

APA-1
07/04

TRANSMITTAL SHEET FOR
NOTICE OF INTENDED ACTION

Control No. 305 Department or Agency Alabama Department of Economic and Community Affairs

Rule No. 305-2-4

Rule Title: Alabama Energy and Residential Codes

Would the absence of the proposed rule significantly harm or endanger the public health, welfare, or safety? NO

Is there a reasonable relationship between the state's police power and the protection of the public health, safety or welfare? NO

Is there another, less restrictive method of regulation available that could adequately protect the public? NO

Does the proposed rule have the effect of directly or indirectly increasing the costs of any goods or services involved and, if so, to what degree? Yes - 1%± of construction costs

Is the increase in cost, if any, more harmful to the public than the harm that might result from the absence of the proposed rule? NO

Are all facets of the rulemaking process designed solely for the purpose of, and so they have, as their primary effect, the protection of the public? YES

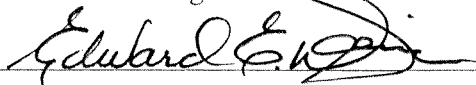
.....
Does the proposed rule have an economic impact? YES

If the proposed rule has an economic impact, the proposed rule if required to be accompanied by a fiscal note prepared in accordance with subsection (f) of Section 41-22-23, Code of Alabama 1975.

.....

Certification of Authorized Official

I certify that the attached proposed rule has been proposed in full compliance with the requirements of Chapter 22, Title 41, Code of Alabama 1975, and that it conforms to all applicable filing requirements of the Administrative Procedure Division of the Legislative Reference Service.

Signature of certifying officer 
Date 8/23/2011

APA-2
(7/04)

NOTICE OF INTENDED ACTION

AGENCY NAME:

Alabama Department of Economic & Community Affairs

RULE NO. & TITLE:

305-2-4 Alabama Energy and Residential Codes

INTENDED ACTION:

The Alabama Department of Economic and Community Affairs proposes to adopt Rule No. 305-2-4 Alabama Energy and Residential Codes.

SUBSTANCE OF PROPOSED ACTION:

The proposed action will adopt residential and commercial energy codes and residential building codes, which will be applicable to all construction and renovation of buildings other than those under the authority of the Alabama Building Commission.

TIME, PLACE, MANNER OF PRESENTING VIEWS:

A public hearing will be held at **10 AM on October 6, 2011 in Suite 342 of the Alabama Center for Commerce located at 401 Adams Avenue, Montgomery, Alabama 36104**. Copies of the rule can be obtained at www.adeca.alabama.gov/C0/codes.

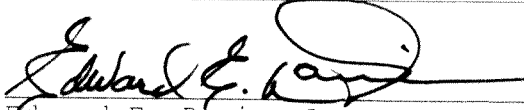
All interested parties may present their comments or proposed revisions in writing to **Karen Clifton, ADECA Energy Division, P.O. Box 5690, Montgomery, Alabama 36103-5690**, at any time during the thirty-five (35) day period following publication of the notice. Interested parties may present their comments at the public hearing on October 6.

FINAL DATE FOR COMMENT AND COMPLETION OF NOTICE:

October 6, 2011

CONTACT PERSON AT AGENCY:

Karen Clifton, 334-242-5321, Karen.clifton@adeca.alabama.gov


Edward E. Davis, Agency Secretary
Alabama Department of Economic
And Community Affairs

APA-6
10/96

ECONOMIC IMPACT STATEMENT
FOR APA RULE
(Section 41-22-23(f))

Control No. 305 Department or Agency Alabama Department of
Economic & Community Affairs

Rule No.: 305-2-4

Rule Title: Alabama Energy and Residential Codes

New Amend Repeal Adopt by Reference

This rule has not economic impact.

This rule has an economic impact as explained below:

1. NEED/EXPECTED BENEFIT OF RULE:

The rule will provide for compliance with requirements set forth in the American Recovery and Reinvestment Act (ARRA); ensure the development, management, efficient consumption, and conservation of energy resources in the state; and ensure the protection of life, health and safety of Alabama citizens.

2. COSTS/BENEFITS OF RULE AND WHY RULE IS THE MOST EFFECTIVE, ACHIEVING THE STATED PURPOSE:

Increased costs incurred with complying with this rule will be offset by the anticipated energy savings recognized through reduced energy consumption.

