

2024 IECC Residential Energy Code Existing Buildings

Chapter 5, Existing Buildings, in the 2024 IECC establishes when new construction requirements apply to existing buildings and which elements of an existing home must be brought into compliance when work is performed. This technical bulletin includes links to the International Residential Code (IRC) with the corresponding 2024 IECC section in parentheses. In the IRC, this information is found in sections [N1109](#) through [N1113](#). In the 2024 IECC, this information is found in [Chapter 5](#).

Scope of existing buildings requirements

The existing buildings requirements apply to work performed on existing residential buildings, including but not limited to:

- Additions
- Alterations and renovations
- Repairs
- Replacement components, including windows, HVAC equipment, insulation, and lighting systems
- Changes of occupancy or use

This section determines when new energy code requirements apply. Existing portions of a building that are not altered are generally not required to be upgraded, unless the scope of work specifically triggers such requirements.

Applicable IRC Chapter 11 Code Sections:

[N1109 \(R501\) Existing Buildings – General](#)

[N1110 \(R502\) Additions](#)

[N1111 \(R503\) Alterations](#)

[N1112 \(R504\) Repairs](#)

[N1113 \(R505\) Change of Occupancy or Use](#)

Key principles of existing building compliance

The following principles describe how the energy code is applied to existing residential buildings:

- New work must comply with the current energy code. When construction, alteration, or replacement work is performed, the new work is required to meet applicable requirements of the current energy code.
- Existing conditions are generally allowed to remain, unless the scope of work triggers a specific energy code requirement. Portions of the building that are not altered are typically not required to be upgraded.
- Repairs performed using like-materials that do not reduce existing energy code compliance are generally not required to comply with new energy code provisions.
- Additions must comply with current code requirements and may be analyzed for compliance as:
 - A stand-alone addition
 - Part of the entire building, including existing portions
- Replacement components must meet current minimum efficiency or performance requirements at the time of replacement, even when surrounding building elements are not otherwise altered.

Applicable IRC Chapter 11 Code Sections:

[N1109 \(R501\) Existing Buildings – General](#)

[N1110 \(R502\) Additions](#)

[N1111 \(R503\) Alterations](#)

[N1112 \(R504\) Repairs](#)

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Common residential renovation scenarios

Additions

- Additions are required to comply with applicable current energy code requirements.
- Compliance may be demonstrated for:
 - The addition alone
 - The entire building, including the addition.
- Existing portions of the building outside the scope of the addition are not required to be upgraded, unless otherwise specifically triggered by the scope of work.

Applicable IRC Chapter 11 Code Section:

[N1110 \(R502\) Additions](#)

Window and door replacement

- Replacement windows, skylights, and exterior doors must meet the current code required U-factor and SHGC where applicable.
- Replacement of individual windows or doors does not require unrelated existing fenestration to be upgraded, unless the work is part of a broader alteration.

Applicable IRC Chapter 11 Code Sections:

[N1111 \(R503\) Alterations](#)

[N1112 \(R504\) Repairs](#)

HVAC replacement

- New mechanical equipment must meet current efficiency and control requirements.
- Duct sealing, insulation, and testing requirements apply where duct systems are newly installed, altered, or extended.
- Whole-house mechanical ventilation requirements apply for dwellings served by the mechanical system.

Applicable IRC Chapter 11 Code Sections:

[N1111 \(R503\) Alterations](#)

[N1112 \(R504\) Repairs](#)

Basement finishing

- Where an unconditioned basement is converted to conditioned space, the building thermal envelope walls enclosing that space shall comply with the insulation requirements of Section R402.1.
- Where a basement is conditioned space and the building thermal envelope walls are altered as part of the scope of work, those walls shall be insulated in accordance with Section R402.1.

