

**NFRC UPDATE  
To The  
NE Window and Door Manufacturers Assn**

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# Introduction to NFRC

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Global Warming

*The NFRC's mission:*

***NFRC develops and administers comparative energy and related rating programs that serve the public and satisfy the needs of its private sector partners by providing fair, accurate and credible, user-friendly information on fenestration product performance.***

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# *Introduction to NFRC*

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**Energy Efficiency**

- ❑ Created in 1989; as a 501(c) 3
  - ❑ Unique, educational non-profit public interest organization representing:
    - Industry (fenestration and building)**
    - State energy offices**
    - Design Professionals**
    - Representatives from Higher Education**
    - Utilities**
    - Consumer Organizations**
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## *Introduction to NFRC*

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What we do:

- ❑ Develop and publish nationally recognized standards for determining fenestration performance
  - ❑ Provide energy ratings for fenestration products
  - ❑ Administer an independent, 3rd party certification and labeling program
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# Information Transfer

## The key to market transformation

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- Certified Products Directory
    - Energy information on thousands of fenestration products
  - Fact Sheets
    - Information on how windows are rated; and what those ratings mean
  - Standards/Publications
    - NFRC 100, 200, 300, 400, 500
    - NFRC 101, 201, 301, 302, etc
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# Why Certified Ratings?

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- ❑ Provides a tool for code compliance
- ❑ Provides means to compare products
- ❑ Ease Market Transformation (through information and technology transfer)
- ❑ Help consumers to make informed decision
- ❑ International Harmonization
- ❑ Promotes energy efficiency



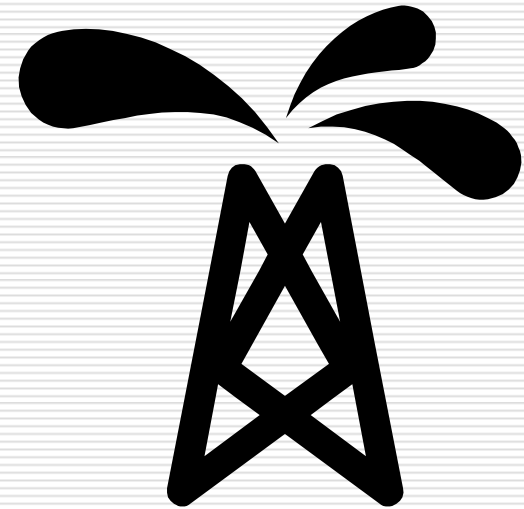
# Certified Ratings = Market Transformation = Energy Efficiency = Energy Savings

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**NFRC Certified Ratings are required for Energy Star® Windows**

