

***Adoption of the  
2024 International Building Code (IBC),  
International Residential Building,  
International Fire Code,  
International Plumbing Code,  
International Mechanical Code,  
International Fuel/Gas Code,  
Swimming Pool and Spa Code & International Property Code***



# What does the International Building Code Include?

- ▶ Provides comprehensive regulations for most types of buildings
- ▶ Includes regulations to structures, fire protection, plumbing, pools/spas
- ▶ It aims to be compatible with other I-Codes for consistent applications.
- ▶ Model code developed by the International Code Council (ICC), updated every three (3) years.

# Texas and International Building Code

- ▶ The Texas Legislature has enacted laws to adopt the IRC and NEC for residential construction and the IBC for commercial and multi-family construction.
- ▶ While the state doesn't mandate the latest revision to be adopted immediately, adopting the 2024 IBC demonstrates leadership and commitment to safety beyond the minimum requirements.
- ▶ Recent adoption of the 2024 I-Codes by La Porte highlights a regional trend towards these updated standards.

# Texas Cities Which Have Adopted The 2024 International Building Code

- ▶ La Porte - February 10, 2025
- ▶ San Antonio - May 1, 2025
- ▶ Hutto - Incorporated in evaluation, but not adopted
- ▶ Addison - June 1, 2024
- ▶ Austin - July 10, 2025

# *Why Building Codes Matter?*

- ▶ Building codes are minimum standards for design, construction, and safety.
- ▶ They protect public health, safety and welfare of residents and visitors.
- ▶ Up-to-date code enhance community resilience against various hazards
- ▶ Adopting modern codes can lead to longer term cost savings and property values.
- ▶ Texas law encourages the adoption and enforcement of the International Codes.
- ▶ It might affect the cost & coverage of Insurance.

# OVERALL SIGNIFICANT CHANGES

- ▶ **Tornado Load Provisions:** For the first time, the IBC includes specific design considerations for tornado loadings in high-risk commercial structures, aligning with ASCE standards. This is particularly relevant for Texas.
- ▶ **Updated Hazard Loads:** Includes updated wind, earthquake, and snow load requirements based on most recent available information and engineering practices.
- ▶ **Enhanced Rain Load Design:** Updated design rain loads now account for static head, hydraulic head, and ponding head, improving roof drainage design.
- ▶ **Temporary Structures:** Updated and expanded provisions for the safety and stability of temporary structures used during construction or for events.
- ▶ **Wind Resistance for Aggregate Roofs:** New provisions address the wind resistance of aggregate-surfaced roofs, important for durability in coastal and windy regions.

# Changes To International Building Code (Commercial)

## *Building Design*

- ▶ **Puzzle rooms (escape rooms):** are now defined and regulated as special amusement areas, requiring compliance with section 411 and special means of egress requirements.
- ▶ **Vapor retarders:** several updates have been made to the vapor retarder provisions for consistency with the IRC and IECC. The changes also provided additional options and better guidance for allowable types and locations of permitted vapor retarders.

## *Accessibility*

- ▶ Providing an accessible design standard for electrical vehicle charging stations.
- ▶ Adult changing tables are now regulated where they are provided and are also required in large assembly and mercantile, college lecture hall/classroom buildings and highway rest stops.

## *Fire/Life Safety*

- ▶ Automatic sprinkler protection is now required in Group S-2 open parking garages where any fire area exceeds 48,000 square feet
- ▶ Occupiable space requirements now apply if a roof is usable for anything more than maintenance or repair and occupants must have access to multiple egress options from a story based on the occupant load and the story requirements.
- ▶ **Carbon Monoxide Detection:** Carbon monoxide (CO) detection is now required in all occupancies where a CO-producing device is present. Detection and notification can be addressed in several ways.

## Changes To International Building Code (Continued):

- ▶ Parapets of a minimum height are now required for aggregate-surfaced roofs to prevent blow-off
- ▶ For the first time ever, the 2024 IBC includes provisions for tornado loadings.
- ▶ New special inspections provisions for metal building systems.