Applicable IRC Chapter 11 Code Section:

[N1111.1.1.5 \(R503.1.1.5\) Below-grade wall alterations](#)

Roof replacement

- Roof replacement alone is generally considered a repair and does not typically require insulation upgrades unless insulation is exposed, added, or altered.
- Where insulation is installed or replaced, it must comply with current energy code requirements.

Applicable IRC Chapter 11 Code Sections:

[N1111 \(R503\) Alterations](#) (where insulation is modified)

[N1112 \(R504\) Repairs](#)

Have questions?

Call: 855-343-0105

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What is typically exempt?

The following work is generally not required to comply with new energy code provisions, provided the scope of work does not otherwise trigger a specific existing buildings requirement:

- Repairs that do not alter energy performance, including repair work performed using like-materials that does not reduce existing compliance.
- Finish-only work, such as painting, flooring installation, cabinetry, or similar cosmetic changes that do not affect the thermal envelope, mechanical systems, or lighting systems.
- Component repairs or replacements using equivalent materials or performance levels (“repair in kind”), where the work does not constitute a replacement component as defined by the code.
- Work that does not expose, modify, or alter the thermal envelope, mechanical systems, or other regulated energy features.

Applicable IRC Chapter 11 Code Sections:

[N1111 \(R503\) Alterations](#)

[N1112 \(R504\) Repairs](#)

Historic buildings

Buildings designated as historic may be subject to modified energy code requirements where strict compliance would compromise the historic character or integrity of the structure.

When a building is officially designated as historic, either individually or as a contributing structure within a historic district, energy code provisions may be waived or adjusted where compliance would adversely affect character defining features of the building.

Alternative measures that improve energy performance to the extent practicable may be accepted, subject to approval by the authority having jurisdiction.

Historic status does not automatically exempt a building from all energy code requirements. Determinations are made on a case-by-case basis and may involve coordination with local historic commissions or the Rhode Island State Historic Preservation Office.

Applicable IRC Chapter 11 Code Section:

[N1109.5 \(R501.5\) Historic buildings](#)



A historic mill building converted to residential housing.
Heat pumps are used for heating and cooling.

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Documentation and permitting exceptions

For projects subject to the existing buildings, the following documentation and permitting expectations apply:

- Construction documents must clearly identify the scope of work and indicate the applicable energy code compliance approach, where required.
- Where energy code compliance documentation is required, REScheck or other approved compliance documentation must accurately reflect:
 - New or altered building components, and
 - Additions modeled either as a stand-alone addition or as part of the entire building.
- Product data and performance documentation (such as window U-factors, HVAC equipment efficiencies, and insulation R-values) must be available for inspection.
- Changes made during construction that reduce or affect energy code compliance must be reevaluated, and revised documentation must be submitted, as necessary.

Applicable IRC Chapter 11 Code Sections:

[N1109 \(R501\) Existing Buildings – General](#)

[N1110 \(R502\) Additions](#)

[N1111 \(R503\) Alterations](#)

[Chapter 1: Scope and Administration](#)

How Chapter 5 differs from previous energy codes

While the overall structure of Chapter 5 (Existing Buildings) is similar to prior IECC editions, the requirements triggered by new work are more comprehensive under the 2024 IECC. As a result, renovation projects may now trigger additional compliance and documentation requirements that were not consistently required under earlier energy codes, including:

- More comprehensive air sealing requirements where building assemblies or penetrations are altered.
- Mandatory mechanical ventilation with automatic controls for residential dwellings served by mechanical systems.
- Expanded duct sealing, insulation, and leakage testing requirements when duct systems are installed, altered, or extended.
- Updated lighting efficacy requirements for newly installed or replaced luminaires.
- Clearer documentation and verification requirements for altered building components and compliance paths.

As a result, renovation projects that may have required minimal energy documentation under earlier codes may now require additional verification, testing, or compliance documentation under the 2024 IECC.

Applicable IRC Chapter 11 Code Sections:

[N1111 \(R503\) Alterations](#)

[N1112 \(R504\) Repairs](#)