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Showing Compliance for Additions and Alterations using RES*check* and COM*check*

Pam Cole - Pacific Northwest National Laboratory

U.S. Department of Energy Building Energy Codes Program
Energy Codes Commentator Webinar Series
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ICC Provider Course # 10790
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CONTINUING EDUCATION AIA

ICC PREFERRED EDUCATION PROVIDER

Course Description

This webinar will provide an understanding of how to show compliance using RES*check* and COM*check* for additions and alterations to existing conditioned buildings. Addition projects involve adding new conditioned floor area to an existing conditioned building and are treated as new construction. Alteration projects involve changes to or replacement of existing building components that are part of the building thermal envelope, interior and exterior lighting, heating, ventilation, air conditioning, service water heating and other equipment.

Learning Objectives

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At the end of this course, participants should be able to understand:

- What constitutes an addition versus alteration.
- Residential and commercial alteration exceptions that do not need to meet energy code compliance.
- How to show compliance for residential additions and alterations using RES*check*.
- How to show compliance for commercial additions and alterations using COM*check*.

Session Agenda

- Overview of Residential code requirements – additions, alterations, repairs, change in space conditioning
- Overview of Commercial code requirements – additions, alterations, repairs, change in space conditioning
- Demonstration of code compliance using RES*check*
- Demonstration of code compliance using COM*check*
- Additional resources

Why Care About Energy Codes & Standards?

- Energy codes and standards set minimum efficiency requirements for new and renovated buildings, assuring reductions in energy use and emissions over the life of the building. Energy codes are a subset of building codes, which establish baseline requirements and govern building construction.

- Code buildings are more comfortable and cost-effective to operate, assuring energy, economic and environmental benefits.

Status of State Energy Codes

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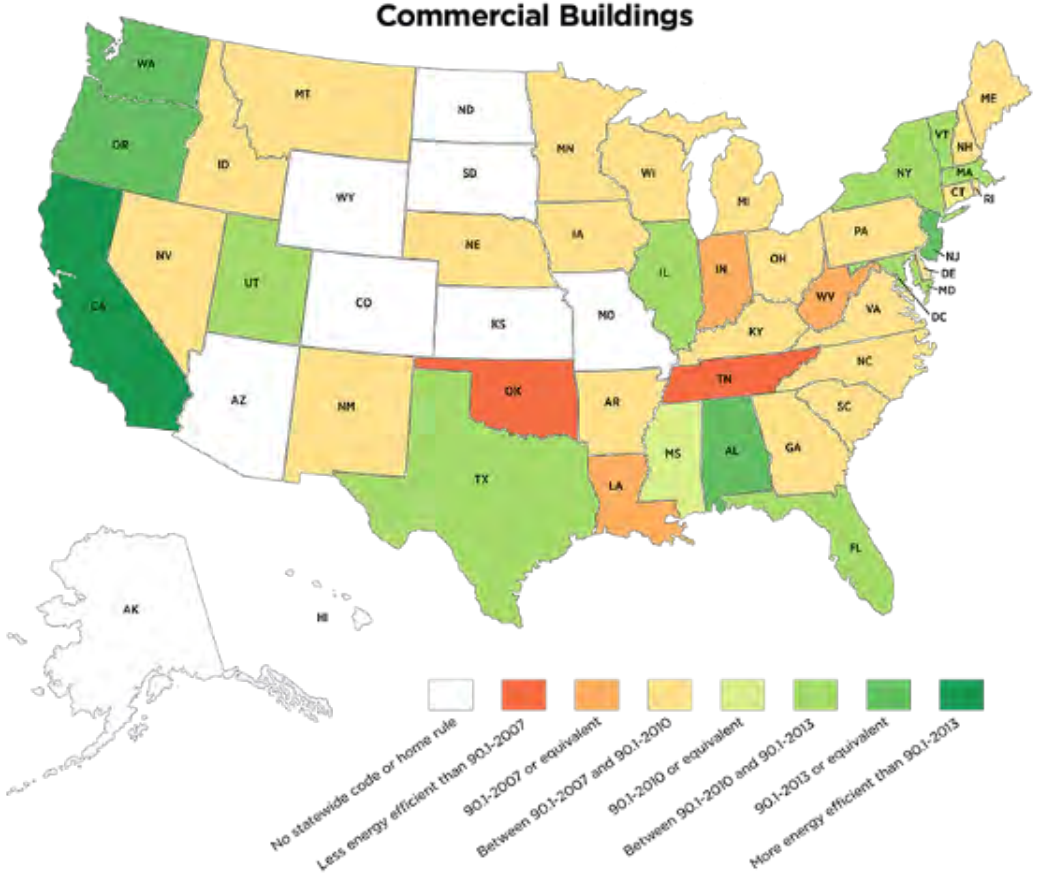
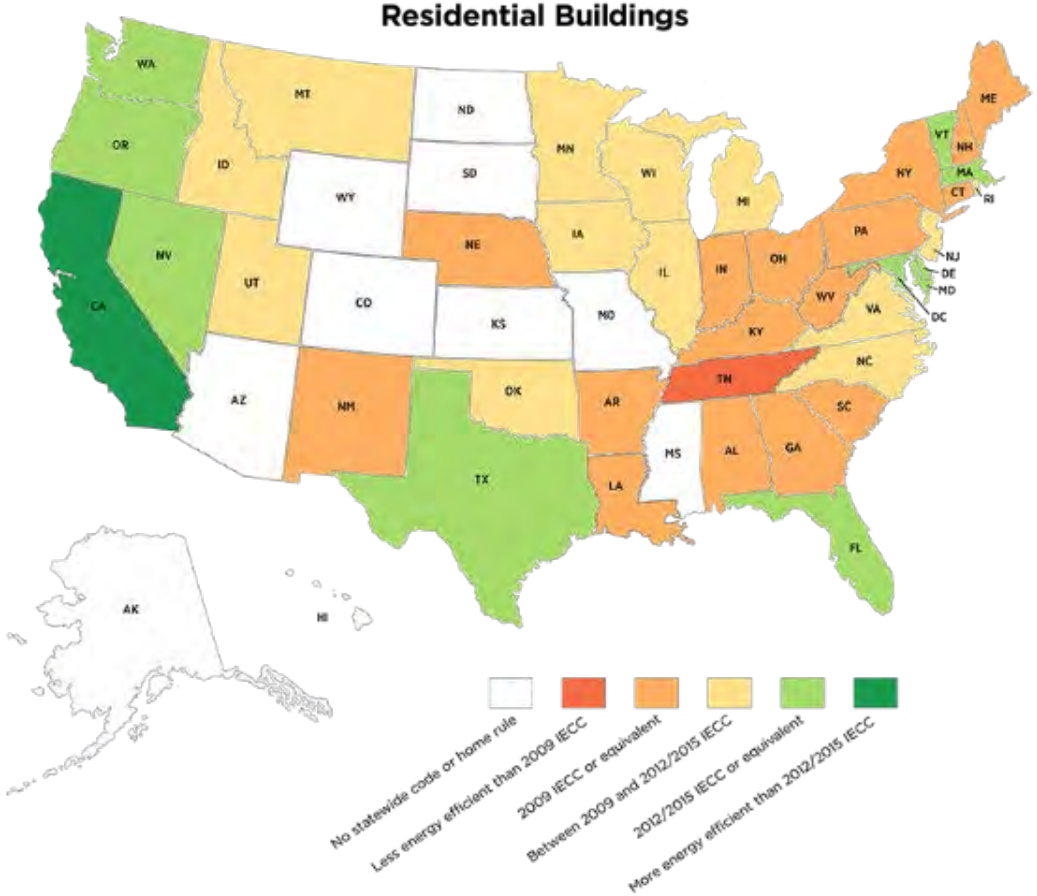
Commercial Buildings



