

Save Energy With Building Codes



The Responsible Energy Codes Alliance

RECA's primary mission is to support and urge all states and local jurisdictions to adopt and implement the most recent version of the International Energy Conservation Code (IECC), without substantive weakening amendments.

Adoption

More than half of the States have adopted a version of the IECC. Many states have already adopted either the 2006 IECC or International Residential Code. Others are expected to follow this year.

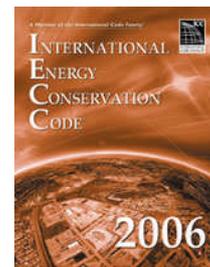
States adopting the most recent version of the IECC benefit from the latest code training material, support from the Department of Energy, and most importantly, the most updated energy code available in the United States.

Implementation

RECA offers free IECC Builder Compliance Guides on its website for all 50 states and D.C. The Guides have been used for years in trainings and on the job by code officials, inspectors, and builders. Each state-specific guide offers an at-a-glance approach to compliance with the IECC.

Facts About Building Codes

- Buildings account for 37% of energy consumption in the United States and 68% of all electricity.
- Buildings generate more greenhouse gases than any other sector (including automobiles).
- Better energy codes will curb states' demand for electricity and natural gas, and will provide long-term financial benefits for homeowners.



IECC Compliance Guide for Homes in Iowa

Code: 2006 International Energy Conservation Code

The IECC assigns the counties in the state of Iowa into two climate zones. The envelope performance requirements vary for each zone as detailed in the requirements found on the back of this sheet.

Example: If you are constructing a home in Polk County, you will comply with the 2006 IECC if you follow the requirements for Climate Zone 5.

IECC Climate Zone 5			
Adair	Des Moines	Linn	Poweshak
Adams	Dubuque	Louisia	Ringgold
Agnew	Emmett	Louis	Scott
Auburn	Greene	Madison	Shelby
Barron	Grundy	Marion	Story
Boone	Harrison	Marion	Tama
Carroll	Henry	Marshall	Taylor
Cass	Keokuk	Missouri	Union
Clair	Jackson	Monroe	Van Buren
Clarke	Jasper	Montgomery	Warren
Clinton	Jefferson	Montgomery	Wayne
Crawford	Jones	Washington	Wayne
Dallas	Jones	Page	Wayne
Davis	Keokuk	Polk	Woodbury
Decorah	Lee	Pottawattami	

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 Building Envelope Requirements for Iowa" (on the back of this sheet) to determine the envelope performance requirements associated with the climate zone.
 - a. providing preventative maintenance manuals
 - b. attaching a permanent certificate listing insulation, window and HVAC performance information
 - c. installing temperature controls
 - d. limiting window and door leakage
 - e. caulking or sealing joints and penetrations
 - f. installing vapor retarders (in certain circumstances)
 - g. sealing and insulating ducts
3. Construct the building according to the envelope performance requirements and comply with certain other basic code requirements, which include:
 - a. providing preventative maintenance manuals
 - b. attaching a permanent certificate listing insulation, window and HVAC performance information
 - c. installing temperature controls
 - d. limiting window and door leakage
 - e. caulking or sealing joints and penetrations
 - f. installing vapor retarders (in certain circumstances)
 - g. sealing and insulating ducts

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 created 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.

Limitations
This guide is an energy code compliance aid for Iowa based upon the 2006 IECC. It does not provide a guarantee for meeting the IECC. The guide is not designed to reflect the actual energy code. If any, in Iowa and does not, therefore, provide a guarantee for meeting the state energy code. For details on Iowa's energy code, please contact your local building code official.