3. EFFECT OF THIS RULE ON COMPETITION:

None.

4. EFFECT OF THIS RULE ON COST-OF-LIVING AND DOING BUSINESS IN THE GEOGRAPHICAL AREA WHERE THE RULE IS TO BE IMPLEMENTED.

Lowered cost of living and operating expenses due to energy savings make the rule a positive effect on residential and business consumers.

5. EFFECT OF THIS RULE ON EMPLOYMENT IN THE GEOGRAPHICAL AREA WHERE THE RULE IS TO BE IMPLEMENTED.

None.

6. SOURCE OF REVENUE TO BE USED FOR IMPLEMENTING AND ENFORCING THIS RULE.

Enforcement of the rule will occur at the local level and will be funded through existing permit fees of the individual jurisdictions.

7. THE SHORT-TERM/LONG-TERM ECONOMIC IMPACT OF THIS RULE ON AFFECTED PERSONS, INCLUDING ANALYSIS OF PERSONS WHO WILL BEAR THE COSTS AND THOSE WHO WILL BENEFIT FROM THE RULE:

The consumer will bear the costs and receive the benefits. Costs to the overall project should be minimal and energy savings will provide a return on investment for the duration of home ownership, leaving more disposable income each month.

8. UNCERTAINTIES ASSOCIATED WITH THE ESTIMATED BENEFITS AND BURDENS OF THE RULE, INCLUDING QUALITATIVE/QUANTITATIVE BENEFITS AND BURDEN COMPARISON:

All assumptions are based on modeling data when in reality monthly savings will be determined by consumer behaviors.

9. THE EFFECT OF THIS RULE ON THE ENVIRONMENT AND PUBLIC HEALTH:

Improved Air Quality and few emissions from lowered grid demand will result in positive attributes to the environment, both indoor and outdoor.

10. DETRIMENTAL EFFECT ON THE ENVIRONMENT AND PUBLIC HEALTH IF THE RULE IS NOT IMPLEMENTED:

Reductions in CO₂, SOX, POX and NOX emissions will not be realized as anticipated by the ARRA.

ALABAMA ENERGY AND RESIDENTIAL CODES BOARD
ADMINISTRATIVE CODE

CHAPTER 305-2-4
ORGANIZATION AND AUTHORITY

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305-2-4-.01 Creation and Purpose. The Residential Energy Codes Board of Alabama was originally created under the Alabama Department of Economic and Community Affairs' area of responsibility. Governor Fob James signed Act 95-537 creating the Board for the purpose of promoting and overseeing the implementation of the Model Energy Code by encouraging the conservation and efficient use of residential energy resources within this state's local jurisdictions; encouraging and promoting the acceptance, adoption and implementation of residential model energy codes; advising and assisting local governments in adopting and implementing those model energy codes and identifying and promoting energy management technologies. In 2010 Governor Bob Riley signed Act 2010-185 increasing the representation of Board members and renaming the Board the Alabama Energy and Residential Codes Board (Board), and expanding the Board's authority with respect to all matters pertaining to the acceptance, adoption and implementation of commercial and residential energy codes and residential building codes by municipal and county governments in the state. These acts as amended are codified in Title 41, Chapter 23, Article 5 of the Code of Alabama, 1975.

Author: Karen Clifton

Statutory Authority: Code of Alabama 1975, §§41-23-80
through 85, as amended

History: New Rule: Filed August 31, 2011; effective October
7, 2011

305-2-4-.02 **Organization.** The Alabama Energy and
Residential Codes Board is a seventeen member board
established to carry out the provisions of the Code of
Alabama, 1975, §§ 41-23-80 through 85, as amended.

Author: Karen Clifton

Statutory Authority: Code of Ala. 1975, §§ 41-23-82, as
amended

History: New Rule: Filed August 31, 2011; effective
October 7, 2011

305-2-4-.03 **Administration.** The Alabama Energy and
Residential Codes Board is administered by the Energy
Division of the Alabama Department of Economic and
Community Affairs.

Author: Karen Clifton

Statutory Authority: Code of Ala. 1975, §§ 41-23-82, as
amended

History: New Rule: Filed August 31, 2011; effective October
7, 2011

305-2-4-.04 **Term Limits.** An officer of the Board can
serve two consecutive, one year, full terms in the capacity
of any elected office of the Board.

