



Questions About Doors and Energy? NFRC Has the Answers

A home's entryway system is an expression of the house itself. It goes a long way toward determining the home's "curb appeal" and provides a source of daylight to illuminate rooms and entries. An entryway system also affects a home's energy efficiency and the homeowner's utility bills. If you have questions about the energy performance of doors, NFRC has the answers.

How to Choose Energy Efficient Doors

1. Look For The NFRC Label

Product Description* World's Best Door Co. Entrance Door C174000-WOOD Insulated Steel Wood Edge Door	U-Factor/Solar Heat Gain Coefficient (SHGC)			
	14.1 in. (357)	12.1 in. (307)	14.1 in. (357)	14.1 in. (357)
U-Factor (U)	0.23	0.20	0.20	0.20
SHGC	0.21	0.24	0.28	0.35
U-Factor (U)	0.21	0.25	0.33	0.34
SHGC	0.21	0.25	0.23	0.40

U-Factor: 0.19 SHGC: 0.04

Manufacturer declares that these ratings conform to applicable NFRC procedures for determining energy product performance. NFRC ratings are determined for a fixed set of environmental conditions and a specific product size.
* Rating based on door size (frame excluded) (surface) (1/2" gap fill) (gap width) (wood applicable)
** Per NFRC 100 Section 83.24 1 square meter
www.nfrc.org

The National Fenestration Rating Council is a nonprofit organization whose goal is to provide uniform, accurate information about the energy performance ratings 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 window buyers and regulators with verified product rating information. So look for an NFRC label on doors and entryway systems to compare different products on a fair and equal basis.

2. Compare Product Performance

The NFRC label provides standard information on how a door or entryway system performs. NFRC ratings evaluate whole product performance for standard conditions – not just the glass or the door slab. By reviewing the NFRC label information, consumers can make informed choices and compare door system performance.

The most important energy ratings are *U-factor* and *Solar Heat Gain Coefficient* (or SHGC). U-factor, also known as thermal transmission, measures the rate of heat loss through a product. Therefore, the lower the

U-factor, the lower the amount of heat loss.

In climates where heating bills are a major concern, choosing doors with a lower U-factor will reduce the amount of heat that escapes through a door or entryway system from inside your house.

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 entryway systems with lower SHGC ratings will reduce the amount of heat that comes in through your doors from the outside.

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 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, see www.energystar.gov.



Building Codes and Doors

The International Energy Conservation Code (IECC) references NFRC 100 for rating the energy

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.

performance of doors. Typically in northern climates, door or entryway systems must meet U-factor requirements of 0.40 or less. In southern climates, where air-conditioning loads are a concern, door or entryway systems often must meet an SHGC of 0.40 or less.

Doors and entry systems are often installed as separate components: the door slab, the framing system, the sidelights, the weather-stripping, etc. (as opposed to windows, which are usually installed as manufactured). To take into account the effect of these components on a door system, the NFRC label for doors clearly indicates the type of door and the type and amount of glass in a door system (see label).

For More Information

NFRC has additional information for selecting energy efficient windows on its Web site at www.nfrc.org. The site includes 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, please contact our offices in Maryland (301-589-1776) or Kansas (785-862-1890).

Product Description Default Frame** Wood		U-Factor/Solar Heat Gain Coefficient (SHGC)			
		1/4 Lite ≤410†	1/2 Lite ≤900†	3/4 Lite ≤1100†	Full Lite >1100†
2/A1/na/AIR/0.250	0.23	0.30	—	0.40	
2/A1/.020(3)/ARG/0.750	0.21	0.24	—	0.28	
2/A1/na/AIR/0.675	—	0.28	0.33	0.34	
3/S5/na/AIR/0.250	0.21	0.25	—	0.29	
Flush/Embossed		U-Factor 0.19		SHGC 0.04	

Manufacturer stipulates that these ratings conform to applicable NFRC procedures for determining whole product performance. NFRC ratings are determined for a fixed set of environmental conditions and a specific product size.

* #glazing layers / spacer type / low-e emissivity (surface) / gap fill / gap width (na=not applicable)
** per NFRC 100 Section B3.24 † square inches

- A** This mark indicates that the NFRC has rated and certified the energy performance of the product to perform as stipulated by the manufacturer.
- B** This area is reserved for the name of the manufacturer and the product name.
- C** This space provides details about NFRC's testing procedures and describes the characteristics of the product description.
- D** 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 in northern climates.
- E** 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 SGHC, the better a product is at blocking unwanted heat gain. SHGC is particularly important in southern climates.
- F** This area is reserved for the description of the product (type of frame, number of glazing layers, spacer type, gas fill, etc).
- G** 1/4 Lite denotes that a glass area of 410 square inches or less has been inserted in the door panel.
- H** 1/2 Lite denotes that a glass area between 410 and 900 square inches has been inserted in the door panel.
- I** 3/4 Lite denotes that a glass area of between 900 and 1100 square inches has been inserted in the door panel.
- J** Full Lite denotes that a glass area of 1100 square inches or more has been inserted in the door panel.