

**ALABAMA DEPARTMENT OF ECONOMIC AND COMMUNITY AFFAIRS
ALABAMA ENERGY AND RESIDENTIAL CODES BOARD
ADMINISTRATIVE CODE**

**CHAPTER 305-2-4
ORGANIZATION AND AUTHORITY**

305-2-4-.10 Residential Energy Code.

The 2015 International Energy Conservation Code (IECC) as modified below.

(1) IECC CHAPTER 1 SCOPE AND ADMINISTRATION.

(a) SECTION R101 SCOPE AND GENERAL REQUIREMENTS.

1. **R101.1 Title.** This code shall be known as the International Energy Conservation Code of Alabama, and shall be cited as such. It is referred to herein as "this code."

2. **R101.5.1 Compliance materials.** The Alabama Energy and Residential Codes Board shall approve specific computer software, worksheets, compliance manuals and other similar materials that meet the intent of this code.

(b) SECTION R102 ALTERNATIVE MATERIALS, DESIGN AND METHODS OF CONSTRUCTION AND EQUIPMENT.

1. **R102.1.1 (N1101.4) Above code programs.** The Alabama Building and Energy Codes Board or other authority having jurisdiction shall be permitted to deem a national, state or local energy efficiency program to exceed the energy efficiency required by this code. Buildings approved in writing by such an energy efficiency program shall be considered in compliance with this code. The requirements identified as "mandatory" in Chapter 4 shall be met.

(c) SECTION R103 CONSTRUCTION DOCUMENTS.

1. **R103.3 Review of documents.** The *code official* shall review the accompanying construction documents and shall identify the type of energy building construction method to be used as described in this code.

2. **R103.4 Amended construction documents.**
Changes made during construction that are not in

accordance to submitted construction documents shall be resubmitted to the code official as an amended set of construction documents.

(d) **SECTION R104 INSPECTIONS**

**1. R104.2.1 Footing and foundation inspection.
Section Deleted**

2. R104.2.4 Mechanical rough-in inspection.

Inspections at mechanical rough-in shall verify compliance as required by the code and approved plans and specifications as to installed HVAC equipment type and size, required controls, system insulation and corresponding R-value, system air leakage control, dampers, whole-house ventilation and minimum fan efficiency.

Exception: Systems serving multiple dwelling units shall be inspected in accordance with Section C104.2.4.

(2) **CHAPTER 2 DEFINITIONS.**

(a) **SECTION R202 GENERAL DEFINITIONS.**

1. SEMI CONDITIONED SPACE. An unfinished area of the dwelling such as the attic or crawl space that is within the building thermal envelope.

(3) **CHAPTER 3 GENERAL REQUIREMENTS.**

(a) **SECTION R303 MATERIALS, SYSTEMS AND EQUIPMENT.**

**1. R303.2.1 (N1101.11.1) Protection of
exposed foundation insulation. Section deleted**

(4) **CHAPTER 4 RESIDENTIAL ENERGY EFFICIENCY.**

(a) **SECTION R402 BUILDING THERMAL ENVELOPE**

1. R402.1.6 Insulation and fenestration requirements by component. (Mandatory). All R-values and associated Ufactors including SHGC for fenestration, skylights, glazed fenestration, ceiling, and wood frame walls in tables R402.1.2 (N1102.1.2) and R402.1.4 (N1102.1.4) shall be mandatory.

2. R402.2.2.1 (N1102.2.2.1) Semi-conditioned attics. Where table N1102.1.1 (R402.1.1) requires R-30 or Table N1102.1.3 (R402.1.3) requires a U-factor of 0.035, an air impermeable insulation installed to the roof

deck with a U-factor of 0.05 or R-value of R-20 shall be deemed equivalent to the provisions in N1102.2.2 (R402.2.2).

3. R402.2.4 (N1102.2.4) Access hatches and doors.

Access doors from conditioned spaces to unconditioned spaces (e.g., attics and crawl spaces) shall be weather-stripped and insulated to a level in accordance with the following insulation values:

(i) Hinged vertical doors shall have a maximum U-Factor of U-0.20 (R-5 minimum)

(ii) Hatches/scuttle hole covers shall have a maximum U-Factor of U-0.05 (R-19 minimum) and;

(iii) Pull down stairs shall have a maximum U-Factor of U-0.20 with a minimum of 75 percent of the panel area having (R-5 minimum) insulation.

Access shall be provided to all equipment that prevents damaging or compressing the insulation. A wood framed or equivalent baffle or retainer is required to be provided when loose fill insulation is installed, the purpose of which is to prevent the loose fill insulation from spilling into the living space when the attic access is opened, and to provide a permanent means of maintaining the installed R-value of the loose fill insulation.

