GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY) PAGE 1 OF 2

CODE: GA Energy Code SECTION: IECC C402.1

PROPONENT: Abe Kruger, SK Collaborative; Sam Culpepper, Southface DATE: 2/20/2026

EMAIL: sculpepper@southface.org; abe@skcollaborative.com

ADDRESS: 241 Pine St NE Atlanta GA 30308

TELEPHONE NUMBER: (404) 480-4600 ext 102; (404) 604-3599 FAX NUMBER: (404) 872-5009

CHECK ONE:
- ☒ Revise section to read as follows:
- ☐ Add new section to read as follows:
- ☐ Delete section and substitute the following:
- ☐ Delete without substitution:

~~LINE THROUGH MATERIAL TO BE DELETED:~~ UNDERLINE MATERIAL TO BE ADDED

☐ Approve ☐ Approve as amended (DCA STAFF ONLY) ☐ Disapprove ☐ Withdrawn

DESCRIPTION:
Amend this section of 2024 IECC: 401.2.2 ASHRAE 90.1

"Commercial buildings shall comply with the requirements of ANSI/ASHRAE/IES 90.1. In lieu of ASHRAE 90.1 Section 5.4.3.1.4 Measured Air Leakage, buildings shall comply with the air leakage requirements of Section C402.6.2, C402.6.2.1, and C402.6.2.2."

REASON/INTENT:
The purpose of this amendment is to establish uniformity in commercial envelope air leakage testing requirements across the State of Georgia, regardless of whether a project elects the IECC or ASHRAE 90.1 compliance pathway. Currently, ASHRAE 90.1 and the IECC maintain different protocols for measured air leakage. This amendment ensures that air sealing is confirmed consistently for all residential and institutional construction (Groups R and I).

By requiring the IECC testing protocol in lieu of the ASHRAE 90.1 Section 5.4.3.1.4, this amendment provides:

- **Greater Clarity:** Detailed testing procedures that are better aligned with local industry standards.
- **Sampling Flexibility:** Inclusion of the IECC's "sample testing" provisions for buildings with multiple dwelling and sleeping units, which provides a cost-effective compliance path not currently available in the ASHRAE 90.1 standard.

- **Enforcement Consistency:** A single set of criteria for building officials and third-party testers to verify, reducing field errors and administrative delays.

FINANCIAL IMPACT OF PROPOSED AMENDMENT:

Overview: Air sealing is widely recognized as one of the most cost-effective energy efficiency measures available in construction. The benefits include substantial energy savings, a reduced risk of moisture-related structural failure, and significantly improved occupant comfort. Currently, Georgia code already mandates blower door testing for single-family and low-rise multifamily buildings.

Economic Consistency: While the latest national codes require commercial blower door testing, this amendment ensures economic predictability by aligning the testing requirements across both the IECC and ASHRAE 90.1 compliance pathways. By creating a single standard, developers and contractors can achieve better pricing through standardized bidding and testing protocols.

Cost Mitigation through Sampling: Specifically for Group R (multifamily) and Group I (institutional) occupancies, this amendment reduces the potential financial burden of ASHRAE 90.1 compliance by allowing for unit sampling. IECC C402.6.2 protocols allow for statistical sampling rather than testing 100% of units in large developments. This represents a significant **cost reduction** compared to the more rigid testing interpretations often found in un-amended national standards. The result is a more predictable "per-unit" testing cost for developers, easing the complexity of enforcement and project budgeting.

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM
INSTRUCTION SHEET

1. Do not complete the line entitled "Item No._____".
2. Use a separate form for each proposed code amendment.
3. "Sheet ____ of _____" indicates the number of sheets for each individual proposed code amendment, not the number of sheets for all the amendments submitted.
4. Identify the code and code section that is the subject of the proposed amendment.
5. The proponent's name, address, telephone number and fax number must be filled out completely.
6. Be sure to indicate the type of recommended action in the space referred to as "Check One".
7. If the proposed amendment revises the language of the code section, deletes the entire code section, or deletes the entire code section and offers substitute language, include the language of the present code section and line through the language to be deleted and underline the language of the proposed amendment.
8. Under the "Reason" section, provide the reasoning behind the proposed code amendment. The reason should be clear and concise. Test reports, standards or other supporting information and documentation may be submitted with the proposed amendment and must be attached to the amendment form.
9. **A Statement of Financial Impact must accompany all proposed code amendments.** The statement should be clear and concise. Test reports, standards or other supporting information and documentation may be submitted with the proposed amendment and must be attached to the amendment form.
10. **All proposed amendments must be typed and completed in full and the original submitted to the Codes and Industrialized Buildings Section of the Department of Community Affairs NO LATER THAN DECEMBER 15TH.** The proposed code change shall be submitted for review to the State Codes Advisory Committee at their quarterly meeting in January. An incomplete form will be sent back to the proponent for completion. An amendment submitted after the submittal deadline date will be returned to the proponent.
11. The proponent will be notified when the proposed amendment will be considered by the State Codes Advisory Committee.
12. Information concerning submittal of code amendments, including deadline dates for submittal, can be obtained by contacting the Codes and Industrialized Buildings Section at (404) 679-3118. All proposed code amendments should be submitted to:

The Department of Community Affairs
Codes and Industrialized Buildings Section
60 Executive Park South, NE
Atlanta, Georgia 30329-2231

