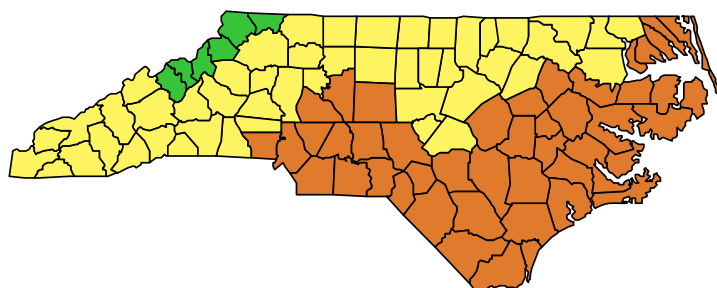


Energy Code Compliance Guide to Window Selection in North Carolina

Code: 2006 International Energy Conservation Code

This guide is designed to help select windows, doors and skylights that will meet the requirements of the 2006 IECC for residential buildings as it relates to North Carolina. The IECC assigns the counties in the state of North Carolina into three climate zones. The requirements vary for each zone as detailed in the window selection requirements found on the back of this sheet. The requirements in the 2006 IECC are the same for windows used in new buildings, remodeling & additions to existing buildings, and as replacements of existing windows.



Step-by-Step Instructions

1. Use the color-coded map or list of counties to locate the IECC climate zone in which construction is taking place.
2. Use the "Table of IECC Requirements for Window Selection in North Carolina" (on the back of this sheet) to determine the window performance requirements associated with the climate zone.
3. Construct the home with windows that have area weighted average U-factor and SHGC values less than or equal to the values for the climate zone and meet the code maximum air leakage requirements.

IECC CLIMATE ZONE 3

Anson	Dare	Mecklenburg	Robeson
Beaufort	Davidson	Montgomery	Rowan
Bladen	Duplin	Moore	Sampson
Brunswick	Edgecombe	New Hanover	Scotland
Cabarrus	Gaston	Onslow	Stanly
Camden	Greene	Pamlico	Tyrrell
Carteret	Hoke	Pasquotank	Union
Chowan	Hyde	Pender	Washington
Columbus	Johnston	Perquimans	Wayne
Craven	Jones	Pitt	Wilson
Cumberland	Lenoir	Randolph	
Currituck	Martin	Richmond	

IECC CLIMATE ZONE 4

Alamance	Davie	Hertford	Polk
Alexander	Durham	Iredell	Rockingham
Bertie	Forsyth	Jackson	Rutherford
Buncombe	Franklin	Lee	Stokes
Burke	Gates	Lincoln	Surry
Caldwell	Graham	Macon	Swain
Caswell	Granville	Madison	Transylvania
Catawba	Guilford	McDowell	Vance
Chatham	Halifax	Nash	Wake
Cherokee	Harnett	Northampton	Warren
Clay	Haywood	Orange	Wilkes
Cleveland	Henderson	Person	Yadkin

IECC CLIMATE ZONE 5

Alleghany	Avery	Watauga
Ashe	Mitchell	Yancey

The 2006 International Energy Conservation Code

The 2006 IECC was adopted during the 2005 International Code Council (ICC) code cycle and is currently available to states for adoption. It is published by the International Code Council. For additional details or to obtain a copy of the 2006 IECC, contact the ICC by phone or visit their website at www.iccsafe.org.

The IECC is the national model energy standard certified by the U.S. Department of Energy pursuant to the Energy Policy Act (EPAAct). EPAAct requires that all states review and consider adopting the IECC as the state building energy code.

Table of IECC Requirements for Window Selection in North Carolina


Simplified Prescriptive Paths for Compliance with the 2006 IECC for Windows in New Buildings and Remodeling & Replacement Windows

Package	Window & Door U-factor	Skylight U-Factor	Window, Door & Skylight SHGC
Climate Zone 3	0.65	0.65	0.40
Climate Zone 4	0.40	0.60	NR
Climate Zone 5	0.35	0.60	NR

"NR" means no requirement is specified in this package.

