

Florida Building Code, Fuel Gas, 6th Edition (2017)

First Printing: July 2017

ISBN: 978-1-60983-691-7

 $\begin{array}{c} \text{COPYRIGHT} © 2017 \\ \text{by} \\ \text{INTERNATIONAL CODE COUNCIL, INC.} \end{array}$

ALL RIGHTS RESERVED. This *Florida Building Code*, *Fuel Gas*, *6th Edition* (2017) contains substantial copyrighted materials from the 2015 *International Fuel Gas Code*®, 4th printing, which is a copyrighted work owned by the International Code Council, Inc., that is © 2015 International Code Council, Inc. ALL RIGHTS RESERVED. Without advance written permission from the copyright owner, no part of this work may be reproduced, distributed or transmitted in any form or by any means, including, without limitation, electronic, optical or mechanical means (by way of example, and not limitation, photocopying, or recording by or in an information storage retrieval system). For information on use rights and permissions, please contact: Publications, 4051 Flossmoor Road, Country Club Hills, IL 60478. Phone 1-888-ICC-SAFE (422-7233).

The following trademarks: "International Code Council," the "International Code Council" logo, "ICC," the "ICC" logo, the "International Fuel Gas Code," and the "IFGC" are trademarks of the International Code Council, Inc., and may not be used without permission.

Material designated IFGS
by
AMERICAN GAS ASSOCIATION
400 N. Capitol Street, N.W. • Washington, DC 20001
(202) 824-7000
Copyright © American Gas Association, 2011. All rights reserved.

PRINTED IN THE U.S.A.

PREFACE

History

The State of Florida first mandated statewide building codes during the 1970s at the beginning of the modern construction boom. The first law required all municipalities and counties to adopt and enforce one of the four state-recognized model codes known as the "state minimum building codes." During the early 1990s a series of natural disasters, together with the increasing complexity of building construction regulation in vastly changed markets, led to a comprehensive review of the state building code system. The study revealed that building code adoption and enforcement was inconsistent throughout the state and those local codes thought to be the strongest proved inadequate when tested by major hurricane events. The consequences of the building codes system failure were devastation to lives and economies and a statewide property insurance crisis. The response was a reform of the state building construction regulatory system that placed emphasis on uniformity and accountability.

The 1998 Florida Legislature amended Chapter 553, *Florida Statutes* (FS), Building Construction Standards, to create a single state building code that is enforced by local governments. As of March 1, 2002, the *Florida Building Code*, which is developed and maintained by the Florida Building Commission, supersedes all local building codes. The *Florida Building Code* is updated every three years and may be amended annually to incorporate interpretations and clarifications.

Scope

The Florida Building Code is based on national model building codes and national consensus standards which are amended where necessary for Florida's specific needs. The code incorporates all building construction-related regulations for public and private buildings in the State of Florida other than those specifically exempted by Section 553.73, Florida Statutes. It has been harmonized with the Florida Fire Prevention Code, which is developed and maintained by the Department of Financial Services, Office of the State Fire Marshal, to establish unified and consistent standards.

The base codes for the Sixth edition (2017) of the *Florida Building Code* include: the *International Building Code*®, 2015 edition; the *International Plumbing Code*®, 2015 edition; the *International Mechanical Code*®, 2015 edition; the *International Fuel Gas Code*®, 2015 edition; the *International Residential Code*®, 2015 edition; the *International Existing Building Code*®, 2015 edition; the *International Energy Conservation Code*®, 2015; the *National Electrical Code*, 2014 edition; substantive criteria from ASHRAE Standard 90.1-2013. State and local codes adopted and incorporated into the code include the *Florida Building Code, Accessibility,* and special hurricane protection standards for the High-Velocity Hurricane Zone.

The code is composed of nine main volumes: the Florida Building Code, Building, which also includes state regulations for licensed facilities; the Florida Building Code, Plumbing; the Florida Building Code, Mechanical; the Florida Building Code, Fuel Gas; the Florida Building Code, Existing Building; the Florida Building Code, Residential; the Florida Building Code, Energy Conservation; the Florida Building Code, Accessibility and the Florida Building Code, Test Protocols for High-Velocity Hurricane Zones. Chapter 27 of the Florida Building Code, Building, adopts the National Electrical Code, NFPA 70, by reference.

Under certain strictly defined conditions, local governments may amend requirements to be more stringent than the code. All local amendments to the *Florida Building Code* must be adopted by local ordinance and reported to the Florida Building Commission then posted on www.floridabuilding.org in Legislative format for a month before being enforced. Local amendments to the *Florida Building Code* and the *Florida Fire Prevention Code* may be obtained from the Florida Building Commission web site, or from the Florida Department of Business and Professional Regulation or the Florida Department of Financial Services, Office of the State Fire Marshal, respectively.