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY) PAGE 1 OF 1

CODE: 2024 International Energy Conservation Code (IECC) SECTION: C403.7.5

PROPONENT: Gregg Cox DATE: 02/18/2026

EMAIL: gregg@mathesonball.com

ADDRESS: 225 Reformation Parkway; Suite 200; Canton, GA 30114

TELEPHONE NUMBER: (770) 751-0773 FAX NUMBER: (770) 751-0773

CHECK ONE:

_____ Revise section to read as follows:

_____ Add new section to read as follows:

_____ Delete section and substitute the following:

__X__ Delete without substitution:

~~LINE THROUGH MATERIAL TO BE DELETED:~~ UNDERLINE MATERIAL TO BE ADDED

☐ Approve ☐ Approve as amended (DCA STAFF ONLY) ☐ Disapprove ☐ Withdrawn

---

DESCRIPTION:

I support carrying forward items 15 & 16 on the amendment chart.

2024-IECC-15 *Delete Section ~~C403.2.8'Kitchen Exhaust System'~~ without substitution.
2024-IECC-16 *Delete Table ~~C403.2.8 'MAXIMUM NET EXHAUST FLOW RATE, CFM PER LINEAR FOOT OF HOOD LENGTH~~' without substitution.

Which in the 2024 IECC code book supports deleting section (C403.7.5) **Kitchen Exhaust Systems** with corresponding table, without substitutions.

REASON/INTENT:
Section C403.7.5 does not allow the use of the short-circuit hood design under any circumstances. This kitchen hood design type has been used by many school systems in the state of Georgia over the past 40 years with great success. Because a majority of the makeup air is introduced inside the hood and designed to induce room air toward the exhaust grease filters, the makeup air does not need to be heated and cooled, thereby saving energy.

FINANCIAL IMPACT OF PROPOSED AMENDMENT:

Allowing short circuit kitchen hood designs to be used:

1. Reduces the usage and cost of energy to heat and cool makeup air, cutting energy costs throughout the life of the equipment
2. Additionally, the initial equipment cost is lowered because less expensive makeup air equipment that doesn't include heating and cooling components is allowed to be used.

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM INSTRUCTION SHEET

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GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY) PAGE 1 OF 1

CODE: 2024 International Energy Conservation Code (IECC) SECTION: C403.7.5

PROPONENT: Scott Brown DATE: 02/18/2026

EMAIL: scott@mathesonball.com

ADDRESS: 225 Reformation Parkway; Suite 200; Canton, GA 30114

TELEPHONE NUMBER: (770) 999-0783 FAX NUMBER: (770) 999-0783

CHECK ONE:
_____ Revise section to read as follows:
_____ Add new section to read as follows:
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X Delete without substitution:

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Which in the 2024 IECC code book supports deleting section (C403.7.5) **Kitchen Exhaust Systems** with corresponding table, without substitutions.

REASON/INTENT:
Section C403.7.5 does not permit the use of a short-circuit hood design. The short-circuit hood configuration has been successfully implemented by numerous school systems throughout Georgia for more than 3 decades. Because most of the makeup air is supplied within the hood and draws room air toward the exhaust grease filters, the makeup air does not require heating or cooling, resulting in energy savings.

FINANCIAL IMPACT OF PROPOSED AMENDMENT:
If short circuit kitchen hood designs are allowed to be used, the initial equipment costs will allow less expensive makeup air units that do not require integrated heating and cooling components. Removing the need for heating and cooling of the makeup air that is exhausted out of the building cuts energy usage for the life of the system.

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

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GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY) PAGE 1 OF 2

CODE: 2024 International Energy Conservation Code (IECC) SECTION: C403.7.5

PROPONENT: James E. Matheson, P.E. DATE: February 18, 2026

EMAIL: mathesonje@comcast.net

ADDRESS: 305 Chestatee Court, Woodstock, GA 30188

TELEPHONE NUMBER: 404-786-7121 FAX NUMBER: _____

CHECK ONE: _____ Revise section to read as follows: _____ Add new section to read as follows:

_____ Delete section and substitute the following: X Delete without substitution:

~~LINE THROUGH MATERIAL TO BE DELETED:~~ UNDERLINE MATERIAL TO BE ADDED

☐ Approve ☐ Approve as amended (DCA STAFF ONLY) ☐ Disapprove ☐ Withdrawn

DESCRIPTION:

I support carrying forward items 15 & 16 on the amendment chart.

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Which in the 2024 IECC code book supports deleting section (C403.7.5) **Kitchen Exhaust Systems** with corresponding table, without substitutions.

REASON/INTENT:
As written in the 2024 IECC, section C403.7.5 dictates short circuit kitchen exhaust systems are no longer acceptable as a design solution for facilities when they have been proven to be functional installations in kitchens throughout the state of GA, particularly in the K-12 market. As a professional engineer, I have successfully utilized short circuit hood systems with excellent results for over 35 years for my clients with low/medium cooking applications. Enactment of this code section without carrying forward Items 15 & 16 of the amendment list will result in unnecessary energy consumption and impose harsh first cost penalties for Owners. The option to utilize these systems should remain with design professionals.

FINANCIAL IMPACT OF PROPOSED AMENDMENT:

- Additional initial cost of specialized dedicated outside air conditioning equipment for conditioned make-up air.
- The ongoing utility costs required to heat and cool 4000-6000 cfm of make-up air that can range from 95 degrees F (summer) to 17 degrees F (winter) in Georgia.
- The cost of modifications to architectural and structural elements for the location and support of additional roof mounted equipment.

