

This document summarizes key changes to commercial provisions in the 2015 IECC. It is meant to be a high-level summary, not an exhaustive summary of all changes.

Building Thermal Envelope (Section C402)

| | Climate Zone 6 | | Climate Zone 7 | |
|--|---------------------------------|---|---------------------------------|---|
| | 2009 IECC | 2015 IECC | 2009 IECC | 2015 IECC |
| Thermal Envelope Insulation Minimum Requirements, R-Value Method (Table C402.1.3) | | | | |
| Roofs | | | | |
| Insulation entirely above roof deck | R-20ci | R-30ci | R-25ci | R-35ci |
| Attic and other | R-38 | R-49 | R-38 | R-49 |
| Walls, above grade | | | | |
| Metal building ¹ | R-13 + R-5.6ci | R-13 + R-13ci | R-19 + R-5.6ci | R-13 + R-13ci R-13 + R-19.5ci (Group R) |
| Slab-on-grade floors | | | | |
| Heated slab | R-15 for 24" below | R-15 for 36" below | R-20 for 24" below | R-20 for 24" below |
| | R-20 for 48" below (Group R) | R-20 for 48" below (Group R) | R-20 for 48" below (Group R) | R-20 for 48" below (Group R) |
| Building Envelope Fenestration Maximum Area and U-Factor (Table C402.4) | | | | |
| Vertical Fenestration | | | | |
| Maximum area | 40% maximum of above-grade wall | 30% maximum of above-grade wall ² | 40% maximum of above-grade wall | 30% maximum of above-grade wall |
| <i>U-factor</i> | | | | |
| Fixed fenestration | | 0.36 | | 0.29 |
| Framing materials other than metal with or without reinforcement or cladding | 0.35 | | 0.35 | |

¹ Additional minimum requirements exist for *Walls, above grade*; reference Table C402.1.3.

² Varies for Climate Zone 6 when certain requirements are met related to daylight responsive controls (C402.4.1.1). Designers may exceed the prescribed window to wall ratios if following the performance based method (C407).

Air Barrier (Section C402.5)

The 2015 IECC includes new mandatory requirements for continuous air barriers. Compliance may be achieved through the use of prescribed materials (C402.5.1.2.1), a combination of prescribed materials and approved assemblies (C402.5.1.2.2), or performance-based testing (C402.5). Public building entrances must be protected with an enclosed vestibule, with stated exceptions (C402.5.7).

Building Mechanical Systems (Section C403)

NEW PROVISIONS: HVAC System Controls (C403.2.4)

The 2015 IECC adds additional best practice control requirements for HVAC systems and includes a new section related to multi-zone HVAC controls.

Energy Recovery Ventilation Systems (Section C403.2.7)

Energy recovery ventilation (ERV) systems are now required on the basis of total supply air volume and % of outside air. In the 2009 IECC, ERVs were only required when the airflow rate was greater than 5,000 cfm and the design outdoor airflow rate was greater or equal to 70%. The 2015 IECC greatly expands the applicable cases in which ERVs are required.

Duct and Plenum Insulation and Sealing (Section C403.2.9)

The 2015 IECC increases R-values that are required for ducts and plenums in both conditioned and unconditioned spaces. Distinctions are made between low, medium, and high-pressure duct systems.

Pipe Insulation (Section C403.2.10)

The 2015 IECC includes an updated table for pipe insulation that includes higher R-values for certain applications and distinguishes requirements based on pipe diameter and fluid operating temperature.

NEW PROVISIONS: Equipment (Section C403.8; C403.15-17)

The 2015 IECC includes sections related to kitchen exhaust systems (C403.2.8), refrigerated warehouse coolers and freezers (C403.2.15), walk-in coolers and freezers (C403.2.16), and refrigerated display cases (C403.2.17) that were not previously included in the 2009 IECC.

Service Water Heating (Section C404)

New gas-fired water heating equipment with an input rating is $\geq 1,000,000$ Btu/h or greater, must have a thermal efficiency ($E_t \geq 90\%$). Multiple pieces with a combined capacity that is $\geq 1,000,000$ Btu/h must meet a $E_t \geq 90\%$ weighted average threshold (C404.2.1).

Additionally, the efficiency requirement for pool heaters, gas or oil, is raised to an E_t of 82% (previously 78%). Outdoor pools and spas require a cover unless $> 70\%$ of operating season energy for heating from site-recovered or solar energy (C404.9.3).

Electrical Power and Lighting Systems (Section C405)

The 2015 IECC includes more stringent interior lighting power density (W/ft^2) and lighting control requirements and expands options for allocating allowable power density based on individual spaces versus total building area. The 2015 IECC also specifies requirements for daylight-responsive controls in certain *daylight zones* (C405.2.3). The code expands requirements for exterior lighting and controls.

Additional Efficiency Package Options (Section C406)

The 2015 IECC includes a new mandatory requirement for additional efficiency package options. Designers must meet one of the six (6) requirements in addition to the other prescriptive requirements included in code. Package options include more efficient HVAC performance, reduced lighting power density, enhanced lighting controls, on-site supply of renewable energy, dedicated outdoor air system (for certain HVAC systems) provision, and high-efficiency service water heating (C406.1).

System Commissioning (Section C408)

The 2015 IECC includes a new mandatory requirement for commissioning of building mechanical systems and electric power and lighting systems. Documentation includes the preparation of a preliminary commissioning report, drawings and manuals, system balancing report, final commissioning report, verification of HVAC, and lighting and electrical systems.

Existing Buildings (Sections C501 - C504)

The 2015 IECC includes a new chapter dedicated to existing buildings and expands discussion of applicability to historic buildings, repairs, alterations, and additions. New equipment and alterations to existing buildings must comply with the requirements for new construction; however, the Code grants exceptions to alterations in existing buildings. Some exceptions include storm windows over existing fenestration, glass only replacements in existing sash and frame, and relief from complying with building envelope thermal requirements in certain situations.