Adoption and Maintenance

The Florida Building Code is adopted and updated with new editions triennially by the Florida Building Commission. It is amended annually to incorporate interpretations, clarifications and to update standards. Minimum requirements for permitting, plans review and inspections are established by the code, and local jurisdictions may adopt additional administrative requirements that are more stringent. Local technical amendments are subject to strict criteria established by Section 553.73, FS. They are subject to Commission review and adoption into the code or repeal when the code is updated triennially and are subject to appeal to the Commission according to the procedures established by Section 553.73, FS.

Eleven Technical Advisory Committees (TACs), which are constituted consistent with American National Standards Institute (ANSI) Guidelines, review proposed code changes and clarifications of the code and make recommendations to the Commission. These TACs whose membership is constituted consistent with ANSI Guidelines include: Accessibility; Joint Building Fire (a joint committee of the Commission and the State Fire Marshal); Building Structural; Code Administration/ Enforcement; Electrical; Energy; Mechanical; Plumbing and Fuel Gas; Roofing; Swimming Pool; and Special Occupancy (state agency construction and facility licensing regulations).

The Commission may only issue official code clarifications using procedures of Chapter 120, *Florida Statutes*. To obtain such a clarification, a request for a Declaratory Statement (DEC) must be made to the Florida Building Commission in a manner that establishes a clear set of facts and circumstances and identifies the section of the code in question. Requests are analyzed by staff, reviewed by the appropriate Technical Advisory Committee, and sent to the Florida Building Commission for action. These interpretations establish precedents for situations having similar facts and circumstances and are typically incorporated into the code in the next code amendment cycle. Non-binding opinions are available from the Building Officials Association of Florida's web site (www.BOAF.net) and a Binding Opinion process is available online at www.floridabuilding.org.

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

In each code development cycle, proposed changes to the code are considered at the Committee Action Hearings by the International Fuel Gas Code Development Committee, whose action constitutes a recommendation to the voting membership for final action on the proposed change. Proposed changes to a code section that has a number beginning with a letter in brackets are considered by a different code development committee. For example, proposed changes to code sections that have [BS] in front of them (e.g., [BS] 302.1) are considered by the IBC – Structural Code Development Committee at the code development hearings.

The content of sections in this code that begin with letter designations is maintained by other code development committees in accordance with the following:

- [A] = Administrative Code Development Committee;
- [BF] = IBC Fire Safety Code Development Committee;
- [BG] = IBC General Code Development Committee;
- [BS] = IBC Structural Code Development Committee;
- [E] = International Energy Conservation Code Development Committee;
- [F] = International Fire Code Development Committee; and
- [M] = International Mechanical Code Development Committee.

Marginal Markings

Solid vertical lines in the margins within the body of the code indicate a technical change from the requirements of the 2012 edition. Deletion indicators in the form of an arrow (\Rightarrow) 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 table has been deleted.

Dotted vertical lines in the margins within the body of the code indicate a change from the requirements of the base codes to the *Florida Building Code, Fuel Gas,* 6th Edition (2017) effective December 31, 2017.

Sections deleted from the base code are designated "Reserved" in order to maintain the structure of the base code.

Italicized Terms

Selected terms set forth in Chapter 2, Definitions, are italicized where they appear in code text. Such terms are not italicized where the definition set forth in Chapter 2 does not impart the intended meaning in the use of the term. The terms selected have definitions that the user should read carefully to facilitate better understanding of the code.

Acknowledgments

The Florida Building Code is produced through the efforts and contributions of building designers, contractors, product manufacturers, regulators and other interested parties who participate in the Florida Building Commission's consensus processes, Commission staff and the participants in the national model code development processes.

