CITY & COUNTY OF DENVER COMMUNITY PLANNING & DEVELOPMENT BUILDING PERMIT POLICY			
Subject:	**Residential One- and Two-Family Dwellings & Townhouse Energy Code Requirements**		
Number:	**Residential Provisions of the Denver Energy Code**	Previous Version: January 23, 2024 **Effective Date: May 19, 2026**	Page: 1 of 10

Reference: 2022 & 2025 Denver Energy Code (DEC)

ANSI/RESNET/ICC 301

ANSI/RESNET/ICC 380

Scope:

This policy clarifies the information that must be submitted to the building department at plan review and inspections to document compliance with the 2025 Denver Energy Code (DEC) as it relates to the energy efficiency of the design and construction of residential buildings. Additional information may be required based on the specific design proposed.

Definitions:

Residential Buildings: Detached one- and two-family dwellings, multiple single-family dwellings (townhouses), and Group R-3 and R-4 buildings three stories or less in height above grade plane.

Approved Tester: An individual who, by virtue of training and examination, has demonstrated competence in the performance of on-site testing in accordance with requirements of Standard ANSI/RESNET/ICC 380 and who has been Approved by an Approved Rating Provider to conduct such tests. (ANSI/RESNET/ICC 301 Section 3.2 Definitions).

Certified Rater: An individual who has become qualified to conduct Energy Ratings through certification by an Approved Rating Provider. (ANSI/RESNET/ICC 301 Section 3.2 Definitions)

I. Inspection Documentation Required for Certificate of Occupancy

The following documents must be submitted to the *code official* before the certificate of occupancy is issued:

A. Prescriptive Compliance Option Inspection Documentation:

1. A completed City and County of Denver certificate (Residential Energy Efficiency Certificate of Compliance, or equivalent) in accordance with DEC Section R401.3. The certificate shall include the selected Additional Energy Efficiency Credits in accordance with DEC Section R408.1. The certificate form can be found at the end of this document.
2. Air Leakage (Blower Door) Test Results (as applicable) in accordance with DEC Section R402.4.1.2 and this policy.
3. Duct Leakage (Rough-In or Postconstruction) Test Results (as applicable) in accordance with DEC Section R403.3.5 and this policy.
4. Mechanical Ventilation System Test Results (as applicable) in accordance with DEC Section R403.6.3 and this policy.

B. Total Building Performance Option Inspection Documentation:

1. A completed City and County of Denver certificate (Residential Energy Efficiency Certificate of Compliance, or equivalent) in accordance with DEC Section R401.3. The certificate form can be found at the end of this document.
2. A final confirmed compliance report in accordance with DEC Section R405.3.2.2 and this policy.
3. Air Leakage (Blower Door) Test Results (as applicable) in accordance with DEC Section R402.4.1.2 and this policy.

4. Duct Leakage (Rough-In or Postconstruction) Test Results (as applicable) in accordance with DEC Section R403.3.5 and this policy.
5. Mechanical Ventilation System Test Results (as applicable) in accordance with DEC Section R403.6.3 and this policy.

C. Energy Rating Index (ERI) Option Inspection Documentation:

1. A completed City and County of Denver certificate (Residential Energy Efficiency Certificate of Compliance, or equivalent) in accordance with DEC Section R401.3. The certificate form can be found at the end of this document.
2. A final confirmed compliance report in accordance with DEC Section R406.7.2.2 and this policy.
3. Air Leakage (Blower Door) Test Results (as applicable) in accordance with DEC Section R402.4.1.2 and this policy.
4. Duct Leakage (Rough-In or Postconstruction) Test Results (as applicable) in accordance with DEC Section R403.3.5 and this policy.
5. Mechanical Ventilation System Test Results (as applicable) in accordance with DEC Section R403.6.3 and this policy.

II. Energy Rating Index and Total Building Performance Compliance Options

Projects following the Energy Rating Index (ERI) or Total Building Performance (TBP) Compliance Options shall be subjected to Quality Assurance in accordance with ANSI/RESNET/ICC 301 Section 7.1.4.1.3. Registration of the final confirmed compliance report with the overseeing organization (e.g. RESNET) shall satisfy Quality Assurance requirements.

