

Alabama Energy Code Guide



for Home Buyers

If you are interested in purchasing a home, use this checklist to assess new homes for sale. The list below includes information on Alabama's new minimum energy efficiency standards. When builders meet or exceed these requirements, it's a good indication of quality construction. Energy-efficient homes are more comfortable, cost less to operate, and reduce air pollution.

This checklist doesn't cover every aspect of the Alabama energy code, but it addresses the requirements that are easiest to identify and understand after construction is complete. With the information below, you can determine whether a new home likely meets minimum energy efficiency requirements.

Energy Efficient Lighting

Lighting accounts for about 12 percent of energy use in homes. Regular (incandescent) light bulbs heat up your home in the summer and raise your air conditioning bills. The energy code requires builders to put high efficiency light bulbs (such as compact fluorescents, halogens, or LEDs) in at least 50 percent of the permanent lighting fixtures, such as lighting in kitchens and bathrooms, recessed lighting, hallway lights, and exterior lights next to the front door and garage door.



Windows

The energy code requires U-factor and solar heat gain coefficient ratings for windows and skylights. A U-factor rating indicates how much heat loss a window allows. Single-paned windows are about 1.0; double-paned windows are about 0.5; high-performance double-paned windows are about 0.3. Conversely, a solar heat gain coefficient measures how well a window blocks heat from the sun, which is especially important in warm regions like Alabama.

- Ask for documentation of the U-factor and solar heat gain coefficients. If the home is new, ask the builder for copies of window labels or invoices to confirm that the requirements are met.
- Some manufacturers label their windows with serial numbers or other indicators, which you can use to track down information on the efficiency rating. Look for them etched in the corner of the window glass and/or paper or metal labels that may be attached to the window sill, header, or tracks on the sides. Contact the customer service department of the manufacturer to confirm the product's ratings.

	Window U-Factor	Skylight U-Factor	Solar Heat Gain Coefficient
Baldwin & Mobile Counties	0.65	0.75	0.30
All Other Counties	0.50	0.65	0.30

To learn more about window technology and benefits, please visit the Efficient Windows Collaborative web site: http://www.efficientwindows.org/code_overview.cfm



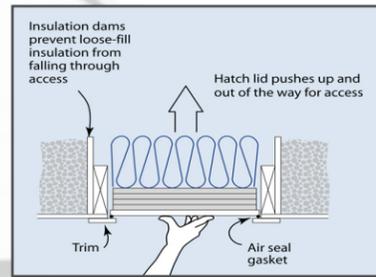
Check the access hatches/doors in the attic

These can be a major source of air leakage in the home, sending your air conditioning out through the roof in the summer. You may be able to feel air movement under the



Insulated attic hatch and insulated ducts

door or around the hatch. Hatches/doors to the attic should be weather-stripped, insulated and airtight. The insulation should be attached so that it isn't damaged or become loose when the hatch or door is used.



Attic hatch diagram

Get under the house to look at the crawl space

Either A.) the floor over the crawl space should be insulated or B.) (preferred) the crawl space walls should be insulated and the crawl space should not be vented. Insulation should be attached securely without gaps.



Crawl space vent



Proper installation (no vent)



An example of improper installation

Look for sources of air leakage into and out of the home

Air leakage is responsible for 30 percent or more of total energy loss. All joints, seams and penetrations between the inside and outside of the home should be sealed. Typically, caulk, gaskets, spray foam or weatherstripping is used to seal air leaks.

- Check to see whether leaks have been sealed where phone lines, electrical lines, plumbing and other services enter the house. Are the holes plugged with caulk or other sealants?
- What about the holes in the attic floor where pipes and ducts lead to the rooms below? Are they sealed with foam, caulk, or other materials to prevent airflow?
- Open the cabinets under the kitchen sink, under the kitchen island, under bathroom sinks, etc., to see where pipes lead to the floor below or out through walls. Are the spaces around the pipes filled with caulk, foam or other materials to prevent airflow?
- In the basement, look at exterior walls where pipes and wires lead to the outside. Are there airspaces around the pipes/wires or have they been sealed?
- Check where pipes and ducts pass up through the basement ceiling to the floor above. Are there gaps and spaces that create drafts and waste energy or are they sealed tightly?

For more information on air leakage from homes, please visit:

<http://www.pacificnorthwestinspections.com/index.php/resource-library/online-resources/914-hvac/275-stackeffect>



Fireplaces

Generally speaking, fireplaces usually reduce the energy efficiency of a home. The energy code requires the doors of wood-burning fireplaces to have gaskets to reduce air leaks.