Residential Buildings



The Family of I-Codes

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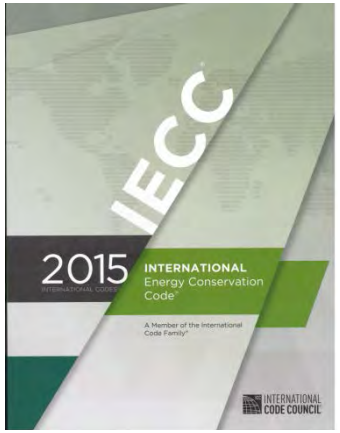
- ✓ International Building Code
- ✓ International Mechanical Code
- ✓ International Fuel Gas Code
- ✓ International Property Maintenance Code
- ✓ International Fire Code
- ✓ International Zoning Code
- ✓ International Plumbing Code
- ✓ International Existing Building Code
- ✓ International Private Sewage Disposal Code
- ✓ International Performance Code
- ✓ International Residential Code
- ✓ **International Energy Conservation Code**
- ✓ International Wildlife-Urban Interface Code



Structure of the 2015 IECC

Ch. 1 Scope and Application / Administrative and Enforcement
Ch. 2 Definitions
Ch. 3 General Requirements
Ch. 4 Commercial Energy Efficiency
Ch. 5 Existing Buildings - NEW
Ch. 6 Referenced Standards Index

Ch. 1 Scope and Application / Administrative and Enforcement
Ch. 2 Definitions
Ch. 3 General Requirements
Ch. 4 Residential Energy Efficiency
Ch. 5 Existing Buildings - NEW
Ch. 6 Referenced Standards Index

Chapter 1 - Scope
Section R101/C101

Residential Buildings:

- ✓ Detached one- and two-family dwellings, multiple single-family dwellings (townhouses), and Group R-2, R-3, R-4 ≤ 3 stories in height above grade plane

Commercial Buildings:

- ✓ All buildings other than residential
- ✓ Includes high-rise multi-family > 3 stories in height above grade plane

All buildings that are not "residential" by definition are "commercial"

Chapter 1 - Scope
Section R101.4.1/C101.4.1 - Mixed Occupancy
Section R101.5/C101.5 - Compliance

- ✓ Treat the residential occupancy under the applicable residential code
- ✓ Treat the commercial occupancy under the commercial code
- ✓ Code Official has final authority
  - Compliance materials, software, worksheets

Chapter 1 - Scope
Section R103/C103 – Construction Documents

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RESIDENTIAL:

- ✓ Insulation materials and R-values
- ✓ Fenestration U-factors, SHGC
- ✓ Area-weighted U-factor and SHGC calculations
- ✓ Mechanical, SWH, equipment types, sizes, and efficiencies
- ✓ Equipment and system controls
- ✓ Duct sealing, duct and pipe insulation and location
- ✓ Air sealing details

- ✓ Documentation shall be prepared by a registered design professional (where required)
- ✓ Electronic media can be used

COMMERCIAL:

- ✓ Insulation materials and R-values
- ✓ Fenestration U-factors, SHGC
- ✓ Area-weighted U-factor and SHGC calculations
- ✓ Mechanical system design criteria
- ✓ Mechanical, SWH, equipment types, sizes, and efficiencies
- ✓ Economizer description
- ✓ Equipment and system controls
- ✓ Duct sealing, duct and pipe insulation and location
- ✓ Lighting fixture schedule with wattage and control narrative
- ✓ Location of daylight zones
- ✓ Air sealing details

Chapter 1 – Scope
Section R104/C104 - Inspections

- ✓ Construction work for which a permit is required is subject to inspection by code official or designated agent
- ✓ Required inspections include:

RESIDENTIAL:

- Footing and foundation
- Framing and rough-in
- Plumbing rough-in
- Mechanical rough-in
- Final

COMMERCIAL:

- Footing and foundation
- Framing and rough-in
- Plumbing rough-in
- Mechanical rough-in
- Electrical rough-in
- Final

Chapter 5 - Existing Buildings -- NEW

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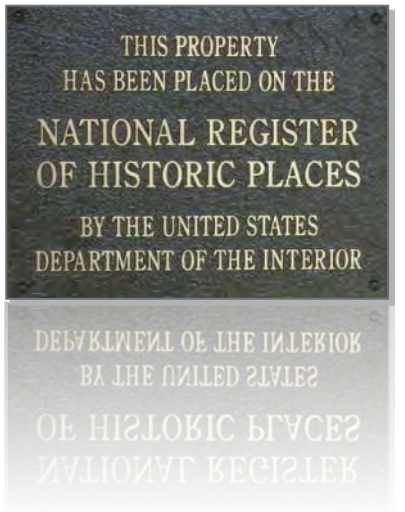
Residential:	Commercial:
R501 General	C501 General
R502 Additions	C502 Additions
R503 Alterations	C503 Alterations
R504 Repairs	C504 Repairs
R505 Change of Occupancy or Use	C505 Change of Occupancy or Use

Chapter 5 – Existing Buildings
Section *R501/C501* - General

- R501.4/C501.4 Compliance – Alterations, repairs, additions, and change of occupancy to, or relocation of, existing buildings and structures comply with the provisions respectively in the IRC (residential only), IBC, IFC, IFGC, IMC, IPB, IPMC, IPSDC, and NFPA 70.



Additions, alterations, or repairs to an existing building, building system or portions of must comply

Unaltered portions of the existing building or building supply system shall not be required to comply with this code

Historic buildings – no provision of the code related to the construction, repair, alteration, restoration and movement of structures, and change of occupancy shall be mandatory for historic buildings provided a report has been submitted to the code official and signed by the owner, a registered design professional or representative of the State Historic Preservation Office or the historic preservation authority having jurisdiction demonstrating that compliance with that provision would threaten, degrade or destroy the historic form, fabric or function of the building.

Residential Existing Buildings
Section R502 - Additions

- ✓ Additions comply if any of the following is demonstrated
  - ✓ The addition alone complies with the provisions of this code
  - ✓ The existing building and addition together comply as a single building
  - ✓ The existing building and addition together use no more energy than the existing building

Residential Existing Buildings
Section R502 - Additions

- ✓ Additions to comply in accordance with
  - ✓ Section R502.1.1 Prescriptive Compliance OR
  - ✓ Section R502.1.2 Existing plus addition (Simulated Performance Alternative)

- ✓ Prescriptive requirements in Table R402.1.2 or R402.1.4 *(R-value computation or U-factor or total UA alternatives)*

