Insulation considerations for your home

As the teeth of winter begin to sink in, any areas of your home that lack proper insulation will make themselves apparent. It may be a drafty area around doors, windows, or outlets. Sometimes walls in certain rooms will feel cold to the touch. Insulating a house properly and consistently can be a tricky proposition. There are many "out of sight" areas that are difficult to insulate to keep cold air from infiltrating.

The areas most commonly referred to when insulating are the exterior walls and above the ceiling (attics in most homes). Standards for insulating these areas vary somewhat according to location and building codes. In new construction, attics are insulated to an R-value of at least 50. Walls are typically at least R-19. The R value represents the insulating resistance to thermal transfer. As a general rule, the R value can be determined by multiplying inches of insulations by 3. For example, if you have 10 inches of insulation in the attic, the R-value is approximately 30.

The actual R-value will depend on the type of insulation. Loose fill blown cellulose or fiberglass has slightly different values than fiberglass batts or rigid board insulation. It is more important to choose the right type of insulation for the application than to worry about which type has the highest R-value. The insulating factor also depends on the amount of trapped air in the insulation. If you compress it by storing items on it, the insulating value is reduced.

A type of insulation used, especially in exterior walls, is sprayed on foam. This is sprayed on exterior walls about 1 inch thick to effectively seal even the smallest gaps in the structure. It also provides additional strength to the framing of the house. Fiberglass batts are then installed over the foam to complete the insulating of the wall.

It is also important to have a correctly installed vapor barrier on in these areas. The vapor barrier allows air to pass though it, but resists water vapor. It is usually polyethylene film, aluminum foil, or Kraft paper. The purpose is to prevent moisture problems in exterior walls, ceilings, or floors that face unheated areas. This occurs when cold air mixes with warm air and condenses as it passes through the wall or ceiling cavity. This can lead to mold or ineffective insulation. It is important to remember that the vapor barrier should always face the heated side of the building.

Proper weather-stripping and caulking are an important finishing step in any insulation application as they seal the tiny cracks and crevices that larger materials cannot. You may also want to consider upgrading the houses' windows, especially if they are single pane.

You will want to get a cost estimate from on the potential savings of any application from walls to windows to attics before spending the money to upgrade. The long term savings may not be enough in some applications to justify the higher initial cost.