# Changes To International Residential Building Code

## *Building Design*

- ▶ Special requirements for deck guardrails added
- ▶ New appendices for cob construction and 3D printed construction
- ▶ 30% reduction of airflow is permitted for balanced ventilation systems
- ▶ Reorganization of Chapter 3, Building, Planning, similar topics arranged together.
- ▶ New technical criteria for the use of optional sleeping lofts
- ▶ Updated to address the hazards associated with energy storage systems including protection for storage batteries in garages

## *Structural*

- ▶ Braced wall lines must be placed on a physical wall or placed between multiple walls.
- ▶ An engineered design is required for storm shelters
- ▶ Updated wind speed maps.
- ▶ Deck design now considers snow load, tributary area for footing and post height, and guard details.
- ▶ Components and cladding wind pressure in Table R301.2(2) are updated for new design wind speeds and hip or gable roof profiles.
- ▶ Cripple wall requirements apply only to exterior cripple wall.
- ▶ Snow, wind, and seismic maps updated.

# Changes To International Residential Building Code (Continued):

## *Fire/Life Safety:*

- ▶ The rated separation for two-family dwelling is 1 hour whether or not a lot line exists between units
- ▶ Emergency escape and rescue openings require a clear 36-inch-wide path to a public way.

## *Trade Work:*

- ▶ Commercial gas cooking appliances are prohibited.
- ▶ The head pressure for a water test of DWV systems increased to 10ft.
- ▶ Air vacuum testing is now permitted for plastic piping DWV systems.
- ▶ An emergency service 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.
- ▶ 10-amp circuits now allowed for some lighting and outlet circuits.

# Changes To International Fire Code

## ***Administrative***

- ▶ Requirements for additive manufacturing (3-D Printing) equipment and operations
- ▶ Provisions for emergency-responders communication were revised to reflect the expansion of such systems beyond radios and the need for increased performance of such systems.
- ▶ Valet trash collection - is now permitted only where approved. The owner and valet trash collections service provider are required to comply with the rules and limitations that are established by the jurisdiction. Appendix O has been added to provide requirements for adoption.
- ▶ Inflatable amusement devices - Section 3107 has been added to provide requirements for these devices.
- ▶ Temporary heating and cooking operations. A new Chapter 41 provides all the requirements, including some relocated from other chapters in the 2021 edition, that address temporary heating and cooking operations.
- ▶ Emergency Responders Communications Enhancement Systems (ERCES) - Provisions in section 510 have been updated to match the latest terminology and technology being used for ERCES. In addition, NFPA 1225-2022 Standard for Emergency Services Communications, is now referenced.

## ***Fire Code Building Design***

- ▶ Flame propagation performance of permanently installed artificial combustible vegetation is required to be verified when exceeding certain heights located on roofs or in close proximity to buildings.
- ▶ New chapter was added that provides clarification and specific requirements for the storage of distilled and wines in barrels and casks.
- ▶ A2L refrigerants-The IFC and IBC now acknowledge the need for the use of A2L (flammable) refrigerants but in a safe and well-regulated way. The code now acknowledges two hazard levels for flammable gases based upon the Global Harmonized Standards (GHS).
- ▶ Distilled spirits and wine storage-Fire protection requirements have been further refined based upon data from FM Global.

# Changes To International Fire Code (Continued):

## *Sprinklers:*

- ▶ Sprinkler requirements for the storage, manufacture and sale of upholstered furniture and mattress were updated and clarified. Part of this update is a new exception for single-story self-storage facilities accessed directly from the exterior.
- ▶ An automatic sprinkler system is now required for open parking garages exceeding a certain fire area threshold.

## *Fire Alarm/Notifications*

- ▶ Carbon Monoxide (CO) Detection, The 2024 and IFC now require CO alarms or detection systems for all types of occupancies. Previously the focus was only on residential and schools.

## *Energy Storage System/Lithium-Ion Batteries*

- ▶ The 2024 International Fire Code (IFC) continues its strong focus on ESS and lithium-ion battery safety, significantly referencing NFPA 855 for ESS regulation alongside IFC Section 1207. It includes specific sections addressing lithium-ion battery storage, research, and manufacturing, emphasizing active fire protection systems like automatic sprinklers and detection, as well as proper building design.