**=**

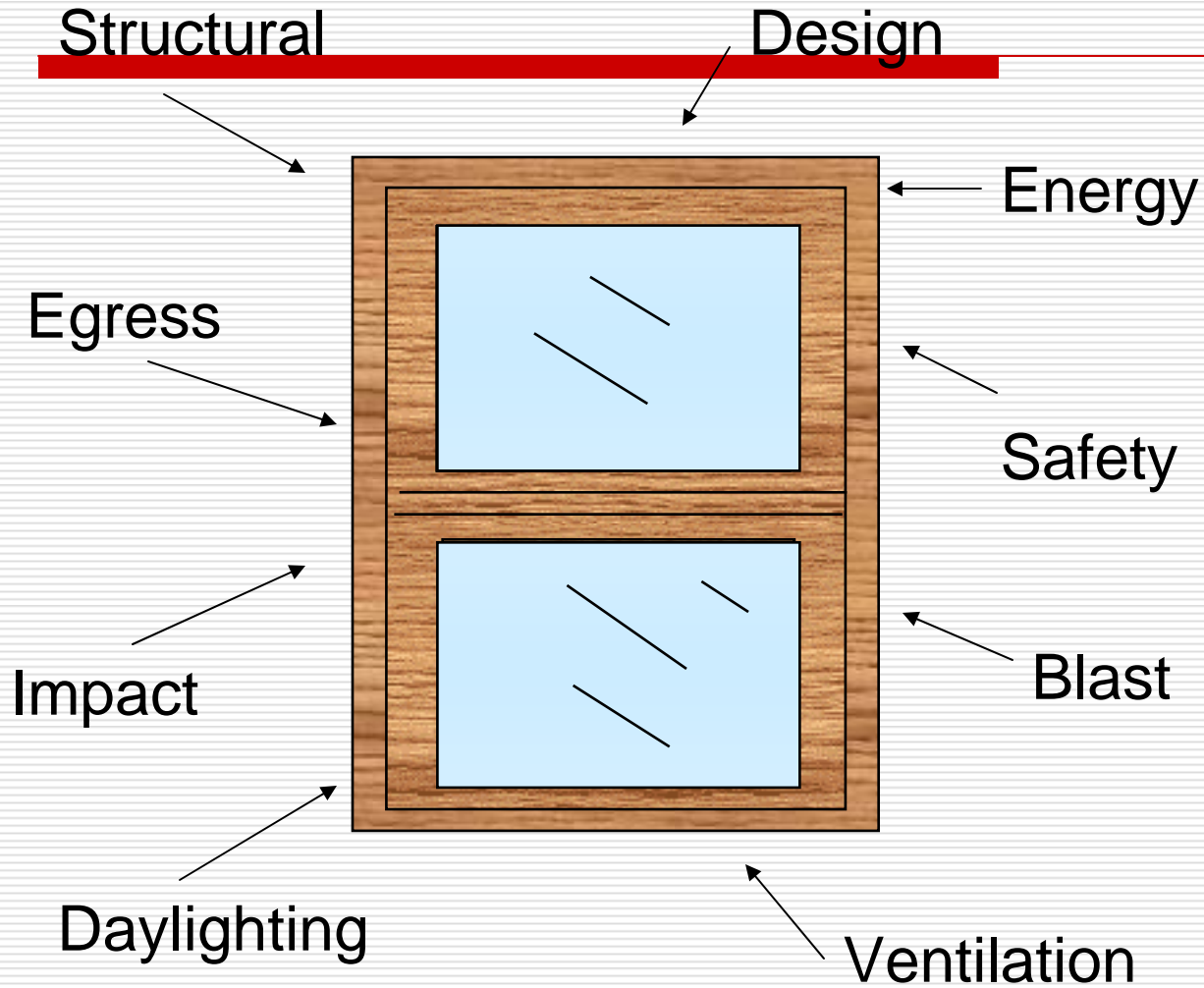


**In 2003 alone Energy Star® Windows Saved 7 Billion BTU's of energy**

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# Why Certified Ratings?

## Because Windows are Complicated



# Why Certified Ratings? Required by Energy Codes

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- **IECC (International Energy Conservation Code)**

IECC and IRC's Energy Code specify NFRC 100, 200 for U-factor and SHGC ratings; and certification for compliance.

- **ASHRAE (American Society of Heating, Refrigeration & Air Conditioning Engineers)**

ASHRAE 90.1: *Energy Standard for Buildings*

Except Low-Rise Residential Buildings - require U-factor and Solar Heat Gain in accordance with NFRC standards 100, 200 and specify NFRC certification for compliance.

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# Recent NFRC activity

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- ❑ Upgraded Certified Products Directory (CPD 2.0) *in August*
  - ❑ Ratings for attachment products (window film)
  - ❑ International Program
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# Upgraded Certified Products Directory (CPD 2.0)

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- Advanced Search Capabilities
  - Additional functionalities for IA's and Labs
  - Additional functionalities for manufacturers
    - Can code out products you do not want visible
    - Can generate various reports on products; product lines (in Excel)
    - Can change user name/password
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[Home](#)

### Advanced Search Options

Manufacturer:

Product Type:

Frame Type:

Sash Type:

Spacer:

Tint:

Gap Fill Material:

Grid:

Dividers:

Glaze Layers:

NFRC CPD Number:

Begin Search

Start Over

Visible Transmittance: MIN  MAX

Low-E/Internal Film: MIN  MAX

U-Factor: MIN  MAX

Solar Heat Gain Coefficient (SHGC): MIN  MAX

Gap Width: MIN  MAX

# Attachments

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## Window Films

- Many new films in the Spectral Data Library (LBNL)
  - Currently two companies are licensed to label film
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# International program

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- Two licensed countries (Australia and South Africa)
  - Current activity in China and India
  - Future : Kuwait, Dubai, S. Korea, Indonesia
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# Upcoming activity

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- Requirements for certified IGU's
  - Component Modeling Approach
  - Ratings for attachment products  
(storm windows and doors; screens;  
etc.)
  - ANSI accreditation
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# Certified IGU's (still in draft)

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## Criteria of third party IG Certification

Programs would include the following:

- ❑ Maintaining an established quality control system and manual.
  - ❑ Mandate testing to ASTM E2190; *however, provisions for CGBS 12-20 will have to be made for Canadian NFRC Participants.*
  - ❑ Mandate gas fill content (*an average minimum initial 90% and average minimum of 80% following durability testing??*).
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# Certified IGU's

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NFRC will maintain a list of third party IG Certification Programs that have stated to NFRC that they meet the key elements of criteria.

Program requirements will be enforced two years after adoption by the NFRC Board of Directors

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# Component Modeling Approach

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A user-friendly, web-based interactive energy rating and reporting program for fenestration products and systems.

Utilizes a set of freely accessible libraries (frames, glass, spacers)

Similar to WINDOW software; with additional options/tools.

