

Pikes Peak **REGIONAL** Building Department

2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) RESIDENTIAL INSULATION CERTIFICATE

This certificate is based on the 2021 International Energy Conservation Code (IECC). This certificate is applicable to One- and Two- family Dwellings as well as Townhouses, R2, R-3 and R-4 buildings three stories or less in height. *This certificate is required to be submitted as part of the plan review package.*

ADDRESS OR MASTER #:

| GARAGE IS: | HEATED | UNHEATED | N/A |
|-------------------|---------------|-----------------|------------|
|-------------------|---------------|-----------------|------------|

ADDITIONAL ENERGY EFFICIENCY OPTION (MUST CHOOSE ONE)

| | |
|--|---|
| Enhanced envelope performance (IECC R408.2.1) | Improved air sealing and efficient ventilation system (IECC R408.2.5) |
| More efficient HVAC equipment performance (IECC R408.2.2) | N/A - at least 5% energy savings using Total Building Performance or Energy rating index (R401.2.5 items 2.2 or 3) |
| Reduced energy use in service water-heating (IECC R408.2.3) | |
| More efficient duct thermal distribution system (IECC R408.2.4) | |

METHOD OF ENERGY CODE COMPLIANCE: (Climate Zone 5)

The IECC provides various options for compliance with minimum standards. Check the box to indicate the method of compliance and proceed to indicated form section. If additional documentation is required, it must accompany this form.

| | |
|---|---|
| U-factor (IECC R402.1.2) See Section 1 | Heated sunroom or garage (IECC 402.2.12/ R402.3.5) See Section 4 |
| R-value alternative (IECC R402.1.3)/ R-value computation (IECC R402.1.4) See Section 2 | Total Building Performance (IECC R405) See Section 5 |
| Total UA alternative (IECC R402.1.5) See Section 3 | Energy Rating Index Compliance Alternative (IECC R406) See Section 6 |
| ResCheck (IECC R402.1.5) See Section 3 | |

SECTION 1 - U-FACTOR (Table R402.1.2)

| Door and Window U-Factor | Skylight U-Factor | Ceiling U-Value | Wood Frame Wall U-Value | Mass Wall U-Value | Floor U-Value | Basement Wall U-Value | Slab R-Value/Depth | Crawlspace Wall U-Value |
|--------------------------|-------------------|-----------------|-------------------------|-------------------|---------------|-----------------------|--------------------|-------------------------|
| 0.32 | 0.55 | 0.024 | 0.045 | 0.082 | 0.033 | 0.050 | 10ci/4 ft | 0.055 |

_____ Wall U-Value _____ Floor U-Value _____ Slab perimeter R-Value
 (wood frame or mass) _____ Basement Wall U-Value _____ Glazing U-Factor
 _____ Ceiling U-Value _____ Crawlspace Wall U-Value _____ Door(s) U-Factor

SECTION 2 - R-VALUE ALTERNATIVE OR COMPUTATION (Table R402.1.3)

| Door and Window U-Factor | Skylight U-Factor | Ceiling R-Value | Wood Frame Wall R-Value | Mass Wall R-Value | Floor R-Value | Basement Wall R-Value | Slab R-Value/Depth | Crawlspace Wall R-Value |
|--------------------------|-------------------|-----------------|---------------------------------|-------------------|---------------|-----------------------|--------------------|-------------------------|
| 0.32 | 0.55 | 60 | 30 or 20+5ci or 13+10ci or 20ci | 13/17 | 30 | 19 or 15ci or 13+5ci | 10/4 ft | 19 or 15ci or 13+5ci |

_____ Wall R-Value _____ Floor R-Value _____ Slab perimeter R-Value
 (wood frame or mass) _____ Basement Wall R-Value _____ Glazing U-Factor
 _____ Ceiling R-Value _____ Crawlspace Wall R-Value _____ Door(s) U-Factor

SECTION 3 - TOTAL UA ALTERNATIVE AND/OR RESCHECK (IECC R402.1.5)

This method requires additional documentation to prove compliance. Provide calculations showing the total building thermal envelope UA is less than or equal to the total UA resulting from multiplying the U-factors in Table R402.1.2 by the same assembly area as in the proposed building. This can either be manual calculations, or RESCheck calculations using the Department of Energy REScheck software.

_____ Wall R/U-Value _____ Floor R/U-Value _____ Slab perimeter R/U-Value
 (wood frame or mass) _____ Basement Wall R/U-Value _____ Glazing U-Factor
 _____ Ceiling R/U-Value _____ Crawlspace Wall R/U-Value _____ Door(s) U-Factor

SECTION 4 - HEATED SUNROOM OR GARAGE (IECC R402.2.12/R402.3.5)

This section applies to sunrooms and heated garages only. Roof and wall insulation is allowed to be reduced due to these areas not being considered living spaces.

| Door and Window U-Factor | Skylight U-Factor | Ceiling R-Value | Wood Frame Wall R-Value | Mass Wall R-Value | Floor R-Value | Basement Wall R-Value | Slab R-Value/Depth | Crawlspace Wall R-Value |
|--------------------------|-------------------|-----------------|-------------------------|-------------------|---------------|-----------------------|--------------------|-------------------------|
| 0.45 | 0.70 | 24 | 13 | 13 | 30 | 19 or 15ci or 13+5ci | 10/4 ft | 19 or 15ci or 13+5ci |

_____ Wall R-Value _____ Floor R-Value _____ Slab perimeter R-Value
 (wood frame or mass) _____ Basement Wall R-Value _____ Glazing U-Factor
 _____ Ceiling R-Value _____ Crawlspace Wall R-Value _____ Door(s) U-Factor

SECTION 5 - TOTAL BUILDING PERFORMANCE (IECC R405)

This method requires additional documentation to prove compliance. Include the compliance software report and summarize the values below. *Available only to design professionals licensed in the State of Colorado or by qualified persons as approved by the Building Official.*

| | | |
|-----------------------|-------------------------------|------------------------------|
| _____ Wall R-Value | _____ Floor R-Value | _____ Slab perimeter R-Value |
| (wood frame or mass) | _____ Basement Wall R-Value | _____ Glazing U-Factor |
| _____ Ceiling R-Value | _____ Crawlspace Wall R-Value | _____ Door(s) U-Factor |

SECTION 6 - ENERGY RATING INDEX COMPLIANCE ALTERNATIVE (IECC R406)

This method requires additional documentation to prove compliance. Include the compliance software report and summarize the values below. *Available only to design professionals licensed in the State of Colorado or by qualified persons as approved by the Building Official.*

| | | |
|-----------------------|-------------------------------|------------------------------|
| _____ Wall R-Value | _____ Floor R-Value | _____ Slab perimeter R-Value |
| (wood frame or mass) | _____ Basement Wall R-Value | _____ Glazing U-Factor |
| _____ Ceiling R-Value | _____ Crawlspace Wall R-Value | _____ Door(s) U-Factor |

INSPECTION REQUIREMENTS

Section R402.4 of the IECC requires the thermal envelope to be sealed to limit infiltration. The IECC requires the thermal envelope to be visually inspected and tested to demonstrate compliance with building envelope tightness requirements. Selection of the method of compliance shall occur when the Building Frame Inspection is scheduled. Below is a summary of the methods.

1. Third party visual inspection and testing with documentation required at time of final inspection.
2. RBD visual inspection and third party testing with documentation required at time of final inspection.

NOTE: *The Total Building Performance and Energy Rating Index Alternatives require third party inspections.*