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY) PAGE 1 OF 3

CODE: 2024 International Energy Conservation Code (IECC) SECTION: C403.7.5,

PROPONENT: James (Pat) Griffin, M.E. DATE: February 18,2026

EMAIL: pat@qualityairga.com

ADDRESS: P.O. Box 767445, Roswell, GA 30076

TELEPHONE NUMBER: 404-372-8521 FAX NUMBER: _____

CHECK ONE: _____ Revise section to read as follows: _____ Add new section to read as follows:

_____ Delete section and substitute the following: X Delete without substitution:

~~LINE THROUGH MATERIAL TO BE DELETED:~~ UNDERLINE MATERIAL TO BE ADDED

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REASON/INTENT:
Section C403.7.5 does not allow the use of the short-circuit hood design under any circumstances. With the Georgia climate and light cooking battery loads used in the K-12 school systems, "short-circuit" hoods have performed properly for over 40 years. With this history of effective performance, there is no reason to ban the use of the short-circuit hood.

The attached is a list of 22 Georgia school districts shows that the short-circuit compensating exhaust systems are installed in 80% of the 829 schools listed. These systems have been operating properly for 40 years on average.

FINANCIAL IMPACT OF PROPOSED AMENDMENT:

The “Short Circuit” hood exhausts from 16 to 20 percent of its total exhaust air from the tempered air located in the space. 80 to 84 percent of the total exhaust air is made up of un-tempered outside air introduced through the hood from a dedicated make-up air unit. This system minimizes energy consumption because it is not heating or cooling 84% of the air being exhausted.

The first cost of the equipment to heat and/or cool, 5500 CFM to 6300 CFM of 100% outside air would be saved when using a short-circuit hood type system.

Free transfer air is rarely available from adjacent spaces because the majority of facilities utilize heat recovery units to recapture the energy from the tempered air being exhausted.

COUNTY NAME	PERCENT	# OF SCHOOLS USING "SHORT CIRCUIT" HOODS	# OF COUNTY SCHOOLS	FIRST SCHOOL	TOTAL YEARS
GWINNETT	81%	106	132	1975	51
COBB	74%	83	112	1975	51
FULTON	78%	79	101	1989	37
CLAYTON	86%	59	69	1974	51
HENRY	55%	30	55	1995	31
CHEROKEE	72%	28	39	1993	33
FORSYTH	89%	40	45	1992	34
DOUGLAS	82%	28	34	1978	48
PAULDING	68%	23	34	1986	40
COWETA	88%	29	33	1988	38
FAYETTE	76%	19	25	1976	50
CARROLL	67%	16	24	1988	38
NEWTON	70%	16	23	1994	32
FLOYD	81%	13	16	1994	32
BARTOW	90%	18	20	1975	51
BARROW	72%	13	18	1996	30
JACKSON	100%	12	12	1989	37
GORDON	100%	10	10	1975	51
MARIETTA CITY SCHOOLS	55%	8	11	1992	34
ROME CITY SCHOOLS	100%	8	8	1991	35
CARTERSVILLE CITY	100%	4	4	1990	36
CARROLLTON CITY	75%	3	4	1985	41
22 SCHOOL SYSTEMS	80%	645	829		40

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY) PAGE 1 OF 1

CODE: 2024 International Energy Conservation Code (IECC) SECTION: C403.7.5

PROPONENT: Laban Busieney, PE DATE: February 19, 2026

EMAIL: lbusieney@southernae.com

ADDRESS: 7951 Troon Circle, Austell, GA 30168

TELEPHONE NUMBER: 770-819-7777 FAX NUMBER: 770-819-7770

CHECK ONE:
_____ Revise section to read as follows:
_____ Add new section to read as follows:
_____ Delete section and substitute the following:
X Delete without substitution:

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REASON/INTENT:
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FINANCIAL IMPACT OF PROPOSED AMENDMENT:

The proposed amendment will minimize the financial burden of the cost of construction, as well as ongoing operational costs due to the following reasons:

- Eliminate the additional initial cost of specialized dedicated outside air conditioning (DOAS) equipment to condition make-up air.
- Minimize the ongoing utility costs required to condition (heat, cool, and dehumidify) 4000-6000 cfm of make-up air via DOAS equipment that can range from 95 degrees F (summer) to 17 degrees F (winter) in Georgia.
- Minimize the cost of modifications to architectural and structural elements for the location and support of additional roof mounted equipment. This cost can be potentially significant in a retrofit application.

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY) PAGE 1 OF 1

CODE: 2024 International Energy Conservation Code (IECC) SECTION: C403.7.5

PROPONENT: Michael Waldbillig, PE, LEED AP BD&C CEO, Southern A&E DATE: February 20, 2026

EMAIL: mwaldbillig@southernae.com

ADDRESS: 7951 Troon Circle, Austell, GA 30168

TELEPHONE NUMBER: 770-819-7777 FAX NUMBER: 770-819-7770

CHECK ONE:
_____ Revise section to read as follows:
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The proposed amendment will minimize the financial burden of the cost of construction, as well as ongoing operational costs due to the following reasons:

- Eliminate the additional initial cost of specialized dedicated outside air conditioning (DOAS) equipment to condition make-up air.
- Minimize the ongoing utility costs required to condition (heat, cool, and dehumidify) 4000-6000 cfm of make-up air via DOAS equipment that can range from 95 degrees F (summer) to 17 degrees F (winter) in Georgia.
- Minimize the cost of modifications to architectural and structural elements for the location and support of additional roof mounted equipment. This cost can be potentially significant in a retrofit application.

