



ENERGY EFFICIENCY

SCOTT'S ENERGY SPOT: AIR INFILTRATION

Efficiency tips from Firelands Electric's energy advisor



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Like most of you, I enjoy spending time outdoors on a sunny July day. But when the dog days of summer arrive, sometimes the heat and humidity make me retreat to my cool, air-conditioned home. However, when warm, moist summer air enters your home through unwanted air

infiltration (i.e., air leaks), it can make your living space pretty unpleasant. More importantly, it can cause your air-conditioning system or heat pump to struggle with maintaining a comfortable indoor environment — wasting both energy and money.

Now, you may be scratching your head and wondering: "But what is air infiltration and why should I be concerned about it?" The condensed definition of air infiltration is the unintentional or accidental entry of outside air into a home or building. It typically occurs because of gaps around doors or windows, cracks in attic or basement spaces, or poorly sealed ductwork and plumbing. Any situation that allows unwanted outside air to enter your home can significantly impact summer comfort and cooling bills.

Just how does air infiltration affect your comfort and pocketbook? Unwanted hot summer air increases the cooling load, or the amount of heat that needs to be removed from a space to maintain the temperature set on your thermostat. Removing this extra heat causes your air conditioner to work harder and longer, increasing energy use

and cost. Studies conducted by the U.S. Department of Energy, along with independent organizations such as the Building Performance Institute and Green Building Advisor, reported that air infiltration can increase the energy needed to cool your home by as much as 30%. Plus, since the summer air leaking into your home is typically loaded with humidity, it will make your living space feel warmer, making it tempting to bump the thermostat down a few degrees to feel comfortable.

The most accurate way to determine how much air is leaking into a home or building involves an in-depth test using a blower door, often used in conjunction with an infrared camera. A blower door depressurizes the inside of a building, causing positive air pressure outside to easily find its way inside through hidden cracks and gaps in a building's exterior. The infrared camera allows you to visually pinpoint any pockets of hot air in the home.

A less intrusive method, and perfect for those who prefer DIY projects, is to inspect the insulation in your basement and attic. Marks or discoloration on your insulation are a sign that air is leaking into your home. The infiltrating air blows across the insulation, leaving a trail of dirt. The visible movement of dust or cobwebs is another sure sign of an air leak.

So, what are the next steps if you find an air leak? Reducing air infiltration around your home can be as simple as sealing obvious gaps and cracks around windows, doors, the foundation, and other areas of your home with caulk or spray foam. Another weekend project to stop air leaks involves sealing and insulating ductwork with duct mastic or aluminum tape. You can also find additional tips online www.energy.gov/energysaver/detecting-air-leaks.

As always, members are also welcome to call Firelands Electric at 1-800-533-8658 to schedule a free energy consultation, during which we will be happy help assess your home and look for the steps you should take next.