

Energy Code Compliance Guide to Window Selection in Colorado

Code: 2006 International Energy Conservation Code

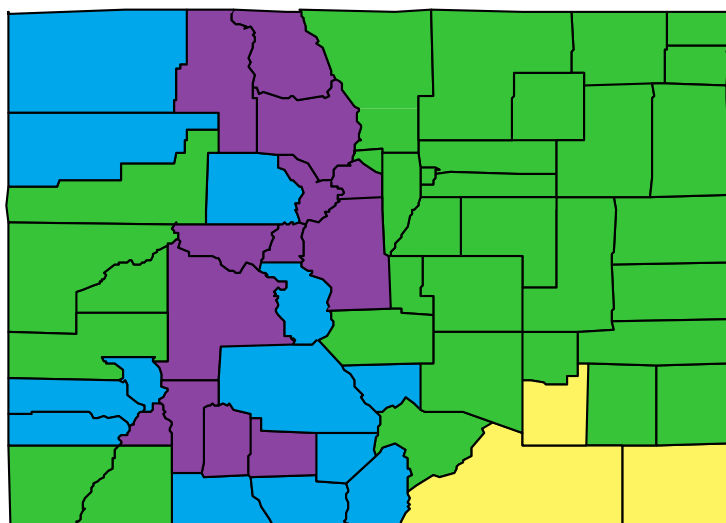
This guide is designed to help select windows, doors and skylights that will meet the requirements of the 2006 IECC for residential buildings as it relates to Colorado. The IECC assigns the counties in the state of Colorado into four climate zones. The requirements vary for each zone as detailed in the 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.

IECC CLIMATE ZONE 4		
Baca	Las Animas	Otero

IECC CLIMATE ZONE 5		
Adams	Garfield	Montrose
Arapahoe	Gilpin	Morgan
Bent	Huerfano	Phillips
Boulder	Jefferson	Prowers
Cheyenne	Kiowa	Pueblo
Crowley	Kit Carson	Sedgwick
Delta	La Plata	Teller
Denver	Larimer	Washington
Douglas	Lincoln	Weld
Elbert	Logan	Yuma
El Paso	Mesa	
Fremont	Montezuma	

IECC CLIMATE ZONE 6		
Alamosa	Custer	Rio Blanco
Archuleta	Dolores	Saguache
Chaffee	Eagle	San Miguel
Conejos	Moffat	
Costilla	Ouray	

IECC CLIMATE ZONE 7		
Clear Creek	Lake	Routt
Grand	Mineral	San Juan
Gunnison	Park	Summit
Hinsdale	Pitkin	
Jackson	Rio Grande	



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 Colorado" (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.

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 (EPAct). EPAct requires that all states review and consider adopting the IECC as the state building energy code.

Table of IECC Requirements for Window Selection in Colorado

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 4	0.40	0.60	NR
Climate Zone 5	0.35	0.60	NR
Climate Zone 6	0.35	0.60	NR
Climate Zone 7	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.



World's Best Window Co.

Millennium 2000+
Vinyl-Clad Wood Frame
Double Glazing • Argon Fill • Low E
Product Type: **Vertical Slider**

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

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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

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 Colorado 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 Colorado may adopt or has adopted. For additional details on Colorado's energy code, please contact your local building guide official.