

Significant changes to 2024 International Codes

The 2024 International Residential Code (IRC®) is a comprehensive code comprising all building, plumbing, mechanical, fuel gas, and energy conservation requirements (not yet published) for one- and two-family dwellings and townhouses up to three stories. Important 2024 IRC changes include:

- Imaginary lot lines are added for calculating fire separation distance when considering multiple dwellings on a single lot
- Shared accessory rooms are an option in two-family dwellings.
- Many requirements for energy storage systems are added.
- New protection requirements for storage batteries in garages are added.
- Sleeping loft requirements added for habitable attic style lofts and tiny home style lofts now have maximum size limits to meet an exception.
- Reinforcement of the floor below guards at a mezzanine is now required.
- The final test of the DWV system may be visual.
- Air exhaust openings now allowed near operable windows and doors.
- A2L refrigerants are added as an option for cooling equipment.
- Solvent cement joints for CPVC pipe are allowed above and below ground.
- Snow, wind, and seismic maps updated.
- Accessibility in care facilities clarified.

The 2024 International Building Code (IBC®) applies to all buildings except detached one- and two-family dwellings and townhouses up to three stories. Important 2024 IBC changes include:

- Duties and powers of the building official: Section 104 regulating duties of the building official and the approach for reviewing for code compliance has been significantly updated to reflect the current manner that alternate materials, designs and methods are evaluated.
- For the first time ever, the 2024 IBC includes provisions for tornado loadings.
- Updated wind, earthquake, and snow loads.
- The updated design rain loads are now based on the summation of the static head, the hydraulic head, and the ponding head.
- Updates to Risk Categories including Photovoltaic (PV) panel systems and facilities providing power generation.
- Updated and expanded provisions for Temporary Structures.
- New provisions regarding the wind resistance of aggregate-surfaced roofs.
- Roof Coverings: Updated provisions for underlayment.
- New special inspection provisions for metal building systems.
- New provisions for structural concrete reinforced with glass-fiber reinforcement.
- Concrete: Chapter 19 on Concrete has been Updated and reformatted.
- Masonry: TMS 402 and TMS 602 references have been updated to the latest 2022 editions.
- Increased the allowable height of a Group R-2 occupancy building with an NFPA 13R sprinkler system.
- 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.

- Adult changing tables regulations are added where they are required in large assembly and mercantile, college lecture hall/classroom buildings and highway rest stops, or provided.
- Fire-resistance-rated Wall Continuity: Updates on how supporting construction for exterior walls is to be fire-resistance-rated, especially in the case of a parapet.
- Openings in Shaft Enclosures: Additional exceptions are provided for shaft enclosures, including new allowances for openings and penetrations.
- 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.
- Vapor retarders: Several updates have been made to the vapor retarder provisions for consistency with the IRC and IECC. The changes also provide additional options and better guidance for allowable types and locations of permitted vapor retarders.
- Vertical and lateral Flame propagation compliance methods: Clarification has been provided as to when testing in accordance with NFPA 285, related to vertical and lateral flame propagation, is required. Previously this information was scattered in a variety of locations within Chapters 14 and 26.
- New Appendix P sets forth the scoping limitations and technical criteria for sleeping lofts that are provided within Group R dwelling units and sleeping units.

The 2024 International Plumbing Code (IPC®) provides minimum regulations for plumbing facilities and allows for the acceptance of new and innovative products, materials, and systems. Plumbing and plumbing fixture related accessibility provisions and requirements from the ICC A117.1 Accessibility Standard are also included. Important 2024 IPC changes include:

- Provisions added for support of buried piping beneath building where expansive soil conditions exist.
- Requirement added for tracer wire for buried plastic sewer piping.
- Option added for vacuum testing of DWV piping.
- Plumbing fixture requirements significantly updated for various Group I occupancies.
- Exception added for allowing special locking mechanism for doors to multiple-user toilet facilities.
- Plastic pans for gas-fired water heaters required to be tested in accordance with ASTM E84 or UL 723.
- Showerhead flow limited to 2.0 gpm with performance complying with high efficiency requirements.
- Installation standards added for solvent-cemented plastic piping joints.
- Standards added for chemical waste piping materials.

