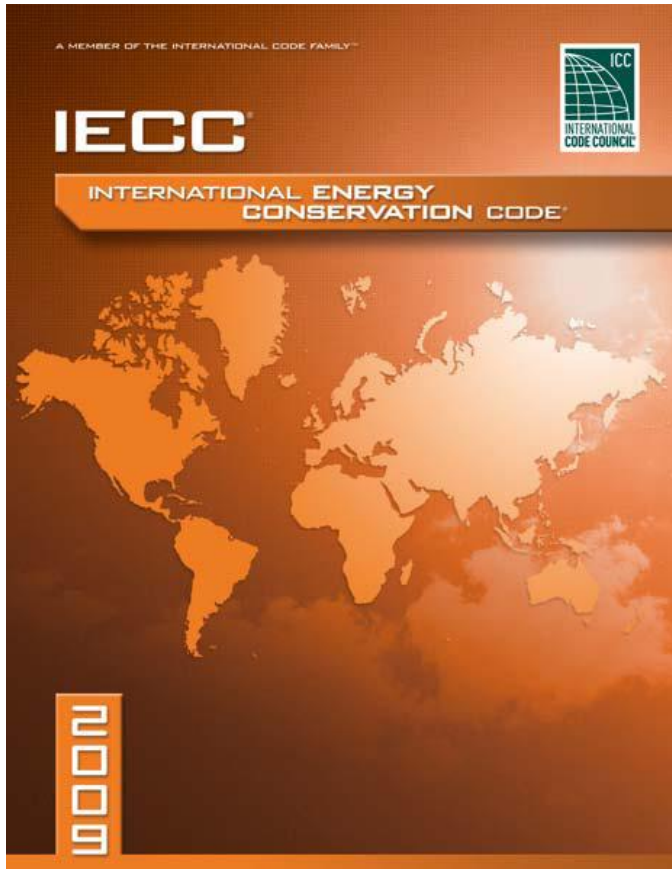


## 2009 International Energy Conservation Code (IECC) General Information



HERS informational brochure. **It is strongly recommended that a rater perform energy modeling and obtain a projected rating BEFORE framing begins.**

**The 2009 IECC is designed to save the consumer in utility costs.**

An analysis comparing the same 1,824 sq. ft. structure constructed under both the 2003 IECC and the 2009 IECC estimated an annual energy cost savings of \$267 for the gas home and \$344 for the electric home with the new code.

The additional cost for building to the higher efficiency standards was \$2,049 or, amortized over a 30 year loan, \$132 annually. **This represents a net average annual energy savings for the home built to 2009 IECC standards of \$135 for the gas heated home and \$209 for the electric heated home.**

**SIGNIFICANT CHANGES FROM 2003 IECC**

**1. Thermal Envelope Updates**

	2003 IECC	2009 IECC
<b>Ceiling</b>	R-38	R-38
<b>Skylight U-factor</b>	N/A	0.60
<b>Fenestration U-factor</b>	0.41	0.34
<b>Fenestration SHGC</b>	N/A	N/A
<b>Wood Frame Wall</b>	R-13	R-13
<b>Mass Wall</b>	R-8.1	R-5/10*
<b>Floor</b>	R-19	R-19
<b>Basement Wall</b>	R-10/13**	R-10/13**
<b>Slab</b>	R-4	R-10, 2 ft depth
<b>Crawlspace Wall</b>	R-10/1388	R-10/13**

\* The second R value applies when more than half the insulation is on the interior of the mass wall

\*\* The first R value applies to exterior continuous insulation, the second to interior framing cavity insulation; either insulation meets the requirement

Because more efficient buildings reduce stress on our electricity grid and natural gas supplies while saving money and resources for our citizens, the City of Fayetteville adopted the 2009 International Energy Conservation Code (IECC) for residential structures on July 17, 2012.

The 2009 IECC scope includes residential single-family housing and multifamily housing three stories or less above grade.