Author: Karen Clifton

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

History: New Rule: Filed August 31, 2011; effective October
7, 2011

305-2-4-.05 **Promulgation of Rules and Regulations.** The
Board shall have the power to make rules and regulations
for the conduct of its board meetings, procedures, and
execution of the purpose, functions, powers, and duties
delegated to it by the Code of Ala. 1975, Section 41-23-85.
Rulemaking proceedings shall be in accordance with Code of
Ala. 1975, Section 41-22-5.

Author: Karen Clifton

Statutory Authority: Code of Ala. 1975, §41-23-85, as amended and 41-22-5

History: New Rule: Filed August 31, 2011; effective October 7, 2011

305-2-4-.06 Petition for Adoption or Amendment of Code(s). Any person who wishes to petition the Alabama Energy and Residential Codes Board to adopt, amend, or repeal any code shall submit said petition to the Energy Division of the Alabama Department of Economic and Community Affairs, P.O. Box 5690, Montgomery, Alabama 36103-5690 in the following form:

Author: Karen Clifton

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

History: New Rule: Filed August 31, 2011; effective October 7, 2011

PETITION FOR ADOPTION OR AMENDMENT OF CODE(S)

1. Petitioner

Name: _____

Jurisdiction: (If applicable) _____

Address: _____

Phone: _____

2. Character of Change

I propose that the Alabama Energy and Residential Codes Board:

- A. Adopt the following new code.
- B. Amend Code _____ as follows.
- C. Repeal Code _____ in total.

3. Text of Proposed Code

- If you checked box "A" above, provide a typed copy of the code you propose.
- If you checked box "B" above, provide a typed copy of the existing code, adding any proposed language. Proposed new language should be underlined and proposed deletions should be stricken through.
- If you checked box "C" above, skip this and go to Part 4.

4. Purpose of Change

Briefly describe what the effect of this change will be, and why you believe the change should be made. Show the financial impact this change will have upon the public, how the impact figures were determined and the advantages and/or disadvantages of the proposed change and what effects the proposed change would have on existing energy, life, health or safety codes.

5. Signature

Petitioner

Date

The Board shall consider the petition, and shall within ninety (90) days after review of the petition, either deny the petition in writing on the merits, stating its reasons for the denial, or initiate rule-making proceedings in accordance with, Code of Alabama, 1975, Section 41-22-5.

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

305-2-4-.07 Definitions.

(1) Alabama Energy and Residential Codes: The codes adopted by the Alabama Energy and Residential Codes Board and amended by the board.

(2) Commercial: For this code, all buildings not included in the definition of "Residential" and not under the authority of the Alabama Building Commission.

(3) Residential: As defined in the 2009 International Residential Code (IRC), Section R101.2, which reads as follows:

(a) "**R101.2 Scope.** The provisions of the International Residential Code for One- and Two-family Dwellings shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one-and two-family dwellings and townhouses not more than three stories above-grade in height with a separate means of egress and their accessory structures."

(4) Farm Structure: Non-residential structures constructed on a farm for use by the farm.

Author: Karen Clifton

Statutory Authority: Code of Alabama 1975, §§41-23-80 through 85, as amended

History: New Rule: Filed August 31, 2011; effective October 7, 2011

305-2-4-.08 Commercial Energy Code. The 2009 International Energy Conservation Code (IECC)/ASHRAE 90.1-2007 shall be implemented and enforced for buildings three stories and above including multi-family dwellings.

Author: Karen Clifton

Statutory Authority:

History: New Rule: Filed August 31, 2011; effective October 7, 2011

305-2-4-.09 Residential Building and Energy Codes. The 2009 International Residential Code (IRC) as modified below; and sections of the International Energy Conservation Code (IECC) as modified below:

(1) **IRC CHAPTER 2 DEFINITIONS**

(a) **SECTION R202 DEFINITIONS**

1. **BASIC WIND SPEED.** Three-second gust speed at 33 feet (10 058 mm) above the ground in Exposure C (see Section R301.2.1) as given in Figure R301.2(4)A.