Insulation and Fenestration Requirements by Climate Zone

Table R402.1.2
Insulation and Fenestration Requirements by Component

CLIMATE ZONE	FENESTRATION U-FACTOR[b]	SKYLIGHT[b] U-FACTOR	GLAZED FENESTRATION[b,e] SHGC	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE[i]	FLOOR R-VALUE	BASEMENT[c] WALL R-VALUE	SLAB[d] R-VALUE & DEPTH	CRAWL SPACE[c] WALL R-VALUE
1	NR	0.75	0.25	30	13	3 / 4	13	0	0	0
2	0.40	0.65	0.25	38	13	4 / 6	13	0	0	0
3	0.55	0.55	0.25	38	20 or 13+5[h]	8 / 13	19	5 / 13[f]	0	5 / 13
4 except Marine	0.35	0.55	0.40	49	20 or 13+5[h]	8 / 13	19	10 / 13	10, 2ft	10 / 13
5 and Marine 4	0.32	0.55	NR	49	20 or 13+5[h]	13 / 17	30[g]	10 / 13	10, 2 ft	15 / 19
6	0.32	0.55	NR	49	20 +5 or 13+10[h]	15 / 20	30[g]	15 / 19	10, 4 ft	15 / 19
7 and 8	0.32	0.55	NR	49	20 +5 or 13+10[h]	19 / 21	38[g]	15 / 19	10, 4 ft	15 / 19

Residential Existing Buildings
Section R502 - Additions

- Heating and cooling system – new heating, cooling and duct system that are part of the addition comply with Sections R403.1, R403.2, R403.3, R403.5 and R403.6
  - Exception: where ducts from an existing heating and cooling system are extended to an addition, duct systems with less than 40 linear feet in unconditioned spaces not required to be tested in accordance with Section R403.3.3
- Service hot water (SHW) systems – new SHW systems that are part of the addition to comply with Section R403.4
- Lighting – new lighting systems that are part of the addition comply with Section R404.1
  - Not less than 75% of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps or not less than 75% of the permanently installed lighting fixtures shall contain only high-efficacy lamps
    - Exception: low-voltage lighting

Residential Existing Buildings
Section R503 - Alterations

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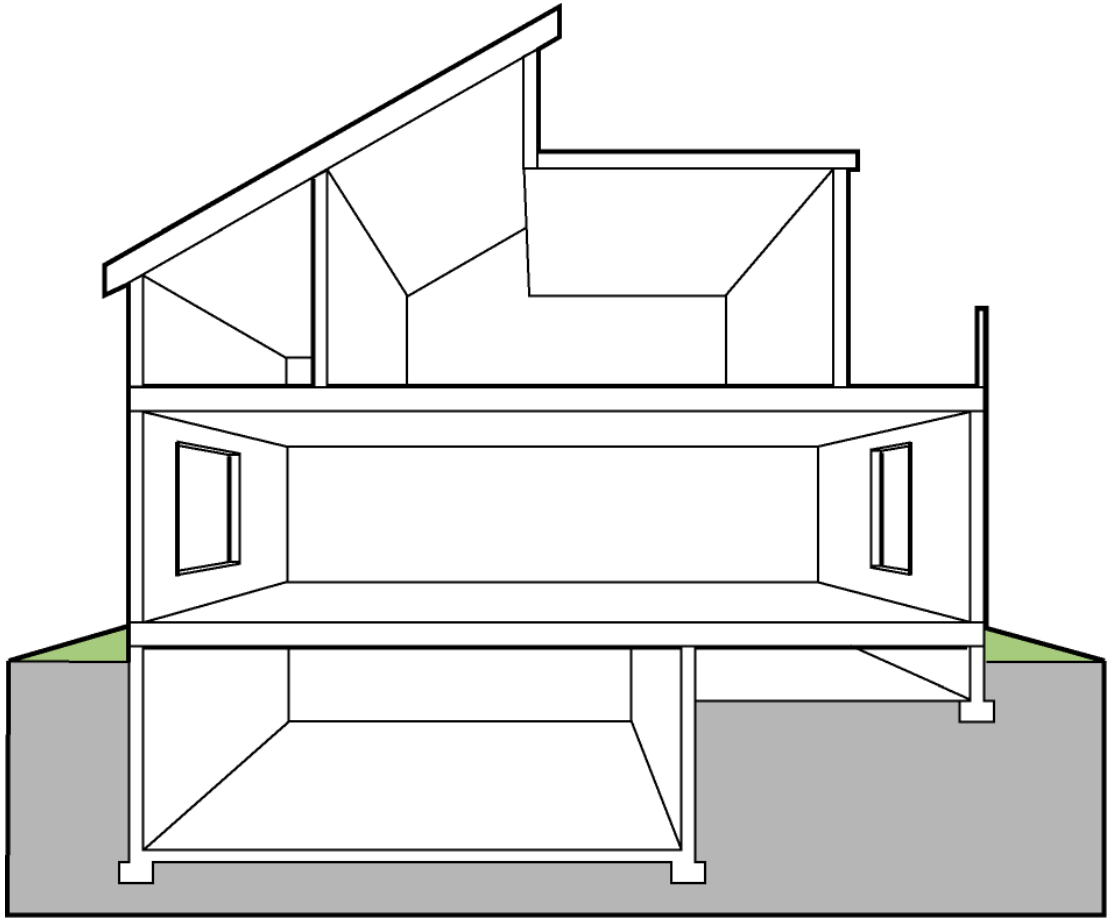
Code applies to any new construction

Unaltered portion(s) do not need to comply

(R503.1.1.1) Replacement fenestration that includes both glazing and sash must meet

- ✓ 0.25 SHGC in **Climate Zones 1-3**
- ✓ 0.40 SHGC in **Climate Zone 4 except Marine**
- ✓ U-factors in all **Climate Zones 1-8**



Residential Existing Buildings
Section R503 - Alterations

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Building Envelope

Exceptions:

- ✓ Storm windows over existing fenestration
- ✓ Surface-applied window film installed on existing single pane
- ✓ Exposed, existing ceiling, wall or floor cavities if already filled with insulation
- ✓ Where existing roof, wall or floor cavity isn't exposed
- ✓ Roof recover
- ✓ Roofs without cavity insulation and where the sheathing or insulation is exposed during reroofing
  - Insulate either above or below the sheathing

Lighting

Exceptions:

- ✓ <50% of luminaires in a space are replaced
- ✓ Only bulbs and ballasts within existing luminaires are replaced (provided installed interior lighting power isn't increased)

Residential Existing Buildings
Section R503 - Alterations

- Heating and Cooling
  - New HVAC systems and duct systems that are part of the alteration to comply with Sections 403.1, R403.2, R403.3 and R403.6
    - Exception: Where ducts from on existing HVAC system are extended, duct systems with < 40 linear feet in unconditioned spaces are not required to be tested in accordance with Section R403.3.3
- SHW systems
  - New SHW systems that are part of the alteration to comply with R403.4
- Change in space conditioning
  - Any nonconditioned or low-energy space that is altered to become conditioned space shall be required to be brought into full compliance
    - Exception: where the simulated performance option in Section R405 is used to comply, the annual energy cost of the proposed design is permitted to be 110% of the annual energy cost otherwise allowed by Section R405.3

Residential Existing Buildings
Section R504 - Repairs

- Work on nondamaged components necessary for the required repair or damaged components shall be considered part of the repair and are not subject to the alterations requirements
- Repairs considered part of the code
  - Glass-only replacements in an existing sash and frame
  - Roof repairs
  - Repairs where only the bulb and/or ballast within the existing luminaires in a space are replaced provided the replacement does not increase the installed interior lighting power

Residential Existing Buildings
Section R505- Change of Occupancy or Use

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- Spaces undergoing a change in occupancy that would result in an increase in demand for either fossil fuel or electrical energy
- Any space converted to a dwelling unit or portion thereof from another use of occupancy
- Exception: where the simulated performance option in Section R405 is used to comply with this section, the annual energy cost of the proposed design is permitted to be 110% of the annual energy cost otherwise allowed by Section R405.3

Existing Buildings Chapter 5 -- NEW

Residential:	Commercial:
R501 General	C501 General
R502 Additions	C502 Additions
R503 Alterations	C503 Alterations
R504 Repairs	C504 Repairs
R505 Change of Occupancy or Use	C505 Change of Occupancy or Use

Additions, alterations, or repairs to an existing building, building system or portions of must comply

Unaltered portions of the existing building or building supply system shall not be required to comply with this code.

