ENERGY STAR Certified Homes, Version 3 (Rev. 05) Program Requirements for the State of Florida

These Program Requirements shall only be used in the State of Florida

Certifying Homes

To earn the ENERGY STAR under the Version 3 Guidelines, homes must be one of the following:

- Detached dwelling units [1] (e.g. single family homes); OR
- Dwelling units [1] in any multifamily building with 4 units or fewer; OR
- Dwelling units [1] in multifamily buildings with 3 stories or fewer above-grade [2, 3]; OR
- Dwelling units [1] in multifamily buildings with 4 or 5 stories above-grade [2, 3] that have their own heating, cooling, and hot water systems [4], separate from other units, and where dwelling units occupy 80% or more of the occupiable [3] square footage of the building.[5] When evaluating mixed–use buildings for eligibility, exclude commercial / retail space when assessing whether the 80% threshold has been met.

Dwelling units [1] in multifamily buildings that are not eligible to earn the ENERGY STAR through the Certified Homes Program may be eligible through the Multifamily High Rise Program.

Homes may earn the ENERGY STAR using the following ENERGY STAR Prescriptive Path or Performance Path in the State of Florida.

Note that compliance with these guidelines is not intended to imply compliance with all local code requirements that may be applicable to the home to be built. [6]

ENERGY STAR Prescriptive Path for Florida

The Prescriptive Path provides a single set of measures that can be used to construct an ENERGY STAR certified home. Modeling is not required; however, no tradeoffs are allowed. Follow these steps to use the Prescriptive Path:

1. If the home to be built is following the Prescriptive Path, build the home using all requirements of the Florida Builder Option Package, Exhibit 1, and the Mandatory Requirements for All Certified Homes, Exhibit 2.
2. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Homes and with RESNET's On-Site Inspection Procedures for Minimum Rated Features.[7]

ENERGY STAR Performance Path for Florida

The Performance Path provides flexibility to select a custom combination of measures for each home that is equivalent in performance to the minimum requirements of the Florida Builder Option Package, Exhibit 1. Equivalent performance is assessed through energy modeling. Follow the steps below to use the Performance Path:

1. Using a RESNET-accredited Home Energy Rating software program, configure the preferred set of energy measures for the rated home and verify that the resulting HERS Index meets or exceeds a HERS Index of 77. Note that, regardless of the measures selected, Mandatory Requirements for All Certified Homes in Exhibit 2 are also required and impose certain constraint's on the energy measures selected (e.g., insulation levels, insulation installation quality, window performance, duct leakage). [8,9,10]
2. Construct the home using measures selected in Step 1 and the Mandatory Requirements for All Certified Homes, Exhibit 2.
3. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Homes and with RESNET's On-Site Inspection Procedures for Minimum Rated Features.[7]

Partnership, Training, and Credentialing Requirements

Builders, Raters, and HVAC contractors must meet the following requirements prior to certifying homes under these guidelines:

- Builders are required to be ENERGY STAR partners and complete the online Version 3 Builder Orientation. Partnership Agreements and Version 3 Builder Orientation can be found at www.energystar.gov/homesPA.
- HVAC contractors must be credentialed by an EPA-recognized HVAC Quality Installation Training and Oversight Organization (H-QUITO). An explanation of this process and links to H-QUITOs can be found at www.energystar.gov/newhomesHVAC.
- Raters and Field Inspectors are required to complete Version 3 Training which can be found at www.energystar.gov/newhomestraining.

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Exhibit 1: Florida Builder Option Package