# Changes To International Plumbing Code

## *Updates to Building Design:*

- ▶ Two new methods for relining/rehabilitations of existing sewer Added.
- ▶ Accommodations for mounted roof top solar panels over vent terminals added.
- ▶ Option added for vacuum testing of drain, waste, and vent piping, which avoids the use of anti-freeze for leak testing in cold climates.

## *Updates to Plumbing Fixtures:*

- ▶ Multiple-user toilet facilities to both sexes are now permitted.
- ▶ Showerhead flow is limited to 2.0 gpm, enabling a 20% increase water conservation.

# Changes To International Mechanical Code

## ***New Applications:***

- ▶ 30% reduction in minimum mechanical ventilation for whole-house balanced ventilation systems.
- ▶ Approved factory-built combination intake/exhaust terminations permitted, relaxing separation requirement.

## ***Building Design:***

- ▶ Clothes dryer exhaust terminals to be at least 3ft 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.
- ▶ Addition of condensate termination identification markings and discharge restrictions.
- ▶ Conscious operation requirement for manicure and pedicure station exhaust
- ▶ Grease duct horizontal cleanout required within 3ft of a horizontal discharge fan.
- ▶ Ventilation design efficiencies are provided an optional compliance path through ASHRAE 62.1-2019

## ***Refrigerants:***

- ▶ Refrigerant tables updated to include new refrigerants
- ▶ Requirements added to enable lower global warming potential refrigerants for federal regulations now require, including Group A2L refrigerants.
- ▶ Addition of a new testing option for grease ductwork.

# Changes To 2024 International Fuel/Gas Code

## *Piping*

- ▶ The termination of concealed condensate piping requires markings to indicate if it is the primary drain or the secondary drain.
- ▶ Press-connect joints acceptable for high pressure (over 5 psig) applications indoors.

## *Appliances*

- ▶ Commercial cooking appliances are not allowed within dwelling units.
- ▶ Appendix D-D105.2, testing for combustion air and vent drafting for natural draft and category I appliances.

## *Other*

- ▶ Workmanship and defects: language has been rewritten and additional code language has been added.

# Changes To Swimming Pool and Spa Code

- ▶ The barrier requirements now allow a pool screen enclosure that restricts entry into an area with a pool or spas, allowing more options for compliance.
- ▶ The code provides for a standardized method to determine slip resistance on walking surfaces for decks, ramps, and similar surfaces that are required to be slip resistant.

# Changes To International Property Maintenance Code

- ▶ Modification to the means of appeal and the appendix regarding the board of appeals.
- ▶ Update to the notice and notification of violation for the IPMC.
- ▶ Use of portable space heaters are updated to match IBC, IRC, and IMC requirements.
- ▶ Smoke alarms are noted to be required if bars, grills, grates, or similar devices are placed over emergency escape and rescue openings.
- ▶ Fire protection systems are required to be installed, repaired, operated, and maintained in accordance with the IFC and IBC.

# Why Adopt 2024 International Building Codes?

- ▶ **Long-Term Cost Savings:** While initial adoption may have costs, updated codes can lead to more durable and energy-efficient buildings, reducing long-term maintenance and energy expenses.
- ▶ **Potential for Lower Insurance Costs:** Buildings constructed to modern codes may qualify for lower insurance premiums due to reduced risk.
- ▶ **Consistency:** Using the same code as other jurisdictions in Texas can improve consistency and understanding within the construction industry.

# Acknowledging and Overcoming Challenges

- ▶ **Initial Adoption Costs:** There will be costs associated with training building officials and updating local regulations. However, these are often outweighed by long-term benefits.
- ▶ **Industry Familiarization:** Builders and contractors will need time to become familiar with the new code. Training and resources can mitigate this.
- ▶ **Potential for Increased Construction Costs:** Some new requirements or materials might slightly increase initial construction costs, but these often lead to better quality and longevity.



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