Questions About Skylights and Energy?
NFRC Has the Answers

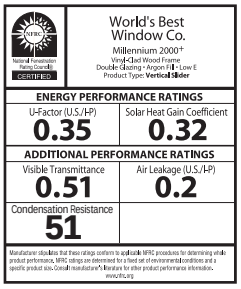
In today's market, architects, builders, and consumers are challenged with many choices of fenestration products, including skylights. What is the best way to choose skylights for use in homes and offices? If you have questions about skylights and energy, NFRC has the answers.

The Benefits of Skylights

Skylights are an exceptional source of daylight, illuminating rooms in both residential and commercial buildings with direct and indirect sunlight. The availability of daylight is known to have a positive effect on visual performance, improving both psychological and physiological health and increasing human performance (productivity). In addition, when used appropriately, daylighting can increase the quality of room light and reduce dependence upon electrical lighting.

How to Choose Energy Efficient Skylights

1. Look for the NFRC Label



The National Fenestration Rating Council is a nonprofit organization whose goal is to provide uniform, accurate information about the energy rating performance of windows, doors, and skylights. In addition to publishing consensus standards (for consistent ratings), NFRC administers a third-party certification and labeling program to provide the window buyer with verified product information. So look for an NFRC label on skylights to compare products on a fair and equal basis.

2. Compare Product Rating Performance

The NFRC label provides information that allows comparison of ratings on how windows and skylights perform. The energy ratings that are considered to be of greatest importance are U-factor, Solar Heat Gain, and Visible Transmittance (NFRC also rates skylights for air leakage and condensation resistance). By reviewing the temporary label information, consumers can make an informed decision about which product would best fit their needs for their individual situation.

What is U-factor?

U-factor is also known as thermal transmission. It is a measure of the **rate of heat loss** through a product. Therefore, *the lower the U-factor, the lower the amount of heat loss.* In cold climates, where heating bills are a major concern, choosing skylights with a lower U-factor will reduce the amount of heat that escapes through a window from inside your house.

What is Solar Heat Gain?

The Solar Heat Gain Coefficient, or SHGC, measures the **rate of heat gain** through a product. Therefore, *the lower the SHGC, the lower the amount of solar heat gain.* In hot climates, where air-conditioning bills are a major concern, choosing skylights with a lower SHGC will reduce the amount of heat that comes in through your windows from the outside.

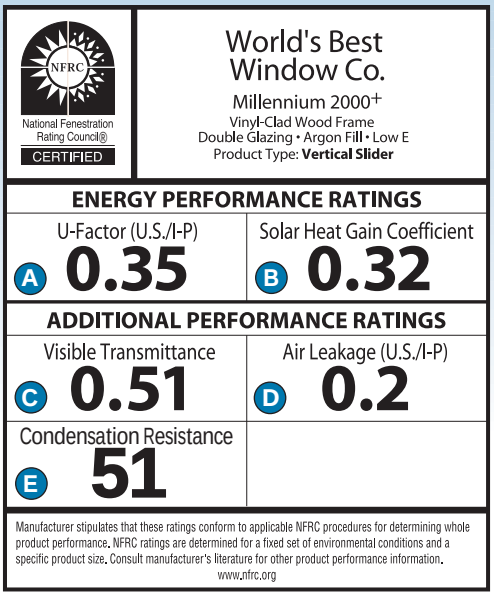
What is Visible Transmittance?

Visible Transmittance measures the ability of a product to allow daylight into a room. *The higher the VT rating, the more light is allowed through a skylight.*

NFRC administers an independent, uniform rating and labeling system for the energy performance of fenestration products, including windows, curtain walls, doors, and skylights. For more information on NFRC, please visit our Web site at www.nfrc.org or contact NFRC directly at 301-589-1776.

3. Look for the ENERGY STAR® Label

The U.S. Department of Energy and Environmental Protection Agency have developed an ENERGY STAR® Designation for products meeting certain energy performance criteria. Since the energy efficiency performance of windows, doors, and skylights can vary by climate, product recommendations are given for four climate zones: a *mostly heating* zone (Northern), two *heating and cooling* zones (North/Central and South/Central); and a *mostly cooling* zone (Southern). For more information about ENERGY STAR® windows visit their Web site at www.energystar.gov or choose the link from the NFRC Web site.



Building Codes and Skylights

The International Energy Conservation Code references NFRC-approved procedures, NFRC 100 and NFRC 200, for rating the energy performance of skylights. Typical energy code requirements are based upon the climate zone and the amount of fenestration area in a building. In southern states, where air-conditioning loads are important, skylights must typically meet SHGC ratings of 0.40 or less. In northern states, where heating loads are important, skylights must meet a U-factor of 0.45 or less.

In addition to energy codes, skylights must meet additional requirements. For example, in northern climates, skylights must be able to meet specified snow loads. And all overhead glazing must meet safety glazing requirements.

NFRC has additional information for selecting energy efficient windows on its Web site at www.nfrc.org. Of special interest, see the NFRC *Certified Products Directory*, which lists hundreds of window manufacturers and thousands of windows, doors, and skylights that have been authorized for certification by NFRC. If you need further information contact our offices in Maryland (301-589-1776) or Kansas (785-862-1890).

A ***U-Factor*** *measures how well a product prevents heat from escaping a home or building. U-Factor ratings generally fall between 0.20 and 1.20. The lower the U-Factor, the better a product is at keeping heat in. U-Factor is particularly important during the winter heating season. This label displays U-Factor in U.S. units. Labels on products sold in markets outside the United States may display U-Factor in metric units.*

B ***Solar Heat Gain Coefficient*** *(SHGC) measures how well a product blocks heat from the sun. SHGC is expressed as a number between 0 and 1. The lower the SHGC, the better a product is at blocking unwanted heat gain. Blocking solar heat gain is particularly important during the summer cooling season.*

C ***Visible Transmittance*** *(VT) measures how much light comes through a product. VT is expressed as a number between 0 and 1. The higher the VT, the higher the potential for daylighting.*

D ***Air Leakage*** *(AL) measures how much outside air comes into a home or building through a product. AL rates typically fall in a range between 0.1 and 0.3. The lower the AL, the better a product is at keeping air out. AL is an optional rating, and manufacturers can choose not to include it on their labels. This label displays AL in U.S. units. Labels on products sold in markets outside the United States may display AL in metric units.*

E ***Condensation Resistance*** *(CR) measures how well a product resists the formation of condensation. CR is expressed as a number between 1 and 100. The higher the number, the better a product is able to resist condensation. CR is an optional rating, and manufacturers can choose not to include it on their NFRC labels.*