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2021 IECC Residential Energy Efficiency Selection for New Construction

New residential construction of one- and two-family dwellings shall comply with the below. Applicant shall select an option on Page 1, and follow the instructions for additional selections on Page 2 and/or Page 3 or additional documents needed. Please refer to the International Energy Conservation Code (IECC) for specifics, as this form is only intended to be a guide, and does not include every option. Please detail on the plans if a different option is utilized. This form is to be submitted with the Building Permit submission.

☐ Prescriptive Compliance Option R-Value Alternative per IECC; R402.1.3.

Table R402.1.3 - Insulation Minimum R-Values and Fenestration Requirements by Component

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	0.30	0.55	0.40	60 or 49 with raised heel	30 or 20&5ci or 13&10ci or 0&20ci	8/13	19	10ci or 13	10ci, 4 ft	10ci or 13

Must also select one option from List 1 on Page 3.

☐ Prescriptive Compliance Option Maryland Alternative R-Value per IECC; R402.1.3.1.

Table R402.1.3.1 - MD Alternative Insulation Minimum R-Values and Fenestration Requirements by Component

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	0.30	0.55	0.40	49 or 38 with raised heel	20 or 13&5ci	8/13	19	10ci or 13	10ci, 4 ft	10ci or 13

Must also select options from Table A on Page 2 to meet or exceed 6%.

☐ Total Building Performance Option per IECC; R401.2.2.

Must also select one option from List 2 on Page 3, and an additional report is required.

☐ Energy Rating Index Option per IECC; R401.2.3.

Energy Rating Index value shall be 5% less than the Energy Rating Index target, and an additional report is required.

☐ Prescriptive Compliance Option per IECC; R402.1.

Table R402.1.2 - Maximum Assembly U-Factors and Fenestration Requirements

Climate Zone	Fenestration U-Factor	Skylight U-Factor	Glazed Fenestration SHGC	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	0.30	0.55	0.40	0.024	0.045	0.098	0.047	0.059	0.065

Must also select one option from List 1 on Page 3.

