

IBC[®]

INTERNATIONAL
BUILDING
CODE[®]

A Member of the International Code Family[®]

2021



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PREFACE

Introduction

The *International Building Code*® (IBC®) establishes minimum requirements for building systems using prescriptive and performance-related provisions. It is founded on broad-based principles that make possible the use of new materials and new building designs. This 2021 edition is fully compatible with all of the International Codes® (I-Codes®) published by the International Code Council® (ICC®), including the *International Energy Conservation Code*® (IECC®), *International Existing Building Code*® (IEBC®), *International Fire Code*® (IFC®), *International Fuel Gas Code*® (IFGC®), *International Green Construction Code*® (IgCC®), *International Mechanical Code*® (IMC®), *International Plumbing Code*® (IPC®), *International Private Sewage Disposal Code*® (IPSDC®), *International Property Maintenance Code*® (IPMC®), *International Residential Code*® (IRC®), *International Swimming Pool and Spa Code*® (ISPSC®), *International Wildland-Urban Interface Code*® (IWUIC®), *International Zoning Code*® (IZC®) and *International Code Council Performance Code*® (ICPC®).

In addition to the codes themselves, the code development process brings together building professionals on a regular basis. It provides an international forum for discussion and deliberation about building design, construction methods, safety, performance requirements, technological advances and innovative products.

The I-Codes, including the IBC, are used in a variety of ways in both the public and private sectors. Most industry professionals are familiar with the I-Codes as the basis of laws and regulations in communities across the US and in other countries. However, the impact of the codes extends well beyond the regulatory arena, as they are used in a variety of nonregulatory settings, including:

- Voluntary compliance programs such as those promoting sustainability, energy efficiency and disaster resistance.
- The insurance industry, to estimate and manage risk, and as a tool in underwriting and rate decisions.
- Certification and credentialing of individuals involved in the fields of building design, construction and safety.
- Certification of building and construction-related products.
- US federal agencies, to guide construction in an array of government-owned properties.
- Facilities management.
- “Best practices” benchmarks for designers and builders, including those who are engaged in projects in jurisdictions that do not have a formal regulatory system or a governmental enforcement mechanism.
- College, university and professional school textbooks and curricula.
- Reference works related to building design and construction.

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Development

This 2021 edition presents the code as originally issued, with changes reflected in the 2003 through 2018 editions and further changes approved by the ICC Code Development Process through 2019. A new edition such as this is promulgated every 3 years.

This code is intended to establish provisions that adequately protect public health, safety and welfare; that do not unnecessarily increase construction costs; that do not restrict the use of new materials, products or methods of construction; and that do not give preferential treatment to particular types or classes of materials, products or methods of construction.

Maintenance

The IBC is kept up to date through the review of proposed changes submitted by code enforcement officials, industry representatives, design professionals and other interested parties. Proposed changes are carefully considered through an open code development process in which all interested and affected parties may participate.

The ICC Code Development Process reflects principles of openness, transparency, balance, due process and consensus, the principles embodied in OMB Circular A-119, which governs the federal government’s use of private-sector standards. The ICC process is open to anyone; there is no cost to participate, and people can participate without travel cost through the ICC’s cloud-based app, cdpAccess®. A broad cross section of interests are represented in the ICC Code Development Process. The codes, which are updated regularly, include safeguards that allow for emergency action when required for health and safety reasons.

In order to ensure that organizations with a direct and material interest in the codes have a voice in the process, the ICC has developed partnerships with key industry segments that support the ICC’s important public safety mission. Some code development committee members were nominated by the following industry partners and approved by the ICC Board:

- American Institute of Architects (AIA)
- National Association of Home Builders (NAHB)
- National Association of State Fire Marshals (NASFM)

The code development committees evaluate and make recommendations regarding proposed changes to the codes. Their recommendations are then subject to public comment and council-wide votes. The ICC’s governmental members—public safety officials who have no financial or business interest in the outcome—cast the final votes on proposed changes.

The contents of this work are subject to change through the code development cycles and by any governmental entity that enacts the code into law. For more information regarding the code development process, contact the Codes and Standards Development Department of the ICC.

While the I-Code development procedure is thorough and comprehensive, the ICC, its members and those participating in the development of the codes disclaim any liability resulting from the publication or use of the I-Codes, or from compliance or noncompliance with their provisions. The ICC does not have the power or authority to police or enforce compliance with the contents of this code.

IBC Primary Code Development Committees

In each code development cycle, code change proposals to this code are considered at the Committee Action Hearings by 11 different code development committees. Four of these committees have primary responsibility for designated chapters and appendices as shown in the following table:

IBC CODE COMMITTEES	
IBC—Egress Code Development Committee [BE]:	Chapters 10, 11, Appendix E
IBC—Fire Safety Code Development Committee [BF]:	Chapters 7, 8, 9, 14, 26
IBC—General Code Development Committee [BG]:	Chapters 2, 3, 4, 5, 6, 12, 27, 28, 29, 30, 31, 32, 33, Appendices A, B, C, D, K, N, O
IBC—Structural Code Development Committee [BS]:	Chapters 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, Appendices F, G, H, I, J, L, M

Code Development Committee Responsibilities (Letter Designations in Front of Section Numbers)

As mentioned in the preceding material, in each code development cycle, code change proposals to this code are considered at the Committee Action Hearings by 11 different code development committees.