Historic buildings – no provision of the code related to the construction, repair, alteration, restoration and movement of structures, and change of occupancy shall be mandatory for historic buildings provided a report has been submitted to the code official and signed by the owner, a registered design professional or representative of the State Historic Preservation Office or the historic preservation authority having jurisdiction demonstrating that compliance with that provision would threaten, degrade or destroy the historic form, fabric or function of the building.

Commercial Existing Buildings
Section C502 - Additions

Any nonconditioned space that is altered to become conditioned space shall be required to be brought into full compliance with this code.

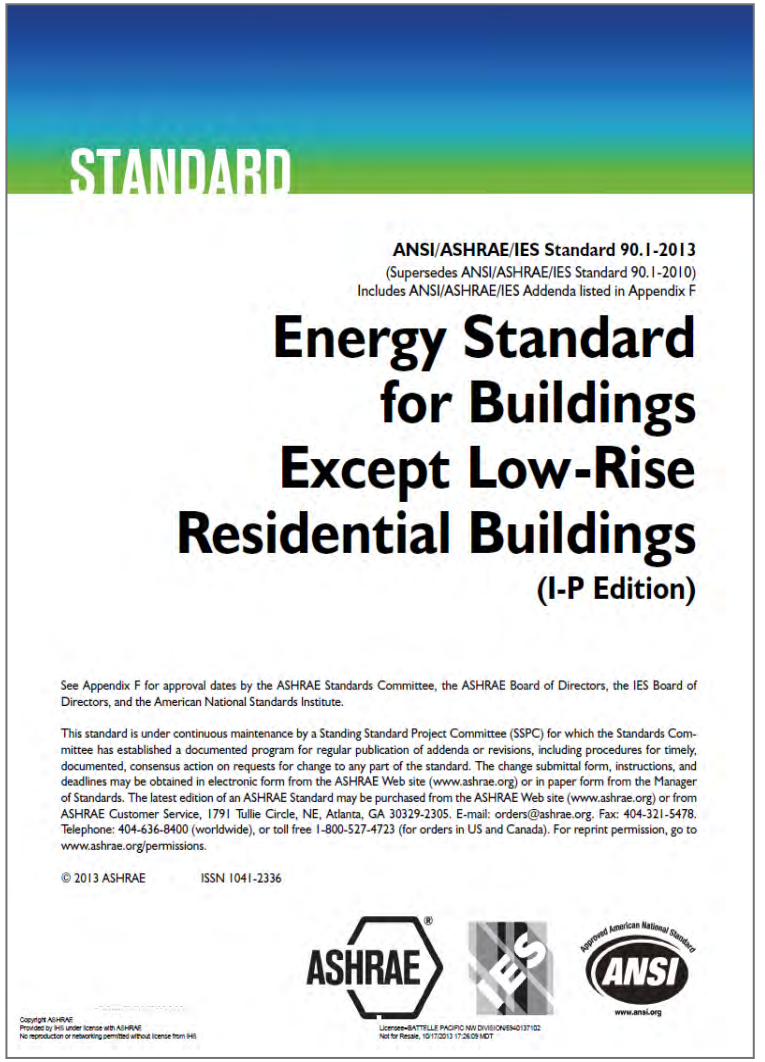
Additions that comply with ASHRAE 90.1-2013 do not need to comply with C402-C405.

Examples:

- ✓ Converting part of an unconditioned warehouse to office space
- ✓ Converting an old factory building to condominiums or apartments
- ✓ Shell building tenant build-out

Structure of Standard 90.1-2013

- 1 Purpose
- 2 Scope
- 3 Definitions, Abbreviations, and Acronyms
- 4 Administration and Enforcement
- 5 Building Envelope
- 6 Heating, Ventilating, and Air Conditioning
- 7 Service Water Heating
- 8 Power
- 9 Lighting
- 10 Other Equipment
- 11 Energy Cost Budget Method
- 12 Normative References
- Normative Appendices A-G


STANDARD

ANSI/ASHRAE/IES Standard 90.1-2013
(Supersedes ANSI/ASHRAE/IES Standard 90.1-2010)
Includes ANSI/ASHRAE/IES Addenda listed in Appendix F

Energy Standard for Buildings Except Low-Rise Residential Buildings
(I-P Edition)

See Appendix F for approval dates by the ASHRAE Standards Committee, the ASHRAE Board of Directors, the IES Board of Directors, and the American National Standards Institute.

This standard is under continuous maintenance by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. The change submittal form, instructions, and deadlines may be obtained in electronic form from the ASHRAE Web site (www.ashrae.org) or in paper form from the Manager of Standards. The latest edition of an ASHRAE Standard may be purchased from the ASHRAE Web site (www.ashrae.org) or from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: orders@ashrae.org. Fax: 404-321-5478. Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

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ASHRAE IES ANSI

Commercial Existing Buildings
Section C502 - Additions

Vertical fenestration: new fenestration that results in a total building fenestration area ≤ 30% must comply with C402.4

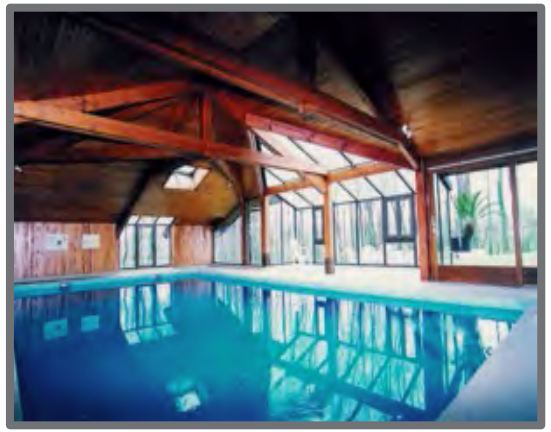
- If > 30% for total building or addition alone, must comply with C402.4.1.1 Increased Vertical Fenestration Area with Daylight Responsive Control for the addition only
- Additions that result in total building vertical glass >40% must comply with C407 Total Building Performance

Skylight Area: new skylight area that is ≤ 3% complies with C402.4

- If > 3% for total building or addition alone, must comply with C402.4.1.2 Increased Skylight Area with Daylight Responsive Control for addition only
- Additions that result in total building skylight area >5% must comply with C407 Total Building Performance

Commercial Existing Buildings
Section C502 - Additions

- Mechanical Systems comply with C403
- SWH – C404
- Pools and inground permanently installed spas – C404.9
- Lighting power and systems – C405
  - Interior complies with addition alone or addition plus existing building
  - Exterior complies with addition alone or addition plus existing



Commercial Existing Buildings
Section C503 - Alterations

Code applies to any new construction

Unaltered portion(s) do not need to comply

Alterations comply with ASHRAE 90.1-2013 do not need to comply with C402-C405

Vertical Fenestration and Skylight Area similar to requirements for additions

Commercial Existing Buildings
Section C503 - Alterations

Exceptions:

- ✓ Storm windows over existing fenestration
- ✓ Surface-applied window film installed on existing single pane
- ✓ Exposed, existing ceiling, wall or floor cavities if already filled with insulation
- ✓ Where existing roof, wall or floor cavity isn't exposed
- ✓ Roof recover
- ✓ Air barriers for roof recover and roof replacement as long as there are no other alterations or repairs to the remainder of the building envelope
- ✓ Lighting alterations if:
  - <10% of luminaires in a space are replaced (See Section C503.6 Lighting Systems)
  - Only bulbs and ballasts within existing luminaires are replaced (provided installed interior lighting power isn't increased)

Commercial Existing Buildings
Section C503 - Alterations

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Change in space conditioning - Any non-conditioned or low energy space that is altered to become conditioned space shall be required to be brought into full compliance with this code

Commercial Existing Buildings
Section C503 - Alterations

- Heating and Cooling
  - New HVAC systems and duct systems that are part of the alteration to comply with Section C403
    - Economizers – new cooling systems that are part of the alteration to comply with Section C403.3
- Service hot water systems
  - New SHW systems that are part of the alteration to comply with C404
- Lighting Systems (C503.6)
  - New Lighting systems that are part of the alteration to comply with C404
    - **Exception** – alteration that replaces **<10%** of the luminaires in a space provided such alteration does not increase the installed interior lighting power

Commercial Existing Buildings
Section C504 - Repairs

- Work on nondamaged components necessary for the required repair or damaged components shall be considered part of the report and subject to the alterations requirements
- Repairs considered part of the code
  - Glass-only replacements in an existing sash and frame
  - Roof repairs
  - Replacement of existing doors that separate conditioned space from the exterior do not require the installation of a vestibule or revolving door, provided that an existing vestibule that separates a conditioned space from the exterior shall not be removed
  - Repairs where only the bulb and/or ballast within the existing luminaires in a space are replaced provided the replacement does not increase the installed interior lighting power

Commercial Existing Buildings
Section C505 – Change in Occupancy

- ✓ Spaces undergoing a change in occupancy that would result in an increase in demand for either fossil fuel or electrical energy shall comply with this code
- ✓ Where the use in a space changes from one to another in Tables C405.4.2(1) or C405.4.2(2), the installed lighting wattage shall comply with Section C405.4

Building Area Type	LPD (w/ft²)
Automotive facility	0.8
Convention center	1.01
Courthouse	1.01
Dining: bar lounge/leisure	1.01
Dining: cafeteria/fast food	0.9
Dining: family	0.95
Dormitory	0.57
Exercise center	0.84
Fire station	0.67
Gymnasium	0.94

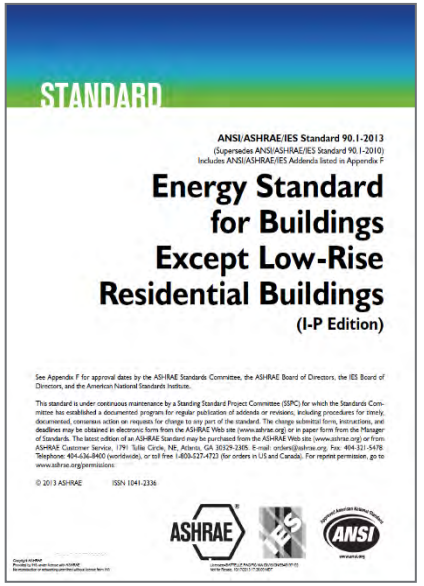
Table C405.4.2(1) (partial table)

Table C405.4.2(2) (partial table)

Common Space-by-Space Types	LPD (w/ft²)
Atrium – First 40 feet in height	0.03 per foot in total height
Atrium – Above 40 feet in height	0.40+0.02 per foot in total height
Audience/seating area – permanent	
In an auditorium	0.63
In a convention center	0.82
In a gymnasium	0.65
In a motion picture theater	1.14
In a penitentiary	0.28
In a performing arts theater	2.43
Classroom/lecture hall/training room	
In a penitentiary	1.34
Otherwise	1.24

90.1-2013 – Section 5
Envelope Alteration Exceptions

- ✓ Installation of storm windows or glazing panels
- ✓ Replacement of glazing in existing sash and frame
- ✓ Alterations to envelope cavities provided they are insulated to full depth with a nominal R-3.0 per in.
- ✓ Wall and floor alterations where no new cavities are created
- ✓ Roof recovering
- ✓ Removal and replacement of roof membranes
- ✓ Replacement of existing doors
- ✓ Replacement of existing fenestration, provided area of replacement is no more than 25% of total fenestration area



Allowed if they don't increase energy usage of building

90.1-2013 - Section 9
Lighting General – Alterations

- Applies to these retrofits:
  - where luminaires are added, replaced, or removed
  - Replacement of lamp plus ballast in luminaires
- Requires BOTH interior and exterior alterations to comply with Lighting Power Density (LPD) limits and basic after hours automatic shutoff requirements

Exception

Spaces where alterations involve **< 10%** of connected lighting load and the LPD for the space is not increased

90.1-2013 - Section 6 – 6.1.1.3 HVAC Alterations Scope

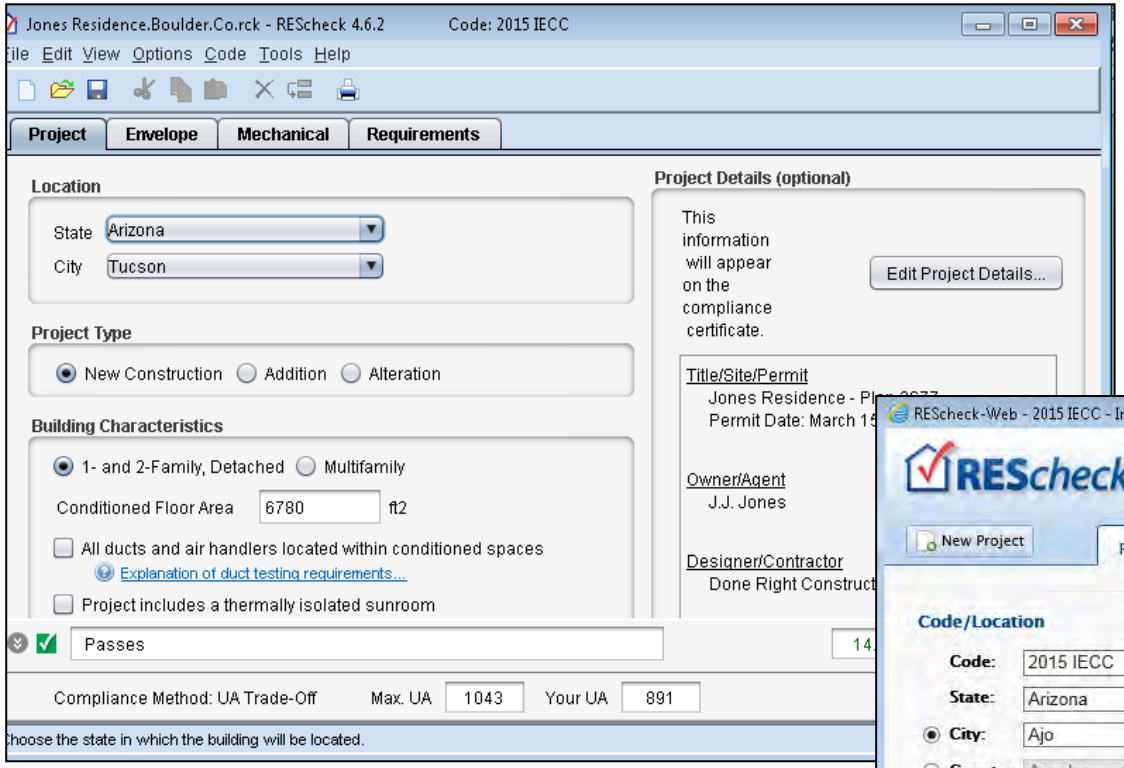
- Equipment
  - New equipment shall meet the minimum efficiency requirements
- Cooling systems
  - New cooling systems installed to serve previously uncooled spaces shall comply with this section
  - Alterations to existing cooling systems shall not decrease economizer capacity (unless economizer tradeoff is used)
- Ductwork
  - New and replacement ductwork shall comply with applicable requirements
- Piping
  - New and replacement piping shall comply with applicable requirements

