



CITY OF SAN ANTONIO
DEVELOPMENT SERVICES DEPARTMENT
P.O. BOX 839966 | SAN ANTONIO TEXAS 78283-3966



TO: Development Services Customers

SUBJECT: **INFORMATION BULLETIN 167**
2018 IECC Residential Inspection Forms

DATE: July 15, 2015 / *Revised December 23, 2016/ October 1, 2018 / Dec 16, 2021*

CREATED BY: Plan Review Division

Purpose:

As a customer service initiative, the Development Services Department (DSD) created this Information Bulletin (IB) 167; re-written to the requirements of the 2018 International Energy Conservation Code (IECC). The Information Bulletin has been revised to reflect the State of Texas use of ResNet as a fourth path of compliance and to reference BuildSA for submittal of forms .

Scope:

The 2018 IECC, Residential Chapters apply to

- Any residential dwelling designed under the International Residential Code including additions. This includes single family and duplex dwelling units, townhomes.
- The residential chapter also applies to dwellings designed under the International Building Code, i.e. the residential portions of any mixed use building, three stories and less, that contains dwelling units, as well as the residential portions of live work units. The 2018 IECC residential chapter also applies to the entire building for Occupancy Groups R-2, R-3 and R-4 buildings, three stories or less in height above grade plane. For groups R-2, R-3 and R-4 buildings that are four stories or more above grade plane, the commercial chapters of the 2018 IECC applies.

Residential Compliance Path Options:

There are four compliance paths under the 2018 IECC and the State of Texas for residential.

Three of the compliance paths requires that certain mandatory provisions of the 2018 IECC be met. Each of the three paths requires their own set of inspections and tests be performed to ensure the design as proposed is correctly built and functions as intended. Depending on the IECC compliance path chosen during design, various inspections will be added to the building permit and thus appropriate information must be submitted to clear those inspections. A Residential Energy Compliance Form (2018 IECC), attached to this Information Bulletin,

The fourth compliance path is the ResNet option, outside of the International Energy Conservation Code. But post construction documentation must be submitted to clear various energy related inspections.

Compliance Path Options and Inspection Requirements – New Buildings:

The following indicate the information needed to submit based on the compliance path:

- A. **Prescriptive/UA Alternative** – Sections R401 through R404:
- Building Envelope Air Leakage Test – This test may only be conducted, submitted and certified by a 3rd party independent certified RESNET energy rater, Texas Licensed Architect/Engineer, or approved alternate
 - HVAC Duct Leakage Test
 - Insulation materials, R-Value, and Continuous Air Barrier as installed
 - Area Weighted Average Maximum/Fenestration U-Factors, Solar Heat Gain Coefficients as installed
 - Mechanical System - whole building mechanical ventilation and insulation
 - Plumbing System - insulation and hot water loop controls
 - Lighting System – percent of high efficacy lamps
- B. **Performance Path** – Sections R405, (and Mandatory R401.3, R402.4, R402.5, R403.1, R403.3.2, R403.3.3, R403.3.5, R403.4, R403.5.1, R403.6, R403.7, R404)
- Performance Path Compliance Report (includes items in R405.4.2.2) – Software printout of energy compliance with as-built information
 - Building Envelope Air Leakage Test – This test may only be conducted, and submitted by a 3rd party independent certified RESNET energy rater, Texas licensed Architect, Engineer or approved alternate.
 - Fenestration U-Factors and Solar Heat Gain Coefficients as installed (Section R402.5)
 - HVAC Duct Leakage Test
 - Mechanical System - whole building mechanical ventilation and insulation
 - Plumbing System - insulation and hot water loop controls
 - Lighting System – percent of high efficacy lamps
- C. **Energy Rating Index Compliance Alternative** – Section R405, (and Mandatory R401.3, R403.5.3)
- ERI Report – As Built submitted from a 3rd Party Energy Rating Company - Software printout of energy compliance with as-built information
 - Plumbing System (Section R403.5.3 piping insulation)
- D. **Home Energy Rating System (HERS) Alternative** – Outside the IECC - Texas House Bill (HB) 3215 amended Sections 388.003(i)(j) and (k) of the Health and Energy Safety Code to allow a building utilizing the Home Energy Rating System (HERS Index) to be considered in compliance with the code, allowed as an option under Texas HB
- ResNet HERS Report – As Built submitted from a Certified ResNet Home Energy Rater - Software printout of energy compliance with as-built information