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY) PAGE 1 OF 1

CODE: 2024 International Energy Conservation Code (IECC) SECTION: C403.7.5

PROPONENT: Mike Dillon, PE, LEED AP, Spurlock & Assoc. Inc. DATE: 2/19/2026

EMAIL: mike@spurlock-eng.com

ADDRESS: 364 Green St, #635, Gainesville, Ga. 30503

TELEPHONE NUMBER: (770) 630-5710 FAX NUMBER: NA

CHECK ONE:
_____ Revise section to read as follows:
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REASON/INTENT:
As written in the 2024 IECC, section C403.7.5 mandates short circuit kitchen exhaust systems may not introduce more than 10% make-up air to the hood vs the previous 84% we have been specifying for decades (with tremendous functionality and efficiency). It requires make-up air to be provided either by scavenging adjacent spaces (which was sometimes available at the previous much-reduced need) or, providing a dedicated ERU. In normal K-12 construction the rangehood is only part of the exhaust needs in a kitchen. There is toilet exhaust, dishwasher exhaust and possible pizza oven exhaust only hoods in HS's. By requiring an additional 74% (84-10) make-up air, a much larger dedicated DOAS or ERU would be required.

FINANCIAL IMPACT OF PROPOSED AMENDMENT:

- Additional initial cost of a much larger or additional, specialized dedicated outside air conditioning equipment for conditioned make-up air.
- The forever utility $$'s required to heat and cool 4000-6000 cfm of additional make-up air that can range from 95 degrees F (summer) to 17 degrees F (winter) in Georgia.
- The cost of modifications to architectural and structural elements for the location and support of additional roof mounted equipment.

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY) PAGE 1 OF 2

CODE: 2024 International Energy Conservation Code (IECC) SECTION: C403.7.5

PROPONENT: Brian Griffin-President Quality Air, Inc DATE: February 19, 2026

EMAIL: bgriffin@qualityairga.com

ADDRESS: P.O. Box 767445, Roswell, GA 30076

TELEPHONE NUMBER: (404)229-2371 FAX NUMBER: _____

CHECK ONE: _____ Revise section to read as follows: _____ Add new section to read as follows:

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Which in the 2024 IECC code book supports deleting section (C403.7.5) **Kitchen Exhaust Systems** with corresponding table, without substitutions.

REASON/INTENT:
This code section, as written, outlaws short circuit hoods. A short circuit hood is a compensating hood that introduces 60 to 84 percent of the exhaust flow rate directly into the hood cavity. The make-up air introduced is then exhausted out of the building. The make-up air stays within the hood cavity and never enters the occupied space in the kitchen. Since the fresh make-up air never enters the occupied space, it does not need to be heated or cooled. Therefore, the short circuit hood conserves energy by utilizing un-tempered air. The alternatives this code section suggests would require additional conditioned air to be introduced into the occupied space, only to be immediately exhausted out of the building.

The intent of the code is to conserve energy. When short circuit hoods are designed and installed properly in the right application, they work effectively while conserving energy.

FINANCIAL IMPACT OF PROPOSED AMENDMENT:

Without the use of the short circuit hoods, the alternative exhaust systems would require the added initial and ongoing expense of additional conditioned air for the life of the building.

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY) PAGE 1 OF 1

CODE: 2024 International Energy Conservation Code (IECC) SECTION: C403.7.5

PROPONENT: Doug Roland (Assistant Director) Cobb County School District DATE: Feb. 18, 2026

EMAIL: Doug.roland@cobbk12.org

ADDRESS: 560 Glover Street Marietta, Ga. 30060

TELEPHONE NUMBER: (770) 426-3355 FAX NUMBER: N/A

CHECK ONE:
_____ Revise section to read as follows:
_____ Add new section to read as follows:
_____ Delete section and substitute the following:
X Delete without substitution:

~~LINE THROUGH MATERIAL TO BE DELETED:~~ UNDERLINE MATERIAL TO BE ADDED

☐ Approve ☐ Approve as amended (DCA STAFF ONLY) ☐ Disapprove ☐ Withdrawn

DESCRIPTION:

I support carrying forward items 15 & 16 on the amendment chart.

2024-IECC-15 *Delete Section ~~C403.2.8'Kitchen Exhaust System'~~ without substitution.
2024-IECC-16 *Delete Table ~~C403.2.8 'MAXIMUM NET EXHAUST FLOW RATE, CFM PER LINEAR FOOT OF HOOD LENGTH~~' without substitution.

Which in the 2024 IECC code book supports deleting section (C403.7.5) **Kitchen Exhaust Systems** with corresponding table, without substitutions.

REASON/INTENT:
C403.2.8 will impact our Design Standard (Short Circuit Hood) we have been using for many years now with great success. Designs other than Short Circuit have impacted our school system in a negative way.

FINANCIAL IMPACT OF PROPOSED AMENDMENT:
Changing our design standard now will require treating outside air with a separate Air-Conditioner or ERU. This is added cost with system design and utility cost long term. Other designs have caused temperature and humidity issues in our kitchens along with elevated utility costs.