Table A – in accordance with IECC; Table R408.3 - Additional Energy Features		
	Energy Feature	%
<input type="checkbox"/>	≥ 2.5% reduction in total UA	1%
<input type="checkbox"/>	≥ 5% reduction in total UA	2%
<input type="checkbox"/>	> 7.5% reduction in total UA	2%
<input type="checkbox"/>	0.22 U-factor windows	3%
<input type="checkbox"/>	High performance cooling system (Greater than or equal to 18 SEER and 14 EER air conditioner)	3%
<input type="checkbox"/>	High performance cooling system (Greater than or equal to 16 SEER and 12 EER air conditioner)	3%
<input type="checkbox"/>	High performance gas furnace (Greater than or equal to 96 AFUE natural gas furnace)	5%
<input type="checkbox"/>	High performance gas furnace (Greater than or equal to 92 AFUE natural gas furnace)	4%
<input type="checkbox"/>	High performance heat pump system (Greater than or equal to 10 HSPF/18 SEER air source heat pump.)	6%
<input type="checkbox"/>	High performance heat pump system (Greater than or equal to 9 HSPF/16 SEER air source heat pump.)	5%
<input type="checkbox"/>	Ground source heat pump (Greater than or equal to 3.5 COP ground source heat pump.)	6%
<input type="checkbox"/>	Fossil fuel service water heating system (Greater than or equal to 82 EF fossil fuel service water-heating system.)	3%
<input type="checkbox"/>	High performance heat pump water heating system option (Greater than or equal to 2.9 UEF electric service water-heating system.)	8%
<input type="checkbox"/>	High performance heat pump water heating system. (Greater than or equal to 3.2 UEF electric service water-heating system.)	8%
<input type="checkbox"/>	Solar hot water heating system (Greater than or equal to 0.4 solar fraction solar water-heating system.)	6%
<input type="checkbox"/>	More efficient HVAC distribution system. (100 percent of ductless thermal distribution system or hydronic thermal distribution system located completely inside the building thermal envelope.)	10%
<input type="checkbox"/>	100% of ducts in conditioned space. (100 percent of duct thermal distribution system located in conditioned space as defined by Section R403.3.2.)	12%
<input type="checkbox"/>	Reduced total duct leakage. (When ducts are located outside conditioned space, the total leakage of the ducts, measured in accordance with R403.3.5, shall be in accordance with one of the following: a. Where air handler is installed at the time of testing, 2.0 cubic feet per minute per 100 square feet of conditioned floor area. b. Where air handler is not installed at the time of testing, 1.75 cubic feet per minute per 100 square feet of conditioned floor area.)	1%
<input type="checkbox"/>	2 ACH50 air leakage rate with ERV or HRV installed. (Less than or equal to 2.0 ACH50, with either an Energy Recovery Ventilator (ERV) or Heat Recovery Ventilator (HRV) installed.)	10%
<input type="checkbox"/>	2 ACH50 air leakage rate with balanced ventilation. (Less than or equal to 2.0 ACH50, with balanced ventilation as defined in Section 202 of the 2021 International Mechanical Code.)	4%
<input type="checkbox"/>	1.5 ACH50 air leakage rate with ERV or HRV installed. (Less than or equal to 1.5 ACH50, with either an ERV or HRV installed.)	12%
<input type="checkbox"/>	1 ACH50 air leakage rate with ERV or HRV installed. (Less than equal to 1.0 ACH50, with either an ERV or HRV installed.)	14%
<input type="checkbox"/>	Energy Efficient Appliances (Minimum 3 appliances not to exceed 1 form each type with follow efficiencies. Refrigerator - Energy Star Program Requirements, Product Specification for Consumer Refrigeration Products, Version 5.1 (08/05/2021), Dishwasher - Energy Star Program Requirements for Residential Dishwashers, Version 6.0 (01/29/2016), Clothes Dryer - Energy Star Program Requirements, Product Specification for Clothes Dryers, Version 1.1 (05/05/2017) and Clothes Washer - Energy Star Program Requirements, Product Specification for Clothes Washers, Version 8.1 (02/05/2018)	7%
<input type="checkbox"/>	Renewable Energy Measure.	11%

List 1 in accordance with IECC; Section R408

- ☐ Enhanced envelope performance
 - ☐ Heating and cooling equipment greater than or equal to 95 AFUE natural gas furnace and 16 SEER air conditioner.
 - ☐ Heating and cooling equipment greater than or equal to 10 HSPF/16 SEER air source heat pump.
 - ☐ Heating and cooling equipment greater than or equal to 3.5 COP ground source heat pump.
 - ☐ Hot water system greater than or equal to 0.82 EF fossil fuel service water-heating system.
 - ☐ Hot water system greater than or equal to 2.0 EF electric service water-heating system.
 - ☐ Hot water system greater than or equal to 0.4 solar fraction solar water-heating system.
 - ☐ The thermal distribution system shall have 100 percent of ducts and air handlers located entirely within the building thermal envelope.
 - ☐ The thermal distribution system shall have 100 percent of ductless thermal distribution system or hydronic thermal distribution system located completely inside the building thermal envelope.
 - ☐ The thermal distribution system shall have 100 percent of duct thermal distribution system located in conditioned space.
 - ☐ Improved air sealing and efficient ventilation system.
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List 2 in accordance with IECC; Section R405

- ☐ One of the additional efficiency package options in List 1 shall be selected without including such measures in the proposed design under Section R405.
 - ☐ The proposed design of the building under Section R405.3 shall have an annual energy cost that is less than or equal to 95 percent of the annual energy cost of the standard reference design.
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This document shall become part of the official permit record.

Any deviation from the original submittal will require the permit to be revised along with the submission of applicable documentation supporting the new selections.

Project Address: _____

Applicant Signature: _____ Date: _____