

Significant Changes to the 2021 I-Codes

IBC

- Puzzle rooms (escape rooms) are now defined and regulated as special amusement areas, requiring compliance with Section 411 and special means of egress requirements.
- For the purposes of determining the allowable number of control areas in a building, each portion separated by one or more fire walls is now considered as a separate building.
- In Group E occupancies, enhanced classroom acoustics in compliance with ICC A117.1 are to be provided in all classrooms having of volume of 20,000 cubic feet or less.
- The requirements for metal composite materials and systems (MCM) installed on the exterior walls of Types I, II, III and IV construction were simplified and sprinkler allowances were deleted
- The use of intermodal shipping containers as buildings is now specifically addressed through provisions intended to supplement existing applicable IBC requirements.
- Automatic sprinkler protection is now required in Group S-2 open parking garages where any fire area exceeds 48,000 square feet.
- The 2017 edition of ICC A117.1 was adopted.
- Parapets of a minimum height are now required for aggregate-surfaced roofs to prevent blow-off.
- Mixed occupancy buildings with assembly spaces are placed in Risk Category III when the total public assembly occupant load is greater than 2500 people.
- The 2021 IBC snow map is updated to match ASCE 7-16 snow maps by adding a reference to ASCE 7 snow tables in states with large case study areas.
- Secondary rain loads are updated to be consistent with ASCE 7.
- Special inspection requirements were added to address the anchorage and connection of mass timber structural elements.
- Installation of firestop, fire-resistant joint systems and perimeter fire barrier systems in residential-use buildings now requires special inspection in Group R fire areas having an occupant load exceeding 250 people.
- Frost protection for egress doors was added to the foundation requirements.
- ACI standards ACI 117 and ITG 7 were added by reference to provide acceptable tolerances for concrete construction.
- Three new types of construction (Types IV-A, IV-B, and IV-C) allow mass timber buildings of taller heights, more stories above grade, and greater allowable areas compared to existing provisions for heavy timber buildings.

IRC

- Braced wall lines must be placed on a physical wall or placed between multiple walls.
- The rated separation for two-family dwellings is 1 hour whether or not a lot line exists between units. (see proposed revision in amendments)
- Emergency escape and rescue openings require a clear 36-inch-wide path to a public way.
- An engineered design is required for storm shelters.
- A habitable attic is limited to one-half the area of the story below and the dwelling requires sprinklers.
- Updated Wind Speed maps match IBC and ASCE 7 maps.
- Deck design now considers snow load, tributary area for footing and post height, and guard details.
- Specific requirements for deck guardrails were added.
- Component and cladding wind pressures in Table R301.2(2) are updated for new design wind speeds and hip or gable roof profiles.
- Minimum footing size tables are revised to more accurately reflect current practice.
- Cripple wall requirements apply only to exterior cripple walls.
- New appendices for cob construction and 3D printed construction are added.
- A 30 percent reduction of airflow is permitted for balanced ventilation systems.
- Commercial gas cooking appliances are prohibited.
- The head pressure for a water test of DWV systems increased to 10 feet.
- Air vacuum testing is now permitted for plastic piping DWV systems.
- Section P2904 for dwelling sprinklers is expanded to more closely align with NFPA 13D.
- An emergency service disconnect is required in a readily accessible outdoor location.
- A surge-protective device (SPD) is now required at the service panel.
- The number of receptacle outlets required for peninsular and island countertops in kitchens is determined by the area of the countertop surface.
- GFCI protection is now required for damp and wet locations not included in the other 10 areas requiring GFCI protection.

IPC

- Multiple-user toilet facilities to serve all genders are now permitted.
- Two new methods for relining/rehabilitation of existing sewers are added.
- Accommodations for mounted roof top solar panels over vent terminals is added.
- CSA B805/ICC 805 Rainwater Harvesting Systems is allowed as an alternative design method.
- Plumbing provisions from *ICC A117.1-2017 Standard for Usable and Accessible Buildings and Facilities* are now included.

