



## 2015 IECC Residential Energy Efficiency Code Requirements Flow Chart



In accordance with Maryland Building Performance Standards and the currently adopted Harford County Building Code all residential structures must comply with the 2015 International Energy Conservation Code. All of the Mandatory provisions and either the Prescriptive or Performance based approach must be followed.



### Building Thermal Envelope Compliance Exception

**R402.1 General (Prescriptive).** The following buildings, or portions thereof, separated from the remainder of the building by *building thermal envelope* assemblies complying with this section shall be exempt from the *building thermal envelope* provisions of Section R402.

1. Those with a peak design rate of energy usage less than 3.4 Btu/h · ft<sup>2</sup> (10.7 W/m<sup>2</sup>) or 1.0 watt/ft<sup>2</sup> (10.7 W/m<sup>2</sup>) of floor area for space conditioning purposes.
2. Those that do not contain *conditioned space*.



### Mandatory Requirements

Section R401.3	Certificate	Section R403.5.1	Heated water circulation & temperature maintenance systems
Section R402.4	Air Leakage	Section R403.6	Mechanical ventilation
Section R402.5	Maximum fenestration U-factor and SHGC	Section R403.7	Equipment sizing & efficiency rating
Section R403.1	HVAC Controls	Section R403.8	Systems serving multiple dwelling units
Section R403.1.2	Heat Pump Supplementary Heat	Section R403.9	Snow melt & ice system controls
Section R403.3.2	Duct Sealing	Section R403.10	Pools and in-ground permanent spa energy consumption
Section R403.3.3	Duct Testing	Section R403.11	Portable Spas
Section R403.3.5	Building Cavities as ducts or plenums	Section R404.1	Lighting Equipment
Section R403.4	Mechanical system piping insulation	Section R404.1.1	Fuel gas lighting systems shall not have continuously burning pilot lights



### Choose one of the Compliance Methods below

R-Value Computation Method	U-Factor Alternative	Total UA-Alternative	Performance	Energy Rating Index
<p><b>R402.1 General</b></p> <p>R402.1.1 Vapor Retarder</p> <p>R402.1.2 Insulation and Fenestration Criteria</p> <p>R402.1.3 R-Value Computation</p> <p>R402.2.1 Ceilings with Attic Spaces</p> <p>R402.2.2 Ceilings without attic spaces</p> <p>R402.2.3 Eave Baffle</p> <p>R402.2.4 Access Hatches and Doors</p> <p>R402.2.5 Mass Walls</p> <p>R402.2.6 Steel-Frame Ceilings, Walls and Floors</p> <p>R402.2.7 Walls with partial structural sheathing</p> <p>R402.2.8 Floors</p> <p>R402.2.9 Basement Walls</p> <p>R402.2.10 Slab-on-Grade Floors</p> <p>R402.2.11 Crawl Space Walls</p> <p>R402.2.12 Masonry Veneer</p> <p>R402.2.13 Sunroom insulation</p> <p>R402.3 Fenestration</p> <p>R402.3.1 U-factor</p> <p>R402.3.5 Sunroom Fenestration</p> <p>R403.1.1 Insulation</p> <p>R403.3.4 Duct Leakage</p> <p>R403.5.3 Hot Water pipe Insulation</p>	<p><b>R402.1 General</b></p> <p>R402.1.1 Vapor Retarder</p> <p>R402.1.2 Insulation and Fenestration Criteria</p> <p>R402.1.4 U-Factor Alternative</p> <p>R402.2.3 Eave Baffle</p> <p>R402.2.4 Access Hatches and Doors</p> <p>R402.2.5 Mass Walls</p> <p>R402.2.6 Steel-Frame Ceilings, Walls and Floors</p> <p>R402.2.8 Floors</p> <p>R402.2.9 Basement Walls</p> <p>R402.2.10 Slab-on-Grade Floors</p> <p>R402.2.11 Crawl Space Walls</p> <p>R402.2.12 Masonry Veneer</p> <p>R402.2.13 Sunroom insulation</p> <p>R402.3 Fenestration</p> <p>R402.3.1 U-factor</p> <p>R402.3.5 Sunroom Fenestration</p> <p>R403.1.1 Insulation</p> <p>R403.3.4 Duct Leakage</p> <p>R403.5.3 Hot Water pipe Insulation</p>	<p><b>R402.1 General</b></p> <p>R402.1.1 Vapor Retarder</p> <p>R402.1.2 Insulation and Fenestration Criteria</p> <p>R402.1.5 Total UA Alternative</p> <p>R402.2.3 Eave Baffle</p> <p>R402.2.4 Access Hatches and Doors</p> <p>R402.2.5 Mass Walls</p> <p>R402.2.6 Steel-Frame Ceilings, Walls and Floors</p> <p>R402.2.8 Floors</p> <p>R402.2.9 Basement Walls</p> <p>R402.2.10 Slab-on-Grade Floors</p> <p>R402.2.11 Crawl Space Walls</p> <p>R402.2.12 Masonry Veneer</p> <p>R402.2.13 Sunroom insulation</p> <p>R402.3 Fenestration</p> <p>R402.3.5 Sunroom Fenestration</p> <p>R403.1.1 Insulation</p> <p>R403.3.4 Duct Leakage</p> <p>R403.5.3 Hot Water pipe Insulation</p>	<p><b>R405 Simulated Performance Alternative</b></p> <p>R405.1 Scope</p> <p>R405.2 Mandatory Requirements</p> <p>R405.3 Performance-Based Compliance</p> <p>R405.4 Documentation</p> <p>R405.4.1 Compliance Software</p> <p>R405.4.2 Compliance Report</p> <p>R405.4.2.1 Compliance Report for Permit Application</p> <p>R405.4.2.2 Compliance Report for Certificate of Occupancy</p> <p>R405.4.3 Additional Documentation</p> <p>R405.5.1 General</p> <p>R4905.5.2 Residence Specifications</p> <p>R405.6 Calculation Software Tools</p> <p>R405.6.1 Minimum Capabilities</p> <p>R405.6.2 Specific Approval</p> <p>R405.6.3 Input Values</p>	<p><b>R406 Energy Rating Index</b></p> <p>R406.1 Scope</p> <p>R406.2 Mandatory Requirements</p> <p>R406.3 Energy Rating Index</p> <p>R406.3.1 ERI Reference Design</p> <p>R406.4 ERI-Based Compliance</p> <p>R406.5 Verification by Approved Agency</p> <p>R406.6 Documentation</p> <p>R406.6.1 Compliance Software Tools</p> <p>R406.6.2 Compliance Report</p> <p>R406.6.3 Additional Documentation</p> <p>R406.7 Calculation Software Tools</p> <p>R406.7.1 Minimum Capabilities</p> <p>R406.7.2 Specific Approval</p> <p>R406.7.3 Input Values</p>

