Vinyl Window Buying Guide

Introduction

This guide is designed for a home owner in Central Ohio with no window or construction experience. It is intended to teach you the basic terms sales professionals will use when you receive an estimate. And more importantly, this guide is designed to show you how to perform an "apples to apples" comparison of different windows.

Rating Organizations

Many window sales professionals will perform a dog and pony show while in your home, talking about their windows great features and demonstrating it's performance. While these shows can be fun, and include a lot of great sounding terms like 7th generation sputter coat, they do NOT show you how to compare two different kind of windows. Luckily for you, there are two non-profit industry organizations that perform scientific tests on windows and make the results available for free. Those organizations are the National Fenestration Rating Council (NFRC) and American Architectural Manufacturers Association (AAMA). The NFRC provides the U-factor and SHGC (see glass below) ratings, while AAMA provides the Air Leakage (AL) and Design Pressure (DP) (See Seal and Strength below). You can view all of the ratings at their websites, www.nfrc.org and www.aamanet.org , however the database is set up for professionals, and is difficult for most people to navigate. Your sales representative should be able to provide you with all the rating for the windows they are presenting. And if the sales representative won't provide you with this information it probably means he doesn't want you to know how his window performed, or possibly even more alarming he doesn't know the product he is presenting.

The Glass

The glass of a window makes up a majority of the surface area of a window and results in most of the heat loss. That is why most sales professionals will spend time explaining something like their unique 7th generation sputter coat Low E, with 1" super spacer between the glass, or they might bring in a heat source (heat lamp or torch) and a heat meter to show how much heat transfers from one side of the glass to the other. While all these demonstrations may be fun, as mentioned above NFRC provides the

results of tests conducted in laboratories with controlled settings that are much more precise than can be achieved in your home.

The most often talked about number in glass performance is the U-factor. U-factor is a measure of how well a window prevents heat from escaping your home, and **the lower the U-Factor the better the window is at preventing heat from escaping.** While U-factors generally range from a high of 1.2 to a low of 0.17, it is important to make sure you purchase a window with a U-factor of 0.30 or less, as 0.30 is the highest U-factor that is eligible for a federal tax credit under the new 2009 stimulus package. (Note: while a lower U-factor demonstrates better performance, there may be a point where you won't see a full return on your extra investment if you don't stay in your home for a very long time.)

Some sales professionals like to talk about R-value. R-value is similar to U-factor in that it is a measure of how much heat transfers from one side of the glass to the other, and used to be the way windows were compared for heat loss. However the industry has moved away from R-value as it is only a measure of heat loss at the center of the glass, where as U-factor is a measure of heat loss across the whole window.

The next measure of heat transference is the Solar Heat Gain Coefficient (SHGC). SHGC is a measurement of how well a window keeps heat from the sun from entering your home (radiation heat). SHGC is measured as a value between 1 and 0, and **the lower the SHGC the better a window is at keeping heat from the sun out of your home.** SHGC was generally ignored in the industry for northern climates, until February of 2009 when a SHGC of 0.30 or less was required to meet the new standards for a tax credit.

So, for your windows to be eligible for the new 2009 tax credit, they must have (1) U-factor of 0.30 or less and (2) a SHGC of 0.30 or less. And while sales professionals may demonstrate the energy efficiency of their glass with various tools in your home, you can compare apples to apples by looking at the U-factor and SHGC. At the end of the day, it doesn't matter if a window has patented special technology, with all the bells and whistles, all that matters is how well your windows keep your heat in your home during the winter, and the cold in your home during the summer.

The seal and strength

While no window manufacturer likes to admit it, all windows leak some air. Again there are laboratories that test how much air a window leaks, and provide an Air Leakage (AL) measurement. The AL for a double hung window typically falls between 0.4 and 0.05. **The lower the AL (Air Leakage) the better a window is at keeping cold air from entering your home.**

Some manufacturers like to talk about the strength of their window. While all residential windows are required to meet minimum standards for certification, a stronger window can be indicative of a better constructed window which will stand the test of time better. Windows strength is measured by the amount of wind it can successfully resist, with a number known as Design Pressure (DP). DP is usually written as DP-XX, with the minimum standard for residential windows being DP-15, which means the window can withstand a 94 mph sustained wind. Currently the highest DP for a residential double hung window is a DP-65, meaning the window can stand up to a sustained wind of 195 mph.

The company

Even the best window will perform poorly when improperly installed. That is why it is important to choose a company that will install your windows properly. While it is usually impractical to inspect the company's work, there are some easy ways to get an idea of how a company performs.

The first way to check in on a company is go to your local Better Business Bureau (BBB) and check their rating and standing. See if there are any unresolved complaints. You can do this at the central Ohio BBB website located at: http://centralohio.bbb.org/ or you can call the central Ohio BBB at (800) 759-2400.

An even better way to see how a company performs is to join a consumer group, such as Angie's List. While the services of consumer groups usually come with a small membership fee (as the consumer supports the group) the fee is often well worth it in order to see reports by other consumers of how they were treated by that company. You can join Angie's List to see reports on companies at: http://www.angieslist.com .

Only buy from companies that stand behind what they are selling. Some companies will sell you a window and tell you service will be handled by the manufacturer. While they may promote the idea of having a factory representative come out and service your windows, this could lead to you being stuck in the middle of argument. Almost every manufacturer's warranty does NOT cover improper installation. So when the factory representative comes out and inspects the windows, he or she may tell you the windows were installed incorrectly, and you need to see the company you purchased the windows from. The company you purchased the windows from may say the windows were installed correctly, and to see the manufacturer. Where as, if the company who installed the windows comes out to fix the windows, they won't try passing the buck as there is no one to pass the buck to, and you will get your windows repaired.

A life time warranty is only good for the life time of the company offering the warranty. The average life expectancy of a new home improvement company is less than 3 years. In fact some unscrupulous businessmen have been known to start a company, run it for a few years offering to fix everything for free forever, and then go out of business a couple of years later. Then, shortly after going out of business, start a new company and begin the cycle again. To avoid this, make sure and ask how long the company has been in business (the author recommends 15 years or more).

Another thing you can do to ensure you are not dealing with a fly-by-night company is ask if they have a show room. Additionally, check out their website. If the website doesn't look professional, the company probably isn't either.

Conclusion

In conclusion you want a window with the lowest U-factor and SHGC (Solar Heat Gain Coefficient) possible, so that it keeps the cold out in the winter and the heat out in the summer. You also want your window to have the lowest AL (Air Leakage) available to keep the outside air outside and the inside air inside. And you want a window with a high DP (Design Pressure) so you know it is built strong. You should have this window installed by a company you can trust, that has been around for a while, and most importantly stands behind the window they are selling. Finally, of course, you want all this at the lowest price. Your sales professional should be able to provide you with all of this information about their window, and if they can't, it is probably because they don't want you to know the answer. If you still have questions about windows please feel free to e-mail us at info@empirewindows.com or call us at 614-766-1400