Compliance Path and Respective Inspection Requirements – Residential Additions

A. Prescriptive Only – Sections R502:

- Insulation materials, R-Value, and Continuous Air Barrier as installed
- Fenestration U-Factors, Solar Heat Gain Coefficients as installed
- Mechanical or Plumbing systems when a new complete system

Batch Testing - Thermal Envelope and Duct Testing for R-2, R-3 and R-4 Occupancies

Batch Testing - For a building having seven (7) or more dwelling units, a minimum of 15% of the dwelling units in each building must be tested as required by Sections R402.4.1.2 - building envelope testing, and R403.3.3 - duct testing. For building with less than seven (7) dwelling units, one unit will be tested. If each tested dwelling unit within the batch meets code requirements, then all dwelling units in the batch are considered to meet code.

Batch Identification and Sampling - The builder shall identify a "batch" which is a building where the dwelling units are completed and ready for testing. The third-party testing contractor randomly selects at least 15% of dwelling units from a batch for testing. All units within the batch must be ready for testing (drywall complete, interior door jams installed, HVAC system installed, and final air sealing completed) before the testing contractor can select the units to be tested.

Failure to Meet Batch and Sampling Code Requirement(s)

1. If any dwelling units within the identified batch fail to meet a code requirement as a result of testing, the builder will be directed to fix the cause(s) of failure, and 30 % of the remaining dwelling units in the batch will be randomly selected for testing regarding the specific cause(s) of failure.
2. If any failures occur in the additional dwelling units, all remaining dwelling units in the batch must be individually tested for code compliance.
3. No building may be issued a Certificate of Occupancy until testing has been performed and passed on the prescribed number of dwelling unit(s) selected for testing as indicated above.

Who May Submit to Clear Inspections:

The City of San Antonio amendments to the 2018 IECC require that the 3rd party testing of the building envelope for leakage be performed, and information submitted by an independent certified RESNET energy rater, Texas Licensed Architect/Engineer, or approved alternate.

Multiple parties therefore may submit documents to clear inspections as follows:

1. Building thermal envelope leakage rate. This section of the Residential Energy Compliance Form (2018 IECC) MUST be submitted by the independent certified RESNET energy rater, Texas Licensed Architect/Engineer, or approved alternate indicating compliance with the 2018 IECC.
2. All the other items on Residential Energy Compliance Form (2018 IECC) may be submitted by the installing company, an architect or engineer, the contractor/home builder, or the 3rd party inspector/company.

Additional Information:

For residential additions, the Approved 3rd Party Residential Energy Compliance Letter (2018) is required. Additionally, the Insulation and Fenestration letters are required for residential additions. Any new complete mechanical, or plumbing hot water system installed, must meet the 2018 IECC.

For R-2, R-3 and R-4 buildings with multiple dwelling units, one set of Energy Compliance Documents shall be submitted that covers compliance for the entire building. Separate documents are not required for each dwelling unit.

Submittal of the Residential Energy Compliance Form must be uploaded to the permit record through the BuildSA Customer Portal:

<https://aca.sanantonio.gov/CitizenAccess/Welcome.aspx>

Under the Building tab, choose the residential new building permit record, open it and under the Record Information tab, upload files under Attachments. Uploading forms located within this IB, will create a city task to clear “Energy Inspections”.

Summary:

This Information Bulletin is for informational purposes only.

Prepared by: Richard Chamberlin, PE, Development Services Engineer

Reviewed by: Richard Chamberlin, PE, Development Services Engineer

Authorized by: Crystal Gonzales, P.E. CBO, Assistant Director



RESIDENTIAL ENERGY COMPLIANCE FORM

Project Street Address: _____

Owner/Builder: _____

Building Permit Number: _____

Compliance Path: Depending on the Compliance Path chosen, the following table indicates which portions of this form are required to be submitted in BuildSA at attachments to the permit record. Submittal of the following (depending on the path) will clear all the Energy inspections on the permit record. Submittal on-line will create a review for the City.

