

# **Submittal Documents for Residential 2021 IECC Compliance Paths Building Codes Support Program**

## **Construction Documents Required for Every Submittal Regardless of Compliance Path**

1. Energy Compliance Path
2. Insulation materials and their R-values
3. Fenestration U-factors and SHGC
4. Area-weighted U-factors and SHGC calculations (If applicable)
5. Mechanical system design criteria
6. Mechanical and service water heating system and equipment types, sized and efficiencies
7. Equipment and system controls
8. Duct sealing, duct and pipe insulation, and location
9. Air sealing details to verify compliance with Table R402.4.1.1
10. Building thermal envelope depicted
11. Provide an ACCA Manual J or other approved calculations for heating and/or cooling loads
12. Provide an ACCA Manual S for equipment sizing
13. Provide an ACCA Manual D for duct design (If applicable)
14. Documentation for mechanical ventilation, type of ventilation, CFM, and efficiency. R403.6

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**Residential – Prescriptive (3 options available)**

## **Insulation and fenestration criteria (Previously the U -factor Alternative)**

1. Provide additional efficiency package option according to section R408.2
2. Documentation of the wall, floor, ceiling/roof assemblies U-Factor values by component and as an assembly demonstrating the assembly that represents the thermal envelope meets the requirements of the U-Factor Table R402.1.2 in Chapter 4.
3. Documentation for energy conservation measures for service water heating.
4. Documentation that shows all lighting is high efficacy and show interior and exterior lighting controls.

## **R-value Alternative**

1. Provide additional efficiency package option installed according to section R408.2
2. Provide R-value of insulation in the thermal envelope that shows compliance with Table R402.1.3.
3. Documentation for energy conservation measures for service water heating.
4. Documentation that shows all lighting is high efficacy and show interior and exterior lighting controls.

## **Total UA Alternative (REScheck)**

1. Provide additional efficiency package option installed according to section R408.2
2. Provide an area-weighted U-Factor report; The thermal envelope must show the location of insulation. The wall assembly that represents the thermal envelope must meet the requirements of the U-Factor table shown in Chapter 4. The UA calculation must be performed using a method consistent with ASHRAE.
3. Documentation for energy conservation measures for service water heating
4. Documentation that shows all lighting is high efficacy and show interior and exterior lighting controls.

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## Total Building Performance Path

1. Provide option chosen for the Additional Energy Efficiency referenced in section R401.2.5 # 2.
2. Documentation of the software used for the performance design and the parameters for the building are required and shall include...
  - a. Compliance software tools that verify the methods and accuracy of the software conform to the IECC. Must be provided to the code official.
  - b. A compliance report for permit application that generates documents that show **the proposed design** will have an annual energy cost that is less than or equal to the annual energy cost of the standard reference design. The report must also include the building address; an inspection checklist; a site-specific energy analysis report; the name of the individual performing the report; the name and version of the compliance software; a certificate indicating the building passes the performance matrix for code compliance and indicating the energy saving features of the building/s (required for C.O).
  - c. Documentation of the standard reference design
  - d. Certificate signed by the builder providing the building component characteristics of the proposed design
  - e. Documentation of the actual values used in the software calculations for the proposed design.
3. Inspection Checklist
4. Documentation for energy conservation measures for service water heating.

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## Energy Rating Index (ERI) Path

1. Provide documentation of the Additional Energy Efficiency referenced in section R401.2.5 #3.
2. Documentation from a third-party that shows compliance based on an ERI analysis that the rated design be shown to have an ERI less than or equal to the appropriate value indicated in the index and when compared to the ERI reference design. The ERI index is determined in accordance with RESNET. Documentation used to determine the ERI of the rated design...
  - a. RESNET software
  - b. A compliance report that documents the ERI of the rated design. To include address of the residential building, and inspection checklist, name of individual completing report, and name and version of compliance software.
  - c. Performance analysis tools and documentation demonstrating the approval of performance analysis tools
  - d. Where calculations require input values not specified by IECC, those input values shall be taken from RESNET.
  - e. Documentation of a Renewable Energy Certificate, if applicable.
3. Documentation for energy conservation measures for service water heating.
4. Documentation that shows all lighting is high efficacy and show interior and exterior lighting controls.