

NFRC & the IVP

**NFRC Independent Verification
Program for ENERGY STAR®
Certified Products**



What is the IVP?

- ENERGY STAR® requires that all certified products be made available for independent verification testing.
- Goal is to test 10% of all ES certified products each year – 50% EPA nominated, remaining NFRC selected.
- The IVP process has 5 components
 1. Label verification (ES, NFRC temp & permanent)
 2. Air Leakage certification verification (check for appropriate label & valid certification)
 3. Physical test
 4. Component Evaluation
 5. Instructions check

ENERGY STAR® Certification Requirements

Windows

Climate Zone	U-Factor ¹	SHGC ²	
Northern*	≤ 0.27	Any	Prescriptive
	= 0.28	≥ 0.32	Equivalent Energy Performance
	= 0.29	≥ 0.37	
	= 0.30	≥ 0.42	
North-Central	≤ 0.30	≤ 0.40	
South-Central	≤ 0.30	≤ 0.25	
Southern	≤ 0.40	≤ 0.25	

Air Leakage ≤ 0.3 cfm/ft²

¹ Btu/h ft²·°F

² Solar Heat Gain Coefficient

* The effective date for the Northern Zone prescriptive and equivalent energy performance criteria for windows is January 1, 2016.

Doors

Glazing Level	U-Factor ¹	SHGC ²	
Opaque	≤ 0.17	No Rating	
≤ ½-Lite	≤ 0.25	≤ 0.25	
> ½-Lite	≤ 0.30	Northern North-Central	≤ 0.40
		Southern South-Central	≤ 0.25

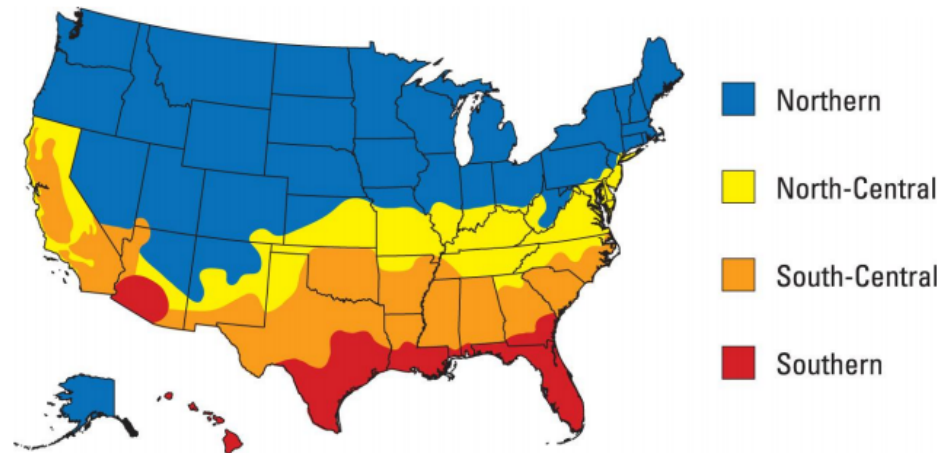
Air Leakage for Sliding Doors ≤ 0.3 cfm/ft²

Air Leakage for Swinging Doors ≤ 0.5 cfm/ft²

Skylights

Climate Zone	U-Factor ¹	SHGC ²
Northern	≤ 0.50	Any
North-Central	≤ 0.53	≤ 0.35
South-Central	≤ 0.53	≤ 0.28
Southern	≤ 0.60	≤ 0.28


Air Leakage ≤ 0.3 cfm/ft²



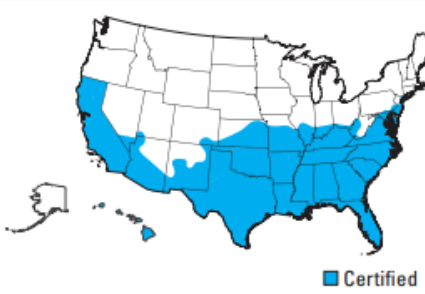


Note: A complete list of ENERGY STAR Climate Zones by state and county or, where applicable, zip code is available at https://www.energystar.gov/index.cfm?fuseaction=windows_doors_search_climate.

Label Verification

- ENERGY STAR products must have an NFRC Temporary Label, a permanent label, an ENERGY STAR label, and in some cases an air leakage certification label.

	<p>This product has been rated and certified in accordance with National Fenestration Rating Council procedures</p>	<p>Series: 2013 Double Hung Type: VSDH Code: XYZ-T-13</p>
---	---	---

	<p>World's Best Window Co. Series "2000" Casement Vinyl Clad Wood Frame Double Glazing • Argon Fill • Low E XYZ-X-1-00001-00001</p>	
<p>ENERGY PERFORMANCE RATINGS</p>		
<p>U-Factor (U.S. / I-P)</p> <p>0.35</p>	<p>Solar Heat Gain Coefficient</p> <p>0.32</p>	
<p>ADDITIONAL PERFORMANCE RATINGS</p>		
<p>Visible Transmittance</p> <p>0.51</p>	<p>—</p>	
<p><small>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. NFRC does not recommend any product and does not warrant the suitability of any product for any specific use. Consult manufacturer's literature for other product performance information. www.nfrc.org</small></p>		
<p>ENERGY STAR® Certified in Highlighted Regions</p>		
	 <p>■ Certified</p>	



Air Leakage Verification

- To qualify for ENERGY STAR, products shall have Air Leakage ratings at levels which meet or exceed the minimum qualification criteria specified in Table 5 of *ENERGY STAR Program Requirements for Residential Windows, Doors, and Skylights: Version 6.0*.
- Air Leakage will be verified by confirming the presence of the rating on the NFRC temporary label or confirming the placement of one of the following labels:
 - AAMA Gold Label
 - Keystone Certifications, Inc. NAFS Structural Certification Label
 - National Accreditation & Management Institute, Inc. (NAMI) NAFS Structural Certification Label
 - WDMA Hallmark Certification Label
- Staff will also confirm that the certification is current using the appropriate certification directory.