IMC

- Clothes dryer exhaust terminals required to be at least 3 feet from any opening into a building.
- Polyurethane spray-applied foam on the exterior of ducts in attics and crawl spaces required to meet specific smoke and flame index limits.
- Fire and smoke dampers must be provided with approved access for inspection and maintenance.
- Refrigerant tables updated to include new refrigerants.
- Addition of condensate termination identification markings and discharge restrictions.
- Approved factory-built combination intake/exhaust terminations permitted, relaxing separation requirement.
- 30% reduction in minimum mechanical ventilation for whole-house balanced ventilation systems.
- Continuous operation requirement for manicure and pedicure station exhaust systems.
- Grease duct horizontal cleanout required within 3 feet of a horizontal discharge fan.

IFGC

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

IEBC

- For storm shelters, the required occupant capacity is now limited to the total occupant load of the classrooms, vocational rooms and offices in the school while the maximum distance of travel was deleted.
- When significant portions of a building's exterior wall coverings or exterior wall envelope are added or replaced, they must comply with the requirements of Chapters 14 and 26 of the IBC.
- Snow loads must be addressed during repair of substantial structural damage regardless of whether the damage was a result of snow.
- Additions, Level 3 alterations and Changes of occupancy in Educational occupancies are now required to meet the enhanced classroom acoustic requirements of Section 808 of ICC A117.1.
- Additional equipment may be added to a roof without a full structural analysis when the equipment weighs less than 400 pounds and is less than 10 percent of the total roof dead load.
- With a change of occupancy, a seismic analysis is required for a Group S or Group U occupancy changing to a new occupancy.
- Furniture, such as office cubicles, reception desks or smaller bookcases, are exempt from a permit and not intended to be a Level 2 alteration.
- Sprinkler requirements for Level 2 and Level 3 alterations are revised for higher hazard areas.

ISPSC

- It was clarified that flotation tank systems for sensory deprivation therapy are not within the scope of the ISPSC.
- Hot water storage tanks are now required to be listed and labeled to a standard.
- New sections were introduced into the code to cover solar thermal water heating systems. Installation requirements refer to the IMC.

ICC ANSI A117.1

- For new buildings and additions, enhanced dimensions for the clear floor space, turning space and the accessible route. This will affect the space provided at elements and will increase the maneuverability within such spaces for users of powered wheelchairs and scooters.
- Provisions incorporating many of the latest criteria for public rights of way provisions for curb cuts, blended transitions, detectable warnings, diagonal parking and street parking (PROWAG).
- New provision to improve safety for an accessible route traversing a parking lot.
- New provisions to facilitate charging of powered wheelchairs where they will be parked for duration, such as in accessible hotel rooms and at some wheelchair seating in assembly spaces.
- New provisions addressing accessibility at electric vehicle charging stations
- New provisions for water bottle filling stations.
- New provisions that address spaces for sign language interpreter stations and sign language video booths.
- A new section addressing classroom acoustics that aims to improve acoustics in the rooms and to reduce the intrusion of noises from outside the classroom, thereby enhancing the learning environment.

NEC (NFPA 70)

- **Exterior Emergency Disconnects:** Helps to improve electrical safety for emergency responders at one- and two-family dwelling installations.
- **Deenergizing Panel Boards:** Revises service disconnect rules to help increase electrical worker safety.
- **Marinas and Boatyards:** Updates ground-fault protection and leakage-current measurement device requirements.
- **Power Over Ethernet:** Adapts NEC requirements to meet the installation practices of new and evolving technologies.
- **Conducting Load Calculations:** Modernizes the tables currently in use for calculations to reflect improvements in energy efficiency.
- **Reorganization of Article 310:** Includes new user friendly numbering for important ampacity tables
- **New general requirement:** Covering cables installed exposed on ceiling surfaces and sidewalls