

SIGNIFICANT CHANGES TO THE 2021 INTERNATIONAL BUILDING CODE

- **Definitions - Chapter 2**

Definitions have been revised and/or added for Atrium, Change of Occupancy, Impact Protective System, Mass Timber, Nailable Substrate, Penthouse, Puzzle Room, and Structural Members.

- **Puzzle room exiting - Section 411.5**

A new type of building use, the puzzle room, is now regulated in a manner consistent with traditional special amusement areas. In addition, special means of egress requirements have been established that are specific only to such puzzle rooms.

- **Play Structures - Section 424**

The interior finish materials of play structures are now regulated for flame spread purposes. In addition, the scoping provisions have been modified to include larger structures, and the requirements are no longer limited to play structures for children's use.

- **Type IV Construction - Section 602.4**

While the past allowances for Type IV buildings have been maintained as Type IV-HT construction, three new construction types, Type IV-A, IV-B, and IV-C, have been introduced to recognize other new forms of mass timber construction. Allowable Height, Allowable Story, and Allowable Area tables have also been revised to incorporate these new Types of Construction.

- **Continuity (Fire Barriers) - Section 707.5, Exception 3**

Fire Barriers creating an exit passageway may now terminate at a fire-resistance-rated top (lid) instead of continuing to the underside of the roof slab above.

- **Group S-2 parking garages - Section 903.2.10**

An automatic sprinkler system must now be installed in an open parking garage where a specific fire area or height threshold is exceeded.

- **Enhanced Classroom Acoustics - Section 1207**

Educational Occupancies are now required to meet the enhanced classroom acoustic requirements of Section 808 of ICC A117.1.

- **Wind resistance of aggregate-surfaced roofs - Section 1504.9**

Parapets of a minimum height are now required for aggregate-surfaced roofs to prevent blow-off per Table 1504.9.

- **Risk Category - Section 1604.5**

Mixed occupancy buildings with assembly spaces are now designated as Risk Category III when the total public assembly occupant load is greater than 2,500 occupants.

- **Special Inspections - Section 1704**

Special inspection requirements shall be per the 2021 International Building Code (IBC), Chapter 17. In previous versions of the Pikes Peak Regional Building Code (PPRBC), this IBC section was deleted and replaced with a Special Inspections section in the PPRBC. The Special Inspection section is no longer included in the 2023 PPRBC.

SIGNIFICANT CHANGES TO THE 2021 INTERNATIONAL RESIDENTIAL CODE

- **Minimum ceiling heights - Section R305.1**

The minimum ceiling height is reduced to 6 feet 6 inches under beams spaced apart at least 36 inches apart.

- **Glazing and wet surfaces - Section R308.4.5**

The language addressing glazing in walls, enclosures or fences near tubs, showers and swimming pools has replaced the word "facing" with the words "adjacent to" for those elements related to wet surfaces.

- **Emergency escape and rescue openings in existing buildings - Sections R310.5, R310.6, and R310.7**

Opening dimensions have been reduced for emergency escape and rescue openings for a basement remodel, basement addition, and for a change of occupancy.

- **Smoke alarm locations - Section R314.3**

Smoke alarm locations now include item 5: In the hallway and in the room open to the hallway in dwelling units where the ceiling height of a room open to a hallway serving bedrooms exceeds that of the hallway by 24 inches or more.

- **Carbon monoxide alarms for alterations, repairs, and additions - Section R315.2.2**

Repairs to an existing fuel-fired mechanical system now trigger the retroactive requirements for carbon monoxide alarms.

- **Habitable attics - Section R326**

The habitable attic provisions have been placed in new Section R326 and new restrictions limit their area and require a fire sprinkler system per Section P2904 if located above a third story.

- **Foundation waterproofing - Section R406.2**

Six-mil polyvinyl chloride and polyethylene fabrics are removed from the list of approved waterproofing materials.

- **Vapor retarder - Section R506.2.3**

Thicker vapor retarders are now required below slabs-on-grade.

- **Garage door labeling - Section R609.4.1**

All garage doors must have a permanent label identifying wind pressure ratings among other information.

- **Chimney lining - Section G2427.5.5.1**

The exception allowing an existing chimney to vent replacement appliances has been deleted.

SIGNIFICANT CHANGES TO THE 2021 INTERNATIONAL MECHANICAL CODE

- **Condensate Disposal - Section 307.1.1**

Addition of condensate termination identification markings and discharge restrictions.

