



ENERGY STAR® & Code: How Version 3.1 Certified Homes Help Meet the 2012 IECC



Homes that earn the ENERGY STAR label meet strict requirements set by the U.S. EPA, including a high-efficiency performance target. Homes certified under Version 3.1 of the ENERGY STAR program are designed to perform above code and satisfy many 2012 IECC requirements. This factsheet details how ENERGY STAR certification can help to demonstrate code compliance.

What is an ENERGY STAR Certified Home?

ENERGY STAR certified new homes are designed and built to standards well above most other new homes on the market today, delivering energy efficiency savings of up to 30%. A new home that has earned the ENERGY STAR label has undergone a process of inspections, testing, and verification to meet strict requirements set by the U.S. EPA, delivering better quality, comfort, and durability.



REDUCED LEAKS
AND DRAFTS



MORE CONSISTENT
TEMPERATURES



BETTER
DURABILITY



IMPROVED
INDOOR AIR



PEACE OF
MIND

How does ENERGY STAR intersect with code?

Both the IECC and the ENERGY STAR Certified Homes program include efficiency requirements. By certifying a home under Version 3.1 of the program, many of the 2012 IECC code requirements are also met or exceeded.

To demonstrate compliance with code, Section R102.1.1 of the 2012 IECC states that ***“the code official or other Authority Having Jurisdiction (AHJ) shall be permitted to deem a national, state or local energy efficiency program to exceed the energy efficiency required by this code. Buildings approved in writing by such an energy efficiency program shall be considered in compliance with this code. The requirements identified as ‘mandatory’ in Chapter 4 shall be met.”***

Therefore, to use ENERGY STAR certification to demonstrate code compliance, the following criteria must be met: (1) the code official recognizes ENERGY STAR as an above-code program, (2) the home is ENERGY STAR certified, and (3) the home meets all of the mandatory requirements in Chapter 4. The following page lists these requirements and indicates whether ENERGY STAR certification satisfies each of them.

How can a Code Official or other AHJ use this information?

A code official or other AHJ considering recognition of certification under Version 3.1 of the ENERGY STAR Certified Homes program as one path towards code compliance should ensure that the home receives the ENERGY STAR label and meets the mandatory items in the following table.

For more information, visit: www.energystar.gov/newhomes
Questions? Write to energystarhomes@energystar.gov

Code Section	Overview of Code Requirement	Commentary
The ENERGY STAR Certified Homes (ESCH) program partially or fully satisfies all of the following mandatory code requirements.		
Labeling		
401.3	Certificate with key efficiency features posted at electrical panel.	ESCH program mandates that a label be affixed to the panel. The code required label can be easily generated and applied at the same time.
Building Thermal Envelope		
402.4.1.1	Building thermal envelope durably sealed to limit infiltration.	ESCH program mandates sealing at all code locations except site-built fenestration and rim joist junctions.
402.4.1.2	Air sealing of building demonstrated through blower door test.	ESCH program satisfies this requirement if blower door test results in infiltration ≤ 5 ACH50 in CZs 1 and 2 and ≤ 3 ACH50 in CZs 3-8.
402.4.4	Recessed luminaires ICAT rated and installed with gasket.	ESCH program satisfies this requirement.
402.5	Area-weighted fenestration performance meet code limits.	ESCH program satisfies this requirement.
Heating, Cooling, and Water Heating Systems		
403.2.2	Ducts, air handlers, and filter boxes sealed. Duct leakage also measured, unless 100% in conditioned space.	Mandatory duct sealing details in code will likely be achieved to meet ESCH program leakage limit. If the leakage test is done at rough-in, the leakage limit in code will also be satisfied by the ESCH program.
403.5	Mech. vent. provided that meets IRC/IMC. Outdoor air intakes and exhausts have dampers that close when system not in use.	ESCH program satisfies this requirement.
403.5.1	Mech. vent. system fan meets stated efficiency requirements.	ESCH program satisfies this requirement for many fan types.
403.6	Equipment sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J.	ESCH program generally satisfies this requirement, but provides some allowances above Manual S.
405.2	When using Simulated Performance Alternative, ducts not inside building thermal envelope insulated $\geq R-6$.	ESCH program satisfies this requirement.
The following are typically satisfied for all homes, even though they are not mandatory requirements of the ESCH program.		
Building Thermal Envelope		
402.4.3	Fenestration tested, listed, and labeled as having infiltration rate ≤ 0.3 CFM per sq. ft.; swinging doors ≤ 0.5 CFM per sq. ft.	Most fenestration products sold today meet these requirements.
Heating, Cooling, Water Heating Systems, and Lighting		
403.1	At least one thermostat provided per heating & cooling system.	Most heating and cooling systems are equipped with a thermostat.
403.1.2	For heat pump with electric res. backup, thermostat prevents use of supplemental heat if compressor can meet load.	Most heat pumps are installed with thermostats that prevent use of supplemental heat if compressor can meet load.
403.2.2.1	Air handlers have manufacturer-designated air leakage $\leq 2\%$ of design air flow rate.	ESCH program does not address manufacturer-designated air handler air leakage limits, but many products sold today are compliant.
404.1	$\geq 75\%$ high-efficacy lamps in permanently installed light fixtures.	While not explicitly required by ESCH program, high-efficacy lamps are often used to satisfy the program's performance target.
The following are not mandatory requirements of the ESCH program, but apply to specific features not present in many homes.		
Building Thermal Envelope		
402.4.2	Wood-burning fireplaces equipped with tight-fitting flue dampers and outdoor combustion air.	ESCH program does not mandate that fireplaces be equipped with flue dampers and outdoor combustion air.
Heating, Cooling, Water Heating Systems, & Lighting		
403.2.3	Building framing cavities not used as ducts or plenums.	ESCH program does not prohibit use of cavities as ducts or plenums.
403.3	Mechanical system piping capable of carrying fluids above 105° F or below 55° F insulated to $\geq R-3$.	ESCH program does not mandate that hydronic systems be insulated.
403.3.1	Piping insulation exposed to weather protected from damage.	ESCH program does not mandate protection of piping insulation.
403.4.1	Circulating service hot water system includes automatic or accessible on-off switch.	ESCH program does not mandate that a switch be included.
403.7	Heating, cooling, and water heating systems serving multiple dwelling units comply with Commercial Chapter of IECC.	ESCH program does not have different requirements for systems serving multiple dwelling units.
404.1.1	No continuously burning pilot lights in fuel gas lighting systems.	ESCH program does not address fuel gas lighting systems.
Snow-Melt, Ice-Melt, and Pool Systems		
403.8	Snow/ice-melt systems include automatic shut-off controls.	ESCH program does not address snow/ice-melt systems.
403.9.1	Pool heaters include accessible on-off switch and no continuously burning pilot lights.	ESCH program does not address pools.
403.9.2	Time switches installed that automatically turn off and on pool heaters and pumps according to a schedule.	ESCH program does not address pools.
403.9.3	Heated pools equipped with vapor-retardant cover.	ESCH program does not address pools.