Replacement Windows Air-Leakage Rating

When you're shopping for your new house window replacement, there are lots of things that can help you make your decisions — from styles to colors, from frame cladding to glass packages, etc. Less obvious but most important are the energy efficiency ratings. For the overall outcome of those performance quality evaluations, look for the EPA's EnergyStar® emblem on each window you want to buy. Among the individual window efficiency ratings (listed below) that are combined to determine a window's overall degree of efficiency is the Air Leakage Rating.

What is a Window Air Leakage Rating?

The air leakage (air infiltration) rating for a window is the measurement of the amount of air that passes through the window unit as a whole. More specifically, it measures the rate of air leakage around the window under conditions of an assigned pressure differential. The rating is expressed in cubic feet per square foot of window, including frame (cm/sq ft), per minute of testing. A lower Air Leakage Rating means a higher level of energy efficiency in terms of how air-tight the window unit is.

Of course, this rating does not account for additional measures that are also critical to determining energy efficiency, such as frame insulation value, glass emissivity, etc.

What's the Range of Window Air Leakage Values?

Air leakage values for windows range between 0.1 and 0.3. Ideally, the rating should be 0.1, which means the least amount in the measured range of air is passing through the window. A window's air leakage rate can, of course, be under 0.1, but such a value is not

gauged by the National Fenestration Rating Council (NFRC) scale of ratings for this type of window performance.

Air leakage ratings are quantified by calculating cubic feet per square foot per minute under the air pressure from 25 miles per hour of wind speed, divided by the square area of the window.

What is a Good Air Leakage Rating for Windows?

Although windows rated nearest to 0.1 have the highest level of energy efficiency, any rating under 0.3 is an acceptable rate of air leakage. Ratings lower than 0.3 indicate that the window qualifies as an energy-efficient unit under the EPA's ENERGY STAR® requirements and the NFRC's guidelines.

When you shop for new windows for your home, keep in mind that the air leakage rating is not a requisite for NFRC performance labeling. You can ask your window manufacturer's representative what the air leakage rating is for the unit.

What are the Window Efficiency Ratings?

The cluster of energy efficiency rating tests used to help evaluate the overall quality of windows includes:

- Air Leakage
- U-Factor
- Visible Transmittance
- Solar Heat Gain Coefficient (SHGC)
- Condensation Resistance

Of course, a new window, if installed properly, should eliminate drafts and receive a great Air Leakage Rating. Still, air can infiltrate through crevices or cracks in surrounding doors, walls, etc. The other energy efficiency factors listed above can also be affected by various conditions.

Energy Star® Rated Windows – Advanced Window Products

We build the industry's best energy-efficient vinyl replacement windows. Advanced windows are engineered for maximum energy efficiency, strength, and long-term durability. Our beautiful residential windows feature custom designs to ideally suit your personal style.

Replacement windows installation by our factory-trained installers means that you will enjoy optimum home comfort from maximum performance by your new windows.

For information about energy-efficient vinyl replacement windows, call Advanced Window Products at (801) 505-9622, or contact us here on our website anytime!