

**2012 IFC<sup>®</sup>**

**2012 CODE AND COMMENTARY**



2012 International Fire Code® Commentary

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# PREFACE

The principal purpose of the Commentary is to provide a basic volume of knowledge and facts relating to building construction as it pertains to the regulations set forth in the 2012 *International Fire Code*. The person who is serious about effectively designing, constructing and regulating buildings and structures will find the Commentary to be a reliable data source and reference to almost all components of the built environment.

As a follow-up to the *International Fire Code*, we offer a companion document, the *International Fire Code Commentary*. The basic appeal of the Commentary is thus: it provides in a small package and at reasonable cost thorough coverage of many issues likely to be dealt with when using the *International Fire Code* — and then supplements that coverage with historical and technical background. Reference lists, information sources and bibliographies are also included.

Throughout all of this, effort has been made to keep the vast quantity of material accessible and its method of presentation useful. With a comprehensive yet concise summary of each section, the Commentary provides a convenient reference for regulations applicable to the construction of buildings and structures. In the chapters that follow, discussions focus on the full meaning and implications of the code text. Guidelines suggest the most effective method of application, and the consequences of not adhering to the code text. Illustrations are provided to aid understanding; they do not necessarily illustrate the only methods of achieving code compliance.

The format of the Commentary includes the full text of each section, table and figure in the code, followed immediately by the commentary applicable to that text. At the time of printing, the Commentary reflects the most up-to-date text of the 2012 *International Fire Code*. Each section's narrative includes a statement of its objective and intent, and usually includes a discussion about why the requirement commands the conditions set forth. Code text and commentary text are easily distinguished from each other. All code text is shown as it appears in the *International Fire Code*, and all commentary is indented below the code text and begins with the symbol ❖.

Readers should note that the Commentary is to be used in conjunction with the *International Fire Code* and not as a substitute for the code. The Commentary is advisory only; the code official alone possesses the authority and responsibility for interpreting the code.

Comments and recommendations are encouraged, for through your input, we can improve future editions. Please direct your comments to the Codes and Standards Development Department at the Chicago District Office.

The International Code Council would like to extend its thanks to the following individuals for their contributions to the technical content of this commentary:

David Fredrickson  
Gene Boecker  
Marcelo Hirschler



## Arrangement and Format of the 2012 IFC

Before applying the requirements of the IFC it is beneficial to understand its arrangement and format. The IFC, like other codes published by the International Code Council, is arranged and organized to follow sequential steps that generally occur during a plan review or inspection. The 2012 IFC has been reorganized into 7 Parts as illustrated in the tables below. Each Part represents a broad subject matter and includes the chapters that logically fit under the subject matter of each Part. It is also foreseeable that additional chapters will need to be added in the future as regulations for new processes or operations are developed. Accordingly, the reorganization was designed to accommodate such future chapters by providing reserved (unused) chapters in several of the Parts. This will allow the subject matter parts to be conveniently and logically expanded without requiring a major renumbering of the IFC chapters.

<b>2012 REORGANIZATION OF THE IFC</b>	
<b>Parts and Chapters</b>	<b>Subject Matter</b>
Part I – Chapters 1 and 2	Administrative and definitions
Part II – Chapters 3 and 4	General safety provisions
Part III – Chapters 5 through 11	Building and equipment design features
Part III - Chapters 12 through 19	Reserved for future use
Part IV – Chapters 20 through 36	Special occupancies and operations
Part IV – Chapters 37 through 49	Reserved for future use
Part V – Chapters 50 through 67	Hazardous materials
Part V – Chapters 68 through 79	Reserved for future use
Part VI – Chapter 80	Referenced standards
Part VII - Appendices A through J	Adoptable and informational appendices

2012 IFC CHAPTER REORGANIZATION		
CHAPTER NUMBER 2009	CHAPTER NUMBER 2012	CHAPTER TITLE
1	1	Scope and Administration
2	2	Definitions
3	3	General Requirements
4	4	Emergency Planning and Preparedness
5	5	Fire Service Features
6	6	Building Services and Systems
7	7	Fire-Resistance-Rated Construction
8	8	Interior Finish, Decorative Materials and Furnishings
9	9	Fire Protection Systems
10	10	Means Of Egress
11	20	Aviation Facilities
12	21	Dry Cleaning
13	22	Combustible Dust-Producing Operations
14	33	Fire Safety during Construction and Demolition
15	24	Flammable Finishes
16	25	Fruit and Crop Ripening
17	26	Fumigation and Insecticidal Fogging
18	27	Semiconductor Fabrication Facilities
19	28	Lumber Yards and Woodworking Facilities
20	29	Manufacture of Organic Coatings
21	30	Industrial Ovens
22	23	Motor Fuel-Dispensing Facilities and Repair Garages
23	32	High-Piled Combustible Storage
24	31	Tents and Other Membrane Structures
25	34	Tire Rebuilding and Tire Storage
26	35	Welding and Other Hot Work
27	50	Hazardous Materials—General Provisions
28	51	Aerosols
29	52	Combustible Fibers
30	53	Compressed Gases
31	54	Corrosive Materials
32	55	Cryogenic Fluids
33	56	Explosives and Fireworks
34	57	Flammable and Combustible Liquids
35	58	Flammable Gases and Flammable Cryogenic Fluids
36	59	Flammable Solids
37	60	Highly Toxic and Toxic Materials
38	61	Liquefied Petroleum Gases
39	62	Organic Peroxides

(continued)