- **Outdoor air for dwelling units - Section 403.3.2.1**

30% reduction in minimum mechanical ventilation for whole-house balanced ventilation systems.

- **Location of Exhaust Outlets - Section 501.3.1**

Approved factory-built combination intake/exhaust terminations permitted, relaxing separation requirement.

- **Bath Exhaust Openings - PPRBC Section RBC304.4.4**

Addition of an exception to IMC Section 501.3.1, item number 3 that states: Bath exhaust openings may terminate not less than 3 feet from mechanical air intake openings..

- **Manicure and Pedicure Stations - Section 502.20.1**

Continuous operation requirement for manicure and pedicure station exhaust systems.

- **Location of Exhaust Outlets - Section 504.4.1**

Approved factory-built combination intake/exhaust terminations permitted, relaxing separation requirement.

- **Grease Duct Horizontal Cleanouts - Section 506.3.9**

New Item #7 requires grease duct horizontal cleanout within 3 feet of a horizontal discharge fan.

- **Coverings and Linings - Section 604.3 Exception**

Polyurethane spray-applied foam on the exterior of ducts in attics and crawl spaces required to meet specific smoke and flame index limits.

- **Access and Identification - Section 607.4**

Fire and smoke dampers must be provided with approved access for inspections and maintenance.

- **Refrigerant Classification, Amount and OEL - Table 1103.1**

Refrigerant tables updated to include new refrigerants.

SIGNIFICANT CHANGES TO THE 2021 IECC - COMMERCIAL PROVISIONS

- **Information on construction documents - Section C103.2**

Energy compliance path and the location of the air barrier were added to list of details that must be on the plans.

- **Insulation mark installation - Section C303.1.2**

Requires an insulation certificate to be left by the installer, immediately after installation, if the R value label for insulation is not observable.

- **Thermal envelope certificate - Section C401.3**

New section added to require a permanent certificate to, commercial buildings that records basic information related to the building thermal envelope, similar to the certificate required for residential buildings.

- **Greenhouses - Section C402.1.1.1**

New section added specific to Greenhouses. Includes a skylight and vertical fenestration U factor table and provides exception for low energy greenhouses.

- **Equipment buildings - Section C402.1.2**

The square footage of equipment buildings exempt from the building thermal envelope provisions of the IECC was increased from 500 s.f. to 1200 s.f.

- **Insulation R-value and U-value tables - Tables C402.1.3 and C402.1.4
(see RBC308.4.6 and RBC308.4.7 for local amendment)**

Increased insulation requirements and reduced fenestration U-factors and solar heat gain coefficients throughout.

- **Dwelling and sleeping unit enclosure testing - Section C402.5.2**

Provides direction on the number of units that require testing to prove compliance.

- **HVAC equipment performance requirements - Section C403.3.2**

Tables C403.3.2(1) through C403.3.2 (16) have been updated for increased equipment efficiency requirements.

- **Occupant sensor control function - C405.2.1.1 through C405.2.1.4**

Revised and enhanced requirements for occupant sensor controls in various occupancies and uses.

- **Parking garage lighting control - C405.2.8**

New section added specific to Parking Garages. Includes requirement of occupant sensor control or a time-switch control.

- **Additional energy efficiency credit requirements - C406.1
(see RBC308.4.9 & RBC308.4.10 for local amendment)**

This section has been completely redone in a points-based system, requiring a certain number of points be accumulated from the various sections and tables in C406.

SIGNIFICANT CHANGES TO THE 2021 IECC - RESIDENTIAL PROVISIONS

- **Additional Efficiency Package Options - Section R401.2**

New section requiring additional efficiency in residential buildings is added. Five options for achieving compliance with this section are included: enhanced envelope performance, more efficient HVAC equipment performance, reduced energy used in service water heating, more efficient duct thermal distribution system, and improved air sealing and efficiency ventilation system.

- **Increased Prescriptive Insulation Values - Sections & Tables R402.1.2 and R402.1.3 (see **RBC308.4.17** and **RBC308.4.18** for local amendment)**

Increased insulation requirements and reduced fenestration U-factors and solar heat gain coefficients.

- **Cavity Floor Insulation Installation Requirements - Section R402.2.7**

Allows two alternate methods for floor insulation, explicitly helping in floors above the garage and cantilevers. There are now a total of three installation options.