NOTES:

1. This table of window requirements is based upon the 2006 IECC and does not necessarily reflect the version of the IECC that may have been adopted by the state or any state-specific amendments. The IECC specifies additional requirements for other parts of the building envelope not listed here, such as insulation for walls and ceilings.
2. This table applies to residential buildings as defined in the IECC for compliance under the prescriptive approach. The 2006 IECC permits unlimited window area, so long as the prescriptive requirements are satisfied. In addition to new construction, this table of prescriptive requirements applies to all additions, alterations and replacement fenestration.
3. "Window" refers to glazed products in exterior walls of buildings, including glass doors and glass block, along with the accompanying sashes, frames, etc. Windows include all glazed products in the exterior of buildings that are not skylights. "Skylight" refers to glazed products installed at a slope of 15 degrees or more from vertical.
4. U-factor is a number, generally between 0.2 and 1.20, that indicates the rate of heat loss (or gain) through a window. A lower U-factor demonstrates a greater resistance to heat loss and gain, i.e., better insulating value of the window. As a result, a lower number produces greater winter comfort.
5. SHGC, or Solar Heat Gain Coefficient, is a number between 0 and 1 that indicates the fraction of radiation (heat) from the sun that is transmitted through the window; the lower the SHGC, the less the amount of solar radiation that is allowed to pass through the window and become unwanted additional heat in the summer. As a result, a lower number produces greater summer comfort.
6. Window and skylight U-factor and SHGC values are maximum acceptable levels. An area-weighted average of fenestration products shall be permitted to satisfy the U-factor and SHGC requirements. Up to 15 square feet of glazed fenestration is permitted to be exempt from the U-factor and SHGC requirements.
7. Window U-factor and SHGC must be determined from a National Fenestration Rating Council (NFRC) label on the product or from a limited table of product default values in the IECC.
8. The code requires that non-site-built windows be labeled in a manner to show that they meet the IECC's air infiltration requirements; specifically, equal to or better than 0.30 cfm per square foot of window area (swinging doors below 0.50 cfm) as determined in accordance with NFRC 400, AAMA/WDMA 101/I.S.2, or AAMA/WDMA 101/I.S.2/NAFS.
9. The labeled product U-factor and SHGC should also be used in calculation procedures to properly size the home's HVAC equipment. The IECC requires the use of an appropriate computational procedure to size equipment. Properly sized equipment will operate more efficiently and effectively and will save money up front because builders and consumers can avoid paying extra for oversized equipment.

 National Fenestration Rating Council® CERTIFIED	<h1>World's Best Window Co.</h1> <p>Millennium 2000+ Vinyl-Clad Wood Frame Double Glazing • Argon Fill • Low E Product Type: Vertical Slider</p>
ENERGY PERFORMANCE RATINGS	
U-Factor (U.S./I-P) 0.35	Solar Heat Gain Coefficient 0.32
ADDITIONAL PERFORMANCE RATINGS	
Visible Transmittance 0.51	Air Leakage (U.S./I-P) 0.2
Condensation Resistance 51	—
<p>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.</p> <p>www.nfrc.org</p>	

Look for the NFRC Label!

The 2 most important values to look for are:
U-factor & Solar Heat Gain Coefficient (SHGC)



See the Efficient Windows Collaborative (EWC) web site for more information.

www.efficientwindows.org

Limitations

This guide is an energy code compliance aid for window selection in North Carolina based upon the 2006 IECC and reflects the prescriptive values from Table 402.1.1 of that code. This guide only addresses window requirements and not the requirements applicable to the rest of the home. It does not provide a guarantee that a home meets the IECC, nor is it a guarantee that the home meets the energy code of the state. The guide has not been customized to reflect the version of the IECC or any state-specific amendments that North Carolina may adopt or has adopted. For additional details on North Carolina's energy code, please contact your local building guide official.