

“Windows, Insulation and Doors, Oh My!”

Materials and Practices in High Performance Homes

Guest Column,

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In my last article I defined High Performance Homes; “A High Performance Home is one that uses sustainable materials, is energy efficient, and uses value added green building practices that cause it to be friendlier to the environment.” In the next few articles we will look at some of the materials and practices used to produce the High Performance Home.

The single biggest heat sink or energy robber in a home is the windows. There are several things to consider here. First and foremost is the total square footage of windows. I’ve never had someone come to me and say “Ronnie build me a home that’s dark and doesn’t have many windows.” Always it goes like this, “I want a home that is light and airy.” Then of course the buyer covers all of the windows with blinds, shades, shutters, drapes, curtains, or heaven forbid foil and seldom opens them due to excessive heat, cold or allergens in the air.

What should you do when designing or selecting a new home? Be realistic. The more windows, the bigger the windows, the bigger the utility bills. If you can, keep your windows down to 15% or so of the exterior wall square footage. Strategically place them to maximize views and limit the direct exposure to the sun. Keep the windows from facing the East or West this will help tremendously. If the windows can be located under a porch or patio so that it has a large overhang protecting them they will perform much better. Also, a larger cornice overhang will help protect windows as well as shade the exterior walls.

There is an organization that evaluates windows and scores them as to how you can expect them to perform, giving the consumer a chance to be sure they are getting the best product for their money. It is The National Fenestration Rating Council. They subject windows to testing and prescribe how they must be built to obtain a certain score. The scoring speaks to the ability of the windows to block the transmission of heat and ultraviolet rays.

Look for windows that have a low “U-Factor” score. This score indicates the windows’ ability to block heat. The lower the score, the better. Many builders are using good windows with scores in the .50 range. I like those that are .35 or lower. The next score to look at is “Solar Heat Gain.” Again many windows are being installed with a score around .50. We install those with a score of .32 or lower. Lower is better here as well. Then, the window coverings mentioned before will add additional protection from heat and ultraviolet penetration.

Let me briefly mention doors. Most doors today are made of steel, fiberglass, wood or glass. Nothing insulates like insulation. Hollow doors like steel or fiberglass can be filled with insulation. Wood is not a particularly good insulator and glass is worse. Generally I prefer steel with fiberglass a close second. These doors don’t rot or warp and provide the most security and energy efficiency.

Try to avoid sliding glass doors, after all, what are they but large windows and therefore a big heat sink. And double french doors are hard to keep from leaking heat in or out of your home. If you need that look think of placing a window close to a door or 2 separately cased doors close to each other.

In my next article we will continue to explore best building materials and practices and talk specifically about insulation.

For comments about this article contact Ronnie Godfrey at RGodfreyHomes.com or call 817 988 0149.