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY) PAGE 1 OF 1

CODE: 2024 International Energy Conservation Code (IECC) SECTION: C403.7.5

PROPONENT: Mark Lord DATE: 2/18/2026

EMAIL: mark.lord@gcpsk12.org
ADDRESS: 53 Gwinnett Drive
Lawrenceville, GA 30046

TELEPHONE NUMBER: (678) 618-5154 FAX NUMBER: (678) 377-3957

CHECK ONE:
☐ Revise section to read as follows:
☐ Add new section to read as follows:
☐ Delete section and substitute the following:
X Delete without substitution:

~~LINE THROUGH MATERIAL TO BE DELETED:~~ UNDERLINE MATERIAL TO BE ADDED

☐ Approve ☐ Approve as amended (DCA STAFF ONLY) ☐ Disapprove ☐ Withdrawn

DESCRIPTION:
I support carrying forward items 15 & 16 on the amendment chart.
2024-IECC-15 *Delete Section ~~C403.2.8'Kitchen Exhaust System'~~ without substitution.
2024-IECC-16 *Delete Table ~~C403.2.8 'MAXIMUM NET EXHAUST FLOW RATE, CFM PER LINEAR FOOT OF HOOD LENGTH~~' without substitution.

Which in the 2024 IECC code book supports deleting section (C403.7.5) **Kitchen Exhaust Systems** with corresponding table, without substitutions.

REASON/INTENT:
As written in the 2024 IECC, section C403.7.5 dictates short circuit kitchen exhaust systems are no longer acceptable as a design solution for facilities when they have been proven to be functional installations in kitchens throughout the state of GA, particularly in the K-12 market. The intent of the IECC should be to Minimize the energy consumption of facilities rather than outlaw a particular design solution. The energy consumption of this equipment is already regulated through fan horsepower limits in C403.8.1.

FINANCIAL IMPACT OF PROPOSED AMENDMENT:

- Additional initial cost of specialized dedicated outside air conditioning equipment for conditioned make-up air.
- The ongoing utility costs required to heat and cool 4000-6000 cfm of make-up air that can range from 95 degrees F (summer) to 17 degrees F (winter) in Georgia.
- The cost of modifications to architectural and structural elements for the location and support of additional roof mounted equipment.

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY) PAGE _____ OF _____

CODE: _____ SECTION: _____

PROPONENT: Sydney G. Roberts DATE: March 13, 2026

EMAIL: Sydney.G.Roberts@gmail.com

ADDRESS: 165 Mellrich Ave NE, Atlanta

TELEPHONE NUMBER: (404)625-6714 FAX NUMBER: ( ) -

CHECK ONE: x Revise section to read as follows: ☐ Add new section to read as follows:

☐ Delete section and substitute the following: ☐ Delete without substitution:

~~LINE THROUGH MATERIAL TO BE DELETED:~~ UNDERLINE MATERIAL TO BE ADDED

☐ Approve ☐ Approve as amended (DCA STAFF ONLY) ☐ Disapprove ☐ Withdrawn

DESCRIPTION:

In Section R402.1.2

TABLE R402.1.2 MAXIMUM ASSEMBLY *U*-FACTORS AND FENESTRATION REQUIREMENTS

CLIMATE ZONE	0	1	2	3	4 EXCEPT MARINE	5 AND MARINE 4	6	7 AND 8
Attic roofline *U*-factor	0.039	0.039	0.039	0.039	0.032	0.032	0.032	0.028

In Section R402.1.3

TABLE R402.1.3 INSULATION MINIMUM *R*-VALUES AND FENESTRATION REQUIREMENTS BY COMPONENT

CLIMATE ZONE	0	1	2	3	4 EXCEPT MARINE	5 AND MARINE 4	6	7 AND 8
Attic roofline *R*-value	30&0ci	30&0ci	30&0ci	30&0ci	38&0ci	38&0ci	38&0ci	41&0ci

REASON/INTENT:
There are many different methods for insulating along the roofline and below the roof deck. The 2024 contains prescriptive requirements for insulating at the ceiling and entirely above the roof deck, but does not address insulation below the roof deck. ICF performed a quantitative analysis to determine equivalent U-factors and R-values. In climate zones 2 and 3, the results were 0.039 and 32, respectively. The proposed values align with construction practice across various insulation types and framing plans.

FINANCIAL IMPACT OF PROPOSED AMENDMENT:
This proposal will reduce costs by allowing builders to use the prescriptive path for compliance while increasing design and construction flexibility.

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM INSTRUCTION SHEET

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2. Use a separate form for each proposed code amendment.
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10. **All proposed amendments must be typed and completed in full and the original submitted to the Codes and Industrialized Buildings Section of the Department of Community Affairs NO LATER THAN DECEMBER 15TH.** The proposed code change shall be submitted for review to the State Codes Advisory Committee at their quarterly meeting in January. An incomplete form will be sent back to the

proponent for completion. An amendment submitted after the submittal deadline date will be returned to the proponent.

11. The proponent will be notified when the proposed amendment will be considered by the State Codes Advisory Committee.

12. Information concerning submittal of code amendments, including deadline dates for submittal, can be obtained by contacting the Codes and Industrialized Buildings Section at (404) 679-3118. All proposed code amendments should be submitted to:

The Department of Community Affairs
Codes and Industrialized Buildings Section
60 Executive Park South, NE
Atlanta, Georgia 30329-2231

Analysis of R-Values for Insulation Below Roof Deck

March 2025

Analysis of R-Values for Insulation Below Roof Deck

Background / Purpose

The 2024 IECC contains insulation requirements (R-values and U-factors) for "Ceilings" and "Insulation entirely above roof deck." It does not have any requirements that are specific for insulation below the roof deck.

		CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7	CZ 8
Ceiling:	U-factor	0.035	0.030	0.030	0.026	0.026	0.026	0.026	0.026
	R-value	30	38	38	49	49	49	49	49
Insulation Entirely Above Roof Deck	U-factor	0.039	0.039	0.039	0.032	0.032	0.032	0.028	0.028
	R-value	25ci	25ci	25ci	30ci	30ci	30ci	35ci	35ci

There are currently proposals for the 2027 IECC that would add in requirements specific to insulating below the roof deck as an option. One of these proposals has a U-factor that aligns with the 2024 IECC requirements for insulation entirely above the roof deck. The purpose of this analysis is to determine nominal R-values for insulation located below the roof deck, which are equivalent to the 2024 IECC Insulation Entirely Above Roof Deck U-factors.

Results

This analysis looked at a range of results discussed in the 'Permutations" section below and determined the scenarios with conservative outcomes. Permutations of Rafter Depth, Framing Spacing / Fraction, and Insulation Type were grouped to determine the insulation R-values for three U-factors (i.e., 0.039, 0.032, and 0.028). The groups of permutations with the highest R-value were considered conservative because they set a backstop that ensures any assembly demonstrating compliance with an R-value (R402.1.3) would perform equal to or better than the required U-factor (R402.1.2). Within the structure of the IECC, assemblies with lower R-values could be used as long as the U-factor requirements (R402.1.2) were met. The permutation below represents the group with the highest R-value, and had the most conservative results:

Rafter Depth: 2x6 (CZ 1-3), 2x8 (CZ 4-8)

Framing Spacing / Fraction: 16" O.C.

Insulation Type: Closed-Cell Spray Foam

This results in the nominal R-values shown below that were determined to be a conservative equivalent to the U-factors for insulation located below the roof deck.

		CZ 1	CZ 2	CZ 3	CZ 4	CZ 5	CZ 6	CZ 7	CZ 8
Insulation Below Roof Deck	U-factor	0.039	0.039	0.039	0.032	0.032	0.032	0.028	0.028
	R-value	32	32	32	39	39	39	44	44

Methodology

Calculations

An Excel tool was developed to calculate a roof assembly U-factor. It utilized the permutations discussed below to determine the R-value of insulation below the roof deck to achieve the required thermal performance. The primary source for this calculation was the *REScheck Technical Support Document*, section 3.3.1.2 (Ceiling: Cathedral Ceiling (no attic)).[1] However, several modifications to this section were made, including assuming an unvented roof assembly, assuming an unfinished interior surface (e.g., no drywall), and adding in roofing materials (e.g., shingles). The resulting equation used for calculations is shown below.

$$Roof\ U_0 = \frac{A_r}{R_{Const} + R_r + R_{cont}} + \frac{A_i}{R_{Const} + R_{cavity} + R_{cont}}$$

Where:

A_r = The percentage of roof area at rafters.

A_i = The percentage of roof area at insulation.

R_{const} = The R-value of assembly layers below that are constant, totals to an assumed value of R = 1.85.

- Exterior Air Film, R-value = 0.17.[2]
- Asphalt Shingles, R-value = 0.44.[3]
- Roofing Underlayment, R-value = 0.005.[4]
- Exterior Sheathing, R-value = 0.62.[5]
- Interior Air Film, R-value = 0.62.[6]

R_r = The R-value of wood rafters, which was assumed to be the thickness of the cavity insulation, or a maximum of the total rafter depth, multiplied by 1.25 (R-value per inch of wood). The thickness of the cavity insulation was assumed to be equal to the R-value of the cavity insulation (R_{cavity}) divided by the R-value per inch of the insulation material. The effective thickness of the rafters was set equal to the thickness of the insulation because heat flows directly out the side of the wood beyond the depth of the insulation.

R_{cavity} = The R-value of the cavity insulation.

R_{cont} = The R-value of the continuous insulation (if applicable).

Permutations Considered

Due to the variability in how roofs are constructed and insulated, 30 permutations were considered to understand the range of R-values that could result in an equivalent U-factor.

Rafter Depth: Three scenarios which impact the value for R_r were considered below. Depending on the insulation values, this also impacts the amount of insulation that is cavity (between framing) or continuous (over framing). Rafter depth was limited to 2x6 framing for determining R-value results in Climate Zones 1-3, and 2x8 framing for Climate Zones 4-8.

Rafter Depth	Cavity Depth (in.) / Maximum R_r
2x4	3.5 / 4.39
2x6	5.5 / 6.88
2x8	7.25 / 9.06

[1] https://www.energycodes.gov/sites/default/files/2019-09/BECP_REScheck_TSD465_Mar2019.pdf
[2] 2021 ASHRAE Handbook of Fundamentals, Chapter 26 Table 10: Outdoor,15 mph wind (for winter).
[3] 2021 ASHRAE Handbook of Fundamentals, Chapter 26 Table 1: Asphalt shingles.
[4] 2021 ASHRAE Handbook of Fundamentals, Chapter 26 Table 1: Roofing Felt, assumed 0.04 in. thickness.
[5] 2021 ASHRAE Handbook of Fundamentals, Chapter 26 Table 1: Oriented strand board (OSB) 7/16 in.
[6] 2021 ASHRAE Handbook of Fundamentals, Chapter 26 Table 10: Indoor, Sloping at 45°, Upward Heat Flow, Nonreflective Surface

Framing Spacing / Fraction: Two scenarios for framing spacing which impact the values for A_r and A_i were considered below.