2. **HURRICANE-PRONE REGIONS.** Areas vulnerable to hurricanes, defined as the U.S. Atlantic Ocean and Gulf of Mexico coasts where the basic wind speed is greater than 90 miles per hour (145 km/h), and Hawaii, Puerto Rico, Guam, Virgin Islands, and America Samoa.

3. **WIND BORNE DEBRIS REGIONS.** Areas within hurricane-prone regions as designated in accordance with Figure R302.1(4)C.

(2) **IRC CHAPTER 3 BUILDING PLANNING**

(a) **R301.2.1 Wind design criteria.** Buildings and portions thereof shall be constructed in accordance with the wind provisions of this code using the basic wind speed in Table R301.2(1) as determined from Figure R301.2(4)A. The structural provisions of this code for wind loads are not permitted where wind design is required as specified in Section R301.2.1.1. Where different construction methods and structural materials are used for various portions of a building, the applicable requirements of this section for each portion shall apply. Where not otherwise specified, the wind loads listed in Table R301.2(2) adjusted for height and exposure using Table R301.2(3) shall be used to determine load performance requirements for wall coverings, curtain walls, roof coverings, exterior windows, skylights, garage doors and exterior doors. Asphalt shingles shall be designed for wind speeds in accordance with Section R905.2.6

(b) **R301.2.1.1 Wind limitations and wind design required.** The wind provisions of this code shall not apply to the design of buildings where wind design is required in accordance with Figure R301.2(4)B or where the basic wind speed shown on Figure R301.2(4)A equals or exceeds 110 miles per hour (49 m/s).

Exceptions:

1. For concrete construction, the wind provisions of this code shall apply in accordance with the limitations of Sections R404 and R611.

2. For structural insulated panels, the wind provisions of this code shall apply in accordance with the limitations of Section R614.

In regions where wind design is required in accordance with Figure R301.2(4)B or where the basic wind speed shown on Figure R301.2(4)A equals or exceeds 110 miles per hour (49 m/s), the design of buildings for wind loads shall be in accordance with one of the following methods.

(i) American Forest and Paper Association (AF&PA) Wood Frame Construction Manual for One- and Two-Family Dwellings (WFCM);

(ii) International Code Council (ICC) Standard for Residential Construction in High-Wind Regions (ICC-600);

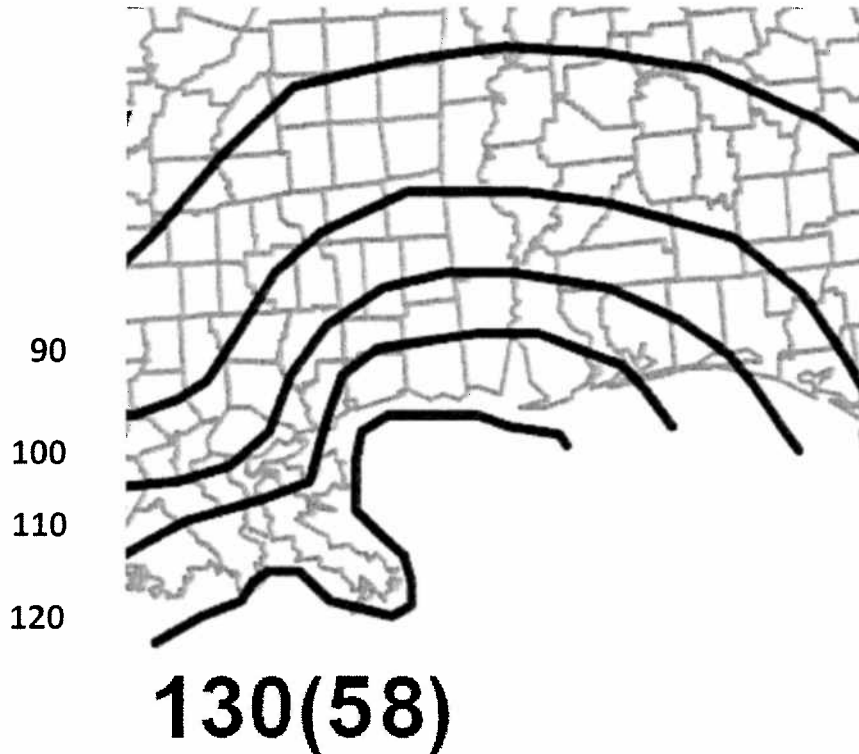
(iii) Minimum Design Loads for Buildings and Other Structures (ASCE-7);

(iv) American Iron and Steel Institute (AISI), Standard for Cold-Formed Steel Framing- Prescriptive Method for One- and Two-Family Dwellings (AISI 230).