Home Address:_____City:_____State:_____

Building System	Inspection Guidelines		Rater Verified	Must Correct	NA
Cooling Equipment	≥ 14.5 SEER/ 12 EER ENERGY STAR certified A/C; OR		☐	☐	☐
	≥ 14.5 SEER/ 12 EER/ 8.2 HSPF ENERGY STAR certified heat pump [12]		☐	☐	☐
Heating Equipment	≥ 80 AFUE gas furnace; OR		☐	☐	☐
	≥ 14.5 SEER/ 12 EER/ 8.2 HSPF ENERGY STAR certified heat pump [12]; OR		☐	☐	☐
	≥ 80 AFUE boiler; OR		☐	☐	☐
	≥ 80 AFUE oil furnace		☐	☐	☐
Thermostat [12]	ENERGY STAR certified thermostat (except in zones with mass radiant heat)		☐	☐	☐
Ductwork	Total duct leakage ≤ 8 CFM25 per 100 sq. ft. of CFA [13], AND		☐	☐	☐
	Duct leakage to outdoors ≤ 3 CFM25 per 100 sq. ft. of CFA [13,14], AND		☐	☐	☐
	Supply ducts in unconditioned attic ≥ R-8; All others in unconditioned space ≥ R-6 [15]		☐	☐	☐
Envelope	≤ 7 ACH50	Infiltration [16]	☐	☐	☐
	≥ 30 R-Value	Ceiling Insulation [17]; AND (if applicable)	☐	☐	☐
	≥ 30 R-Value	Cathedral Ceiling Insulation [17]; AND (if applicable)	☐	☐	☐
	≥ 13 R-Value	Wood Frame Wall Insulation [17]; OR (if applicable)	☐	☐	☐
	≥ 6 & 4 R-Value	FL CZ 1-6: Int. & Ext. Mass Wall Insulation [17]; OR (if app.)	☐	☐	☐
	≥ 4 & 3 R-Value	FL CZ 7-9: Int. & Ext. Mass Wall Insulation [17]; AND (if app.)	☐	☐	☐
	≥ 13 R-Value	Floor Over Unconditioned Space Insulation [17]; AND (if app.)	☐	☐	☐
	None Required	Crawlspace Wall Insulation Continuous [17]; OR (if applicable)	☐	☐	☐
	None Required	Crawlspace Wall Insulation Framed [17]; AND (if applicable)	☐	☐	☐
	None Required	Basement Wall Insulation Continuous [17]; OR (if applicable)	☐	☐	☐
	None Required	Basement Wall Insulation Framed [17]; AND (if applicable)	☐	☐	☐
	None Required	Slab Insulation [17]; AND	☐	☐	☐
Windows [18,19,20]	≤ 0.52 U-Value		☐	☐	☐
	≤ 0.32 SHGC		☐	☐	☐
	≤ 16% Window to Floor Area		☐	☐	☐
Water Heater [21,22]	Gas (EF): 40 Gal = 0.61 | 60 Gal = 0.57 | 80 Gal = 0.53		☐	☐	☐
	Electric (EF): 40 Gal = 0.93 | 50 Gal = 0.92 | 80 Gal = 0.89		☐	☐	☐
	Oil or Gas [23]: Integrated with space heating boiler		☐	☐	☐
Lighting and Appliances [24,25]	• Advanced Lighting Package (ALP) or ENERGY STAR certified light bulbs or fixtures shall be installed in 60% of RESNET-defined Qualifying Light Fixture Locations • If dishwasher, refrigerator, or ceiling fans are installed, they must be ENERGY STAR certified		☐	☐	☐
Radiant Barrier	If more than 10 linear feet of ductwork are located in an unconditioned attic, a radiant barrier shall be installed. [26]		☐	☐	☐

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Exhibit 2: Mandatory Requirements for All Certified Homes

Area of Improvement	Mandatory Requirements
1. Thermal Enclosure System	• Completed Thermal Enclosure System Rater Checklist; Item 2.1 not enforced for homes with mass wall construction under Version 3 in Florida.
2. Heating, Ventilation, & Air Conditioning (HVAC) System	• Completed HVAC System Quality Installation Contractor Checklist • Completed HVAC System Quality Installation Rater Checklist
3. Water Management System	• Completed Water Management System Builder Checklist

Effective Date

Use Exhibit 3, below, to determine the version of the guidelines that may be used to earn the ENERGY STAR for New Homes.

Exhibit 3: ENERGY STAR New Homes Implementation Schedule for Florida

Version # [27]	Applicable to Homes with the Following Permit Date [11]	Version Description
Florida Interim Guidelines	Before 04/01/2011	HERS Index ≤ HERS 77 or Florida Builder Option Package. Thermal Bypass Checklist enforced.
Version 2.5	04/01/2011 to 12/31/2011	HERS Index ≤ HERS 77 or Florida Builder Option Package. Air Barriers and Air Sealing sections of Thermal Enclosure System Rater Checklist enforced; all other checklists from Version 3 of the national program completed but not enforced.
Version 3	01/01/2012 to 06/30/2012	HERS Index ≤ HERS 77 or Florida Builder Option Package. All checklists from Version 3 of the national program completed & enforced.
Version 3.1	07/01/2012	Version 3.1 Florida ENERGY STAR Reference Design. All checklists from Version 3 of the national program completed & enforced.