In lieu of registration of the final confirmed compliance report, an alternate Quality Assurance program may be proposed through an administrative modification request. The proposed Quality Assurance program must include independent field verification and be no less robust than the RESNET Quality Assurance program (https://www.resnet.us/about/qa/). The administrative modification must be submitted and approved before any insulation inspections are complete, otherwise registration of the final confirmed rating project registration will be required.

All inspections required by ANSI/RESNET/ICC 301 must be completed by the Certified Rater. Insulation inspections in accordance with DEC Section R105.2.2 will be the sole responsibility of the Certified Rater and will not be completed by Community Planning and Development for projects following the ERI or TBP compliance options.

Utilizing a Certified Rater to conduct energy compliance shall authorize a reduction in building permit fees in the amount of $150.00. The reduction will be automatically applied to projects following the ERI or TBP compliance options during construction drawing permit review. Projects approved under the ERI or TBP compliance options will not be allowed to change to the Prescriptive compliance option after the construction permit has been issued.

A. *Compliance Report for Permit Application (R405.3.2.1 and R406.7.2.1)*

A compliance report documenting the proposed design shall be submitted with the application for building permit. The report shall include all information listed in R405.3.2.1 for projects following the TBP compliance option or R406.7.2.1 for projects following the ERI compliance option. Projects using the Master / Type Approved submittal pathway may identify the worst-case building orientation and configuration and submit energy code compliance documents based on that scenario.

For compliance with the Denver Energy Code, the Energy Rating Index (ERI) shall be determined in accordance with the ANSI/RESNET/ICC 301 standard (DEC Section R406.3). The Denver Energy Code ERI is therefore mathematically equivalent to the RESNET HERS Index (without PV) and is not equivalent to the IECC 2021 ERI. Figures 1a and 1b show examples of projected compliance reports that display the HERS Index Score or HERS ERI w/o PV, which are used to show compliance with DEC Section R406.4. Figure 2 shows an example of a report showing compliance with the IECC 2021 ERI, which cannot be used to show compliance with DEC Section R406.4.

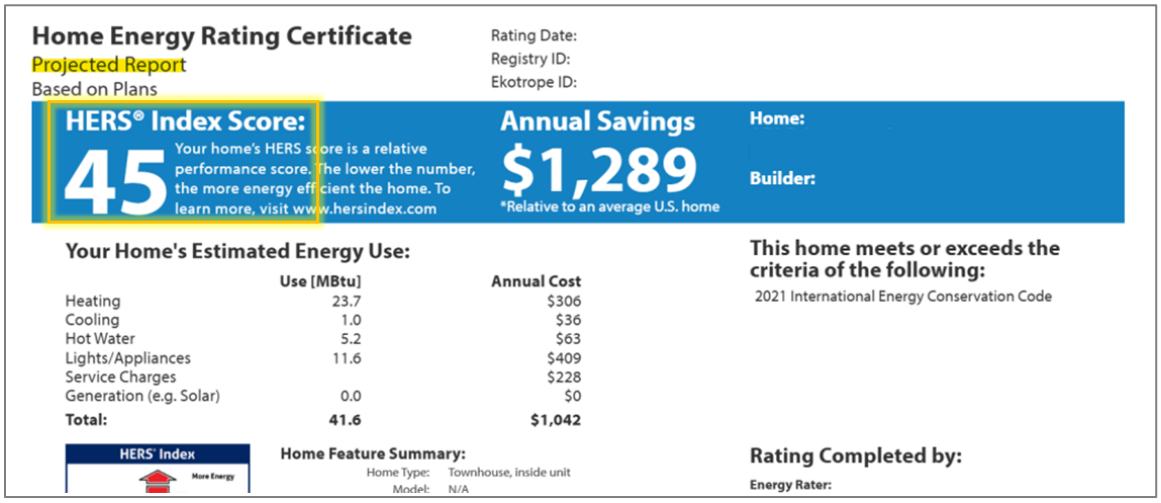
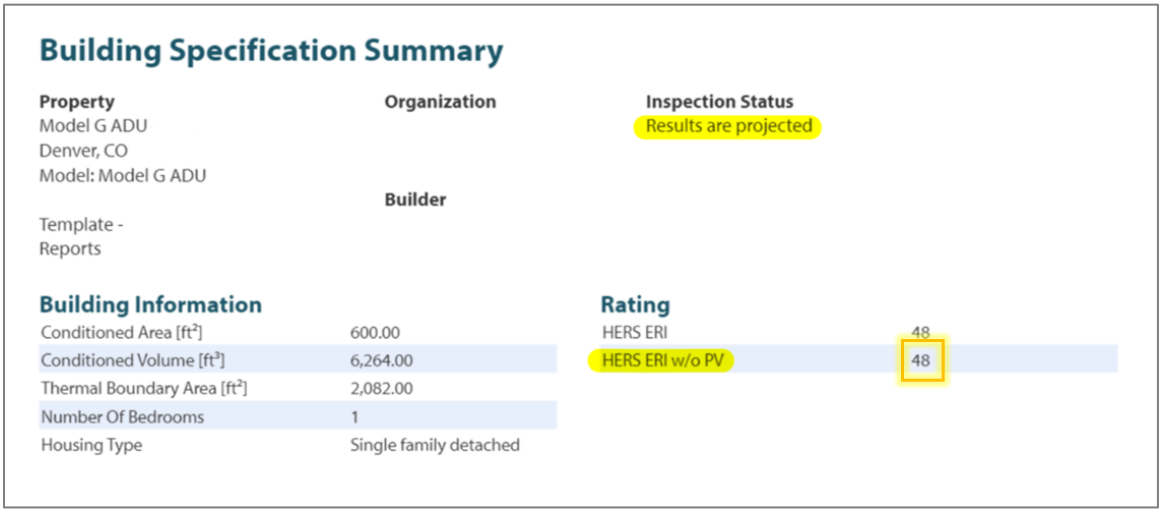