90.1-2013 - Section 6 – 6.1.1.3 HVAC Alterations

Alterations to the building HVACR system shall comply with the requirements of Section 6

- **Exceptions** that are allowed:
  - Equipment being modified or repaired (not replaced)
    - provided such modifications will not result in an increase in the annual energy consumption
  - Equipment being replaced or altered which requires extensive revisions to other systems and such replaced or altered equipment is a like-for-like replacement
  - Refrigerant change of existing equipment
  - Relocation of existing equipment
  - Ducts and pipes where there is insufficient space or access to meet these requirements

https://www.energycodes.gov/rescheck



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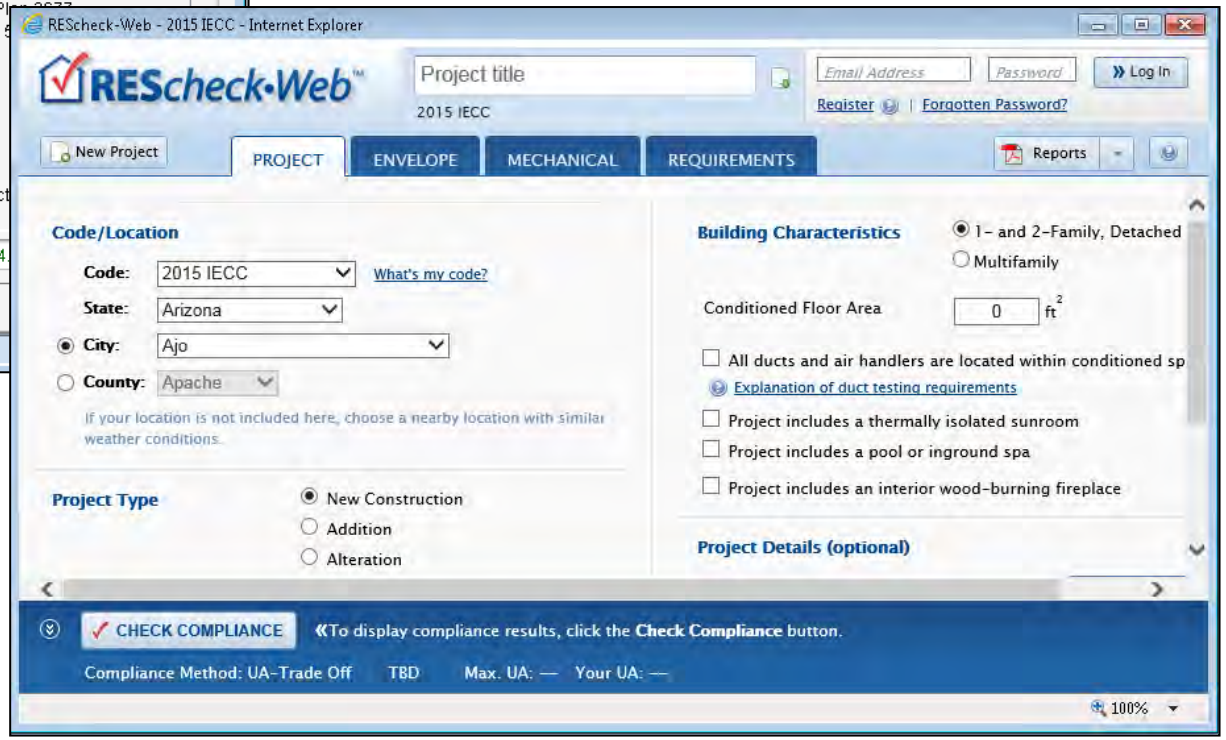
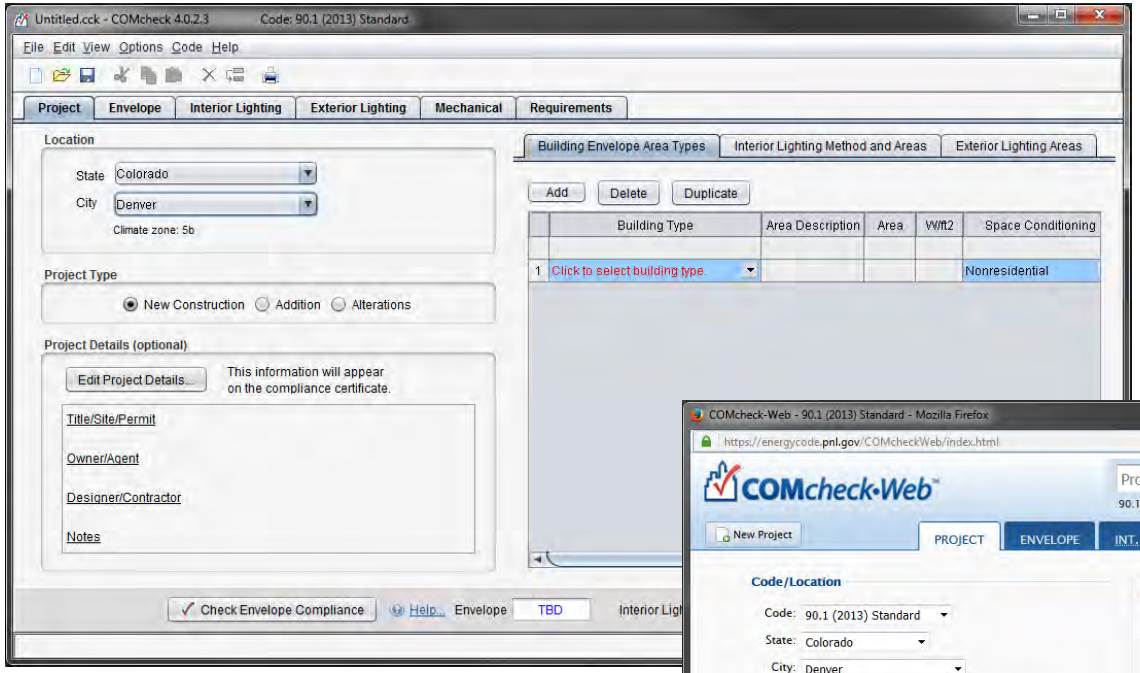