The 2024 International Mechanical Code (IMC®) establishes minimum regulations for mechanical systems using prescriptive and performance-related provisions that allow the use of new and innovative materials, methods and designs. Important 2024 IMC changes include:

- Provisions prohibiting the use of domestic ductless range hoods in Groups I-1 and I-2 were removed.
- An identification requirement was added for Group A2L and B2L refrigerants.

- The requirements for machinery rooms containing Group A2L refrigerants were changed and Group B2L refrigerants were added to the provisions.
- Limits for the use of Group A1 and A2L refrigerants changed in high probability systems used for human comfort, unless permitted as excepted.
- UL 2158A Standard was added to the requirements for commercial dryer exhaust.
- Ventilation requirements for outpatient healthcare facilities to match the requirements in ASHRAE 62.1-2019.
- Addition of a new minimum landing at the roof hatch for personnel to safely use the hatch when accessing the roof for repair and maintenance.
- Addition of a new testing option for grease ductwork.
- Requirements for steam baths were added.
- A new standard requirement for refrigeration systems containing carbon dioxide was added.

The 2024 International Fuel Gas Code (IFGC®) addresses the design and installation of fuel gas systems and gas-fired appliances through prescriptive and performance requirements. Important 2024 IFGC® changes include:

- [BS] 302.3.1 Engineered wood products. Sections 302.3.2, 302.3.3, and 302.3.4 have all been deleted.
- 304.1 General. The entire section is new for the 2024 Codes. Existing code language has been deleted.
- 304.12 Protection from fumes and gases. Existing code language has been deleted. The entire section is new for the 2024 Codes.
- 403.6 Workmanship and defects. Existing code language has been rewritten and additional code language has been added for the 2024 Codes.
- Appendix C - C105.2, Test for combustion air and vent drafting for natural draft and Category I appliances. Existing code language has been deleted. The entire section is new for the 2024 Codes (appendices are voluntary and apply only if specifically adopted).

The 2024 International Existing Building Code (IEBC®) encourages the use and reuse of existing buildings. This code covers repair, alteration, addition and change of occupancy for existing buildings and historic buildings to achieve appropriate levels of safety without requiring full compliance with new construction requirements. Important 2024 IEBC® changes include:

- **Occupiable roofs.** The concept of occupiable roofs requirements has been incorporated in a variety of locations to correlate with the IBC.
- **Storm Shelters.** The requirements have been coordinated with revisions in the IBC and ICC 500, clarifying that where constructed, storm shelters shall comply with IBC Section 423.
- **Risk category increase.** Clarifies how risk categories should be assigned for structural design where the addition and the existing building have different uses.
- **Smoke compartment requirements.** Existing Group I-1, condition 2 occupancies and ambulatory care facilities may be required to divide stories into no fewer than two smoke compartments for more substantial additions and alterations.
- **Adult Changing stations.** Where additional toilet facilities are being added and IBC Section 1110.4.1 would require adult changing stations, Section 306.7.15 would require that at least one accessible family or assisted use toilet room must contain one.

- **Exterior wall covering and wall envelopes sprinkler requirement.** Section 309.2.1 has been added to require that if combustible exterior wall envelopes or coverings are installed on a high-rise building, the building must be equipped throughout with a sprinkler system. There are some exceptions for smaller installations and when only a combustible water resistive barrier is installed.
- **Owners' responsibility at construction sites.** Section 1502 was added to address the need for the owner to properly develop, implement and maintain a site safety plan during construction. A site safety director must be designated who is responsible for conducting daily fire safety inspections.
- **Non-required automatic sprinkler system.** A section has been added to Chapter 10 (under the change of occupancy classification requirements) to allow removal of a nonrequired existing automatic sprinkler system if several criteria are met.
- **APPENDIX E TEMPORARY EMERGENCY USES.** This new appendix was created to provide guidance for designers, engineers, architects, and fire and building officials to allow temporary emergency uses of existing buildings with respect to the minimum code requirements. This appendix is intended to serve as a template or checklist for use during an emergency that references the relevant code requirements.

The 2024 International Property Maintenance Code (IPMC®) provides requirements for continued use and maintenance of buildings, site conditions, swimming pools, plumbing, mechanical, electrical and fire protection systems in existing residential and nonresidential structures.