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# FENSIZE v2.1.114

File Edit Product Project Components Tools Calculation Help



### Project Description:

Project Name:   
Report Number:

### Overall Product:

Category:   
Series:   
Product Line:   
Product Type:

### Overall Product Dimensions:

Width:  (in.) Height:  (in.)

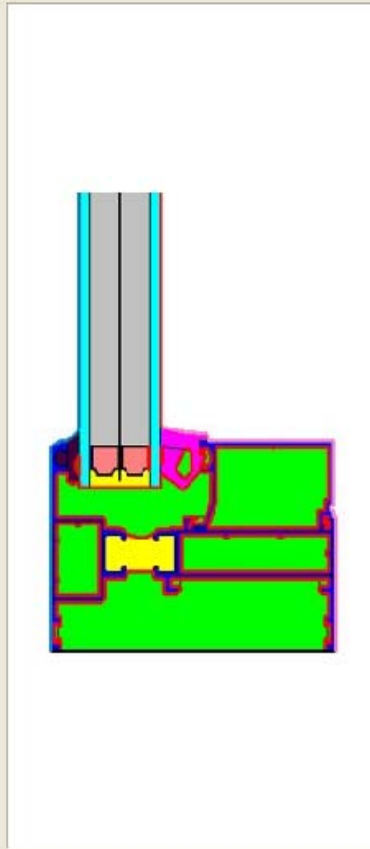
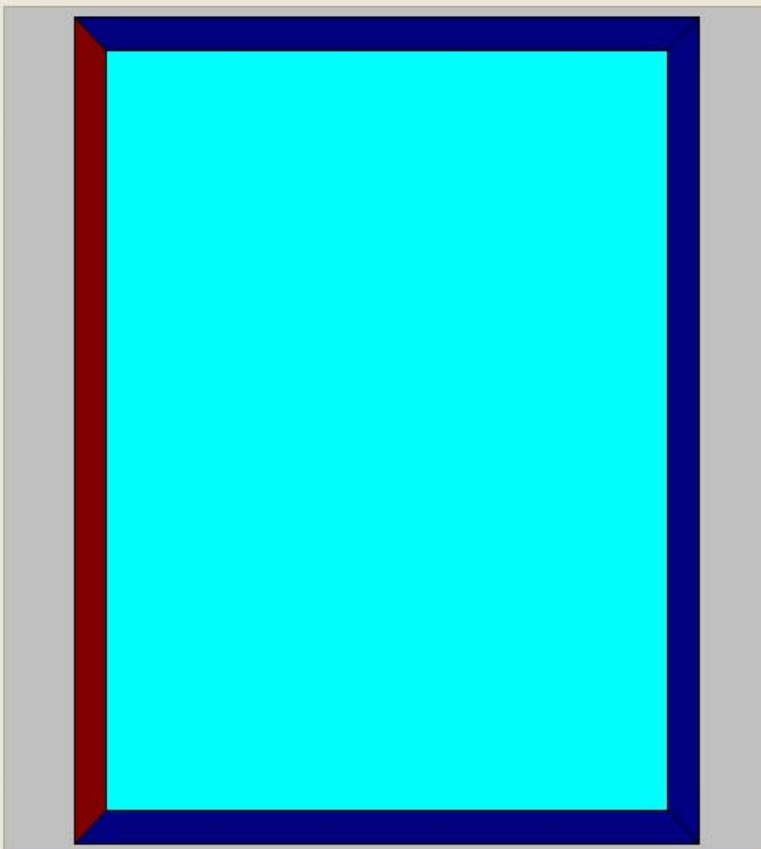
### Selected Individual Product:

Series:   
Product Line:   
Product Type:   
Select FCS:   
Select IGU:   
Select Spacer:   
Select Divider:

### Selected Individual Product Dimensions:

Width:  (in.) Height:  (in.)

Quantity:



### Thermal Indices

#### Overall Product Indices:

at User Size:  (in x in)  
U-factor:  (Btu/hr-ft²-F) VT:   
SHGC:

#### Selected Individual Product Indices:

at User Size:  (in x in)  
U-factor:  (Btu/hr-ft²-F) VT:   
SHGC:

at NFRC Size:  (in x in)  
U-factor:  (Btu/hr-ft²-F) VT:   
SHGC:

Selected IGU: Uc: 0.482 SHGCc: 0.576 VTc: 0.545

# Window Attachments

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NFRC success has brought other industries into the fold:

## Exterior attachments

- Screens
- Storm windows
- Storm doors
- Awnings

## Interior attachments

- Blinds
  - other
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# ANSI accreditation

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In the near future, NFRC will form an ANSI standards committee to obtain ANSI recognition for its standards.

Benefits:

- Meets ICC requirements
  - Can assist international harmonization
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# Questions?

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THANK YOU!

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