

# IECC Compliance Guide for New Homes in Colorado

Code: 2003 International Energy Conservation Code (IECC)

First Edition

## How to Use This Guide

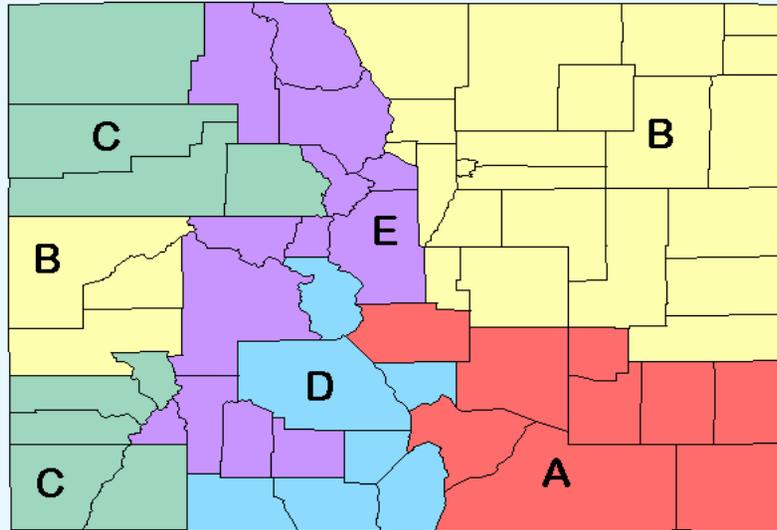
This pamphlet contains five generic packages designed to simplify compliance with the IECC as it relates to residential occupancies in Colorado. Each county is assigned to one of the five packages (A through E), which vary according to the different climate zones in Colorado.

## Step-by-Step Instructions

1. Use the color-coded map to locate the county in which construction is taking place and find the package, A through E, associated with that county.
2. Use the "Table of IECC Building Envelope Requirements for Colorado" (on the back of this sheet) to find the set of construction options or "path" associated with the package selected above.
3. Construct the building according to the corresponding path and comply with certain basic code requirements, which include:
  - a. providing preventative maintenance manuals
  - b. installing temperature controls
  - c. limiting window and door leakage
  - d. caulking or sealing joints and penetrations
  - e. installing vapor retarders
  - f. sealing and insulating ducts

### Example:

*If you are constructing a home in Jefferson County, you will comply with the IECC in Colorado if you follow the path listed in Package B.*



### Obtaining the IECC

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.

The IECC is published by the International Code Council (ICC). For additional details on the IECC, contact the ICC by phone at (703) 931-4533 or visit their website at [www.iccsafe.org](http://www.iccsafe.org).

### Limitations

This guide is an energy code (IECC based) compliance aid for Colorado. It does not provide a guarantee for meeting the IECC. The guide has not been customized to reflect any state-specific amendments to the IECC that Colorado may adopt or has adopted, and does not, therefore, provide a guarantee for meeting the state energy code. For additional details on Colorado's energy code, please contact your local building code official.

## Colorado Counties by Package

A 5,000 - 5,499 HDD		
Baca	Fremont	Otero
Bent	Huerfano	Prowers
Crowley	Las Animas	Pueblo

B 6,000 - 6,499 HDD		
Adams	Gilpin	Morgan
Arapahoe	Jefferson	Phillips
Boulder	Kiowa	Sedgwick
Cheyenne	Kit Carson	Teller
Delta	Larimer	Washington
Denver	Lincoln	Weld
Douglas	Logan	Yuma
El Paso	Mesa	
Elbert	Montrose	

C 7,000 - 8,499 HDD		
Dolores	La Plata	Ouray
Eagle	Moffat	Rio Blanco
Garfield	Montezuma	San Miguel

D 8,500 - 8,999 HDD		
Alamosa	Conejos	Saguache
Archuleta	Costilla	
Chaffee	Custer	

E 9,000 - 12,999 HDD		
Clear Creek	Lake	Routt
Grand	Mineral	San Juan
Gunnison	Park	Summit
Hinsdale	Pitkin	
Jackson	Rio Grande	

HDD = Heating Degree Days

# Table of IECC Building Envelope Requirements for Colorado

## Simplified Prescriptive Paths for Compliance with the IECC in Colorado

### WINDOWS AND INSULATION

### FOUNDATION TYPE

Package		Window U-factor	Ceiling	Wall	Floor	Basement Wall	Slab Perimeter	Crawl Space Wall
<b>A</b>	5,000-5,499 HDD	0.45	R-38	R-18	R-19	R-9	R-6, 2 ft.	R-17
<b>B</b>	6,000-6,499 HDD	0.35	R-38	R-18	R-21	R-10	R-9, 4 ft.	R-20
<b>C</b>	7,000-8,499 HDD	0.35	R-49	R-21	R-21	R-11	R-13, 4 ft.	R-20
<b>D</b>	8,500-8,999 HDD	0.35	R-49	R-21	R-21	R-18	R-14, 4 ft.	R-20
<b>E</b>	9,000-12,999 HDD	0.35	R-49	R-21	R-21	R-19	R-18, 4 ft.	R-20

*HDD = Heating Degree Days*

\* This table of prescriptive requirements is applicable to homes in which the ratio of the rough opening of windows to the gross wall area, expressed as a percentage, is 15%. For homes with glazing areas that are greater than 15%, please refer to Tables 502.2.4(4) - (6) in the IECC.

### NOTES:

1. This table is based upon the 2003 International Energy Conservation Code (IECC), published by the International Code Council, and does not reflect any state-specific amendments to the IECC.
2. Source of requirements for Table: 2003 IECC, Ch. 5, Prescriptive Packages for Climate Zones 11, 13, 15-17. Alternate compliance approaches must be used for glazing areas over 25%.
3. Window area % and U-factors are maximum acceptable levels.
4. Insulation R-values are minimum acceptable levels.
5. This table applies to single-family, wood-frame residential buildings. For steel-framed wall construction or high-mass wall construction refer to Chapter 5 of the IECC.
6. "Window" refers to any translucent or transparent material (i.e., glazing) in exterior openings of buildings, including skylights, sliding glass doors, the glass areas of opaque doors, and glass block, along with the accompanying sashes, frames, etc.
7. Window U-factor 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. Window area % is the ratio of the rough opening of windows to the gross wall area, expressed as a percentage.
9. Opaque doors must have a maximum U-factor of 0.35. One exempt door allowed.
10. The code requires that windows be labeled in a manner to determine 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 AAMA/WDMA 101/I.S.2 (ASTM E 283).
11. R-2 shall be added to the requirements for heated slabs.
12. Floors over outside air must meet ceiling requirements.
13. R-values for walls represent the sum of cavity insulation plus insulated sheathing, if any. Crawl space wall R-value shall only apply to unventilated crawl spaces.
14. Prescriptive packages are based upon normal HVAC equipment efficiencies (see Chapter 5 of the IECC). The code also requires the HVAC system to be properly sized using a computational procedure like ACCA Manual J.