



Building Success 101

Q: What qualifies a window as "insulating?"

A: An "insulating" window is simply a window with two panes of glass separated in the frame by about a half-inch of air space. The air space acts as the insulator, retarding thermal transfer through the window. The insulation value can be enhanced by special coatings on one or both panes of glass and thicker air, such as argon or krypton, sealed into the airspace.

Green Building: Windows, Doors and Skylights

Energy efficiency plays a central role in building any new home. Building a "green" home, however, requires energy efficiency and much more. "Green building" means taking a comprehensive approach to energy *and* resource efficiencies from design through construction and operation of the house. Certain components of a home's construction contribute greatly to the success of such an approach.

Windows, doors, and skylights, in particular, have a critical impact on a home's ability to conserve energy, reduce moisture intrusion, and keep utility costs low. Like the vent pipes in a roof, they are penetrations in the home's structural envelope, only much larger and more widely distributed.

The average new house, in fact, has more than 20 windows and doors, each a potential avenue for outside air and water. In the past, windows and doors were not much better than open holes in the wall. They were designed to bring useable daylight into the home, provide views to the outside, and allow passive (or non-mechanical) ventilation in warm and humid climates. In order to keep their homes reasonably comfortable in cold seasons, our ancestors kept windows and doors to a minimum.

Fortunately, today's windows and doors are designed to *enhance* a home's energy performance. Though still relied upon for passive ventilation and views, windows and glass doors are now insulated in both their frame and glass design. High tech window construction and specially treated glass can reduce glare, unwanted solar heat gain and damaging ultraviolet radiation, which can fade rugs and upholstery. Windows and skylights can also be designed to *increase* passive (free!) solar heating, reducing the amount of costly energy needed by the furnace.

Energy-conscious home owners can now choose among a variety of options in order to precisely match windows and doors to the seasonal climate conditions of their home's location. To optimize the overall thermal performance of the house, windows and doors can also be selected according to which side of the house they will be installed. For example, south and west-facing windows can let in more solar energy than north and east-facing windows.

In addition to enhanced glazing options, new wood-based window and door frame materials are engineered to resist warping, thus minimizing the small gaps between the window or door and the wall that may develop over time. In better quality vinyl window and glass door frames, the hollow cavities are increasingly insulated to boost their effectiveness.

As professional builders concerned about the performance of your new

home, we take care to select the best windows and doors for your new home. We also take care to find knowledgeable suppliers and trained subcontractors to ensure not only high quality products but also proper installation that will maintain the design performance values of the window and door products used.

Windows, doors, and skylights play an important role in any home's appearance and overall performance. In a green-built home, they are critical elements in a range of integrated design and construction approaches that help reduce a home's energy use and operating costs while increasing indoor comfort and air quality.

Warm regards,

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