

Importance of Window Frame Material for Energy Efficient Performance

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Each window in your home or commercial property is considered a system that is designed to eliminate or moderate sound, light, and air from entering a structure. As a secondary function, windows also function as a point exit or entry into homes. The window glass and window frame you choose can positively affect the operation of your home, including security, safety, interior and exterior decor, comfort, enjoyment of your outdoor landscape, and the energy efficiency of your entire home.

While many homeowners may place an emphasis on window frame color, when it comes to the best energy efficient window frames, it's all about the window frame material. According to Energy.gov:

"Energy efficient windows are an important consideration for both new and existing homes. Heat gain and heat loss through windows are responsible for 25%–30% of residential heating and cooling energy use".

Window Frame Material Types

Today, you can find replacement windows manufactured with a number of different window frame material types. Here are the pros and cons of the most common materials used for residential windows:

Residential Windows:

- **Fiberglass Frames** - An expensive option for window frames that are specifically engineered for strength and are composed of glass fibers and resin. This material can be produced to look and feel very similar to wood, without the maintenance hassles, swelling, rotting, or warping.
- **Vinyl Window Frames** - A very affordable and durable window frame material that is extremely energy efficient, has good insulating qualities, and are very low maintenance. Vinyl window frames are the modern alternative for replacing wood or aluminum frames.
- **Wood Framed Windows** - These frames are very high maintenance when compared to vinyl and fiberglass frames. The homeowner must perform sealing, staining, and painting of these window frames on a regular basis - and they will not provide the level of energy efficiency or insulation you will get from vinyl window frames.
- **Aluminum Frames** - While these window frames are lightweight and have a streamlined look, they have a short life span due to material corrosion, pitting, and cracked joints. Aluminum window frames are the least energy-efficient as cold air is easily transferred through the material and into the home.

When choosing a window, the window style is merely decorative. The more considerations are the frame material and the glass package such as double- or triple-pane and/or Low e glazing.

What are Energy Efficient Window Frames?

A window system that is energy efficient will include multiple window glass panes and a frame that is manufactured to certain specifications. The best energy efficient window frames are designed to prevent your heated or cooled air escaping from your home and may feature the following:

- Vinyl or Fiberglass window frame materials that have excellent thermal properties, insulating against hot or cold outdoor air
- Vinyl frames which do not react to freeze and thaw cycles so will maintain their structural integrity longer
- Thicker vinyl frame material is a hallmark of high-quality, energy-efficient windows
- Warm Edge Spacers where the glass seals to the window frame for increased thermal performance
- A gas-filled window system that acts as an additional insulator from heat transference
- Weatherstripping to protect against air leakage and eliminate drafts

An energy-efficient window frame will work in conjunction with multiple or treated panes of glass to deliver the highest performance in energy savings. Visit us at [Advanced Window Products](#) serving Utah communities with top-quality products and service you can trust.

