ESCAPE ROUTES: Where Heat Is Fleeing Your House

Is your house feeling a little drafty now that the winter weather has arrived? The U.S. Department of Energy estimates that you can reduce your heating and cooling needs up to 30 percent just by properly insulating and weatherstripping your home. You haven’t missed your chance to weatherproof, says Ed Copenhagen, manager of Frager’s Hardware on Capitol Hill. Here are some simple preventive measures you can take inside your home to make it more comfortable and energy-efficient.

Trouble Spots

The average house — even when well insulated — contains cracks and gaps between building materials that can add up to a leak about 14 inches square.

- **Attic holes**: Holes to accommodate pipes, ducts and vents can release a tremendous amount of heat and should be sealed with a general-purpose caulk or foam spray.
- **Air leakage from windows and doors in a typical home**: 32%
- **Fireplace dampers**: Mistiming or poorly fitting dampers allow air to move frosty up and down the chimney. To test the damper’s seal, close the flue, light a small piece of paper and watch the smoke. If the smoke goes up the flue, there’s an air leak.
- **Air leakage from a fireplace**: 14%
- **Air conditioners**: Window units should be removed during winter. If they can’t be removed, the area around the unit should be sealed with removable rope caulk. An indoor installation harvests energy to reduce air infiltration.
- **Electric outlets**: Cold air can snip through the sockets. Installing foam gaskets on all switches and outlets will help minimize this effect.
- **Air leakage from electrical outlets**: 2%
- **Basement doors**: Heals to accommodate laundry ducts and vents or plumbing pipes can be big sources of heat loss and need to be reduced with expanding foam.
- **Air leakage from fans and vents**: 4%

Weatherstripping Options

Weatherstripping — a narrow piece of metal, vinyl, rubber, felt or foam — prevents air infiltration around windows and doors by sealing gaps between the frames and moving parts when they are closed. Weatherstripping comes by the foot or in kits at any hardware or home improvement store.

**Before You Begin**
- **Determine the area you need**: Measure the sides of all the windows and doors to be weather-stripped. Add about 5% to 10% for waste.
- **Be sure to clean and prepare the surface**.

**SPRING TEAR SEAL**

Fitted tear of brass, aluminum, steel or brass, nailed to frame.

**DOOR SWEEP**

Aluminum or stainless steel with a brush of plastic, vinyl, sponge or felt.

**REINFORCED VINYL**

Plastic or rigid strip gasket attached to your door, plastic or metal strip.

**DOOR TRIM**

Adjustable stainless steel with a thickness of plastic, vinyl, sponge or felt.

**ADVANTAGES**

- Reliably and permanently, moisture-in-place.

**DISADVANTAGES**

- Easy to install but expensive.

- Requires low lubrication. It is difficult to prevent the door from opening and closing.

- No leakage at the top of the door.

- The frame becomes black from the air.

- Moisture can cause swelling and warping.

**FELT**

Felt or treated with a metal strip. Must be stapled, glued or backed to frame.

**FOAM TAPE**

Felt that comes in various sizes, with an adhesive backing on one side.

**ADVANTAGES**

- Easy to install and inexpensive.

**DISADVANTAGES**

- Low lubrication. Can’t be used in areas where there is friction or abrasion.

- All-weather felt more durable and more expensive.

- Very visible.

**REINFORCED VINYL**

Plastic or rigid strip gasket attached to your door, plastic or metal strip.

**ADVANTAGES**

- Easy installation. Low to moderate cost. Some types of rigid strip gaskets provide extra leverage to increase height, increasing durability. Comes in various colors to help with visibility.

**DISADVANTAGES**

- Visible. Self-adhesive on plastic strip may not adhere well to metal or during cold weather.

**FIBERGLASS**

Fiberglass is adjustable for uneven thresholds.

**ADVANTAGES**

- Relatively easy to install.

**DISADVANTAGES**

- Low to moderate cost. Some types of rigid strip gaskets provide extra leverage to increase height, increasing durability. Comes in varying colors to help with visibility.

- Visible. Self-adhesive on plastic strip may not adhere well to metal or during cold weather.

- Moisture sensitive. Can drap on carpet.

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**DOLLAR TEST**

Still use weatherstripping in place, test for gaps with a dollar bill. Check a door or window with the dollar positioned across the weatherstrip. If the dollar falls out, the gap is too large. If you can’t pull it out, the weatherstrip is fine and doing its job by stopping air infiltration.

**How Does Your Home Measure Up?**

The Maunner to Save Energy offers an online Home Energy Checkup that provides instant feedback (www.ans.org) and the U.S. Department of Energy (www.energystar.gov) can offer newsflash. For many local electric and gas utilities offer energy audits or can refer you to private sources for those services.