https://www.energycodes.gov/comcheck



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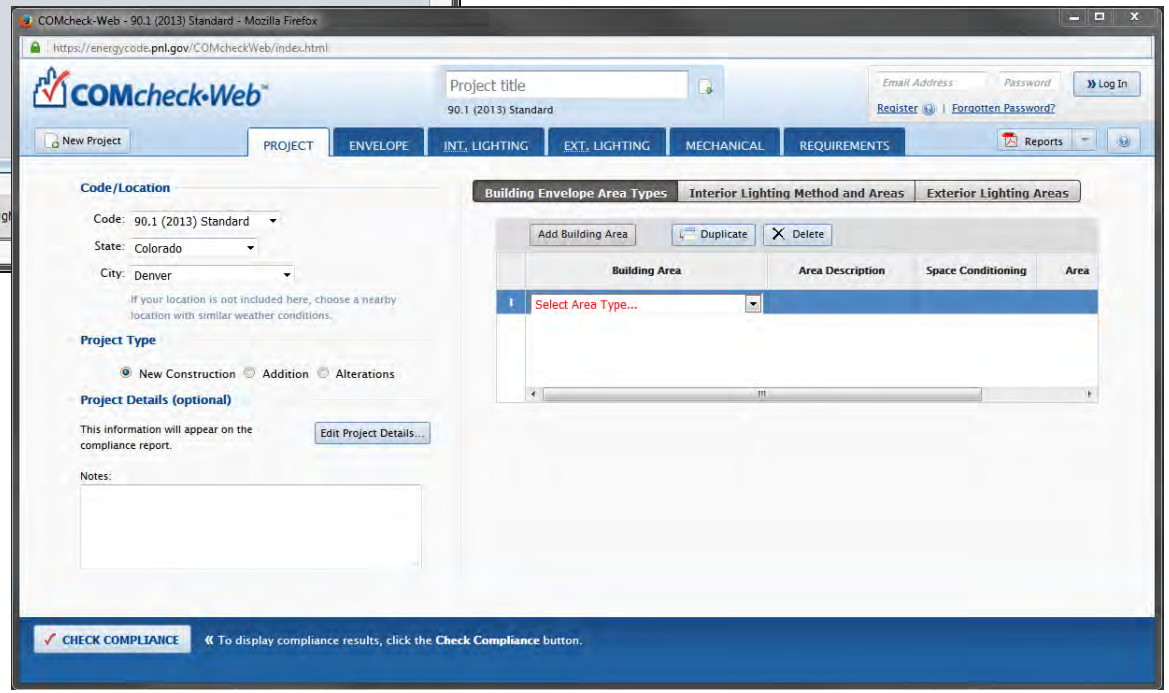

WEB

U.S. DOE: Building Energy Codes Program Resources

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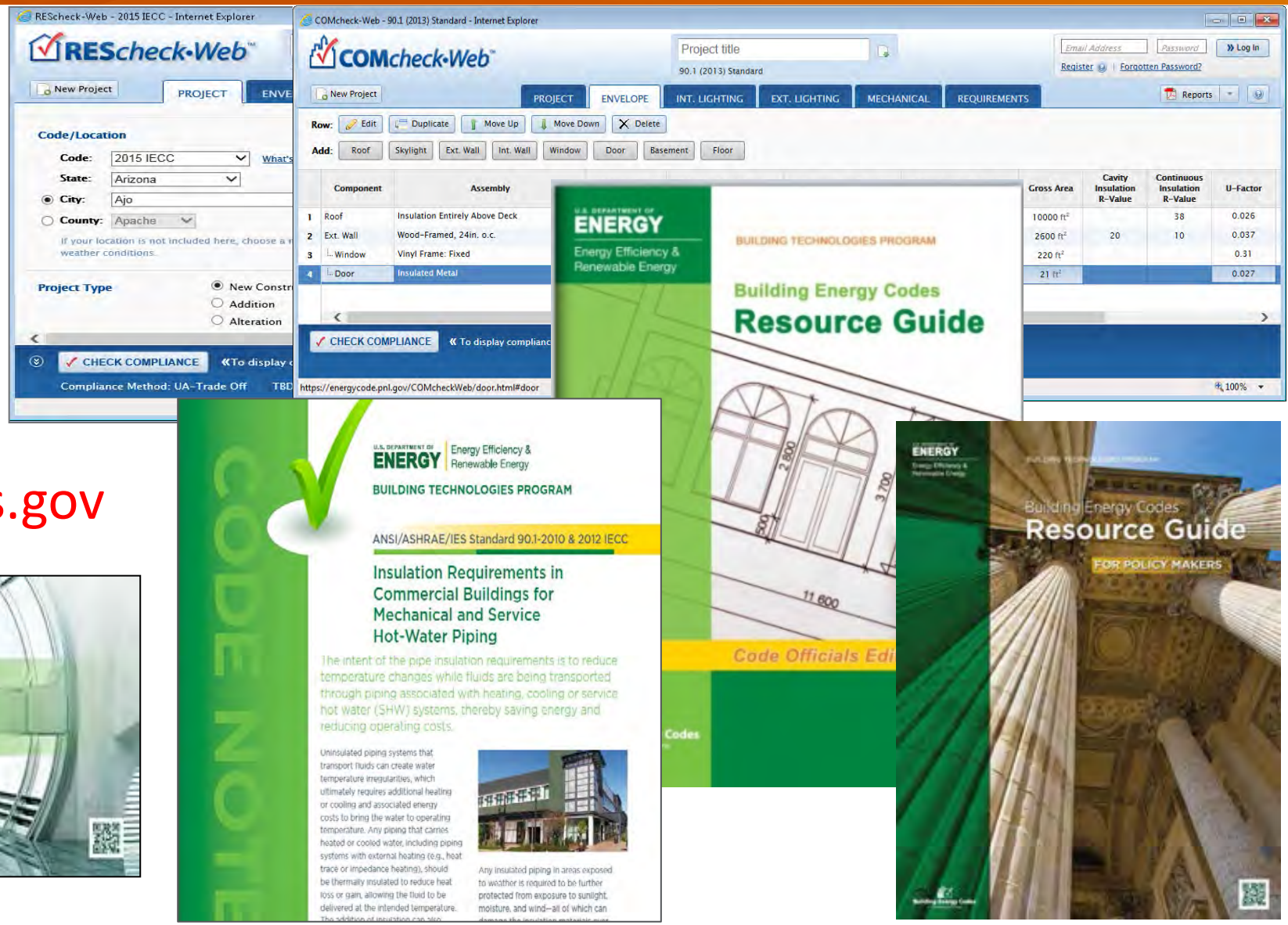
- Compliance software
- Technical support
- Code notes
- Publications
- Resource guides
- Training materials

www.energycodes.gov



U.S DOE Building America Program
Building America Solution Center - Resource Tool

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- Guides/Best Practices
- Existing Buildings
- Code Briefs
- Mobile App
- Create Own Field Kits
- Home Improvement Guide Tool *coming soon*

https://basc.pnnl.gov

Solution Center Home
Help

FIND YOUR TOPIC BY:
Building Components
Guides A-Z
ENERGY STAR Certified Homes
Zero Energy Ready Home
EPA Indoor airPLUS

FIND RESOURCES:
Sales Tool
CAD Files
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Air Sealing Multifamily Party Walls

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Scope

Air seal the common wall between units in a multi-family structure to minimize air leakage and provide a control layer for sound, smoke, fire, and air quality.

- In multifamily buildings, air seal the gap between the drywall shaft wall (i.e., common wall) and the structural framing between units at all exterior boundaries.
- Confirm with local code officials which air sealing materials are is preferred for fire safety reasons.
- Possible air sealing materials include fireproof spray foam for sealing the bottom plate to subfloor and bottom and top plates to sheathing in wood-framed walls, fire-rated caulk around plumbing and wiring, and two-part urethane foam for masonry block walls.

