



Finding Energy Savings in Your Attic

By Tom Lienhard, PE, CEM

Do you know the part of your home where a majority of the heat comes from in the summer and where your heat wants to go in the winter? It's your attic, which is an integral part of your home's energy system.

Heat moves from a higher temperature to a lower temperature location. In summer, this means heat from a poorly ventilated and insulated attic will pass from the attic into your home, causing your air conditioning system to work harder.

The reverse is true in winter. The increased buoyancy of warm air causes the heat in your home to drift up into the cooler attic space. The result is your home heating system will work harder. Fortunately insulating your attic will help both situations, and correctly ventilating your attic space will ease more of the summer heat burden.

According to the U.S. Department of Energy (www1.eere.energy.gov/consumer/tips/insulation.html), guidelines for insulation in your home include:

- Use higher density insulation on exterior walls, such as rigid foam boards, in cathedral ceilings and on exterior walls.
- Ventilation helps with moisture control and reducing summer cooling bills. Attic vents can be installed along the entire roof peak to help ensure proper airflow from the soffit to the attic to make a home more comfortable and energy efficient. Do not ventilate your attic if you have insulation on the underside of the roof. Check with a qualified contractor.

Recessed lighting fixtures can be a major source of heat loss into your attic, but be careful how close you place insulation next to a fixture unless it is marked IC—designed for direct insulation contact. Check your local building codes for recommendations.

Also, inspect and measure the level of your attic insulation before hiring a contractor to add insulation. For most loose-fill insulation, you can estimate an R-value of around R-3 per inch. Find your current level of insulation by measuring its depth and multiplying by 3 for your total. In the Inland Northwest, requirements suggest R-38 to R-49 or more for the attic. If you have less than 10



inches, consider adding more insulation. Make sure the insulation is spread evenly over the attic.

If you're not sure what type of insulation you have, or if you know you may have vermiculite or asbestos related insulation material, hire a contractor to perform the work necessary to make sure your home is both safe and efficient.

Don't forget to insulate the attic door to the same level as the rest of the attic. Make sure no vents from bathrooms, clothes dryers or the kitchen are venting into the attic. These may cause moisture problems and possibly hurt the insulating ability.

Equipment Rebates and Incentives

Some electric and natural gas utilities offer rebates and incentives for customers making energy efficiency upgrades to their home or business. It could pay to find out what your energy provider offers.

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