

Effective 5/29/24

Worcester County

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Worcester County 2021 International Residential Energy Code

By adoption of the Maryland Building Performance Standards and specifically the International Energy Code 2021 Edition (IECC 2021), Worcester County and State of Maryland Building Code requires all new construction and additions to residential dwellings to meet IECC 2021. 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 2021 IECC. Maryland allows alternates to 2021 building envelope requirements with the selection of alternate measures of 6% overall improvement if using the 2018 IECC building envelope insulation levels (see attached selection list)

Mandatory IECC 2021 Requirements:

1. Certificate of Compliance – R401.3 – Builder or Design Professional must post all energy compliance cert. on elect. Panel.
2. Thermal Envelope – R402 – Insulation, Fenestration, required prescriptive or performance – Exceptions below for alterations.
3. Air Leakage – R402.4 – Building Envelope must limit air exchanges 3 per hour (at 50 Pascals) by Certified Tightness Test. ¹
4. HVAC Controls – R403.1 – Programmable t-stat for furnaces and supplemental heat controls for heat pumps.
5. Duct Insulation – R 403.3.1 – Outside thermal envelope (TE) required. R-8 ducts>3inches, R-6 ducts 3 to 6 inches.
6. Duct Sealing – R 403.3.6 – HVAC ducts tests – Max leakage 4 CFM/100 SF outside, 8 CFM/100 inside TE. Report required.
7. Building Cavities – R 403.3.7 – Cavities shall not be used as ducts or plenums.
8. Mechanical System Pipe Insulation – R403.4 – R-3 minimum if fluid above 105 degrees F or less than 55 F.
9. Circulating Hot Water Systems – R403.5.1 – Controls and insulation required.
10. Mechanical Ventilation – R403.6 – Whole house ventilation is required per M1505. Testing and certification is required. ¹
11. Additional Efficiency (R408) – Thermal Env. Improvement fenestration , HVAC 16 SEER, Water heating 2.0 EF, Ducts in Envelope, Ventilation with HRV or ERV.
12. Equipment Sizing – R403.7 – HVAC equipment sized per Air Conditioning Contractors of America (ACCA) Standards.
13. Snow Melt System Controls – R403.9- Special controls required if system installed.
14. Pools and Spas – R403.10 – Controls to minimize energy usage required. Covers required on heated pools and spas.
- 15 – Lighting Equipment – R404 – All installed lighting shall utilize high efficacy lamps (> 65 lumens/watt). Interior controls including dimmers and occupancy sensors required except bathroom, hallways, exterior and safety. Exterior lights controls include daylight control auto off.

Notes:

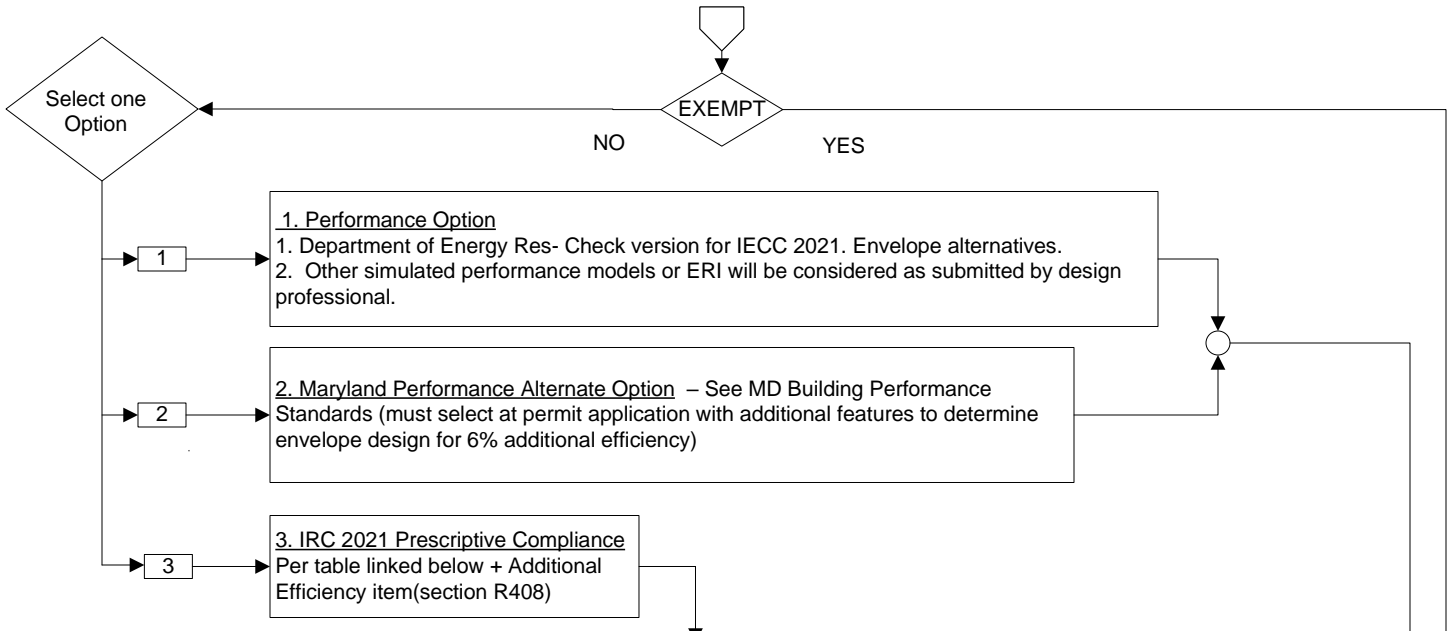
1. Attention must be given to sealing the entire building envelope during construction to attain certified passing results. Consult your Certified Building Envelope Test Contractor (RESNET, BPI). A passing test report for both building tightness and ventilation by a certified contractor/inspector must be provided to Worcester County to obtain final building Certificate of Occupancy.
2. Construction Documentation is required per R103.2 including Insulation, Fenestration and Mechanical Systems (sizes and efficiencies).

