How Insulation Properties Are Measured!

To save on heating and cooling cost and maintain a comfortable temperature a structure must be properly insulated to make it difficult to transfer heat into or out of a structure, which results in less energy required to maintain the desired temperature. The better the insulation installed in a structure the easier it is maintain the desired temperature and the less energy required to maintain that temperature.

<u>What is insulation?</u> Materials differ in their ability to transfer heat but materials with good insulation properties provide resistance to the flow of heat (heat transfer resistance). Materials with bad insulation properties provide little resistance to the flow of heat; hence are good conductors of heat.

<u>How is insulation properties measured?</u> There are a number of methods used to measure the insulating property of a material or a construction assembly. The most common is **R-value**, which is used in the building industry to rate the insulation properties of construction materials and building assemblies. R-value is essence a measurement of the ability to retard heat flow rather than to transmit it. The higher the R-value is of a material the greater the material's insulation value. R-value of a building assembly is derived from the U-factor as defined in the document **Definitions of Common Heat Transfer and Insulation Terms**.