(v) International Building Code

The elements of design not addressed by the methods in Items 1 through 5 shall be in accordance with the provisions of this code.

When ASCE 7 or the International Building Code is used for the design of the building, the wind speed map and exposure category requirements as specified in ASCE 7 and the International Building Code shall be used.



Notes:

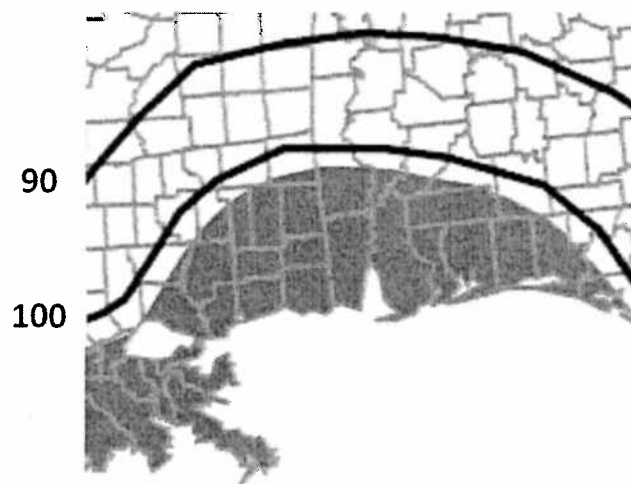
1. Values are nominal design 3-second gust wind speeds in miles per hour (m/s) at 33 ft (10m) above ground for Exposure C category.
2. Linear interpolation between contours is permitted.
3. Islands and coastal areas outside the last contour shall use the last wind speed contour of the coastal area.
4. Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

**Figure R301.2(4)A
BASIC WIND SPEEDS**

(c) **R301.2.1.2 Protection of openings.** Glazing in buildings located in windborne debris regions shall be protected from windborne debris. Glazed opening protection for windborne debris shall meet the requirements of the Large Missile Test of ASTM E 1996 and ASTM E 1886 referenced therein. The applicable wind zones for establishing missile types in ASTM E 1996 are shown on Figure R301.2(4)C. Garage door glazed opening protection for windborne debris shall meet the requirements of an approved impact resisting standard or ANSI/DASMA 115.

Exception: Wood structural panels with a minimum thickness of 7/16 inch (11mm) and a maximum span of 8 feet (2438 mm) shall be permitted for opening protection in one- and two-story buildings. Panels shall be precut and

attached to the framing surrounding the opening containing the product with the glazed opening. Panels shall be predrilled as required for the anchorage method and shall be secured with the attachment hardware provided. Attachments shall be designed to resist the component and cladding loads determined in accordance with either Table R301.2(2) OR ASCE 7, with the permanent corrosion resistant attachment hardware provided and anchors permanently installed on the building. Attachment in accordance with Table R301.2.1.2 is permitted for buildings with a mean roof height of 33 feet (10 058 mm) or less where located in Wind Zones 1 and 2 in accordance with Figure R301.2(4)c.



**FIGURE R301.2(4)B
REGIONS WHERE WIND DESIGN IS REQUIRED**

(d) **R301.2.1.4 Exposure category.**

1. 3. Exposure C. Open terrain with scattered obstructions, including surface undulations or other irregularities, having heights generally less than 30 feet (9144 mm) extending more than 1500 feet (457 m) from the building site in any quadrant. This exposure shall also

apply to any building located within Exposure B type terrain where the building is directly adjacent to open areas of Exposure C type terrain in any quadrant for a distance of more than 600 feet (183 m). This category includes flat open country and grasslands.

2. 4. Exposure D. Flat, unobstructed areas exposed to wind flowing over open water for a distance of at least 1 mile (1.61 km). Shorelines in Exposure D include inland waterways, the Great Lakes, and coastal areas of California, Oregon, Washington and Alaska. This exposure shall apply only to those building and other structures exposed to the wind coming from over the water. Exposure D extends inland from the shoreline a distance of 1500 feet (457 m) or 10 times the height of the building or structure, whichever is greater.