Code change proposals to sections of the code that are preceded by a bracketed letter designation, such as [A], will be considered by a committee other than the building code committee listed for the chapter or appendix on the preceding page. For example, proposed code changes to Section [F] 307.1.1 will be considered by the International Fire Code Development Committee during the Committee Action Hearing in the 2021 (Group A) code development cycle.

The bracketed letter designations for committees responsible for portions of this code are as follows:

- [A] = Administrative Code Development Committee
- [BE] = IBC—Egress Code Development Committee
- [BF] = IBC—Fire Safety Code Development Committee
- [BG] = IBC—General Code Development Committee
- [BS] = IBC—Structural Code Development Committee
- [E] = International Commercial Energy Conservation Code Development Committee or International Residential Energy Conservation Code Development Committee
- [EB] = International Existing Building Code Development Committee
- [F] = International Fire Code Development Committee
- [FG] = International Fuel Gas Code Development Committee
- [M] = International Mechanical Code Development Committee
- [P] = International Plumbing Code Development Committee

For the development of the 2024 edition of the I-Codes, there will be two groups of code development committees and they will meet in separate years, as shown in the following Code Development Hearings Table.

Code change proposals submitted for code sections that have a letter designation in front of them will be heard by the respective committee responsible for such code sections. Because different committees hold Committee Action Hearings in different years, proposals for the IBC will be heard by committees in both the 2021 (Group A) and the 2022 (Group B) code development cycles.

For instance, every section of Chapter 16 is the responsibility of the IBC—Structural Code Development Committee. As noted in the preceding table, that committee will hold its Committee Action Hearings in 2022 to consider code change proposals for the chapters for which it is responsible. Therefore any proposals received for Chapter 16 of this code will be assigned to the IBC—Structural Code Development Committee and will be considered in 2022, during the Group B code change cycle.

It is very important that anyone submitting code change proposals understands which code development committee is responsible for the section of the code that is the subject of the code change proposal. For further information on the Code Development Committee responsibilities, please visit the ICC website at www.iccsafe.org/current-code-development-cycle.

CODE DEVELOPMENT HEARINGS

Group A Codes (Heard in 2021, Code Change Proposals Deadline: January 11, 2021)	Group B Codes (Heard in 2022, Code Change Proposals Deadline: January 10, 2022)
International Building Code <ul style="list-style-type: none"> – Egress (Chapters 10, 11, Appendix E) – Fire Safety (Chapters 7, 8, 9, 14, 26) – General (Chapters 2–6, 12, 27–33, Appendices A, B, C, D, K, N) 	Administrative Provisions (Chapter 1 of all codes except IECC, IRC and IgCC; IBC Appendix O; the appendices titled “Board of Appeals” for all codes except IECC, IRC, IgCC, ICCPC and IZC; administrative updates to currently referenced standards; and designated definitions)
International Fire Code	International Building Code <ul style="list-style-type: none"> – Structural (Chapters 15–25, Appendices F, G, H, I, J, L, M)
International Fuel Gas Code	International Existing Building Code
International Mechanical Code	International Energy Conservation Code—Commercial
International Plumbing Code	International Energy Conservation Code—Residential <ul style="list-style-type: none"> – IECC—Residential – IRC—Energy (Chapter 11)
International Property Maintenance Code	International Green Construction Code (Chapter 1)
International Private Sewage Disposal Code	International Residential Code <ul style="list-style-type: none"> – IRC—Building (Chapters 1–10, Appendices AE, AF, AH, AJ, AK, AL, AM, AO, AQ, AR, AS, AT, AU, AV, AW)
International Residential Code <ul style="list-style-type: none"> – IRC—Mechanical (Chapters 12–23) – IRC—Plumbing (Chapters 25–33, Appendices AG, AI, AN, AP) 	
International Swimming Pool and Spa Code	
International Wildland-Urban Interface Code	
International Zoning Code	

Note: Proposed changes to the ICCPC will be heard by the code development committee noted in brackets [] in the text of the ICCPC.

Marginal Markings

Solid vertical lines in the margins within the body of the code indicate a technical change from the requirements of the 2018 edition. Deletion indicators in the form of an arrow (➡) are provided in the margin where an entire section, paragraph, exception or table has been deleted or an item in a list of items or a row of a table has been deleted.

A single asterisk [*] placed in the margin indicates that text or a table has been relocated within the code. A double asterisk [**] placed in the margin indicates that the text or table immediately following it has been relocated there from elsewhere in the code. The following table indicates such relocations in the 2021 edition of the IBC.

