

The **2021 International Building Code** contains many changes such as:

- A modification was made for “atrium” addressing two conditions. 1.) Vertical space enclosed at the top. 2) Atrium typically connects three or more stories.
- The scope of a change of occupancy has been narrowed.
- “Impact Protective System” added for assemblies designed to withstand airborne debris.
- “Mass Timber” added and defined as both the large wood elements historically recognized as Heavy /timber (IV-HT) construction and the three new construction types (IV-A, IV-b and IV-C)
- “Nailable Substrate” added to clarify what materials expected to provide withdrawal resistance for roof and wall cladding assemblies.
- The definition of penthouse was clarified to ensure that enclosures extended to the roof in order to house stairways are considered as penthouses.
- Many other definitions added or clarified.
- Allows construction of lodging houses in accordance with the IRC provided an automatic sprinkler system is installed.
- New requirements for mechanical-access enclosed parking garages.
- New conditions for domestic cooking facilities in Groups I-1, I-2 and ambulatory Care Facilities.
- Occupied roof have been clarified for more consistent application.
- Fire separations of mass timbers added including thermal barriers.
- Storage battery systems now regulated by the International Fire Code.
- Stairway construction in podium buildings modified for combustible material.
- A new section added for determination of noncombustible protection time contribution.
- Language added to complete the list of locations where fire partitions are required.
- New construction parameters added for energy storage system separation.
- Requirements for static and dynamic ceiling radiation dampers added.
- New access/identification requirements for fire and smoke dampers added.
- New language prohibits the use of terminated stops on doors/door frames providing smoke/draft control.
- Regulations for combustible lockers added.
- Automatic sprinkler system now required for distilled spirit manufacturing.
- NFPA 13R systems now limited to 30 feet floor level.
- The referenced standard for accessibility is the 2017 ANSI- Was the 2009.
- Adds Commercial Electric Vehicle charging station accessibility requirements.
- Wheelchair space increased to 30”X52” from 30”X48”.
- Assisted toileting and bathing provisions added.
- Enhanced classroom acoustics required for Group E occupancies.
- Minimum floor are reduced for efficiency apartments to 190 sf.
- Multiple modifications made to the regulation of plumbing facilities to address gender and equality of access.
- Additional direction added regarding two-way communication for the deaf, hard of hearing and speech impaired for accessible elevators.
- Intermodal shipping containers now recognized in the IBC.
- Availability of water supply requirements for buildings under construction expanded.

The **2021 International Residential Code** contains many changes such as:

- Definitions for Emergency Escape and Rescue Opening updated for clarification and consistency with the IBC.
- Provisions for construction with intermodal shipping containers added.
- Updated wind speed maps.
- Component and cladding wind pressure design modified.
- Mechanical ventilation requirements clarified.
- Ceiling height requirements modified for beams and girders.
- Exception added for greater slope of exterior landing to drain water.
- Repairs to existing fuel fired mechanical systems now trigger retroactive requirements for carbon monoxide alarms.
- Footing widths revised.
- Vapor retarder under concrete slabs increased minimum to 10 mil.
- Deck footing, post, beam and joist tables revised.
- Exterior guard requirements added.
- Garage doors must have permanent label identifying wind pressure ratings.
- Class 1 vapor retarder in walls not allowed in our climate zone 4.
- Larger air gaps allowed behind veneer.
- Where ceiling joists or rafter ties not installed as required an engineered design is required.
- Cathedral ceiling requires a ridge beam.
- Additional energy efficiency measures required regardless of compliance path.
- Additional energy efficiency option must be identified on the certificate required by the code.
- Energy efficiencies are increased in ceiling assemblies, wood frame walls and fenestration.
- Exhaust fans and whole-house mechanical ventilation fans shall be listed and labeled as meeting the required minimum airflow.
- Emergency electric service disconnect required in a readily accessible outdoor location.
- A surge protection device is required at the electric service panel.
- GFCI protection increased.
- Radon testing requirements added to Appendix F.
- Appendix AU added for Cob Construction.
- Appendix AW added for 3D printed buildings.

Key changes to the 2021 International Fire Code include:

- Requirements for additive manufacturing (3D printing) operations provided.
- Flame propagation performance of permanent artificial combustible vegetation on roof required.
- Revisions mad to provisions for emergency responder communications.

- Clarifications to sprinkler requirements for storage, manufacture, and sale of upholstered furniture/mattresses.
- Energy storage system (ESS) requirements refined.
- New Chapter 40 “Storage of Distilled Spirits” added.
- Construction fire safety provisions expanded.

Key changes to the **2021 International Existing Building Code** include:

- The required occupant capacity for storm shelters limited to total occupant load of classrooms, vocational rooms and offices in the school.
- When significant portions of the building’s exterior walls replaced, they must comply with the IBC.
- Snow loads must be addressed during repair of substantial structural damage.
- Additions, level 3 alterations and changes of occupancy in educational occupancies must meet enhanced classroom acoustic requirements of ICC A117.1
- Additional equipment may be added to a roof without a full structural analysis if it weighs less than 400 pounds and less than 10 percent of the total roof dead load.

Key changes to the **2021 International Plumbing Code** changes include:

- Multiple-user toilet facilities to serve all genders now permitted.
- Two new methods for relining/rehabilitation of existing sewers added.
- Accommodations for roof mounted solar panels over vent terminals added.

The **2021 International Mechanical Code** changes include:

- Clothes dryer exhaust terminals required to be 3 feet from openings into the building.
- Fire and smoke dampers provided with approved access for inspection/maintenance.
- New refrigerants added.
- Addition of condensate termination identification and discharge restrictions.
- Continuous operation requirement for manicure and pedicure exhaust systems.
- Grease duct horizontal cleanout required within 3 feet of a horizontal discharge fan.

Key **International Fuel Gas Code** changes include:

- The termination of concealed condensate piping requires marking to identify if it is primary or secondary.
- Press-connect joints are acceptable for high pressure (over 5 psig) applications indoors.
- Commercial cooking appliances not allowed within dwelling units.

Key **International Energy Conservation Code** changes include:

- Definitions for biogas, biomass and renewable energy resources introduced.
- Climate zones updated. (No change here in central Missouri)
- Thermal envelope certificate now required for commercial construction.
- Increased insulation requirements.
- Reduced fenestration u-factor requirements.

Key **National Electric Code** changes include:

- Additional expanded GFCI requirements.
- Surge protection required for dwelling units.
- Reconditioned equipment requirements.
- Readily accessible emergency disconnects required for single- and two family dwellings.
- Load calculation tables modified to reflect energy efficiency.
- ARC energy reduction with circuit breakers and fuses over 1200 A having a tripping level less than the available arcing current.