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## 2015 IECC Residential Energy Efficiency Code

All new residential one and two family dwellings and additions to existing one and two family dwellings must comply with the residential provisions of the 2015 IECC unless the building is considered a "Low Energy Building" as defined in Section R402.1. Additions, alterations, renovations or repairs to single family dwellings can comply with the code without requiring the unaltered portion(s) to comply. An addition shall be deemed to comply with the code if the addition alone complies or if the existing building and addition comply with the code as a single building.

In addition to the mandatory provisions of the code, the Department must be advised by the applicant of the chosen compliance path by checking the applicable box. Additional detailed information on the mandatory provision and the provisions within each compliance path can be found in the Harford County Energy Code Compliance Check List. If the Prescriptive UA Alternative path or the Performance Path is chosen additional documentation must be attached to demonstrate compliance.

### Mandatory Requirements

All provisions must be complied with regardless of the compliance path that is chosen.

**Choose one of the Compliance Methods on the left.**




**R-Value Computation Method**

**OR**

**U-Factor Alternative**

**OR**

**Total UA-Alternative**

Must Submit Compliance Documentation

**OR**

**Performance Option Requirements**

Must Submit Compliance Documentation

**OR**

**Energy Rating Index Alternative**

Must have correct Table R406.4 rated design

Climate Zone	Fenestration U-Factor	Skylight U-Factor	Glazed Fenestration SHGC	Ceiling R-value	Wood Frame Wall R-value	Mass Wall R-value	Floor R-value	Basement Wall R-value	Slab R-value & Depth	Crawl Space Wall R-value
4 Except Marine	0.35	0.55	0.40	49	20 or 13+5	8/13	19	10/13	10, 2ft	10/13

Climate Zone	Fenestration U-Factor	Skylight U-Factor	Ceiling U-Factor	Wood Frame Wall U-Factor	Mass Wall U-Factor	Floor U-Factor	Basement Wall U-Factor	Crawl Space Wall U-Factor
4 Except Marine	0.35	0.55	0.026	0.060	0.098	0.047	0.059	0.065

### Applicant/Project Information

New Single Family Dwelling:

Addition:

Addition is thermally isolated from existing construction

Permit Applicant: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

Date: \_\_\_\_\_

**Plan review at time of permit application**

**In field inspections to verify compliance**

Permit Number: \_\_\_\_\_

Department Approval: \_\_\_\_\_

Additional documentation received for Prescriptive UA Alternative Path or Performance Compliance Path Option:

Additional information regarding the requirements of the 2015 IECC as adopted by Harford County can be obtained by calling the Building Services Division at (410) 638-3366. Local amendments and the 2015 I-codes can be referenced at <http://www.harfordcountymd.gov/DILP/index.cfm?ID=321>