

# Home Energy Code Checklist

Are you interested in buying an energy efficient home? Do you want to learn how to make your home more energy efficient? This checklist can help you quickly assess a home's energy performance and construction. For a more detailed analysis, contact a professional.

Find out more at: [smartenergy.illinois.edu/energy-code/](http://smartenergy.illinois.edu/energy-code/)

## ENERGY CERTIFICATE

- Energy Certificate located on circuit breaker box is completed and signed. See next page for an example and more details.

## AIR SEALING

- All holes between floors and through walls are sealed with caulk or foam. Places where sealing is needed include:
  - where phone and cable wires enter the house
  - where plumbing goes through walls, floors, and ceiling
  - where exhaust ducts penetrate walls

## INSULATION

- Crawl space walls and ceiling are properly insulated.
- Attic door or access hatch is weather stripped and properly sealed.

## DUCTS

- Ducts are insulated if in unconditioned area.
- All ducts are sealed with mastic (similar to caulk) or UL181 Listed tape.

## LIGHTING

- All light fixtures have high efficiency bulbs, such as LEDs.

## FIREPLACE

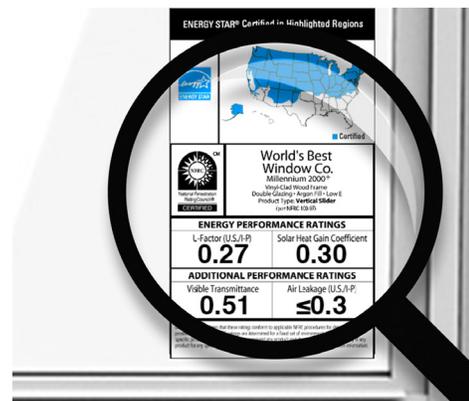
- The fireplace doors are sealed with gaskets.

## THERMOSTAT

- A programmable or smart thermostat is installed.

## WINDOWS

- Windows and skylights have NFRC label meeting the requirements for U-factors and Solar Heat Gain Coefficients (SHGCs).
- EXISTING HOMES: evaluate windows for age, quality, and air tightness.



## TESTS

- A blower door test is conducted. The test result is 3 ACH (air changes per hour) or less.
- The builder tested ducts for air leakage.

## ALTERNATIVE COMPLIANCE PATH

- If these requirements are not met, ask your contractor for documentation showing the home meets or exceeds minimum standards for energy consumption.

# How to Fill Out Energy Certificate for Homes

An energy certificate is required for new homes in Illinois. This certificate indicates that the home meets or exceeds the requirements of the current Illinois Energy Conservation Code. Look for this certificate in or near the home's main electric service box or nearby equipment. If you have questions, talk to the builder or contractor who signed the certificate or ask your local building department.

## 1. Insulation Rating

**R-value** refers to the thickness and effectiveness of insulation. Higher R-values indicate better insulation. If U-value scores are used instead, lower scores indicate better insulation.

## 2. Fenestration Rating

**U-factor** refers to the insulation value of transparent openings such as windows and skylights. A lower U-factor means more effective insulation.

**SHGC** refers to the Solar Heat Gain Coefficient. It indicates how well a window blocks heat from the sun. The lower the SHGC, the lower the amount of heat gain.

Energy Code Certificate			
Name of Designer/Builder:		DATE:	
Energy Code edition:		Compliance Path:	
1. Insulation Rating		R-Value	R-Value
Ceiling /Roof	Attic	<input type="text"/>	Vaulted <input type="text"/>
Walls	Frame	<input type="text"/>	Mass <input type="text"/>
	Basement	<input type="text"/>	Crawl space <input type="text"/>
Floors	Over unconditioned space	<input type="text"/>	Slab edge <input type="text"/>
Ducts	Attic	<input type="text"/>	Other <input type="text"/>
2. Fenestration Rating		NFRC U-Factor	NFRC SHGC
Window		<input type="text"/>	<input type="text"/>
Opaque door		<input type="text"/>	<input type="text"/>
Skylight		<input type="text"/>	<input type="text"/>
3. Air Leakage Test Results			
Blower door	<input type="text"/> ACH/50 Pa.	Duct testing	<input type="text"/> Cfm/100 ft <sup>2</sup>
4. Equipment Performance		Type	Size
Heating system		<input type="text"/>	<input type="text"/>
Cooling system		<input type="text"/>	<input type="text"/>
Water heater		<input type="text"/>	<input type="text"/>
Indicate if the following have been installed:			
<input type="checkbox"/> Electric furnace	<input type="checkbox"/> Gas-fire unvented room heater	<input type="checkbox"/> Baseboard electric heater	
5. Photovoltaic Panel Systems			
Array capacity	<input type="text"/>	Panel tilt	<input type="text"/>
Inverter efficiency	<input type="text"/>	Orientation	<input type="text"/>
6. Energy Rating Index Score		Structure Permit	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<a href="http://smartenergy.illinois.edu/energy-code/">smartenergy.illinois.edu/energy-code/</a>   800.214.7954   energycode@illinois.edu Smart Energy Design Assistance Center, 1 St Mary's Road, Champaign, IL 61820			

## 3. Air Leakage Test Results

**Blower door testing** is required for new homes. Results are shown in Air Changes per Hour. Illinois homes should have 3 ACH (air changes per hour) or less.

**Duct leakage testing** is required for new homes. Test results for the rough-in stage should be 4.0 cfm/100 sf of floor area or less. If all duct work and air handlers are inside the thermal envelope, then the results can be 8.0 cfm/100 sf of floor area or less.

## 4. Equipment Performance

SEER, AFUE, and HSPF measure the efficiency of the heating and cooling system. The Uniform Efficiency Factor (UEF) is for water heaters. A higher factor is more efficient.

## 6 Energy Rating Index (ERI) Score

ERI is determined in accordance with RESNET/ICC 301. Compliance based on ERI requires that the homes have an ERI less than or equal to 54 in Climate Zone 4, and 55 in Climate Zone 5.

## 5. Photovoltaic (PV) Panel Systems

If you have PV system, you can find the information in the solar report used to size your system.

# Energy Code Certificate

Name of Designer/Builder:

DATE:

Energy Code edition:

Compliance Path:

## 1. Insulation Rating

R-Value

R-Value

Ceiling /Roof

Attic

Vaulted

Walls

Frame

Mass

Basement

Crawl space

Floors

Over unconditioned space

Slab edge

Ducts

Attic

Other

## 2. Fenestration Rating

NFRC U-Factor

NFRC SHGC

Window

Opaque door

Skylight

## 3. Air Leakage Test Results

Blower door

ACH/50 Pa.

Duct testing

Cfm/100 ft<sup>2</sup>

## 4. Equipment Performance

Type

Size

Efficiency

Heating system

Cooling system

Water heater

Indicate if the following have been installed:

Electric furnace

Gas-fire unvented room heater

Baseboard electric heater

## 5. Photovoltaic Panel Systems

Array capacity

Panel tilt

Inverter efficiency

Orientation

## 6. Energy Rating Index Score

Structure Permit