RESIDENTIAL ENERGY CODE

Michigan Climate Zone 5a

Michigan has adopted the 2015 International Energy Conservation Code with state specific amendments for residential buildings in the state. This code applies to new construction as well as additions and major renovations. You can use the checklist below to verify key residential energy code requirements.
While this checklist doesn't include every requirement for residential new construction in Climate Zone 5a, it serves as a helpful guide for professionals as they seek or verify compliance with the state residential energy code in the field. Please refer to the state's published energy code for complete documentation of all requirements and consult your local code official for questions and clarification. You can purchase a copy of the code online at: http://bit.ly/MICodeBooks

Mandatory Requirements

Energy Certificate

- ☐ Energy Certificate located on circuit breaker box includes key energy efficiency measures and is signed by the builder

Air Sealing

- ☐ All holes between floors and through exterior walls/ ceilings have been sealed with caulk or foam, in accordance with table N1102.4.1.1
- ☐ Building or dwelling unit is tested to verify air leakage rate
- ☐ Building or dwelling unit must have a continuous air barrier installed

Ducts

- ☐ **All** ducts are sealed with approved materials (e.g. mastic or UL 181 tape) - duct tape is not acceptable
- ☐ All ducts outside conditioned space are tested to verify duct leakage with a total duct leakage or leakage to the outside test
- ☐ Supply & return ducts in attic insulated to ≥ R-6 when ducts are outside conditioned space and ≥ R-8 when ducts are outside the building thermal envelope

Heating & Cooling

- ☐ Controls: Programmable thermostat installed
- ☐ Equipment sized per ACCA Manuals S & J

Lighting

- ☐ Minimum of **75%** high-efficacy lamps installed
- ☐ Recessed lighting in thermal envelope IC-rated and air tight

Mechanical Ventilation

- ☐ Installed according to requirements in the Michigan Residential Code and Michigan Mechanical Code

Building Cavities

- ☐ Building framing cavities shall **not** be used as supply ducts or plenums

Other Requirements

- ☐ Wood-burning fireplaces have tight flue dampers, or doors and outdoor combustion air
- ☐ Mechanical system piping insulated to min R-3 for fluids >105° F or <55° F
- ☐ Circulating hot water systems shall be insulated to at least R-2. Systems shall include an automatic, or readily accessible, off-switch.

Energy Code Compliance Paths

Must only follow one method. See additional requirements on back.

- ☐ Prescriptive Method: Comply with all mandatory and prescriptive requirements and complete checklist on the back of this page
- ☐ Total UA Method: Comply with all mandatory requirements and submit documentation to show compliance with UA trade-offs
- ☐ Simulated Performance Alternative: Comply with all mandatory requirements and submit a complete energy cost report to show compliance
- ☐ Energy Rating Index: Comply with all mandatory requirements and submit an Energy Rating Index report to show compliance

Compliance Paths - Choose One: Prescriptive Method Requirements

Code Section	Building Components	Prescriptive Standard	Proposed Value	Remarks
Insulation (N1102.2); Prescriptive Standard is a Minimum R-Value				
N1102.2.1	Ceilings with Attic Spaces	R-38		R-38 for standard truss, can be reduced to R-30 with Raised Heel/Energy Truss
N1102.2.2	Ceilings without Attic Spaces	R-30		Limited to 500 SF or 20% of the total insulated ceiling area, whichever is less
Table N1102.1.1	Wood Frame Wall	R-20 or 13+5		R-20 for interior cavity, or R-13 for interior cavity plus R-5 continuous insulation
N1102.2.7	Floors over unconditioned space	R-30		May use sufficient insulation to fill the framing cavity, R-19 minimum
N1102.2.8	Conditioned Basement Walls	R-10/13		R-10 continuous insulation on the interior or exterior, or R-13 for interior wall cavity
N1102.2.9	Slab-on-grade floors	R-10, 2 ft.		Insulation shall be from top of slab edge to 2 feet below grade in CZ 5. If slab is heated, an additional R-5 is needed on the slab edge
N1102.2.10	Conditioned crawl space walls	R-15/19		R-15 continuous insulation on the interior or exterior, or R-19 for interior wall cavity
Fenestrations (N1102.3); Prescriptive Standard is Maximum U-Factor				
N1102.3.1	Windows, glass doors, and opaque swinging doors with >50% glazing	U-0.32		An area weighted average may be used to satisfy the U-factor requirements but must include all windows, skylights, glass doors and glazed opaque doors (provide documentation)
N1102.3.1	Skylights	U-0.55		

Other Prescriptive Requirements	Proposed Value
Air Leakage Testing (N1102.4.1.2): Building or dwelling unit shall be tested and verified as having an air leakage rate of **4 ACH50 or less**	☐ Tested; Results: _____
Eave Baffle (N1102.2.3): Vented attics with blown-in or fiberglass insulation shall have a baffle	☐ Eave Baffle Installed ☐ N/A
Attic Hatches (N1102.2.4): Access doors to attic must be weatherstripped and insulated to a level equivalent to surrounding surfaces	Insulation Level: _____ ☐ N/A
Duct Leakage (1103.2.2): Total duct leakage test to verify a leakage rate of **4 cfm/100 ft^2 or less** if furnace or any ductwork is outside of thermal envelope	☐ Tested; Results: _____ ☐ N/A
Hot Water Pipe Insulation: (N1103.4.2): Hot water piping with a thermal resistance shall be insulated to ≥ R-3 if 3/4" or larger, if outside conditioned space, or other instances listed	Insulation Level: _____ ☐ N/A

Total UA Method Requirements

☐ All mandatory and prescriptive requirements (other than Table N1102.1.1) must be met. Include documentation to demonstrate compliance with the UA Trade-off method. Compliance software submittal must include completed compliance form, inspection checklist and certificate demonstrating compliance with Michigan Energy Code levels.

Simulated Performance Requirements

☐ All mandatory requirements must be met. Submit an energy cost analysis report which demonstrates that the proposed design (as built) home is more efficient than the standard reference design home (Table 1105.5.2(1)). See section N1105 for additional details.

Energy Rating Index Requirements

☐ All Mandatory requirements met. Meet or exceed 2009 IECC prescriptive envelope requirements.

☐ ERI score of **55 or lower.** Submit report demonstrating compliance (see N1106 for details).

EGLE
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

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