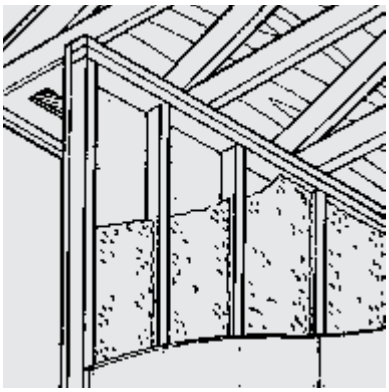

Figure 8: Insulating stud wall cavities (maximum 2” [50 mm] thickness) I

Rim/Band Joists

The rim joist application is documented in the 2006 International Residential Code (IRC), Section R314.5.11. Foam plastic spray applied to a sill plate and header in residential construction is subject to all of the following:

- The maximum thickness of the foam plastic shall be 3-1/4 inches.
- The density of the foam plastic shall be in the range of 1.5 to 2.0 pcf.
- The foam plastic shall have flame spread index of 25 or less and an accompanying smoke developed index of 450 or less when tested in accordance with ASTM E84.

Froth-Pak™ Foam Insulation is UL Classified as a foam plastic – UL File R7813, tested at 2" (50 mm) thickness full coverage. With a flame spread index of 25 and a smoke developed index of 350, **Froth-Pak™ Foam Insulation** up to 2" thick can be left exposed without a thermal barrier on sill plates and rim joist headers (Figures 9 and 10).

TIP:
To meet fire code (ASTM E84), limit the width of the **Froth-Pak™ Foam Sealant** to 4" (100 mm) and thickness to 2" (50 mm).

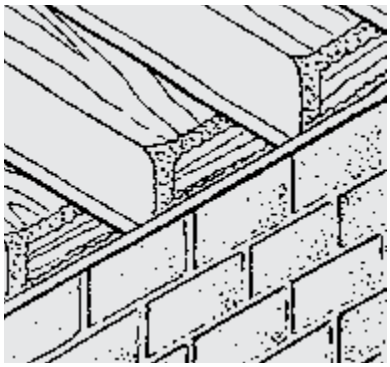

Figure 9: Sealing sill plate/rim joists (maximum 2" [50 mm] thickness) S I

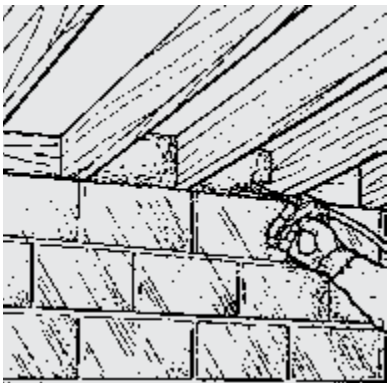

Figure 10: Insulating sill plate/rim joists (maximum 2" [50 mm] thickness) I

Floors Above Garages

Floors that have an unconditioned (not heated or cooled) space below provide the following areas for sealing with **Froth-Pak™ Foam Sealant**:

- Wall-ceiling joints (Figure 2)
- Rim joists/sill plate (Figure 9)

Additional sealant opportunities include support posts and columns, ductwork and plumbing passes (to minimize vibration noise).

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