Figure 1a. Example of a Home Energy Rating Certificate from a Projected Report showing a HERS Index Score of 45. The HERS Index Score can be used to show compliance with 2025 DEC Section R406.4 unless PV is included in the Energy Model. If PV is included, the Building Specification Summary is needed to show the HERS ERI w/o PV.



Building Specification Summary

Property
Model G ADU
Denver, CO
Model: Model G ADU

Organization

Inspection Status
Results are projected

Builder

Template -
Reports

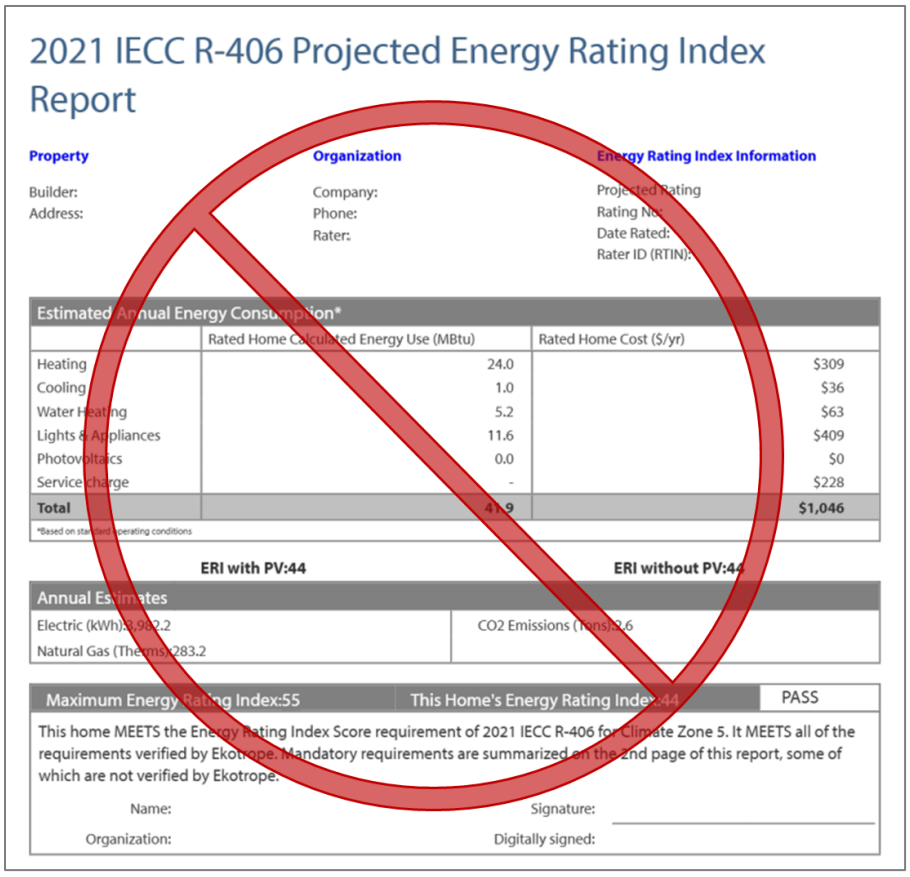
Building Information

Conditioned Area [ft²]	600.00
Conditioned Volume [ft³]	6,264.00
Thermal Boundary Area [ft²]	2,082.00
Number Of Bedrooms	1
Housing Type	Single family detached

Rating

HERS ERI	48
HERS ERI w/o PV	48

Figure 1b. Example of a Building Specification Summary from a Projected Reports showing a HERS ERI w/o PV of 48. The HERS ERI w/o PV is used to show compliance with 2025 DEC Section R406.4.



2021 IECC R-406 Projected Energy Rating Index Report

Property

Builder:
Address:

Organization

Company:
Phone:
Rater:

Energy Rating Index Information

Projected Rating
Rating No.:
Date Rated:
Rater ID (RTIN):

Estimated Annual Energy Consumption*

	Rated Home Calculated Energy Use (MBtu)	Rated Home Cost ($/yr)
Heating	24.0	$309
Cooling	1.0	$36
Water Heating	5.2	$63
Lights & Appliances	11.6	$409
Photovoltaics	0.0	$0
Service charge	-	$228
Total	41.9	**$1,046**

*Based on standard operating conditions

ERI with PV:44 **ERI without PV:44**

Annual Estimates

Electric (kWh):2,982.2
Natural Gas (Therms):283.2
CO2 Emissions (Tons):12.6

Maximum Energy Rating Index:55 | This Home's Energy Rating Index:44 | PASS

This home MEETS the Energy Rating Index Score requirement of 2021 IECC R-406 for Climate Zone 5. It MEETS all of the requirements verified by Ekotrope. Mandatory requirements are summarized on the 2nd page of this report, some of which are not verified by Ekotrope.

Name:
Organization:
Signature:
Digitally signed:

Figure 2. Example of a 2021 IECC R-406 Projected Energy Rating Index Report, which does not show compliance with 2025 Denver Energy Code Section R406.4.

B. *Compliance Report for Certificate of Occupancy (R405.3.2.2 and R406.7.2.2)*

A site-specific energy analysis report of the as-built building shall be submitted before the certificate of occupancy is issued. The final confirmed certificate shall be based on inspection and indicate the confirmed rated design of the built home complies with DEC Section R405.3 (for projects following the TBP compliance option) or DEC Sections R406.2 and R406.4 (for projects following the ERI compliance option). The report shall include all information listed in R405.3.2.2 for projects following the TBP compliance option or R406.7.2.2 for projects following the ERI compliance option.

Final confirmed compliance reports must include a registry ID from the overseeing organization (e.g. RESNET) (see Figures 3a – 3c for examples). "Field Confirmed" reports shall not be accepted unless an Administrative Modification has been submitted and approved for an alternative Quality Assurance program (see Figures 4a and 4b for examples).

Figure 3a. Example of a Home Energy Rating Certificate from a Registered Final Confirmed Compliance Report showing a valid Registry ID. The Home Energy Rating Certificate can only be printed in a Final Report that has been registered with the overseeing organization.

Figure 3b. Example of a Building Specification Summary from a Registered Final Confirmed Compliance Report showing the report has been registered with the with the overseeing organization (e.g. RESNET).

Figure 3c. Example of an IECC 2021 Performance Compliance report from a Registered Final Confirmed Compliance Report showing the report has been registered with the with the overseeing organization (e.g. RESNET). IECC 2021 Performance Compliance Report is used to show compliance for projects following the TBP compliance option.