(e) **R301.3 Story height.** (Revise text at end of section.) Individual walls or walls studs shall be permitted to exceed these limits as permitted by Chapter 6 provisions, provided story heights are not exceeded. Floor framing height shall be permitted to exceed these limits provided the story height does not exceed 11 feet 7 inches (3531 mm). An engineered design shall be provided for the wall or wall framing members when they exceed the limits of Chapter 6. Where the story height limits of this section are exceeded, the design of the building, or the non-compliant portions thereof, to resist wind and seismic loads shall be in accordance with the International Building Code.

(f) **R302.1 Exterior walls.** Modify table R302.1
EXTERIOR WALLS

Table R302.1

EXTERIOR WALLS

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION
Walls	(Fire-resistance rated)	1 hour-tested in accordance with ASTM E 119 or UL 263 with exposure to both sides	<5 Feet ^a
	(Not fire-resistance rated)	0-Hours	≥5 Feet
Projections	(Fire-resistance	1-Hour on the underside	≥2 Feet to 5

	rated)		Feet ^a
	(Not fire-resistance rated)	0-Hours	5 Feet
Openings	Not Allowed	N/A	< 3 Feet
	25% Maximum of Wall Area	0-Hours	3 Feet
	Unlimited	0-Hours	5 Feet
Penetrations	All	Comply with Section R317.3	< 5 Feet
		None Required	5 Feet

^a Developments recorded prior to adoption of this code shall be permitted to comply with the Fire Separation Distances in effect at time of recordation or local regulations, whichever is greater.

(g) **R302.2 Townhouses.**

1. **Exception:** A common 2-hour fire resistance-rated wall assembly tested in accordance with ASTM E 119 or UL 263 is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Electrical installations shall be installed in accordance with Chapters 34 through 43. Penetrations of electrical outlet boxes shall be in accordance with Section R302.4.

(h) **SECTION R312 GUARDS**

1. **R312.1 Where required.** Guards shall be located along open-sided walking surfaces of all decks, porches, balconies, ramps and landings that are located more than 30 inches measured vertically to the floor or grade below. Insect screening shall not be considered as a guard.

(i) **SECTION R313 FIRE SPRINKLER SYSTEMS.**

1. **R313.1.1 Design and installation.** Delete section.

2. **R313.2 One- and two-family dwellings automatic fire sprinkler systems.** Delete section.

3. **Exception.** Delete exception.

4. **R313.2.1 Design and installation.** Where installed automatic residential fire sprinkler systems shall be installed in accordance with Section P2904 or NFPA 13D.

(3) **IRC CHAPTER 4 FOUNDATIONS.**

(a) **R403.1.6 Foundation anchorage.** Where wood sill and sole plates and cold-formed steel framed walls are supported directly on continuous foundation walls or monolithic slabs with integral footings, they shall be anchored to the foundation in accordance with this section.

1. Wood sole plates at all exterior walls, wood sole plates of braced wall panels at building interiors on monolithic slabs with integral footings, and all wood sill plates shall be anchored to the foundation with anchor bolts spaced a maximum of 6 feet (1829 mm) on center. Bolts shall be at least 1/2 inch (12.7 mm) in diameter and shall extend a minimum of 7 inches (178 mm) into concrete or grouted cells of concrete masonry units. A nut and washer shall be tightened on each anchor bolt. There shall be a minimum of two bolts per plate section with one bolt located not more than 12 inches (305 mm) or less than seven bolt diameters from each end of the plate section. Approved foundation anchorage spaced as required to provide equivalent anchorage to 1/2-inch-diameter (13 mm) anchor bolts shall be permitted. Interior bearing wall sole plates on monolithic slab foundations with integral footings that are not part of a braced wall panel shall be positively anchored with approved fasteners. Sill plates and sole plates shall be protected against decay and termites where required by Sections R319 and R320. Cold-formed steel framing systems shall be fastened to the wood sill plates or anchored directly to the foundation as required in Section R505.3.1 or R603.3.1.

(i) **Exceptions:**

I. 1. Walls 24 inches (610 mm) total length or shorter connecting offset braced wall panels shall be anchored to the foundation with a minimum of one anchor bolt located in the center third of the plate section and shall be attached to adjacent braced wall panels per Figure R602.10.4.4(1) at corners.