The ERI and the HERS report if not within these forms, rather a printout of testing results during and after construction.

Submittal of the ERI or HERS report is by a ResNet Certified Home Energy Rater.

Prescriptive Path R401 through R404	Simulated Performance R405	Energy Rating Index R406	Home Energy Rating System
<ul style="list-style-type: none"> ▪ Building Envelope Air Leakage Test ▪ HVAC Duct Leakage Test ▪ Insulation materials, R-Value, and Continuous Air Barrier as installed ▪ UA Tradeoff/Fenestration U-Factors, Solar Heat Gain Coefficients as installed ▪ Mechanical System - whole house ventilation and insulation ▪ Plumbing System - insulation and hot water loops ▪ Lighting System – Percent high efficacy lamps 	<ul style="list-style-type: none"> ▪ Performance Path Compliance Report (Report shall include items in R405.4.2.2) ▪ Building Envelope Air Leakage Test ▪ Fenestration U-Factors, Solar Heat Gain Coefficients as installed ▪ HVAC Duct Leakage Test ▪ Mechanical System - whole house ventilation and insulation ▪ Plumbing System - insulation and hot water loops ▪ Lighting System – Percent high efficacy lamps 	<ul style="list-style-type: none"> ▪ ERI Report – As Built (Report printout indicating ERI as built) ▪ Plumbing System - insulation of hot water piping 	<ul style="list-style-type: none"> ▪ ResNet HERS report

3rd Party Building Envelope Air Leakage Tests Test/Inspection Date: _____

By entering AP# & Date above, I certify that the building envelope has been tested per ASTM E 779 or ASTM E 1827 and the air leakage does not exceed five air changes per hour per Section R402.4.1.2 of the 2018 IECC. I have attached the test results. For sampling of dwelling units in R-2, R-3, and R-4 occupancy buildings, the next section on batch testing is required.

Date:	Phone:	Certification Number or Accredited Rating Provider:
Certifying Company Name:		Certifying Company Address:
Certifying Name (print or type):		Signature:

3rd Party Batch Testing of the Building Envelope and Ducts for Air Leakage – R-2, R-3 and R-4 Occupancies (Excludes Single Family, Duplex and Townhomes)

Total Number of Dwelling Units _____ Number of Dwelling Units Tested _____

Duct and HVAC Air Leakage Tests Test/Inspection Date: _____

(For all new buildings as well as residential additions with a separate HVAC system)

By entering AP# & Date above, I certify that the rough-in construction duct test results for air leakage meet the requirement of Section 403.3.3 of the 2018 IECC. I have attached the test results.

By checking the following, and signing below, I certify that the indicated systems were built per the energy conservation as designed, and meets the requirements of the 2018 International Energy Conservation Code

Insulation Materials, R-Value, and Continuous Air Barrier as installed _____

Fenestration U-Factors, Solar Heat Gain Coefficients as installed _____

Mechanical System Insulation, Equipment Size and Efficiencies, and Mechanical Whole Home Ventilation details as installed

Measured whole house ventilation rate (cfm) _____

Timer Settings for percent % run time if ventilation is not continuous: _____

Plumbing System Hot Water Piping Insulation and Controls for Hot Water Loop Systems (if applicable) as installed

R-Value of hot water piping insulation _____

Lighting System as installed

Percent of High Efficacy Lamps as installed _____

CERTIFICATION STATEMENT:

At the time of this test/inspection, all items checked and noted above were tested and/or inspected in accordance with Information Bulletin #167, the requirements of the Residential energy efficiency section of the 2018 International Energy Conservation Code, and were found to be in conformance with the energy model as designed and approved by the City of San Antonio.

Date: Phone:	Company Name
Company Address:	
Certifying Name (print or type):	Certifying Name (Signature):