Table of IECC Building Envelope Requirements for Iowa

Prescriptive Path for Compliance with the 2006 IECC

Package	WINDOWS AND INSULATION				
	Window U-factor	Skylight U-Factor	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value
Climate Zone 5	0.35	0.60	R-38	R-19 or 13+5	R-13
Climate Zone 6	0.35	0.60	R-49	R-19 or 13+5	R-15

NOTES:

1. This table applies to new construction, as well as all additions, alterations and replacement envelope performance requirements for Climate Zones 5-6, Table 402.1.1 in the 2006 IECC specific amendments to the IECC. This table applies to residential buildings, as defined in mass walls. For steel-framed buildings, refer to Section 602.2.4 of the IECC.
2. Window refers to any translucent or transparent material (i.e., glazing) in exterior open sliding glass doors and glass block, along with the accompanying sashes, frames, etc.
3. Window and skylight U-factor values are maximum acceptable levels. An area-weight is permitted to satisfy the U-factor requirements. Window U-factor must be determined according to NFRC 680 or AIAA/WDMA/CSA 1011.5.2A440 by an accredited, independent laboratory.
4. The code requires that windows be labeled in a manner to determine that they meet the specifically equal or better than 0.30 cm per square foot of window area (swinging) accordance with NFRC 680 or AIAA/WDMA/CSA 1011.5.2A440 by an accredited, independent laboratory.
5. Opaque exterior doors must meet the window U-factor requirements. One exempt door is permitted.
6. Insulation R-values are minimum acceptable levels; R-10 shall be permitted to be core walls represent the sum of cavity insulation plus insulated sheathing, if any.
7. If structural sheathing covers 25% or less of the exterior, insulated sheathing is not required. If structural sheathing covers more than 25% of the exterior, structural sheathing sheathing of at least R-2.
8. Supply and return ducts shall be insulated to a minimum of R-8. Ducts in floor trusses. Exception: Ducts or portions thereof located completely inside the thermal bulk.
9. Where there are two different values for basement and crawl space insulation requirements, the second to framing cavity insulation. Crawl space wall R-value shall only shall be added to the required slab edge R-values for heated slabs, and floors over outdoors.
10. Prescriptive packages are based upon normal HVAC equipment efficiencies (NAECA minimums). The code also requires the HVAC system to be properly sized using a computational procedure like the ASHRAE Handbook of Fundamentals.

WINDOWS AND INSULATION

Package	Window U-factor	Skylight U-Factor	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value
Climate Zone 5	0.35	0.60	R-38	R-19 or 13+5	R-13
Climate Zone 6	0.35	0.60	R-49	R-19 or 13+5	R-15

Each guide offers a single-page summary of the IECC's building envelope requirements.

Download or print a copy of your state's guide at www.reca-codes.org

Energy Code Resources



Responsible Energy
Codes Alliance
www.reca-codes.org
Eric Lacey, Chair
202-339-6366



Building Codes
Assistance Project
www.bcap-energy.org
Aleisha Khan
Executive Director
202-530-2211



Alliance to Save Energy
www.ase.org
Jeffrey Harris
Vice President for Programs
202-530-2243

- RECA website contains downloadable IECC Compliance Guides for each state, from 2000 IECC through 2006 IECC.
- BCAP website gives regular updates on state energy code adoptions and a map that tracks energy codes nationally.
- ASE website offers links to other energy-saving resources for government, industry, and individuals.

RECA Members

RECA is a broad-based consortium of energy efficiency professionals, product and equipment manufacturers, and trade associations with expertise in the adoption, implementation and enforcement of building energy codes nationwide. RECA is dedicated to improving the energy efficiency of homes throughout the U.S. through greater use of energy efficient practices and building products. It is administered by the Alliance to Save Energy, a non-profit coalition of business, government, environmental and consumer leaders that supports energy efficiency as a cost-effective energy resource under existing market conditions and advocates energy-efficiency policies that minimize costs to society and individual consumers.

Air Barrier Association of America

Alliance to Save Energy

American Chemistry Council

American Council for an Energy-Efficient Economy

Cardinal Glass Industries, Inc.

CertainTeed Corporation

Chemical Industry Council of Illinois

Guardian Industries Corporation

Johns Manville Corporation

Knauf Insulation

Midwest Energy Efficiency Alliance

National Fenestration Rating Council

Northeast Energy Efficiency

Partnerships, Inc.

North American Insulation Manufacturers Association

Owens Corning

Pactiv Corporation

Polyisocyanurate Insulation Manufacturers Association

PPG Industries, Inc.

Southeast Energy Efficiency Alliance

Southwest Energy Efficiency Project