Have you ever noticed after a snowfall, some of your neighbors' roofs are blanketed in snow while others are bare? These bare roofs are a sign of a poorly insulated attic. As heat escapes from the attic, due to the "stack effect," the snow melts away and once it leaks to the edge it oftentimes turns into ice damming.

The Stack Effect

The "stack effect" plays a key role in the melting of snow melt on roofs. Warm air is trying to rise, which is why the warmest air in the house will always be in the top of your home. When this warm air leaks out through crack and gaps near the top of the house, a similar volume of outside air leaks in to avoid causing a vacuum, this is called infiltration.

In most homes, interior air leaking outside, called exfilitration, occurs through the attic more than anywhere else in the home. Here's the bad news about the stack effect. The interior air leaks out of the house before you receive its full benefit, and a similar volume of unconditioned air leaks into the house making your furnace, or air conditioner for summer months, work harder to maintain comfortable indoor temperatures.

R-Value

Many New York homes have attic insulation that is either inadequate and/or was poorly installed, which does not help when trying to retain heat. Insulation is measured in "R-value."

R-value is the insulation's resistance to heat flow. The higher the R-value the greater the insulation effectiveness. There are two ways to measure R-value, overall/total R-value and R-value per inch. The U.S. Department of Energy recommends having an R-value between R-49 and R-60 for attic insulation, this is total R-value.

Unfortunately The U.S. Department of Energy states that most attics don't have adequate insulation according to current recommendations they established. Some houses even have an R-value as low as 19.

What Causes Poor Insulation

Insulation's job is to slow the transfer of heat, which is just as important in hot weather as it is in cold weather. Poor insulation can be caused due to a variety of things.

â€¢Voids: These are areas where insulation is absent. Research has shown that just a 4% void in fiberglass batt insulation can result in a 50% reduction in insulation effectiveness. Fiberglass batt insulation the most common form of insulation and fills the space in between wall studs. It typically comes in the form of rolls and are typically yellow or pink.

â€¢Compression: This eliminates many tiny trapped air pockets that provide insulation value, thus reducing its effectiveness.

â€¢Air Movement: When air can pass through insulation it obviously is not doing its job to retain heat.

â€¢Moisture: This has the potential to decrease the R-value of insulation by causing settling,

compression and voids.

There are many kinds of insulation such as: fiberglass batts, cellulose, rigid foam board and spray foam insulation. Each of these has particular characteristics that make it suitable for some homes, but not for others. Before going out and buying a bunch of insulation it is best to get an insulation estimate to see which form is best for your home.

Article Source:
http://www.articleside.com/home-articles/where-does-all-my-heat-go-in-the-winter.htm - Article Side

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Article Keywords:
home energy audit, energy efficiency, attic insulation

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