II. 2. Walls 12 inches (305 mm) total length or shorter connecting offset braced wall panels shall be permitted to be connected to the foundation without anchor bolts. The wall shall be attached to adjacent braced wall panels per Figure R602.10.4.4(1) at corners.

(4) **IRC CHAPTER 5 FLOORS.**

(a) **R502.2.2.3 Deck lateral load connection.**
Delete section.

(5) **IRC CHAPTER 6 WALL CONSTRUCTION.**

(a) **R602.10 Wall bracing.** Replace entire section with section **R602.10 Wall bracing** from the 2012 version of the International Residential Code.

(b) **R602.11 Wall anchorage.** Replace entire section with section **R602.11 Wall anchorage** from the 2012 version of the International Residential Code.

(c) **R602.12 Wall bracing and stone masonry veneer.** Replace entire section with section **602.12 Simplified wall bracing** from the 2012 version of the International Residential Code.

(6) **IRC CHAPTER 9 ROOF ASSEMBLIES.**

1. **R903.5 Hail exposure.** Delete section.

2. **R903.5.1 Moderate hail exposure.** Delete section.

3. **R903.5.2 Severe hail exposure.** Delete section.

4. **Figure 903.5 HAIL EXPOSURE MAP.** Delete map.

5. **R907.3 Recovering versus replacement.**

(7) **IRC CHAPTER 11 ENERGY EFFICIENCY**

(a) **N1101.7.1 Protection of exposed foundation insulation.** Section deleted.

(b) **N1101.8 Above Code Programs.** Above code programs shall be permitted upon approval by the Alabama Residential and Energy Codes Board.

(c) **N1101.9 Certificate.** A permanent certificate shall be permitted to be posted on or in the electrical distribution panel. If posted, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall be completed by the builder or registered design professional. The certificate shall list the predominant R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawlspace wall and/or floor) and ducts outside conditioned spaces; U-factors for fenestration; and the solar heat gain coefficient (SHGC) of fenestration. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. Where a gas-fired unvented room heater, electric furnace and/or baseboard electric heater is installed in the residence, the certificate shall list "gas-fired unvented room heater," "electric furnace" or "baseboard electric heater," as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces or electric base board heaters.

(d) **N1102.1 Insulation and Fenestration Requirements by Component.** Delete and substitute **Table 402.1.1 Insulation and Fenestration Requirements by Component** from the 2009 IECC.

(e) **N1102.2.8 Slab-on-grade floors.** Section deleted.

(f) **N1103.1.1 Programmable Thermostats.** Section deleted.

(g) **N1103.2.1 Insulation.** All ducts not in a conditioned space shall be insulated to a minimum of R-6.

Effective July 1, 2013 all supply ductwork in attics shall be insulated to a minimum of R-8.

Exception: Ducts or portions thereof located completely inside the building thermal envelope.

(8) **IRC CHAPTER 15 EXHAUST SYSTEMS.**

(a) **M1502.4.4.1 Specified length.** The maximum length of the exhaust duct shall be 35 feet (10,668mm) from the connection to the terminus of the transition duct from the dryer to the outlet terminal. Where fittings are utilized, the maximum length of the exhaust duct shall be reduced in accordance with Table M1502.4.4.1.

(9) **IRC CHAPTER 16 DUCT SYSTEMS.**

(a) **M1601.4.1 Joints and seams.** Joints of duct systems shall be made substantially airtight by means of tapes, mastics, liquid sealants, gasketing or other approved closure systems. Closure systems used with rigid fibrous glass ducts shall comply with UL181A and shall be marked 181A-P for pressure-sensitive tape, 181A-M for mastic or 181A-H for heat-sensitive tape. Closure systems used with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked 181B-FX for pressure-sensitive tape or 181B-M for mastic. All metal to metal connections shall be mechanically fastened. All duct connections shall be sealed. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL181B and shall be marked 181B-C. Crimp joints for round metal ducts shall have a contact lap of at least 1 1/2 inches (38 mm) and shall be mechanically fastened by means of at least three sheet-metal screws or rivets equally spaced around the joint. Closure systems used to seal metal ductwork shall be installed in accordance with the manufacturer's installation instructions.