Notes (Unless specified otherwise, notes shall apply to both Prescriptive and Performance Paths):

1. A dwelling unit, as defined by the 2009 IECC, is a single unit that provides complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation.
2. Any above-grade story with 20% or more occupiable space, including commercial space, shall be counted towards the total number of stories for the purpose of determining eligibility to participate in the program. The definition of an 'above-grade story' is one for which more than half of the gross surface area of the exterior walls is above-grade. All below-grade stories, regardless of type, shall not be included when evaluating eligibility.
3. Per ASHRAE 62.2-2010, occupiable space is any enclosed space inside the pressure boundary and intended for human activities or continual human occupancy, including, but not limited to, areas used for living, sleeping, dining, and cooking, toilets, closets, halls, storage and utility areas, and laundry areas.
4. Central systems for domestic hot water are allowed if solar energy provides at least 50% of the domestic hot water needs for the residential units.
5. Units in multifamily buildings with 4 or 5 stories above-grade, including mixed–use buildings, that have their own heating, cooling, and hot water systems, separate from other units, *but where dwelling units occupy less than 80%* of the residential (i.e., excluding commercial / retail space for mixed-use buildings) occupiable square footage of the building may earn the ENERGY STAR through either the New Homes Program or the Multifamily High Rise Program if permitted prior to July 1, 2012. Units in buildings of this type that are permitted after this date shall only be eligible to earn the ENERGY STAR through the Multifamily High Rise (MFHR) Program.
6. Where requirements of the local codes, manufacturers' installation instructions, engineering documents, or regional ENERGY STAR programs overlap with the requirements of these guidelines, EPA offers the following guidance:
    a. In cases where the overlapping requirements exceed the ENERGY STAR guidelines, these overlapping requirements shall be met;

b. In cases where overlapping requirements conflict with a requirement of these ENERGY STAR guidelines (e.g., slab insulation is prohibited to allow visual access for termite inspections), then the conflicting requirement within these guidelines shall not be met. Certification shall only be allowed if the Rater has determined that no equivalent option is available that could meet the intent of the conflicting requirement of these ENERGY STAR guidelines (e.g., switching from exterior to interior slab edge insulation). Note that, under the Performance Path, a home must still meet its ENERGY STAR HERS Index Target. Therefore, other efficiency measures may be needed to compensate for the omission of the conflicting requirement.

7. The term "Rater" refers to the person completing the third-party inspections required for certification. This person shall: a) be a certified Home Energy Rater, Rating Field Inspector, BOP Inspector, or an equivalent designation as determined by a Verification Oversight Organization such as RESNET; and, b) have attended and successfully completed an EPA-recognized training class. See www.energystar.gov/newhomestraining. Raters who operate under a Sampling Provider are permitted to verify the Minimum Rated Features of the home using the RESNET-approved sampling protocol.
8. Insulation levels in a home shall meet or exceed the component insulation requirements in the 2009 IECC - Table 402.1.1. The following exceptions apply:
   a. Steel-frame ceilings, walls, and floors shall meet the insulation requirements of the 2009 IECC – Table 402.2.5. In CZ 1 and 2, the continuous insulation requirements in this table shall be permitted to be reduced to R-3 for steel-frame wall assemblies with studs spaced at 24 in. on center. This exception shall not apply if the alternative calculations in d) are used;
   b. For ceilings with attic spaces, R-30 shall satisfy the requirement for R-38 and R-38 shall satisfy the requirement for R-49 wherever the full height of uncompressed insulation at the lower R-value extends over the wall top plate at the eaves. This exemption shall not apply if the alternative calculations in d) are used;
   c. For ceilings without attic spaces, R-30 shall satisfy the requirement for any required value above R-30 if the design of the roof / ceiling assembly does not provide sufficient space for the required insulation value. This exemption shall be limited to 500 sq. ft. or 20% of the total insulated ceiling area, whichever is less. This exemption shall not apply if the alternative calculations in d) are used;
   d. An alternative equivalent U-factor or total UA calculation may also be used to demonstrate compliance, as follows:

      An assembly with a U-factor equal or less than specified in 2009 IECC Table 402.1.3 complies.

