Texas Agricultural Extension Service

The Texas A&M University System

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Energy-Saving Features

A home with energy saving features will enable you to lower your energy usage while maintaining a comfortable environment. Such features also add to the value of the house.

The location of the home in relation to the sun greatly influences its energy efficiency.The optimum orientation is when the ridge *(Illustration 1)* is on an east-west axis with most of the windows facing south and north. As the sun moves at a higher arc across the sky from northeast to northwest in the summer, overhangs protect the windows from summer sun. Deciduous trees, awnings and large shrubs also protect the windows in the summer. As the sun moves from southeast to southwest at a lower arc in the winter, the winter sun can enter the windows.

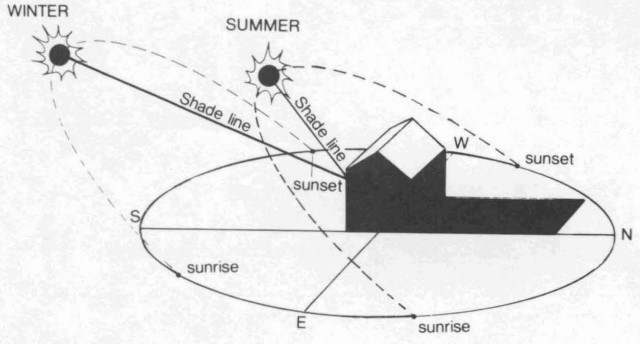

Illustration 1

Depending upon where you live in the state, insulation recommendations range from R-19 to 38 for the attic and an R-11 in the walls. R value indicates resistance to heat flow; the higher the R number the more effective the product. In the winter, warmer air tends to move outside the structure to cooler air, whereas, in the summer, the warm outside air seeks out the cooler inside air.

The most frequently used insulating materials for walls and ceilings are mineral wool and cellulose fibers. Both are available in batt or blanket form or loose fill which may be blown in or distributed by hand.

Caulking where two materials meet and weatherstripping doors and windows are the most effective ways of reducing air infiltration in the house. One of the biggest sources of air infiltration and energy waste is the space between the concrete slab and the sole plate; caulking can eliminate much of this loss.

Ventilation reduces moisture concentration in the winter and moves heat out of the attic in the summer *(Illustration 2)*. Ventilators, located in the upper portion of the attic, should provide approximately one-half of the required vented area, while eave or soffit vents provide the remainder. A combination of ridge and soffit vents stimulate air flow more than any other combination of vents.

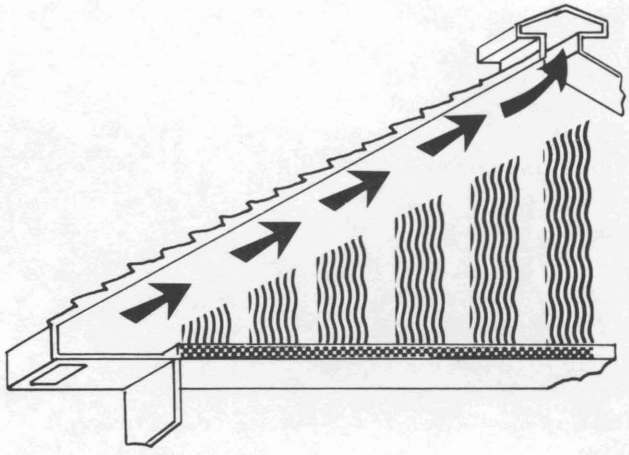

Illustration 2

The proper amount, kind and placement of windows can reduce energy consumption. Fewer windows are recommended because glass is a poor insulating material and air infiltration may be a problem. The dead airspace in storm and double pane windows provides greater insulating capacity. Storm windows, which also reduce air infiltration, are less expensive to install and replace than double pane windows.

Even though window area is decreased, proper shape and placement of windows can provide maximum light. For example, a horizontal window gives a wider spread of light than a vertical one of the same size. Windows on two walls give more effective lighting than windows on just one wall.

Prepared by Sue Young, Extension real estate specialist, The Texas A&M University System.

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Dear Home Buyer:

The proper amount and kind of insulation in walls and ceilings, caulking, weatherstripping and ventilation will provide you with the greatest return for the smallest investment of your energy dollars.

This letter series will provide you with information on how you can reduce energy waste in your home. If you would like to receive other publications or know more about Extension programs, please contact me.

Sincerely,

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County Extension Agent