4. R402.2.10 (N1102.2.10) Slab on grade floors.

Section Deleted

5. R402.2.11 (N1102.2.11) Crawl space walls. As an alternative to insulating floors over crawl spaces, crawl space walls shall be permitted to be insulated when the crawl space is not vented to the outside. The band joist shall be insulated and air sealed in accordance with Table N1102.4.1.1 (R402.4.1.1). A 3 inch (76mm) inspection/view strip shall be provided immediately below the floor joists to permit inspections for termites. Crawl space wall insulation shall be permanently fastened to the wall and extend downward from the bottom of the inspection/view strip to within 9 inches (229mm) of the finished interior grade adjacent to the foundation wall. Exposed earth in unvented crawl space foundations shall be covered with a continuous Class I vapor retarder in accordance with Section R408 of the International Residential Code. All joints of the vapor retarder shall overlap by 6 inches (153 mm) and shall extend up the stem wall not

less than 6 inches (153mm) and shall be attached to the stem wall.

6. R402.3.2.1 (N1102.3.2.1) Glazed fenestration SHGC exception. Where applicable, glazed fenestration SHGC exception shall be as referenced in section C402.4.3.

7. R402.4.1.1 (N1102.4.1.1) Installation (Mandatory). The components of the building thermal envelope as listed in Table R4002.4.1.1 (Table N1102.4.1.1) shall be installed in accordance with the manufacturer's instructions and the criteria listed in Table R402.4.1.1 (Table N1102.4.1.1), as applicable to the method of construction.

8. R402.4.1.2 (N1102.4.1.2) Testing (Mandatory). The building or dwelling unit shall be tested and verified as having an air leakage rate not exceeding 5 air changes per hour. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascals). Testing shall be performed at any time after creation of all penetrations of the building thermal envelope. During testing:

(i) Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weather-stripping or other infiltration control measures;

(ii) Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures;

(iii) Interior doors, if installed at the time of the test, shall be open;

(iv) Exterior doors for continuous ventilation systems and heat

recovery ventilators shall be closed and sealed;

(v) Heating and cooling systems, if installed at the time of the test, shall be turned off; and

(vi) Supply and return registers, if installed at the time of the test, shall be fully open.

(b) SECTION R403 SYSTEMS.

1. R403.1.1 (N1103.1.1) Programmable thermostat.
Section Deleted

2. R403.3.4 Duct leakage (Prescriptive). The total leakage of the ducts, where measured in accordance with Section R403.3.3, shall be as follows:

(i) Rough-in test: The total leakage shall be less than or equal to 4 cubic feet per minute (113.3 L/min) per 100 square feet (9.29 m²) of conditioned floor area where the air handler is installed at the time of the test. Where the air handler is not installed at the time of the test, the total leakage shall be less than or equal to 3 cubic feet per minute (85 L/min) per 100 square feet (9.29 m²) of conditioned floor area.

(ii) Post-construction test: Total leakage *to the outside* shall be less than or equal to 4 cubic feet per minute (113.3 L/min) per 100 square feet (9.29 m²) of conditioned floor area.

3. R403.9 (N1103.9) Snow melt system controls.
Section Deleted

4. R403.10 (N1103.10) Residential pools and permanent residential spas. Section Deleted

(i) **R403.10.1 (N1103.10.1) Heaters.** Section Deleted

(ii) **R403.10.2 (N1103.10.2) Time Switches.**
Section Deleted

(iii) **R403.10.3 (N1103.10.3) Covers.** Section Deleted

5. R403.11 (N1103.11) Portable spas. Section Deleted

6. R403.12 (N1103.12) Residential pools and permanent residential spas. Section Deleted

(c) **SECTION R404 ELECTRICAL POWER AND LIGHTING SYSTEMS.**

1. R404.1 (N1104.1) Lighting equipment (Mandatory).
Not less than 75 percent of the lamps in permanently installed lighting fixtures at the time of inspection shall be high-efficacy lamps or not less than 75 percent of the permanently installed lighting fixtures shall contain only high efficacy lamps.

(d) **SECTION R405 SIMULATED PERFORMANCE ALTERNATIVE (PERFORMANCE).**

1. R405.3 (N1105.3) Performance-based compliance.

Compliance based on simulated energy performance requires that a proposed residence (*proposed design*) be shown to have an annual energy cost that is less than or equal to the annual energy cost of the standard reference design. Energy prices shall be taken from a source such as the Department of Energy, Energy Information Administration's *State Energy Price and Expenditure Report*. Building officials shall be permitted to require time-or-use pricing in energy cost calculation.

3. R405.6.2 (N1105.6.2) Specific approval.

Performance analysis tools meeting the applicable provisions of Section R405 shall be permitted to be approved. Tools are permitted to be approved based on meeting a specified threshold. The Alabama Energy and Residential Codes Board shall be permitted to approve tools for a specified application or limited scope

(e) SECTION R406 ENERGY RATING INDEX COMPLIANCE ALTERNATIVE.**1. R406.4 (N1106.4) ERI-based compliance.**

Compliance based on an ERI analysis requires that the rated design be shown to have an ERI less than or equal to a score of 70 in both zones 2 and 3 when compared to the ERI reference design.

(2) **EFFECTIVE DATE.** For purposes of enforcement, this code shall become effective on October 1, 2016.

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Statutory Authority: Code of Ala. 1975, §§41-23-80 thru 41-23-85, as amended.

History: New Rule: Filed September 21, 2015; effective October 26, 2015. **Amended:** Filed October 17, 2016; effective December 1, 2016. **Amended:** Filed August 21, 2017; effective October 5, 2017.