      A total building thermal envelope UA that is less than or equal to the total UA resulting from the U-factors in Table 402.1.3 also complies. The insulation levels of all non-fenestration components (i.e., ceilings, walls, floors, and slabs) can be traded off using the UA approach under both the Prescriptive and the Performance Path. Note that fenestration products (i.e., windows, skylights, doors) shall not be included in this calculation. Also, note that while ceiling and slab insulation can be included in trade-off calculations, Items 4.1 through 4.3 of the Thermal Enclosure System Rater Checklist shall be met regardless of the UA tradeoffs calculated. The UA calculation shall be done using a method consistent with the ASHRAE Handbook of Fundamentals and shall include the thermal bridging effects of framing materials. The calculation for a steel-frame envelope assembly shall use the ASHRAE zone method or a method providing equivalent results, and not a series-parallel path calculation method.
9. Insulation shall be verified by a Rater to achieve Grade I installation as defined in the RESNET Standards, except for ceiling, wall, and floor assemblies with continuous rigid insulation. For such homes, Grade II installation is acceptable for the cavity insulation only if the rigid insulation meets or exceeds the following levels: R-3 in Climate Zones 1 to 4; R-5 in Zones 5 to 8.
10. *For Prescriptive Path:* All windows, doors, and skylights shall meet or exceed ENERGY STAR Program Requirements for Residential Windows, Doors, and Skylights – Version 5.0 as outlined at www.energystar.gov/windows. *For Performance Path:* All windows, doors and skylights shall meet or exceed the component U-factor and SHGC requirements specified in the 2009 IECC – Table 402.1.1. If no NFRC rating is noted on the window or in product literature (e.g., for site-built fenestration), select the U-factor and SHGC value from tables 4 and 14, respectively, in 2005 ASHRAE Fundamentals, Chapter 31. Select the highest U-factor and SHGC value among the values listed for the known window characteristics (e.g., frame type, number of panes, glass color, and presence of low-e coating) Note that the U-factor requirement applies to all fenestration while the SHGC only applies to the glazed portion. The following exceptions apply:
    a. An area-weighted average of fenestration products shall be permitted to satisfy the U-factor requirements;
    b. An area-weighted average of fenestration products more than 50% glazed shall be permitted to satisfy the SHGC requirements;
    c. 15 square feet of glazed fenestration per dwelling unit shall be exempt from the U-factor and SHGC requirements, and shall be excluded from area-weighted averages calculated using a) and b), above;
    d. One side-hinged opaque door assembly up to 24 square feet in area shall be exempt from the U-factor requirements and shall be excluded from area-weighted averages calculated using a) and b), above;
    e. Fenestration utilized as part of a passive solar design shall be exempt from the U-factor and SHGC requirements, and shall be excluded from area-weighted averages calculated using a) and b), above. Exempt windows shall be facing within 45 degrees of true South and directly coupled to thermal storage mass that has a heat capacity > 20 btu / $ft^3 x^oF$ and

provided in a ratio of at least 3 sq. ft. per sq. ft. of South facing fenestration. Generally, thermal mass materials will be at least 2 in. thick.