Compliance with the code for new residential construction, additions, and substantial remodels will be required as of September 3, 2012.

New Construction projects will require testing by a RESNET Certified Home Energy Rater. See the

## 2. Sealing Requirements

### Building Envelope

- Sealed with caulking materials or closed with gasketing systems
- Joints and seams sealed or taped or covered with a moisture vapor-permeable wrapping material
- Seal all floor and ceiling penetrations

### Recessed Lighting Fixtures

All recessed luminaires shall be IC rated *and labeled* as meeting ASTM E 283 when tested at 1.57 psf (75 Pa) pressure differential with no more than 2.0 cfm of air movement from the conditioned space to the ceiling cavity **and** sealed with a gasket or caulk between the housing and interior wall or ceiling covering.

## 3. Ductwork Requirements

- All ducts outside thermal envelope shall be verified as sealed by a tightness test. Testing is not required if all ducts and air handler are inside the thermal envelope.
- Supply ducts in attics must be insulated to R-8.
- All other ducts outside thermal envelope must be insulated to R-6.

## 4. Lighting

A minimum of 50 percent of the permanently installed lighting fixtures shall use high-efficacy lamps (light bulbs).

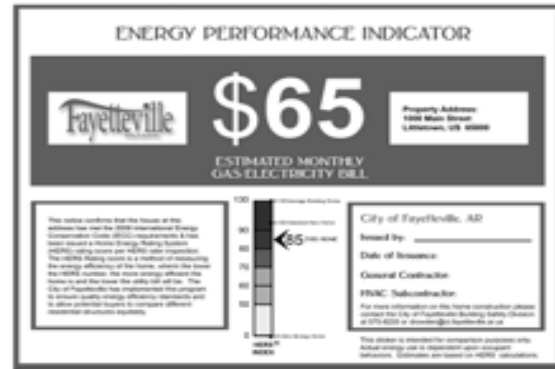
## 5. Trade-off Credits

Trade-off credit for high-efficiency HVAC will no longer be allowed.

## 6. Performance Testing & Labeling

All new residential construction shall have a Home Energy Rating completed by an independent RESNET certified home energy rater, or equivalent, prior to the issuance of a Certificate of Occupancy.

See [www.resnet.us](http://www.resnet.us)



**Until the home is occupied, a decal shall be posted in a very prominent location near the front entry showing the estimated monthly utility cost.**

**A permanent decal shall be posted on or in the electrical distribution panel that lists the R-values of the insulation in the ceiling/roof, walls, foundation and ducts, outside the conditioned space. Also, the decal shall list U-factors for windows, the types and efficiencies of heating, cooling, and water heating equipment.**

Additions, alterations, and renovations to existing residential structures shall comply with the standards of the 2009 IECC, but will not be required to provide a Home Energy Rating or post a decal.

## COMPLIANCE PATHS

**Prescriptive Path:** (Only for additions and remodels) The IECC has a single table of requirements for insulation R-values and window and door U-factors.

**Total Building Envelope Path:** UA (U factor multiplied by area using REScheck software) Based on the prescriptive U-factor table, this path allows trade-offs whereby some energy efficiency measures can fall below code requirements if balanced by other measures that exceed code requirements.

**Simulated Performance Path:** This path allows compliance if the home has a calculated annual energy consumption (or energy cost) equal to or less than that of a standard reference design that just meets the code's prescriptive requirements. This path allows for crediting energy efficiency measures

not accounted for in the other paths, such as renewable energy measures. **This path is the most flexible for the builder.**

This brochure presents an overview of the main changes in the 2009 IECC. For more details on all of the 2009 IECC requirements, visit [www.energycodes.gov](http://www.energycodes.gov)

The City of Fayetteville will begin offering information covering the new requirements in August 2012.

If you have any questions related to the 2009 IECC, please contact Vel Moses at 479-575-8233 or [vmoses@ci.fayetteville.ar.us](mailto:vmoses@ci.fayetteville.ar.us)