RELOCATIONS

2021 LOCATION	2018 LOCATION
508.5–508.5.11	419.1–419.9
904.12	904.14
904.13	904.12
904.14	904.13
1010.2	1010.1.9
1010.2.1	1010.1.9.6
1010.2.2	1010.1.9.1
1010.2.3	1010.1.9.2
1010.2.4	1010.1.9.4
1010.2.5	1010.1.9.5
1010.2.6	1010.1.9.6.1
1010.2.7	1010.1.9.12
1010.2.8	1010.1.4.4
1010.2.9	1010.1.10
1010.2.9.3	1010.1.10.1
1010.2.9.4	1010.1.10.2
1010.2.10	1010.1.9.3
1010.2.11	1010.1.9.10
1010.2.12	1010.1.9.9
1010.2.13	1010.1.9.8
1010.2.13.1	1010.1.9.8.1
1010.2.14	1010.1.9.7
1010.2.15	1010.1.9.11
1010.3	1010.1.4
1010.3.1	1010.1.4.1
Table 1010.3.1(1)	Table 1010.1.4.1(1)
Table 1010.3.1(2)	Table 1010.1.4.1(2)
1010.3.1.1	1010.1.4.1.1
1010.3.1.2	1010.1.4.1.2
1010.3.2	1010.1.4.2
1010.3.3	1010.1.4.3
1029.1	1028.4
1029.2	1028.4.2
1029.3	1028.4.2

(continued)

RELOCATIONS—continued

2021 LOCATION	2018 LOCATION
1107.3	1109.14
1110.14	1109.12.1
1605.2	605.3.2
1607.14.2.2	1607.13.3
1607.14.4.3	1607.13.5.2.1
2304.12.2.6	2304.12.3
2304.12.2.6.1	2304.12.3.1
2304.12.2.7	2304.12.4
2304.12.2.8	2304.12.5
3301.2.1	1511.2

Coordination of the International Codes

The coordination of technical provisions is one of the strengths of the ICC family of model codes. The codes can be used as a complete set of complementary documents, which will provide users with full integration and coordination of technical provisions. Individual codes can also be used in subsets or as stand-alone documents. To make sure that each individual code is as complete as possible, some technical provisions that are relevant to more than one subject area are duplicated in some of the model codes. This allows users maximum flexibility in their application of the I-Codes.

Italicized Terms

Terms italicized in code text, other than document titles, are defined in Chapter 2. The terms selected to be italicized have definitions that the user should read carefully to better understand the code. Where italicized, the Chapter 2 definition applies. If not italicized, common-use definitions apply.

Note: In Sections 1903 through 1905, italics indicate provisions that differ from ACI 318.

Adoption

The International Code Council maintains a copyright in all of its codes and standards. Maintaining copyright allows the ICC to fund its mission through sales of books, in both print and electronic formats. The ICC welcomes adoption of its codes by jurisdictions that recognize and acknowledge the ICC's copyright in the code, and further acknowledge the substantial shared value of the public/private partnership for code development between jurisdictions and the ICC.

The ICC also recognizes the need for jurisdictions to make laws available to the public. All I-Codes and I-Standards, along with the laws of many jurisdictions, are available for free in a nondownloadable form on the ICC's website. Jurisdictions should contact the ICC at adoptions@iccsafe.org to learn how to adopt and distribute laws based on the IBC in a manner that provides necessary access, while maintaining the ICC's copyright.

To facilitate adoption, several sections of this code contain blanks for fill-in information that needs to be supplied by the adopting jurisdiction as part of the adoption legislation. For this code, please see:

Section 101.1. Insert: [NAME OF JURISDICTION]

Section 103.1. Insert: [NAME OF DEPARTMENT]

Section 1612.3. Insert: [NAME OF JURISDICTION]

Section 1612.3. Insert: [DATE OF ISSUANCE]

Effective Use of the International Building Code

The IBC is a model code that provides minimum requirements to safeguard the public health, safety and general welfare of the occupants of new and existing buildings and structures. The IBC is fully compatible with the ICC family of codes, including: the IECC, IEBC, IFC, IFGC, IgCC, IMC, IPC, IPSC, IPMC, IRC, ISPSC, IWUIC, IZC and ICCPC.

The IBC addresses structural strength, means of egress, sanitation, adequate lighting and ventilation, accessibility, energy conservation and life safety in regard to new and existing buildings, facilities and systems. The codes are promulgated on a 3-year cycle to allow for new construction methods and technologies to be incorporated into the codes. Alternative materials, designs and methods not specifically addressed in the code can be approved by the building official where the proposed materials, designs or methods comply with the intent of the provisions of the code (see Section 104.11).

The IBC applies to all occupancies, including one- and two-family dwellings and townhouses that are not within the scope of the IRC. The IRC is referenced for coverage of detached one- and two-family dwellings and townhouses as defined in the exception to Section 101.2 and the definition for “Townhouse” in Chapter 2. The IRC can also be used for the construction of live/work units (as defined in Section 508.5) and small bed and breakfast-style hotels where there are five or fewer guest rooms and the hotel is owner occupied. The IBC applies to all types of buildings and structures unless exempted. Work exempted from permits is listed in Section 105.2.

