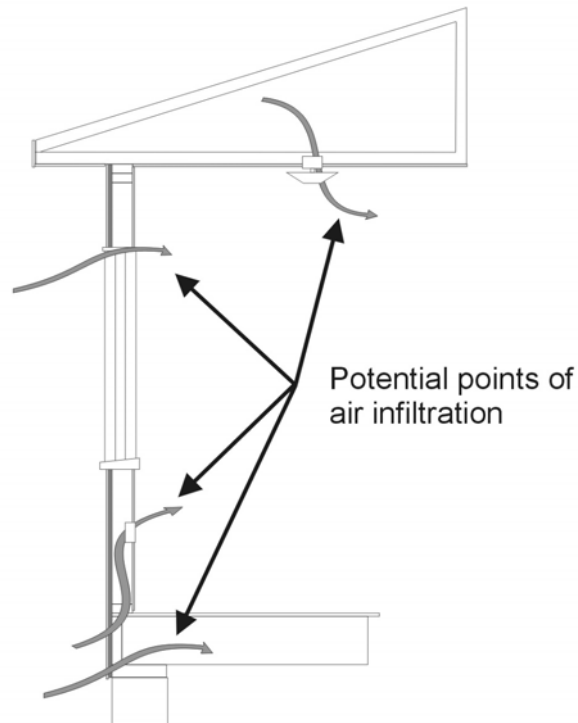


## Air Infiltration

Did you know that air infiltration could result in the loss of 50 to 70 percent of the heat from your home?

Air infiltration is the process by which air moves into and out of your home on a continual basis. This process occurs in all homes, in some much more than others. Because all homes are made of individual pieces of material, fitted and connected to one another, there will always remain small voids or gaps between these materials. These gaps allow the movement of air into the home. The larger the gaps, the more air infiltration the home will experience.

Because we condition the air inside our homes, heating or cooling, we create temperature differences between the indoor air and the outdoor air. This temperature difference between indoors and outdoors can help to facilitate air infiltration into the home. Also, when the wind blows, it creates a high-pressure area on one side of the house and a low-pressure area on the down wind side of the house. This also facilitates air infiltration. As this occurs, our heating/cooling systems must recondition the new air that has come into the home. Higher rates of air infiltration result in higher utility bills. How high was your heating bill last winter?



In most new homes, measures are taken to reduce the rate of air infiltration resulting in a more energy efficient home. This is accomplished in a wood framed home using an air infiltration barrier. When properly installed, these barriers will reduce but not eliminate air infiltration. Further reduction of air infiltration can be accomplished by paying special attention to any penetrations of the interior surface. These penetrations include windows, doors, heating or cooling vents, electrical outlets, switches, light fixtures, etc... If special care is taken to seal these penetrations, the rate of air infiltration will be further reduced.

Some building materials have very low rates of air infiltration due to their structure. Insulated concrete forms (ICFs) and structural insulated panels (SIPs) are two examples. These building materials experience less air infiltration because they are made up of larger parts, having fewer joints where they connect. Fewer joints result in fewer places for air to infiltrate through. These materials also have very high insulation values (R25-35), higher than those normally achieved with conventional building materials.

You can have your house tested to find out if your house has more air infiltration than it should by having a blower door test performed. A blower door is a special fan and seal that is temporarily placed in one of your exterior doorways. The fan pushes air into the home at a known rate. Because they know how much air is being pumped into the home, they can also tell how much air is leaking out of the home. The technician can also identify where air is leaking, allowing these areas to be sealed.

Once the air leaks in your home are better sealed, you will see a reduction in your monthly energy bills because your heating system will not have to work as hard. The less air allowed to leak into or out of your home, the fewer dollars will leak out of your wallet.

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