Framing Spacing	A_r[7]	A_i
24 in. O.C.	10%	90%
16 in. O.C.	7%	93%

Insulation Type: Five scenarios which impact the assumed R-value per inch of the insulation, and the amount of insulation that is cavity or continuous, were considered below.

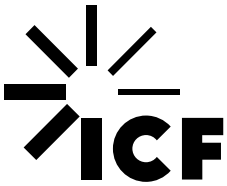
Insulation Type	R-Value per inch[8]
Closed Cell Spray Foam	5.9
Open Cell Spray Foam	3.6
Blown Cellulose	3.4
Fiberglass Batt	3.6
Mineral Wool Batt	4.1

Determining Equivalent R-Value

For each permutation above, the total insulation R-value (R_{cavity} + R_{cont}) that resulted in a U-factor equivalent to the code value was calculated. When determining the total R-value, insulation was first allocated as cavity insulation. Once the insulation reached the depth of the rafter (i.e., filled the cavity), any additional insulation was allocated as continuous insulation.

Nominal insulation R-values were determined by rounding the total insulation R-value up to the nearest whole number (e.g., R-29.1 would round up to R-30).

[7] ANSI / RESNET / ICC 301 2022 Table 4.2.2(6)
[8] 2021 ASHRAE Handbook of Fundamentals, Chapter 26 Table 10: Mid-point of values in table used



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GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY) PAGE _____ OF _____

CODE: 2024 IECC RE Chapter 4 SECTION: 402 and 408

PROPONENT: American Institute of Architects, GA Assoc DATE: 04|24|2026

EMAIL: rtaylor@ryantaylorarchitects.com

ADDRESS: 50 Hurt Plaza SE, Unit 109; Atlanta, GA 30303

TELEPHONE NUMBER: (770)436-9902 FAX NUMBER: ( ) -

CHECK ONE: X Revise section to read as follows: ☐ Add new section to read as follows:

☐ Delete section and substitute the following: ☐ Delete without substitution:

~~LINE THROUGH MATERIAL TO BE DELETED:~~ UNDERLINE MATERIAL TO BE ADDED

☐ Approve ☐ Approve as amended (DCA STAFF ONLY) ☐ Disapprove ☐ Withdrawn

DESCRIPTION:

Revise Table R402.1.3 Insulation Minimum R-Values and Fenestration Requirements By Component such that all R-Values listed in the requirements for "Wood-framed wall R-Value" in Climate Zone 3 are changed to R-18.

Revise Table R402.1.2 Maximum Assembly U-Factors and Fenestration Requirements such that the U-Factor for "Wood-framed wall U-Factor" is 0.062 in Climate Zone 3 to match Table R402.1.3.

Revise Section R408.2: Additional energy efficiency credit requirements. as follows:

Residential buildings less than 3,000 square feet (278m^2) shall be exempt from the requirements of Section R408: Additional Efficiency Requirements for three years from the effective date of this energy code whereupon the requirements will revert to the model code language for R408.2. Residential buildings 3,000 square feet (278m^2) or more shall earn not less than 10 credits from not less than two measures specified in Table R408.2. Five additional credits shall be earned for *dwelling units* with more than 5,000 square feet (465 m^2) of *living space* located above *grade plane*. To earn credit as specified in Table R408.2 for the applicable *climate zone*, each measure selected for compliance shall comply with the applicable subsections of Section R408. Each *dwelling unit* or *sleeping unit* shall comply with the selected measure to earn credit. Interpolation of credits between measures shall not be permitted.

REASON/INTENT:

The R-value for walls in Georgia's current energy code is rooted in the 2009 International Energy Conservation Code (IECC). A comparison of the R-value requirements in current the Georgia energy code and the R-value requirements in the 2024 IECC shows the only significant change/opportunity is in the R-value for the walls.

The R-value for walls in the IECC have been R-20 or 13+5 since the 2012 IECC. The 2021 IECC added an option for zero insulation in the framing with R-10 continuous insulation in climate zone 2 and R-15 continuous insulation in climate zone 3.

Exterior walls make up a significant amount of the building envelope that must resist heat flow for the building to be efficient. Using the appropriate amount of insulation balances cost and performance while protecting owners against increasing utility costs, some of which is driven by our warming climate.

The model codes require insulation levels that are appropriate for Georgia's climate zones – the R-values are enough to offer good performance that does not reach a point of diminishing return. Using the required R-value proposed in this amendment is the best means of building a house that holds its value against future construction and offers greater protection against rising utility costs – some of which are up 30% in the last few years, with more increases expected.

Exterior walls are the most difficult/costly building component to upgrade. It is not practical to change the depth of wall framing to add insulation after a home is built. It is not practical to rip off exterior siding to add continuous insulation. It is not practical to reinstall windows and doors to account for a thicker wall assembly. Other building components, even insulation in other areas, can be upgraded much more easily.

There's a narrow window of opportunity to get the wall insulation right before that opportunity is lost until at least the lifetime of the exterior cladding, if it's not lost permanently. Thus, the task force should protect homeowners by changing our current R-value requirement for walls to R-18.

FINANCIAL IMPACT OF PROPOSED AMENDMENT:

In its first four meetings, the 2024 International Energy Conservation Code Task Force discussed the challenges of affordability for those buying smaller homes – such as "starter homes". Section 408 of the 2024 International Energy Conservation Code (IECC) introduces a series of "additional efficiency credit requirements".

