Ask Jon Eakes

INSULATION

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We can't stop heat from escaping from the house by conduction, but we can effectively slow it down with thermal insulation. In practical terms, just about the only insulating material we work with is dead air. All the fibers, foams, beads, and batts are just different ways to package dead air. The key word is "dead" -- if the air moves around it won't slow down the heat loss."R" is the symbol used to rate how well a given insulation material slows down conductive heat losses. RSI is its metric equivalent. (RSI x 5-1/2 is about equal to R; search keyword "metric" for the title "R value and Temperature conversion charts")Your task is to decide how much R you need and where, and then which kind of insulation will best provide it.The problem is that no single insulation product will do for every part of the house; each material has its advantages and disadvantages. So we must compare the thickness, R value, and cost of various products, and then consider such things as the effect of water on the material and how we can get it where we need it. Probably the most important aspect of any insulation job is the quality of workmanship and attention to details (no gaps, no cracks, no uninsulated areas). Even the best of insulations can cause problems if installed incorrectly -- and the cheapest can do a very acceptable job if installed carefully.

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R-Value, Heat Loss, Insulation