Air seal the common wall between units in a multi-family structure to minimize air leakage.

See the Compliance Tab for related codes and standards requirements, and criteria to meet national programs such as DOE's Zero Energy Ready Home program, ENERGY STAR Certified Homes, and Indoor airPLUS.

https://basc.pnnl.gov/

Last Updated: 03/14/2016

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Compliance

The Compliance tab contains both program and code information. Exact code language is copyrighted and may require purchase from the publisher. While we continually update our database, links may have changed since posting. Please contact our webmaster if you find broken links.

Code Compliance Brief

ENERGY STAR Certified Homes

ENERGY STAR Certified Homes (Version 3/3.1, Revision 08), Rater Field Checklist

Thermal Enclosure System:

4. Air Sealing (Unless otherwise noted below, "sealed" indicates the use of caulk, foam, or equivalent material.)

4.8 In multifamily buildings, the gap between the common wall (e.g. the drywall shaft wall) and the structural framing between units sealed at all exterior boundaries.

ENERGY STAR Revision 08 requirements are required for homes permitted starting 07/01/2016.

DOE Zero Energy Ready Home

Exhibit 1: Mandatory Requirements. Certified under ENERGY STAR Qualified Homes Version 3

2009 IECC

Table 402.4.2 Air Barrier and Insulation Inspection Component Criteria, Common wall: Air barrier and sealing exists on common walls between dwelling units.*

2009 IRC

Table N1102.4.2 Air Barrier and Insulation Inspection, Common wall: Air barrier and sealing

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Code Briefs

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Code Briefs

The intent of Building America's Code Compliance Briefs are to provide code-related information about Building America's research, best practices, and new innovations to help ensure that the measures will be accepted as being in compliance with the code. Providing notes for code officials on how to plan review and conduct field inspections can help builders or remodelers with proposed designs and provide jurisdictional officials with information for acceptance. Providing the same information to all interested parties (e.g., code officials, builders, designers, etc.) is expected to result in increased compliance and fewer innovations being questioned at the time of plan review and/or field inspection.

Air Sealing and Insulating Attic Knee Walls - Code Compliance Brief

Air sealing and insulating attic knee walls to code.

Air Sealing and Insulating Common Walls (Party Walls) in Multi-Family Buildings - Code Compliance Brief

Publication Date: May, 2016

The intent of this brief is to provide code-specific information about air sealing and insulating common walls in multi-family buildings to help ensure that the measures will be accepted as being in compliance with the code. Providing the same information to all interested parties (e.g., code officials, builders, designers, etc.) is expected to result in increased compliance and fewer innovations being questioned at the time of plan review and/or field inspection.

Air Sealing and Insulating Garage Walls - Code Compliance Brief

This brief provides an overview of the 2009 through 2015 IRC/IECC code requirements related to air sealing and insulating attached garage walls.

Bathroom Fan Ratings - Code Compliance Brief

If the bathroom fan is part of the whole-house mechanical ventilation system (WHMV), there are code provisions that should be verified during plan review and field inspection depending upon codes enforced in your jurisdiction.

Buried Ducts in Vented Attics in Hot-humid and Mixed-humid Climate Zones - Code Compliance Brief

Publication Date: May, 2016

The intent of this brief is to provide code-related information about buried ducts in vented attics to help ensure that the measure will be accepted as being in compliance with the code. Providing

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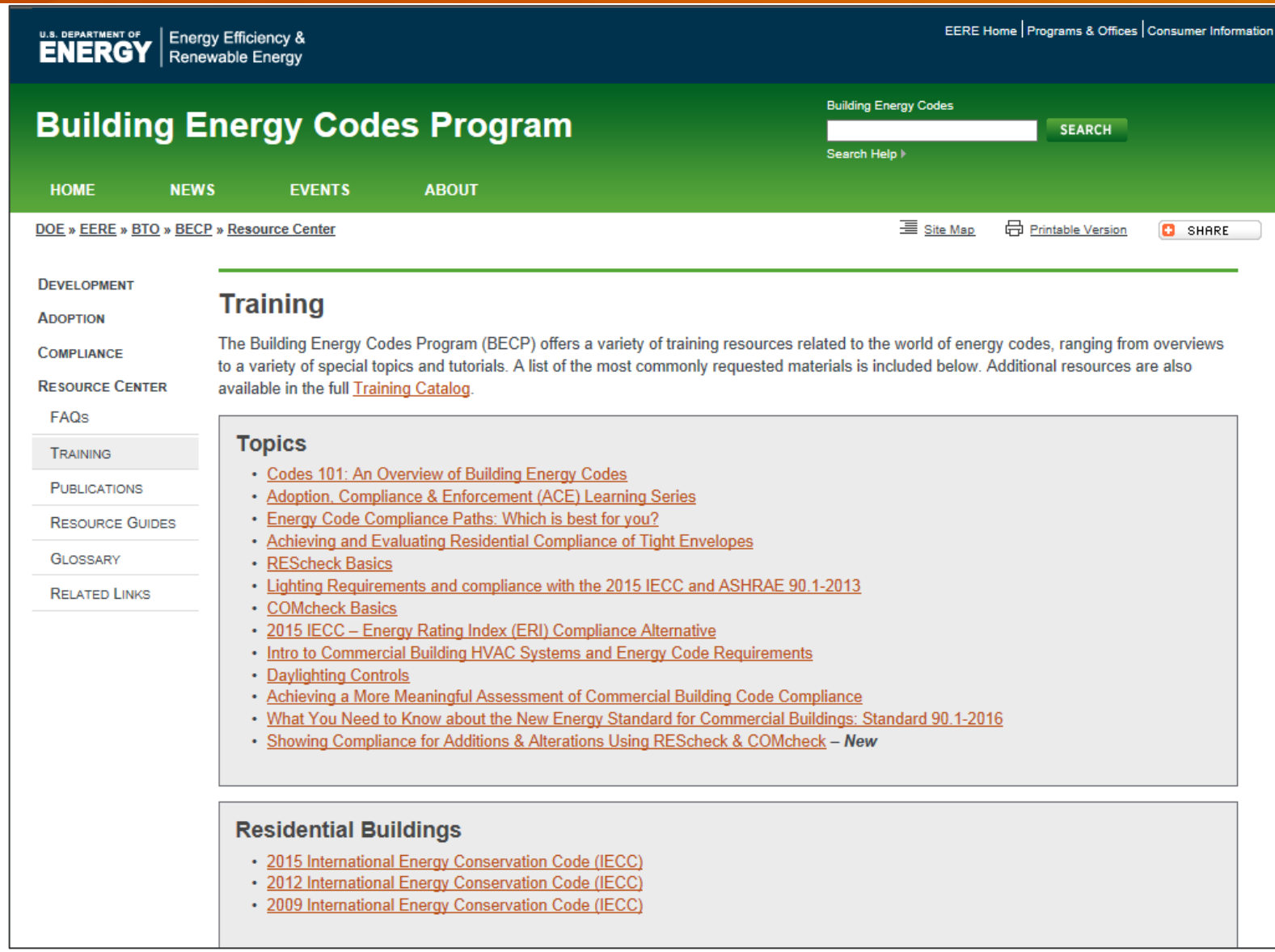

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