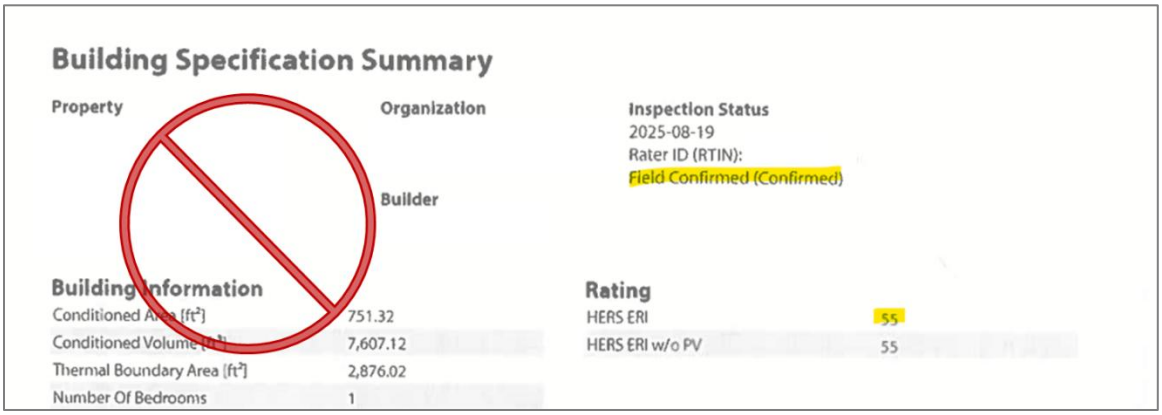


Figure 4a. Example of a Building Specification Summary from a "Field Confirmed" Compliance Report, which has not been registered with the overseeing organization. "Field Confirmed" reports shall not be accepted unless an Administrative Modification has been submitted and approved for an alternative Quality Assurance program.

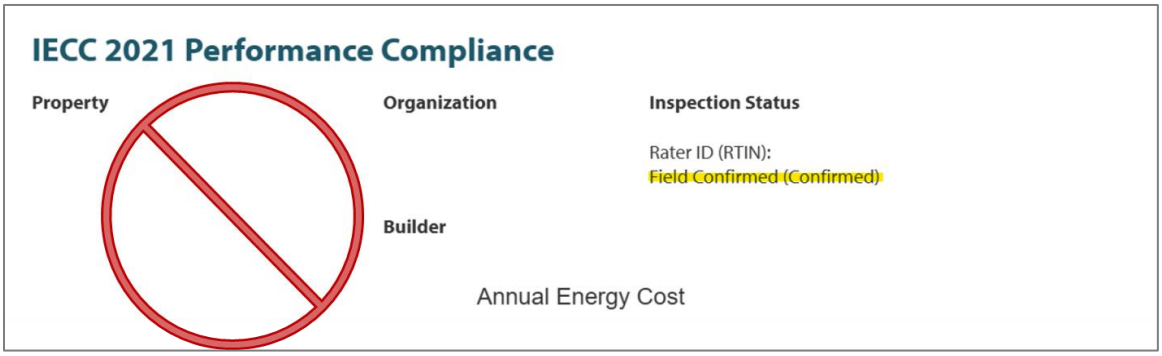


Figure 4b. Example of a IECC 2021 Performance Compliance report from a "Field Confirmed" Compliance Report, which has not been registered with the overseeing organization. "Field Confirmed" reports shall not be accepted unless an Administrative Modification has been submitted and approved for an alternative Quality Assurance program.

III. Required Testing Reports for Certificate of Occupancy

Before the certificate of occupancy may be issued, air leakage (blower door), duct leakage, and mechanical ventilation system testing results must be provided to the code official in accordance with DEC Section R105.2.5.1. The tests must be conducted by an approved tester as defined in ANSI/RESNET/ICC 301 who is a third party not affiliated with the building construction.

Written reports of the results of the tests shall be signed by the party conducting the tests and shall show compliance with DEC Sections R402.4.1.2, R403.3.6, and R403.6.3, respectively. Testing results shall be provided in the format of a report generated from an approved software (TecTite, RetroTec or an approved equivalent) or a letter or report that includes all minimum information required in ANSI/RESNET/ICC 380 – see Figure 5 for an example. Reports that list only the test result value without the minimum required information listed below will not be accepted. An optional report template is available for download on Denver's Residential Energy Checklists and Submittal Templates webpage.