A shift to exterior walls with a minimum value of R-18 is an important priority and may add some cost to a project, even when offset by other changes such as lower heating/cooling loads, advanced framing, design optimization, etc.

This proposal seeks to offset those costs for homes less than 3,000 square feet (278m^2) by exempting them from the requirements of R408 for a period of three years after the effective date of the energy code. Thus, these proposals which initially appear to amend two different sections of the energy code are tied together. The proposed three-year period will allow designers and builders to focus on optimization AND creates enough time for interested parties to decide if the proposal should be further amended.

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY) PAGE 1 OF 3

CODE: GA Energy Code SECTION: IECC C402.1, 408

PROPONENT: Mike Barcik, Southface, David Miller ACEC DATE: 4/29/2026

EMAIL: mikeb@southface.org; David Miller davidf7344@gmail.com

ADDRESS: 241 Pine St NE Atlanta GA 30308

TELEPHONE NUMBER: (404) 604-3620 FAX NUMBER: (404) 872-5009

CHECK ONE:
☒ Revise section to read as follows:
☐ Add new section to read as follows:
☐ Delete section and substitute the following:
☐ Delete without substitution:

~~LINE THROUGH MATERIAL TO BE DELETED:~~ UNDERLINE MATERIAL TO BE ADDED

☐ Approve ☐ Approve as amended (DCA STAFF ONLY) ☐ Disapprove ☐ Withdrawn

DESCRIPTION:
Revise the table value of 2024 IECC: Table 402.1.3:
"Wood-framed wall R-value for Climate Zone 3:
R-18 (2x6 with compressed R-19 batt, R-13+R-5 continuous, or R-15+R-3 continuous)"

Revise table value in 402.1.2 similarly.
"Wood-framed wall U-factor for Climate Zone 3: 0.062"

Add to section 402.1.3 and 402.1.2:
"Georgia 2x4 Alternate Prescriptive Pathway*
A 2x4 wall assembly with properly installed R-15 cavity insulation shall be deemed to comply with tables 402.1.3 and 402.1.2 providing all of the following are met:

1. The weighted average U-factor of the installed fenestration is a maximum of 0.28
2. Flat ceiling insulation shall be R-38 full height at the eaves or R-49 tapered
3. The conditioned floor area (CFA) shall be less than 2500 square feet.

*This optional provision shall be in effect until January 1, 2030.

Revise section 408 as follows

Replace section 408 with following

"Georgia 408 Table (project shall achieve 5 items):

- Ground source heat pump
- Condensing furnace (95% AFUE) / Natural Gas Heat Pump
- High SEER Cooling (15.2 SEER2)
- High HSPF/SEER Heat Pump (7.8 HSPF2/15.2 SEER2)
- Ductless heating and cooling system
- 100% of installed heating and cooling ductwork in conditioned space
- Ducts in unconditioned attic with 100% Radiant Barrier
- ENERGY STAR certified gas tank WH, min. 0.81 UEF
- Gas instant tankless water heater, min. 0.82 UEF
- Heat pump water heater
- Compact plumbing (max 16 oz in delivery piping)
- On-Demand hot water distribution
- Energy Recovery Ventilator
- Ventilating Dehumidifier ventilation system
- Roof has 3-year aged SRI of 75 minimum
- Continuous exterior insulation, minimum R-3 (or R-5)
- Total Conditioned Floor Area less than **2500** s.f.
- 100% LED lighting in all permanent fixtures
- ENERGY STAR certified Dishwasher / Refrigerator

REASON/INTENT:

- Two major areas of IECC 2024 for improving the efficiency of new homes in Georgia are the prescriptive R-20 walls in CZ3 and section 408 Additional Efficiency Requirements.
- To address affordability, R-20 walls have been reduced slightly to R-18 cavity (R-19 compressed batt, R-13+R-5 cont., R-15+R-3 cont.). The maximum Ufactor has been eased to 0.062.
- For smaller homes, and to address affordability, an option to stay with 2x4 R-15 walls is provided.
- Section 408 is complex and could present a challenge to enforceability. This alternate list is intended to simplify compliance and reduce burden of affordability. While these items are not intended as equivalent in cost or difficulty to achieve, each item offers some benefit over minimum baseline requirements. Any five items may be selected at the builder's discretion.

FINANCIAL IMPACT OF PROPOSED AMENDMENT:

There is a cost of increasing wall framing from 2x4 to 2x6 to permit R-18 cavity insulation versus R-13. Options do exist to continue using 2x4 framing such as with R-15 cavity and R-3 continuous insulation (in non-structural sheathing locations). However, to ease compliance and address affordability, a "Georgia 2x4 Alternate Prescriptive Pathway" is proposed which permits a standard 2x4 assembly with modest upgrades to walls, ceilings and windows.

Georgia's current energy code is based on the 2009 IECC R-values for exterior walls (R-13) in climate zone 3. Beginning with the 2012 IECC, exterior wall R-value increased to R-20, and Georgia's current code is significantly outdated. Because creating an exterior wall is effectively a one-time opportunity, increasing the wall to better than R-13 is an important step and represents a lost opportunity if not done.

The proposed adjustments to section 408 represent a vast simplification to the as-written 408 requirements. By simplifying the requirements list to one page and by both eliminating math and not requiring point assignments, the ease of understanding and enforcement is greatly enhanced and thus any additional cost to implement or enforce is greatly diminished.

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

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