Table 5: Air Leakage Requirements	
Product	Air Leakage Rating
Window, Sliding Door, or Skylight	$\leq 0.3 \text{ cfm/ft}^2$
Swinging Door	$\leq 0.5 \text{ cfm/ft}^2$

(Table 5: *ENERGY STAR Program Requirements for Residential Windows, Doors, and Skylights: Version 6.0*)



Physical Test

- A U-Factor test shall be conducted in accordance with NFRC 102.
- Products must perform within tolerances.

Table 3 – ENERGY STAR U-factor Performance Tolerances for Windows

Climate Zone	Windows			
	Required U-factor	SHGC	Successful Test U-factor Tolerances	Unsuccessful Test U-factor Tolerances
Northern	≤ 0.27	Any	≤ 0.30	≥ 0.31
	= 0.28	≥ 0.32	≤ 0.31	≥ 0.32
	= 0.29	≥ 0.37	≤ 0.32	≥ 0.33
	= 0.30	≥ 0.42	≤ 0.33	≥ 0.34
North-Central	≤ 0.30	≤ 0.40	≤ 0.33	≥ 0.34
South-Central	≤ 0.30	≤ 0.25	≤ 0.33	≥ 0.34
Southern	≤ 0.40	≤ 0.25	≤ 0.44	≥ 0.45

Physical Test (continued)

Table 4 – ENERGY STAR U-factor Performance Tolerances for Skylights

	Skylights			
Climate Zone	Required U-factor	SHGC	Successful Test U-factor Tolerances	Unsuccessful Test U-factor Tolerances
Northern	≤ 0.50	Any	≤ 0.55	≥ 0.56
North-Central	≤ 0.53	≤ 0.35	≤ 0.58	≥ 0.59
South-Central	≤ 0.53	≤ 0.28	≤ 0.58	≥ 0.59
Southern	≤ 0.60	≤ 0.28	≤ 0.66	≥ 0.67

Table 5 – ENERGY STAR U-factor Performance Tolerances for Doors

	Doors				
Climate Zone	Glazing Level	Required U-factor	SHGC	Successful Test U-factor Tolerances	Unsuccessful Test U-factor Tolerances
All	Opaque	≤ 0.17	No Rating	≤ 0.20	≥ 0.21
All	≤1/2-Lite	≤ 0.25	≤ 0.25	≤ 0.28	≥ 0.29
Northern and Northern-Central	>1/2-Lite	≤ 0.30	≤ 0.40	≤ 0.33	≥ 0.34
South-Central and Southern	>1/2-Lite	≤ 0.30	≤ 0.25	≤ 0.33	≥ 0.34

Component Evaluation

- After performing the thermal hot box test per Section 3.2.1 and at NFRC's direction, the laboratory shall disassemble the test specimen in a manner to verify the product description.
- Glazing components shall be compared to glazing component drawings provided by NFRC staff.
- The test lab shall cut up the glass specimen and provide a detailed report of the glazing contents in accordance with NFRC 701.04 Section 1.1.3.B

Instructions Check

- Are instructions on the product or readily available on the Partner's website?
- Do they fulfil the requirements in ENERGY STAR Version 6?
- Page 4, section 3.D.

https://www.energystar.gov/sites/default/files/ES_Final_V6_Residential_WDS_Spec.pdf

How to Enroll

- After you complete your partnership agreement with ENERGY STAR, IVP enrollment is a two part process.
 - Complete your IVP Enrollment Form
 - Select ENERGY STAR Certified product lines in the Product Line Selection Tool.
 - Note: even though only one option (CPD number) within may be eligible, you will need to select the whole product line.
- Once enrolled you will need to pay applicable fees

2017 Fees

	Member	Non-Member
≤ \$2 million (Small Business Program)	\$500	\$500
\$2.01 million - 20 million	\$1,500	\$2,500
>\$20.01 million	\$3,000	\$4,000
Annual Per Product Line	\$0	\$0

Note: Participation Fees do not include product or testing costs. These costs are the responsibility of the Energy Star Partner.

What to Expect

- NFRC shall select approximately 10% of certified product lines from each participant, in conjunction with the number of EPA nominated products.
- Participants with 9 or fewer ENERGY STAR certified product lines shall have a product tested not less than once every two years.
- You will receive an email from IVP staff requesting products.
- You will send the agreed upon product option to the agreed upon laboratory for testing.
- Testing will be completed and you'll be informed of the result.
- Results are reported to ENERGY STAR/EPA twice per year, except in the case of failures which must be reported within 2 days of determination of the grade.

IVP Common Problems

- Missing ENERGY STAR® label (US).
- Missing NFRC temporary label.
- Missing NFRC permanent label.
- Air Leakage Certification is absent (either applicable permanent label or certification on temporary label).
- Product received components do not match CPD (IG/Spacer/Low-E Surface/pane and gap thicknesses/etc).
- Incorrect/Expired CPD number on NFRC Label





Contacts:

Michelle Scism, Quality & Compliance Manager
mscism@nfrc.org

Dan Womer, Independent Verification Program Coordinator
ivp@nfrc.org

