

## GA 2020 Energy Code Overview

### Background

Georgia has been on the current energy code (2009 IECC + 2011 GA Supplements and Amendments) since January 1, 2011. The new code (2015 IECC + 2020 GA Supplements and Amendments) was approved by the board of Georgia Department of Community Affairs in 2018. Enforcement of the new code is scheduled for implementation on January 1, 2020.

### Changes and Highlights

Georgia's 2020 energy code brings forward several current amendments and introduces a few new ones. It includes enhanced graphics in Appendix RA that illustrate proper construction details for insulation installation as well as envelope and duct sealing.

The amended code brings minimal changes to the building thermal envelope components:

- Ceiling insulation increases from R-30 to R-38 in CZ2 and CZ3 but remains R-38 in CZ4.
- Windows get better (in theory) but effectively remain the same windows that are commonly being installed today (max. U-factor = 0.35, max. SHGC = 0.27).
- House leakage changes to < 5 ACH<sub>50</sub> (an improvement from the current < 7 ACH<sub>50</sub> but not as stringent as the < 3 ACH<sub>50</sub> IECC target).

For **ducted mechanical systems**, duct leakage improves from 12% to 6% for Total Leakage at Final, but it stays at 6% for Total Leakage at Rough-In. Additionally:

- Duct leakage-to-outside is no longer recognized as a testing option.
- New home heat pump systems require supplemental electric strip heat lockout until the outdoor temperature is < 40°F.
- Clarification was created for variable capacity HVAC units in terms of equipment sizing and selection as per ACCA Manuals J and S.

The < 5 ACH<sub>50</sub> air tightness requirement would mean that all new homes will require a **whole-house mechanical ventilation system** as per the 2012 and later versions of the *International Residential Code* (IRC). Ventilation strategies range from simple exhaust-only and sensor-based supply-only to ventilating dehumidifiers and balanced ERV's (energy recovery ventilators). The IRC provides a table specifying the minimum ventilation to be provided. Note that Georgia subsequently modified the 2015 IRC to not require whole-house ventilation except for homes < 3 ACH<sub>50</sub>.

For **hot water lines**, R-3 pipe insulation is prescriptively required for all hot water plumbing outside the thermal envelope and for any lines 3/4" and greater. Unless a simulation-based trade-off is used, hot water lines must meet the insulation requirements of section R403.5.3. Hot water recirculating systems must be pumped and require insulated lines if controlled by a timer. (Demand control recirculation systems are otherwise exempt from insulation.)

### New Compliance Pathway

For home designs that do not meet the prescriptive code, alternate compliance options include simple UA trade-off (e.g., REScheck) and "Section R405: Simulated Performance Alternative."

Also, the 2015 IECC introduces a new compliance pathway: the **Energy Rating Index (ERI)**. This pathway is modeled on the Home Energy Rating System (HERS) industry and allows a simulation that looks at *all* energy used in the home. This is significant because this compliance pathway allows credit for mechanical equipment, increased lighting efficiency, better appliances, and renewable energy.

Importantly, regardless of which trade-off pathway is chosen, no insulation/envelope component may be installed that does not meet the minimum "backstop" requirements of Table R402.1.6, "Minimum Insulation R-values For Envelope Components When Trade-offs Are Used".

### SOUTHFACE INSTITUTE ENERGY CODE HOTLINE

[energycodes@southface.org](mailto:energycodes@southface.org) 404-604-3598

APPENDIX RD  
MANDATORY COMPLIANCE CERTIFICATE

<p style="text-align: center;"><b>2020 Georgia Residential Energy Code Compliance Certificate</b></p> <p style="text-align: center;">This certificate shall be posted on or near the electrical distribution panel or air handler</p> <p>Permit # _____</p> <p>House Address or Community/Lot# _____</p>	Jurisdiction Logo and/or Contact Information Here
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**Building Summary**

Builder Company Name	Signature	Contact (email/phone)	Date
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Compliance Pathway (check one)	Building Envelope (when multiple values per component, list value covering largest area)	
<input type="checkbox"/> Prescriptive: R401-404	Ceiling/Roof R-value	Above-grade mass wall R-value
<input type="checkbox"/> UA Trade-off: R402.1.5	Sloped/vaulted ceiling R-value	Cantilevered floors R-value
<input type="checkbox"/> RESCheck: Keyed to 2015 IECC	Exterior wall R-value	Window/Glass Door SHGC
<input type="checkbox"/> Simulated Performance: R405	Kneewall (cavity and/or continuous) R-value	Window/Glass Door U-factor
<input type="checkbox"/> Energy Rating Index (ERI): R406	Foundation (cavity and/or continuous) R-value	Skylight SHGC
ERI Score	Floors over unconditioned R-value	Skylight U-factor

**Mechanical Summary**

HVAC Company Name	Contact (email/phone)	Date
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Heating System Type	Efficiency (AFUE, HSPF, COP or other)	Cooling System Type	Efficiency (SEER, EER or other)	Water Heating Type	Efficiency (EF or other)
<input type="checkbox"/> Gas		<input type="checkbox"/> Air conditioner		<input type="checkbox"/> Gas	
<input type="checkbox"/> Heat pump		<input type="checkbox"/> Heat pump		<input type="checkbox"/> Electric	
<input type="checkbox"/> Other		<input type="checkbox"/> Other:		<input type="checkbox"/> Other:	
<input type="checkbox"/> Yes <input type="checkbox"/> No Manual J, S, D or equivalent complete?					

**Required Mechanical Ventilation**

Type (check one)	Design Rate (check one)	Design Ventilation Rate (CFM)
<input type="checkbox"/> Exhaust	<input type="checkbox"/> Continuous	
<input type="checkbox"/> Supply	<input type="checkbox"/> Intermittent	
<input type="checkbox"/> Balanced	If intermittent, list runtime in min. per hour	

**Duct and Envelope Tightness Testing Summary**

DET Verifier	Contact (email/phone)	DET Verifier ID
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**Envelope Tightness Testing (< 5 ACH50) (Envelope Tightness = Blower Door Fan Flow x 60 / Thermal Envelope Volume)**

Blower Door Fan Flow (CFM50)	Thermal Envelope Volume (ft <sup>3</sup> )	Envelope Tightness (ACH50)
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If multifamily unit and conducting sampling, this unit is not required to be tested. Mark N/A.

**Duct Tightness Testing (< 6 CFM25/100 ft<sup>2</sup>) (Total Duct Leakage = 100 x Fan Flow / Area Served)**

Number of Heating and Cooling Systems \_\_\_\_\_

Duct Tightness Leakage Test Results	System 1	System 2	System 3
If air handler and ductwork located entirely within in condi-			
Location			
Fan Flow (CFM25)			
Area Served (ft <sup>2</sup> )			
Total Duct Leakage (CFM25/100 ft <sup>2</sup> )			
Rough In Total (RIT) or Post Construction Total (PCT)			