TABLE OF CONTENTS

CHA	APTER 1 SCOPE AND ADMINISTRATION 1	402	Pipe Sizing (IFGS)	
		403	Piping Materials (IFGS)6	
PART 1—SCOPE AND APPLICATION1			Piping System Installation (IFGC) 6	
Secti		405	Piping Bends and Changes in	
101	General (IFGC)		Direction (IFGS) 6	
102	Applicability (IFGC) (Reserved) 2	406	Inspection, Testing and Purging (IFGS) 6	
		407	Piping Support (IFGC)7	
PAR	T 2—ADMINISTRATION AND ENFORCEMENT2	408	Drips and Sloped Piping (IFGC)	
103	Department of Inspection (IFGC) (Reserved) 2	409	Shutoff Valves (IFGC)7	
103	Duties and Powers of the	410	Flow Controls (IFGC)	
104	Code Official (IFGC) (Reserved)	411	Appliance and Manufactured	
105	Approval (IFGC) (Reserved) 2		Home Connections (IFGC)	
106	Permits (IFGC) (Reserved)	412	Liquefied Petroleum Gas Motor Vehicle	
107	Inspections and Testing (IFGC) (Reserved)2		Fuel-dispensing Facilities (IFGC)	
108	Violations (IFGC) (Reserved)	413	Compressed Natural Gas Motor Vehicle Fuel-dispensing Facilities (IFGC)	
109	Means of Appeal (IFGC) (Reserved)2	414	Supplemental and Standby	
110	Temporary Equipment, Systems and	414	Gas Supply (IFGC)	
	Uses (IFGC) (Reserved)	415	Piping Support Intervals (IFGS)	
		416	Overpressure Protection Devices (IFGS)	
CHA	PTER 2 DEFINITIONS			
Secti		CHA	APTER 5 CHIMNEYS AND VENTS	
201	General (IFGC)	Section		
202	General Definitions (IFGC)	501	General (IFGC)	
CHAPTER A CENTRAL PECH ATTONS			Vents (IFGC)	
CHAPTER 3 GENERAL REGULATIONS13 Section		503	Venting of Appliances (IFGS)	
301	General (IFGC)	504	Sizing of Category I Appliance	
302			Venting Systems (IFGS)	
303	Structural Safety (IFGC)	505	Direct-vent, Integral Vent, Mechanical	
304	Combustion, Ventilation and		Vent and Ventilation/Exhaust	
304	Dilution Air (IFGS)	506	Hood Venting (IFGC)	
305	Installation (IFGC)	300	Factory-built Chimneys (IFGC)9	
306	Access and Service Space (IFGC)	СНА	APTER 6 SPECIFIC APPLIANCES11	
307	Condensate Disposal (IFGC)		Section Section Section Section Section	
308	Clearance Reduction (IFGS)	601	General (IFGC)	
309	Electrical (IFGC)	602	Decorative Appliances for Installation	
310	Electrical Bonding (IFGS)	002	in Fireplaces (IFGC)	
311	Carbon Monoxide Control Systems	603	Log Lighters (IFGC)	
	·	604	Vented Gas Fireplaces	
CHAPTER 4 GAS PIPING INSTALLATIONS 25			(Decorative Appliances) (IFGC)	
Secti	on	605	Vented Gas Fireplace Heaters (IFGC)	
401	General (IFGC)	606	Incinerators and Crematories (IFGC)	

TABLE OF CONTENTS

607	Commercial-industrial Incinerators (IFGC)115	707		n and Maintenance of Gaseous
608	Vented Wall Furnaces (IFGC)			gen Systems (IFGC)
609	Floor Furnaces (IFGC)	708		f Liquefied Hydrogen Systems
610	Duct Furnaces (IFGC)			iated with Hydrogen Vaporization tions (IFGC)
611	Nonrecirculating Direct-fired Industrial Air Heaters (IFGC)116	СПУ	•	REFERENCED STANDARDS 133
612	Recirculating Direct-fired Industrial Air Heaters (IFGC)			
613	Clothes Dryers (IFGC)	APP	ENDIX A	SIZING AND CAPACITIES OF GAS PIPING (IFGS) 137
614	Clothes Dryer Exhaust (IFGC)117			01 0110 111 11 (0 (11 00)) ********************************
615	Sauna Heaters (IFGC)	APP	ENDIX B	SIZING OF VENTING SYSTEMS
616	Engine and Gas Turbine-powered Equipment (IFGC)			SERVING APPLIANCES EQUIPPED WITH DRAFT
617	Pool and Spa Heaters (IFGC)			HOODS, CATEGORY I APPLIANCES AND
618	Forced-air Warm-air Furnaces (IFGC) 120			APPLIANCES LISTED
619	Conversion Burners (IFGC)121			FOR USE WITH TYPE B
620	Unit Heaters (IFGC)121			VENTS (IFGS) 149
621	Unvented Room Heaters (IFGC)	A DD		EVIT TERMINAL C OF
622	Vented Room Heaters (IFGC)	APP.	ENDIX C	EXIT TERMINALS OF MECHANICAL DRAFT AND
623	Cooking Appliances (IFGC)			DIRECT-VENT VENTING
624	Water Heaters (IFGC)			SYSTEMS (IFGS)
625	Refrigerators (IFGC)			
626	Gas-fired Toilets (IFGC)	APP:	ENDIX D	
627	Air-conditioning Appliances (IFGC) 122			FOR SAFETY INSPECTION OF AN EXISTING APPLIANCE
628	Illuminating Appliances (IFGC)			INSTALLATION (IFGS) 161
629	Small Ceramic Kilns (IFGC)			
630	Infrared Radiant Heaters (IFGC)	IND	EX	
631	Boilers (IFGC)			
632	Equipment Installed in Existing Unlisted Boilers (IFGC)124			
633	Stationary Fuel-cell Power Systems (IFGC) 124			
634	Chimney Damper Opening Area (IFGS) 124			
635	Gaseous Hydrogen Systems (IFGC) 124			
636	Outdoor Decorative Appliances (IFGC) 125			
СНА	PTER 7 GASEOUS HYDROGEN SYSTEMS			
Section	on			
701	General (IFGC)			
702	General Definitions (IFGC)			
703	General Requirements (IFGC)			
704	Piping, Use and Handling (IFGC)			
705	Testing of Hydrogen Piping Systems (IFGC) 129			
706	Location of Gaseous Hydrogen Systems (IFGC)			