11. The Rater may define the 'permit date' as either the date that the permit was issued or the date of the contract on the home. In cases where permit or contract dates are not available, Providers have discretion to estimate permit dates based on other construction schedule factors. These assumptions should be both defensible and documented.
12. For homes with heat pumps that contain an electric resistance heating element used to supplement the capacity of the heat pump, the thermostat shall have "Adaptive Recovery" technology to prevent the excessive use of the heating element.
13. Duct leakage shall be determined and documented by a Rater using a RESNET-approved testing protocol. Leakage limits shall be assessed on a per-system, rather than per-home, basis.
14. For homes that have ≤ 1,200 sq. ft. of conditioned floor area, measured duct leakage to outdoors shall be ≤ 5 CFM25 per 100 sq. ft. of conditioned floor area. Testing of duct leakage to the outside can be waived if all ducts & air handling equipment are located within the home's air and thermal barriers AND envelope leakage has been tested to be less than or equal to half of the Prescriptive Path infiltration limit for the Climate Zone where the home is to be built. Alternatively, testing of duct leakage to the outside can be waived if total duct leakage is ≤ 3 CFM25 per 100 sq. ft. of conditioned floor area, or ≤ 5 CFM25 per 100 sq. ft. of conditioned floor area for homes that have less than 1,200 sq. ft. of conditioned floor area.
15. EPA recommends, but does not require, locating ducts within conditioned space (i.e., inside the air and thermal barriers), and using a minimum of R-4 insulation for ducts inside conditioned space to prevent condensation.
16. Envelope leakage must be determined by a RESNET-certified rater using a RESNET-approved testing protocol.
17. Insulation levels of a home must meet or exceed the requirements in the 2009 Supplement to the 2007 Florida Building Code, which provides guidance and exceptions that may be used. Mass wall insulation levels are determined by Florida Climate Zones as defined in Appendix G of the code. R-Values are for insulation material only as applied in accordance with manufacturers' installation instructions. For mass walls, the interior (Int.) requirement must be met unless at least 50% of the insulation value is on the exterior (Ext.) or integral to the wall. In all cases, insulation shall be inspected to Grade I installation as defined in the RESNET Standards by a RESNET-certified Rater.
18. *For Prescriptive Path*: Homes certified under this version of the guidelines are not required to comply with Thermal Enclosure System Rater Checklist Item 1.1, which states that fenestration shall meet or exceed ENERGY STAR requirements. Raters are permitted to mark "N/A" for this Checklist Item.
19. All decorative glass and skylight window area counts toward the total window area to above-grade conditioned floor area (WFA) ratio.
20. Up to 0.75% WFA may be used for decorative glass that does not meet these requirements. For example, a home with total above-grade conditioned floor area of 2,000 sq. ft. may have up to 15 sq. ft. (0.75% of 2,000) of decorative glass.
21. More efficient water heating equipment can represent a significant opportunity for energy savings and a meaningful way to differentiate ENERGY STAR certified homes from those with standard equipment.
22. To determine domestic hot water (DHW) EF requirements for additional tank sizes, use the following equations:

    Gas DHW EF ≥ 0.69 - (0.002 x Tank Gallon Capacity); Electric DHW EF ≥ 0.97 - (0.001 x Tank Gallon Capacity).
23. In homes with gas or oil hydronic space heating, water heating systems must have an efficiency ≥ 0.78 EF. This may be met through the use of an instantaneous water heating system or an indirect storage system with a boiler that has a system efficiency ≥ 85 AFUE. Homes with tankless coil hot water heating systems cannot be certified using this BOP, but can earn the label using the ENERGY STAR Performance Path requirements.
24. Further efficiency and savings can be achieved by installing ENERGY STAR certified products, in addition to those required (e.g., additional lighting, appliances).
25. Efficient lighting fixtures represent a significant opportunity for persistent energy savings and a meaningful way to differentiate ENERGY STAR certified homes from those meeting minimum code requirements. To learn more about the benefits of increasing the use of efficient fixtures through the installation of the ENERGY STAR Advanced Lighting Package (ALP), refer to www.energystar.gov/alp.
26. Any radiant barrier with a minimum reflectance of 0.90 and maximum emittance of 0.10 or an ENERGY STAR certified roof product meets the requirement for a radiant barrier.
27. All low-income projects financed through low-income housing agencies may earn the ENERGY STAR under the current Interim Florida guidelines until January 1, 2013 as long as the application for funding for those homes was received by the low-income housing agency before April 1, 2011 and the housing project includes at least one unit reserved for low-income tenants. If the application for funding is received between April 1, 2011 and December 31, 2011, then the homes must earn the ENERGY STAR under the FL Version 2.5 guidelines, and under the Version 3 guidelines if application for funding is received between January 1st, 2012 and June 30th, 2012. If the application for funding is received on or after July 1st, 2012 then the homes must earn the ENERGY STAR under the Version 3.1 guidelines.