- **Sunrooms & Heated Garages - Section R402.2.12 and R402.3.5**

The following exceptions to prescriptive values have been added to address the issue of heated garages that are thermally isolated from the main home:

- *Minimum R-24 Ceiling insulation and Minimum R-13 wall insulation*
- *Maximum U-Factor of 0.45 for Fenestration.*

- **Air Leakage Requirements - Sections R402.4.1.2 & R402.4.1.3**

Some specific changes will impact both Prescriptive and Total Building Performance code compliance:

- *Code changes set a maximum air leakage of 5.0 ACH50 or 0.28 CFM/SF Enclosure Area.*
- *Sets a maximum ACH50 of 3.0 when following prescriptive compliance per Section R402.1.2.*
- *Allows for 0.30 CFM/SF Enclosure Area for attached dwelling units and buildings 1,500 SF or smaller.*

- **Ducts Outside of Conditioned Space and Duct Leakage Requirements - Sections R403.3.2, R403.3.5 & R403.3.6**

These changes do two specific things. First, it sets alternate requirements for classifying ducts either in or out of conditioned space. Second, it removes the exemption for not testing ducts entirely within conditioned space and requires a minimum duct leakage of 8.0 CFM/100 SF of floor area for that ductwork.

- **Hot water pipe insulation - Section R403.5.2**

R3 insulation is required on hot water pipe 3/4 inch in diameter or more, located inside the conditioned space, as well as supply and return piping in recirculation systems other than cold water pipe return in demand recirculation systems.

- **Testing Requirements for Mechanical Ventilation Systems - Section R403.6.3**

Requires testing to confirm that the mechanical ventilation system provides the minimum ventilation flow as required by the IRC or IMC. This includes bath fans, kitchen hoods, and whole-home ventilation.

- **Lighting Equipment and Controls - Sections R404.1 & R404.2 (see **RBC308.4.20** and **RBC308.4.21** for local amendment)**

Section R404.1 Lighting equipment requires only high-efficacy lighting sources & Section R404.2 requires additional lighting controls on most interior lighting fixtures. Areas specifically excluded include bathrooms, hallways, exterior lighting fixtures, and lighting designed for safety or security. These fixtures can be controlled with either a dimmer, occupant sensor or other permanently installed types of control.

SIGNIFICANT CHANGES TO THE 2017 ICC A117.1 ACCESSIBILITY STANDARD

- **Size of Turning Spaces - Sections 304.3.1 and 304.3.2**

For new buildings, the size of a circular turning space increases from the previous 60 inch requirement up to 67 inches. Three options are allowed for T-shaped turning space and vary depending on the width of the arms on the T-shaped space. All of the options result in an increased size for the turning space.

- **Size of Clear Floor Space - Section 305.3**

For new buildings, the length of a clear floor space increases from 48 inches to 52 inches to accommodate more wheeled mobility devices and ensure access is provided at various elements. NOTE: This change does not apply to Type B dwelling units per Section 1104.1.1.

- **Clear Width of Accessible Routes - Section 403.5**

The width of exterior accessible routes increases to a 48 inch minimum for most elements. Exceptions have been added to modify the width requirements depending on whether the accessible route is within a new building or an existing building.

- **Clear Width at 90-Degree Turn - Section 403.5.3**

Designing for and accommodating larger wheelchairs and scooters results in modifications being needed where a narrow accessible route is making a 90-degree turn. The standard provides four options, such as increasing the width of the accessible route or chamfering the corner to allow for maneuvering around the corner.

- **Electrical Vehicle Charging Stations - Section 502.11**

This change provides a new section to regulate electrical vehicle charging stations and to make sure they are both accessible and usable. The provision applies to parking structures, parking lots, and on-street parking.

- **Clear Floor Space at Lavatories and Sinks - Section 606.2**

The clear floor space for a parallel approach to a sink or lavatory is no longer required to be "centered on the sink".

- **Enhanced Acoustics for Classrooms - Section 808**

This new section provides guidance to improve the acoustics in classrooms by controlling the reverberation time and background noise within the classroom.

- **Charging Stations - Section 906**

This new section addresses "charging stations". Providing these stations will allow a user of an electric wheelchair or scooter to recharge her or his device when seated at certain clear floor space.

- **Recreational Facilities and Dwelling Units and Sleeping Units - Chapters 10 and 11**

The order of these two chapters has been reversed, with Chapter 10 now dealing with recreational facilities and dwelling and sleeping unit provisions moving to Chapter 11.

- **Beds - 1102.15.2**

Two requirements related to the accessible bed within an Accessible dwelling or sleeping unit have been added. A range is established for the bed height to ease transfer, and the clear floor space adjacent to the bed must serve as a charging station complying with Section 906.