Building Envelope Exceptions - Alterations (only applies if building energy use is not increased by the repairs/renovations):

1. Storm Window installed over existing windows.
2. Existing ceiling, wall or floor cavities exposed provided these cavities are filled with insulation.
3. Construction where existing roof, wall or floor cavity is not exposed.
4. Roof re-cover.
5. Surface applied window film installed on existing single pane fenestration assemblies to reduce the solar heat gain performance provided the glazing is not replaced.
6. Repairs/Renovations will not increase the building energy use (e.g., NO HVAC, NO Lights, NO hot water) – NON- Conversion Agreement Required.

Note : If repairs/renovations are limited to items 1-6 above, then there is no building envelope specific requirements.

See
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1. Performance Option
 1. Department of Energy Res- Check version for IECC 2021. Envelope alternatives.
 2. Other simulated performance models or ERI will be considered as submitted by design professional.

2. Maryland Performance Alternate Option – See MD Building Performance Standards (must select at permit application with additional features to determine envelope design for 6% additional efficiency)

3. IRC 2021 Prescriptive Compliance
 Per table linked below + Additional Efficiency item(section R408)

Prescriptive R and/or U value (Table R402.1.3)									
Climate Zone 4									
Fenestration U	Skylight U	Glazed Fenestration SHGC max	Ceiling R	Wood Frame Wall R	Mass Wall R	Floor R	Basement Wall R	Slab R-val,depth	Crawl Space Wall R
0.3	0.55	0.4	60	30 or 20+5c, or 13+10c, or 0+20c	8/13	19	10 ci or 13	10 ci, 4 ft	10 ci or 13

Select One: 1. Improved envelope +5%; 2. HVAC imp. Eff.; 3. Water Heater Imp.; 4. Duct in env.; 5. ERV or HRV Ventilation

- Inspections:**
- Insulation Building Envelope – Required during construction by Worcester County Inspector.
 - Air Leakage and Building Ventilation – Blower Door Test and building ventilation test required by Certified Contractor/Inspector – Based on Building Performance Institute (BPI, Resnet) accreditation. Passing reports due at final inspection and required for Certificate of Occupancy from Worcester County.
 - Certificate of Compliance (By Builder or Design Professional with checks at final inspection by Local Jurisdiction- label complete and posted in electrical panel with copy to inspector)
 - Insulation Rating
 - Window and Door Ratings
 - HVAC Equipment Sizing and performance ratings
 - Building air leakage results
 - photovoltaic and ERI index if determined
 - Additional energy efficiency option used

Complete Application Information

Owner/Contractor/Project Information: Permit No. _____

Owner Name (print): _____ Date: _____ Owner Signature: _____

Contractor Name (print): _____ Date: _____ Contractor Signature: _____

Building Tightness Test Contractor: _____ Phone: _____

Building Reviewer (DRP Office Use): _____