Fireplace with door gaskets

Ductwork should be insulated and sealed

Leaky ducts are responsible for 10-30 percent of energy loss in a home.

- Are the ducts in your attic insulated? If so, look at the label on the insulation – what R-level is it? Unless the attic ceiling and walls are insulated, current codes require that ducts running through an attic space be insulated to a minimum of R-6. *As of July 1, 2013, the insulation requirement increases to R-8.*
- All ducts and air handlers should be sealed with mastic (a special type of caulk that is easily visible). NOTE: Duct tape is not appropriate for sealing ductwork; it deteriorates too quickly.
- In addition, as of July 1, 2013, the energy code requires the entire duct system to be tested in new homes if any part of the ductwork is located in an un-insulated crawlspace, attic or garage. Leaky ducts are a major source of energy loss which means that this requirement is extremely valuable in making homeownership affordable, month after month. If you have ductwork in the crawlspace, attic or garage, make sure it's sealed and insulated. After July 2013, ask for a copy of the report documenting the air tightness.



This duct has been sealed but not insulated

For more information on sealing ducts, please visit:

http://www.ehow.com/how_5708485_seal-duct-work.html

Was a Blower Door Test Done?

One way that home builders can demonstrate that they've sealed air leaks in a new home is to have a "blower door" test done. Ask whether a blower door test was conducted on the home and, if so, request a copy of the results. NOTE: The code requires new homes to be tested with blower doors unless the air sealing in the home was inspected by a qualified and independent professional. Having a home professionally inspected and/or tested is an important safeguard for consumers.

For more information on blower door testing, please visit:

<http://www.greenbuildingadvisor.com/blogs/dept/musings/blower-door-basics>



Blower door test



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Insulation Certificate Requirement

Properly installed insulation is critical for making a home comfortable and affordable, yet insulation is where homes are often short-changed. The energy code provides added protection for home buyers when insulation is blown or sprayed into walls and ceilings. Builders must provide a certificate listing the type, manufacturer and R-value (a measure of the material's performance) of the insulation. Depending on the type, the installer must provide additional information, such as number of bags installed, coverage area and thickness of the insulation after it settles, and sign, date and post the certificate on the job site. Request a copy of the certificate to confirm the insulation was installed properly.

Insulation Requirements that Apply in Alabama			
	Ceiling R-value	Wood Frame Wall R-value	Floor R-value
Baldwin & Mobile Counties	30	13	13
All Other Counties	30	13	19

Energy Certificate (Voluntary)

Builders can attach a permanent certificate that lists materials, equipment values and ratings on or in the electrical distribution panel. While this requirement is voluntary in Alabama, it's a great way for builders to show homeowners that they have met the energy code requirements. The certificate should not obstruct the visibility of the circuit directory label, service disconnect label or other required labels.

2009 IRC Energy Certificate		
Mobile and Baldwin Counties		
Compliance Method	Date	
PRESCRIPTIVE	6-30-11	
Insulation	R-value	
Ceiling/Roof	30	
Walls	13	
Floors	13	
Ducts	6	
Basement Walls	0	
Window and Door Ratings	U-factor	
Windows	0.65	
Doors	0.65	
HVAC Equipment	Type	Rating
Heating	GAS BOILER	75% AFUE
Air Conditioning	FORCED AIR	SEER-13
Water Heating	Type	EF value
Water Heater	50 GAL., GAS	0.60
General Contractor: R+S CONTRACTORS		
Insulation Contractor: SMITH + SON		
Form Completed By: John Smith		

2009 IRC Energy Certificate		
Counties other than Mobile and Baldwin		
Compliance Method	Date	
PRESCRIPTIVE	6-30-11	
Insulation	R-value	
Ceiling/Roof	30	
Walls	13	
Floors	19	
Ducts	8	
Basement Walls	5/13	
Window and Door Ratings	U-factor	
Windows	0.50	
Doors	0.50	
HVAC Equipment	Type	Rating
Heating	GAS BOILER	75% AFUE
Air Conditioning	FORCED AIR	SEER-13
Water Heating	Type	EF value
Water Heater	50 GAL., GAS	0.60
General Contractor: R+S CONTRACTORS		
Insulation Contractor: SMITH + SON		
Form Completed By: John Smith		

For more consumer information, visit Alabama Department of Economic and Community Affairs web site: www.adeca.alabama.gov/C0/codes

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