(b) **Add new section. M1601.4.1.1 Duct leakage.** Duct leakage testing shall not be required prior to July 1, 2013. Leakage of ducts to unconditioned space shall be less than or equal to 8 cfm (226.5 L/min) per 100 ft² (9.29 m²) of conditioned floor area or a total leakage less than or equal to 12 cfm (12 L/min) per 100 ft² (9.29m²) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure.

Exception: Duct tightness test is not required if the air handler and all ducts are located within conditioned space.

(10) **IRC CHAPTER 24 FUEL GAS.**

(a) **SECTION G2418 (407) PIPING SUPPORT**

1. **G2418.2 (407.2) Design and installation.**

Piping shall be supported with metal pipe hooks, pipe straps, bands, brackets, hangers, building structural components, or other approved methods suitable for the size of piping, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration. Piping shall be anchored to prevent undue strains on connected equipment and/or appliances and shall not be supported by other piping. Pipe hangers and supports shall conform to the requirements of MSS SP-58 and shall be spaced in accordance with Section 2424. Supports, hangers, and anchors shall be installed so as not to interfere with the free expansion and contraction of the piping between anchors. All parts of the supporting equipment shall be designed and installed so they will not be disengaged by movement of the supported piping.

(11) **FOR BUILDINGS THREE STORIES AND ABOVE INCLUDING MULTI-FAMILY DWELLINGS.** Additional energy provisions from the 2009 International Energy Conservation Code as modified below:

(a) **IECC Chapter 4 Residential Energy Efficiency**

1. **401.3 Certificate.** A permanent certificate shall be permitted to be posted on or in the electrical distribution panel. If posted, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall be completed by the builder or registered design professional. The certificate shall list the predominant R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawlspace wall and/or floor) and ducts outside conditioned spaces; U-factors for fenestration; and the solar heat gain coefficient (SHGC) of fenestration. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate

shall list the types and efficiencies of heating, cooling and service water heating equipment. Where a gas-fired unvented room heater, electric furnace and/or baseboard electric heater is installed in the residence, the certificate shall list "gas-fired unvented room heater," "electric furnace" or "baseboard electric heater," as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces or electric base board heaters.

2. **401.4 Above Code Programs.** Above code programs shall be permitted upon approval by the Alabama Residential and Energy Codes Board.

3. **402.2.7 Basement Walls.** Section deleted.

4. **402.2.8 Slab-on-grade floors.** Section deleted.

5. **403.1.1 Programmable thermostat.** Section deleted.

6. **403.2.1 Insulation.** All ducts not in a conditioned space shall be insulated to a minimum of R-6. Effective July 1, 2013 all supply ductwork in attics shall be insulated to a minimum of R-8.

7. **403.2.2 Sealing (Mandatory)** All ducts, air handlers, filter boxes and building cavities used as ducts shall be sealed. Joints and seams shall comply with Section M1601.4.1 of the International Residential Code.

(i) Effective July 1, 2013, duct tightness shall be verified by either of the following:

(I) Post-construction test: Leakage to outdoors shall be less than or equal to 8 cfm per 100 ft² of conditioned floor area or total leakage less than or equal to 12 cfm per 100 ft² of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25Pa) across the entire system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test.

(II) Rough-in test: Total leakage shall be less than or equal to 6 cfm per 100 ft² of conditioned floor area when tested at a pressure differential of 0.1 inches w.g.

(25Pa) across the roughed in system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 4 cfm per 100 ft² of conditioned floor area.

(ii) **Exceptions:** Duct tightness test is not required if the air handler and all ducts are located within conditioned space.

8. **403.9 Pools (Mandatory).** Section deleted.
9. **403.9.1 Pool Heaters.** Section deleted.
10. **403.9.2 Time Switches.** Section deleted.
11. **403.9.3 Pool Covers.** Section deleted

(b) **IECC CHAPTER 5 COMMERCIAL ENERGY EFFICIENCY**

1. **504.7.1 Pool Heaters.** Pool heaters shall comply with ICC Fuel Gas Code or National Fire Protection Association (NFPA) 58 as appropriate, and with the National Electric Code (NEC).

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Statutory Authority: Code of Ala. 1975, §§ 41-23-82, as amended

History: New Rule: Filed August 31, 2011; effective October 7, 2011