

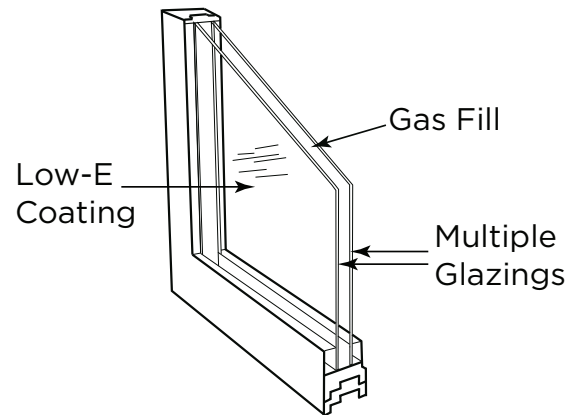
# Upgrading Windows

Clients often ask Pillar to Post inspectors about the value of upgrading windows. There are many good reasons to upgrade windows but it is often difficult to decide based solely on dollars and cents.

## Save Energy

Replacing old drafty windows with modern windows will save energy, but the cost will not likely justify the energy savings. Break even will only occur after twenty to thirty years. Beware of claims such as 40% savings on your energy bills. Realistically, you may save 10% - 20%. If saving money is your only goal, consider weather stripping and repairing the windows you have.

Still, you may have good reasons to upgrade your windows. The decision depends on the condition of your current windows and your desire for the benefits discussed below.



## Benefits of Modern Windows

1. Modern windows are more energy efficient. Using less fuel preserves our environment.
2. New windows eliminate drafts and cold spots.
3. New windows look better, potentially increasing the value of your house.
4. New windows function better and are often easier to clean.
5. Modern windows block street sounds better.

## Comparing Windows

### U-Factor

The National Fenestration Rating Council (NFRC) has developed a standardized rating system called the “U-factor” which provides a single number with which to compare windows. The U-factor is a number between 0 and 1: the lower the number, the better. 0.35 is good. In cold climates, the U-factor is the most important factor for selecting a window.

### Solar Heat Gain Coefficient (SHGC)

In climates where air conditioning is more important than heating, the SHGC is the most important factor for choosing a window. The SHGC represents how much heat from the sun penetrates the window. The SHGC is a number between 0 and 1. For air conditioning climates, a number less than 0.4 is good. For heating climates, a larger number, such as 0.6, is better.

## Panes of Glass (glazing)

### Single Pane

A single sheet of glass does not provide sufficient insulation in most climates. If you have single pane windows, consider some form of upgrade.

### Single Pane with Storm Window

A storm window provides an additional pane of glass. Mounted over existing windows outside the house, storm windows significantly increase efficiency of the window.

### Single Pane with Secondary Glazing

Secondary glazing just means adding a second pane of glass inside the home, such as a window pane with magnetic edges added to an existing window. This is a very clean and elegant way to increase the efficiency of existing windows. Secondary glazing makes sense when a home owner wants to keep the existing windows for historic or aesthetic reasons but would like to increase efficiency and comfort. These systems are expensive.

### Double Glazed

The most common type of glazing used today is double glazed, involving two panes of glass hermetically sealed with a small air gap in between.

### Triple Glazed

Three panes of glass hermetically sealed with a small air space in between each. More efficient than double glazed, triple glazing also effectively blocks sound. The extra expense may be worth it for the front of the house facing a busy or noisy street.

## Advanced Technology

### Argon Filled

Some manufacturers put argon gas, a better insulator than air, between the panes, resulting in a more efficient window. Most experts agree that the argon does not last forever.

### Glass Coatings

Coatings or films can dramatically improve the efficiency of a window. In a heating climate, low-E glass allows short wave solar radiation into the home for a heat gain, and prevents heat loss by reflecting the longer wave heat from inside your house back into the room. In hot climates, the window can be coated or tinted to reduce heat gain from the sun.

Ask a home inspector, or another impartial professional, whether you need to upgrade your windows. A window salesperson will likely give you only one answer: yes!