Minimum required report information:

- **General information for all test reports:**
  - Permit holder information (business name, email, primary contact)
  - Project and site information (address, dwelling type)
  - Testing company, approved tester, certification type & ID, and instrumentation used
  - Date/time of test, indoor/outdoor temperatures and weather conditions
- **R402: Air Leakage (Blower Door) Testing Report:**
  - Building type and geometry (conditioned floor area, number of above grade stories, volume, envelope area, elevation, and target envelope air leakage metric)
  - Description or photos of building preparation
  - Test setup and procedure (single-point or /multi-point; pressurization or depressurization)
  - Measured baseline pressure and air density correction factor
  - Results and calculations reported as ACH50, CFM50/exposed envelope area, effective leakage area (ELA), ACH_n, and N-factor (if applicable)
- **R403: Duct Leakage Testing Report:**
  - System geometry, area(s) served, system preparation, and test setup
  - Construction phase (rough-in or final) and installed equipment at time of testing
  - Air temperature during the test and air density correction factor
  - Photo of manometer displaying results
  - Results reported as CFM25 compared to the applicable code target (for each ducted system)
- **R403: Mechanical Ventilation System Testing Reports:**
  - Description of ventilation system (type, runtime per hour, fan power, recovery efficiency when applicable)
  - Measurement type, equipment used, test preparation steps, test locations, and system operating status (heating, cooling, circulation)
  - Air density correction factor calculations
  - Photo of equipment displaying the measured results
  - Measured airflow rates per terminal/location and total system flow compared to the code target

IV. Certificate (R401.3)

A completed certificate in accordance with DEC Section R401.3 must be submitted to the *code official* before the certificate of occupancy is issued. The Residential Energy Efficiency Certificate of Compliance form can be found at the end of this document. Alternate certificate formats are accepted if all required information is included (reference DEC Section R401.3). For projects following the Energy Rating Index (ERI) or Total Building Performance (TBP) Compliance Options, the Home Energy Rating Certificate or equivalent summary certificate from the registered final confirmed compliance report may be used to satisfy the certificate requirements provided the code edition and on-site photovoltaic panel system information is included, as applicable.

The City and County of Denver Residential Energy Efficiency Certificate of Compliance is only used for compliance with DEC Section R401.3. This form does not satisfy the final confirmed compliance report requirements for the Energy Rating Index (ERI) or Total Building Performance (TBP) Compliance Options.

V. Envelope Requirements for Additions

New additions following the prescriptive compliance option are exempt from air leakage testing per DEC Section R502.3.1. If the addition fails to exhibit complete envelope tightness elements based on physical inspection, the building official may require additional Denver Energy Code compliance verification through a third-party inspection performed in accordance with DEC Section R402.4.1.1. The third-party inspection report shall identify and state as meeting, at least, minimum DEC criteria for each component listed in DEC Section R402.4.1.1 and shall be provided to the Agency prior to the project's final inspection.

Alternatively, where additional compliance verification is required by the building official, air leakage testing may be submitted in place of the third-party inspection report outlined above. The air leakage rate of the addition shall comply where the air leakage rate of the existing building, the addition, and any alterations that are part of the project, it less than or equal to the air leakage rate of the existing building, or where the air leakage rate of the existing building, the addition, and any alterations that are part of the project meets the meets the air leakage rate requirements of DEC Section R402.1.2. The air leakage (blower door) test results shall be provided to the Agency prior to the project's final inspection.

VI. Forms

Attached (below on pages 9 and 10 of this document).

WRITTEN BY:
Rachel Vranizan, P.E.
Energy Plans Review Engineer

REVIEWED BY:
Linda Morrison, P.E., BEMP
Energy Plan Review Supervisor

Todd Miller
Manager of Building Inspections /
Deputy Building Official

APPROVED BY:
Eric Browning, P.E.
Chief Building Official

END OF DOCUMENT (FORMS FOLLOW)

ENERGY EFFICIENCY CERTIFICATE OF COMPLIANCE (ALL COMPLIANCE OPTIONS)
CITY & COUNTY OF DENVER
COMMUNITY PLANNING & DEVELOPMENT

Address:	
Permit Record ID:	
Code Edition:	

Residential Compliance Option (ONLY ONE SHALL APPLY)

☐ Prescriptive (U-factor or R-value Tables)	☐ Prescriptive (Total UA Alternative)	☐ Total Building Performance	☐ Energy Rating Index (ERI) Confirmed ERI Score:

Testing Results

Building Envelope Air Leakage Air Changes Per Hour @ 50 Pascals (ACH50):	Duct System Air Leakage (cfm per 100sf): ☐ N/A (ductless system) ☐ Rough-in Testing -or- ☐ Post Construction Testing

Component Values

Ceiling Insulation R-value:	Heating System Type, Size and Efficiency:
Above Grade Walls Insulation R-value:	
Floor Insulation R-value:	
Slab Insulation R-value: Location: ☐ Interior ☐ Exterior	Cooling System Type, Size and Efficiency:
Basement Wall Insulation R-value:	Water Heating Type, Size and Efficiency:
Crawl Space Insulation R-value:	On-site Photovoltaic Panel System (if applicable) Array capacity: Inverter efficiency: Panel tilt and orientation:
Ducts in Unconditioned Space Insulation R-value (Supply/Return):	
Fenestration U-factor / SHGC:	
Skylight U-factor / SHGC:	On-site Renewable (non-PV) Energy System Specifications (if applicable):

I (builder or other approved party) certify the information contained on the certificate is true and complete:

(Print) Full Name: Signature: _____ Date:

The energy Efficiency Certificate of Compliance shall be completed and posted as outlined in DEC Section R401.3 Certificate.

ENERGY EFFICIENCY CERTIFICATE OF COMPLIANCE (ALL COMPLIANCE OPTIONS)
CITY & COUNTY OF DENVER
COMMUNITY PLANNING & DEVELOPMENT

TABLE R408.1 ADDITIONAL ENERGY EFFICIENCY CREDIT		
Measure Description	Credit Value	Selected
R408.2: Energy Star Appliances	4	☐
R408.3.1: ≥ 5% reduction in total UA	2	☐
R408.3.2: ≥ 7.5% reduction in total UA	3	☐
R408.3.3: > 10% reduction in total UA	4	☐
R408.4.1: ≤ 2 ACH50 air leakage rate	2	☐
R408.4.2: ≤ 1 ACH50 air leakage rate	3	☐
R408.5: ≤ 2 CFM of total duct leakage	2	☐
R408.6: Ducts in Conditioned Space	5	☐
R408.7.1: High Performance Cooling (SEER2 ≥ 15.2)	1	☐
R408.7.2: Premium Performance Cooling (SEER2 ≥ 20.9)	2	☐
R408.8.1: High Performance Gas Space Heating (AFUE ≥ 95%)	2	☐
R408.8.2: High Performance Electric Space Heating (COP ≥ 1.75 @ 5°F, HSPF2 ≥ 9 (non-ducted), 7.7 (ducted), total electric resistance load ≤ 1.35 W/sf or 3 kw)	8	☐
R408.8.3: Premium Performance Electric Space Heating (R408.8.2 + HSPF2 ≥ 9.5)	10	☐
R408.9.1: Heat Recovery Ventilation (SRE ≥ 75%)	4	☐
R408.9.2: High Performance Heat Recovery Ventilation (SRE ≥ 90%)	7	☐
R408.10.1: High Performance Gas Water Heating (UEF ≥ 0.82)	2	☐
R408.10.2: High Performance Electric Water Heating in conditioned space (UEF ≥ 2.0)	6	☐
R408.10.3: High Performance Electric Water Heating in unconditioned space (UEF ≥ 2.0)	4	☐
R408.10.4: Premium Performance Electric Water Heating in conditioned space (UEF ≥ 3.1)	8	☐
R408.10.5: Premium Performance Electric Water Heating in unconditioned space (UEF ≥ 3.1)	5	☐
R408.11.1: Wastewater Heat Recovery (HRE ≥ 50%)	2	☐
R408.11.2: High Performance Wastewater Heat Recovery (HRE ≥ 65%)	3	☐
R408.12: High Efficacy Lighting (lamps ≥ 90 lm/W, luminaires ≥ 55 lm/W)	2	☐
R408.13: Demand Responsive Thermostats	1	☐
R408.14: Controls	1	☐
	Total	

I (builder or other approved party) certify the information contained on the certificate is true and complete:

(Print) Full Name: _____ Signature: _____ Date: _____

The energy Efficiency Certificate of Compliance shall be completed and posted as outlined in DEC Section R401.3 Certificate.