<b>2012 IFC CHAPTER REORGANIZATION—continued</b>		
<b>CHAPTER NUMBER 2009</b>	<b>CHAPTER NUMBER 2012</b>	<b>CHAPTER TITLE</b>
40	63	Oxidizers, Oxidizing Gases and Oxidizing Cryogenic Fluids
41	64	Pyrophoric Materials
42	65	Pyroxylin (Cellulose Nitrate) Plastics
43	66	Unstable (Reactive) Materials
44	67	Water-Reactive Solids and Liquids
45	36	Marinas
46	11	Construction Requirements for Existing Buildings
47	80	Referenced Standards
Appendix A-J	Appendix A-J	No changes in reorganization

The IFC requirements for fire-resistive construction, interior finish, fire protection systems, means of egress and construction safeguards are directly correlated to the chapters containing parallel requirements in the IBC, as follows:

<b>IFC Chapter</b>	<b>Subject</b>
7	Fire-resistance-rated construction
8	Interior finish, decorative materials and furnishings
9	Fire protection systems
10	Means of egress
33	Fire safety during construction and demolition





# LEGISLATION

The *International Codes* are designed and promulgated to be adopted by reference by legislative action. Jurisdictions wishing to adopt the 2012 *International Fire Code Commentary* as an enforceable set of regulations for the safeguarding of life and property from fire and explosion hazards arising from the storage, handling and use of hazardous substances, materials and devices, and from conditions hazardous to life or property in the occupancy of buildings and premises should ensure that certain factual information is included in the adopting legislation at the time adoption is being considered by the appropriate governmental body. The following sample adoption legislation addresses several key elements, including the information required for insertion into the code text.

## SAMPLE LEGISLATION FOR ADOPTION OF THE *INTERNATIONAL FIRE CODE* ORDINANCE NO. \_\_\_\_\_

A[N] [ORDINANCE/STATUTE/REGULATION] of the [NAME OF JURISDICTION] adopting the 2012 edition of the *International Fire Code*, regulating and governing the safeguarding of life and property from fire and explosion hazards arising from the storage, handling and use of hazardous substances, materials and devices, and from conditions hazardous to life or property in the occupancy of buildings and premises in the [NAME OF JURISDICTION]; providing for the issuance of permits and collection of fees therefor; repealing [ORDINANCE/STATUTE/REGULATION] No. \_\_\_\_\_ of the [NAME OF JURISDICTION] and all other ordinances or parts of laws in conflict therewith.

The [GOVERNING BODY] of the [NAME OF JURISDICTION] does ordain as follows:

**Section 1.** That a certain document, three (3) copies of which are on file in the office of the [TITLE OF JURISDICTION'S KEEPER OF RECORDS] of [NAME OF JURISDICTION], being marked and designated as the *International Fire Code*, 2012 edition, including Appendix Chapters [FILL IN THE APPENDIX CHAPTERS BEING ADOPTED] (see *International Fire Code* Section 101.2.1, 2012 edition), as published by the International Code Council, be and is hereby adopted as the Fire Code of the [NAME OF JURISDICTION], in the State of [STATE NAME] regulating and governing the safeguarding of life and property from fire and explosion hazards arising from the storage, handling and use of hazardous substances, materials and devices, and from conditions hazardous to life or property in the occupancy of buildings and premises as herein provided; providing for the issuance of permits and collection of fees therefor; and each and all of the regulations, provisions, penalties, conditions and terms of said Fire Code on file in the office of the [NAME OF JURISDICTION] are hereby referred to, adopted, and made a part hereof, as if fully set out in this legislation, with the additions, insertions, deletions and changes, if any, prescribed in Section 2 of this ordinance.

**Section 2.** That the following sections are hereby revised:

Section 101.1. Insert: [NAME OF JURISDICTION]

Section 109.4. Insert: [OFFENSE, DOLLAR AMOUNT, NUMBER OF DAYS]

Section 111.4. Insert: [DOLLAR AMOUNT IN TWO LOCATIONS]

**Section 3.** That the geographic limits referred to in certain sections of the 2012 *International Fire Code* are hereby established as follows:

Section 5704.2.9.6.1 (geographic limits in which the storage of Class I and Class II liquids in above-ground tanks outside of buildings is prohibited): [JURISDICTION TO SPECIFY]

Section 5706.2.4.4 (geographic limits in which the storage of Class I and Class II liquids in above-ground tanks is prohibited): [JURISDICTION TO SPECIFY]

Section 5806.2 (geographic limits in which the storage of flammable cryogenic fluids in stationary containers is prohibited): [JURISDICTION TO SPECIFY]

Section 6104.2 (geographic limits in which the storage of liquefied petroleum gas is restricted for the protection of heavily populated or congested areas): [JURISDICTION TO SPECIFY]

**Section 4.** That [ORDINANCE/STATUTE/REGULATION] No. \_\_\_\_\_ of [NAME OF JURISDICTION] entitled [FILL IN HERE THE COMPLETE TITLE OF THE LEGISLATION OR LAWS IN EFFECT AT THE PRESENT TIME SO THAT THEY WILL BE REPEALED BY SPECIFIC REFERENCE] and all other ordinances or parts of laws in conflict herewith are hereby repealed.

**Section 5.** That if any section, subsection, sentence, clause or phrase of this legislation is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The [GOVERNING BODY] hereby declares that it would have passed this law, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

**Section 6.** That nothing in this legislation or in the Fire Code hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or ordinance hereby repealed as cited in Section 4 of this law; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this legislation.

**Section 7.** That the [JURISDICTION'S KEEPER OF RECORDS] is hereby ordered and directed to cause this legislation to be published. (An additional provision may be required to direct the number of times the legislation is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.)

**Section 8.** That this law and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect [TIME PERIOD] from and after the date of its final passage and adoption.

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