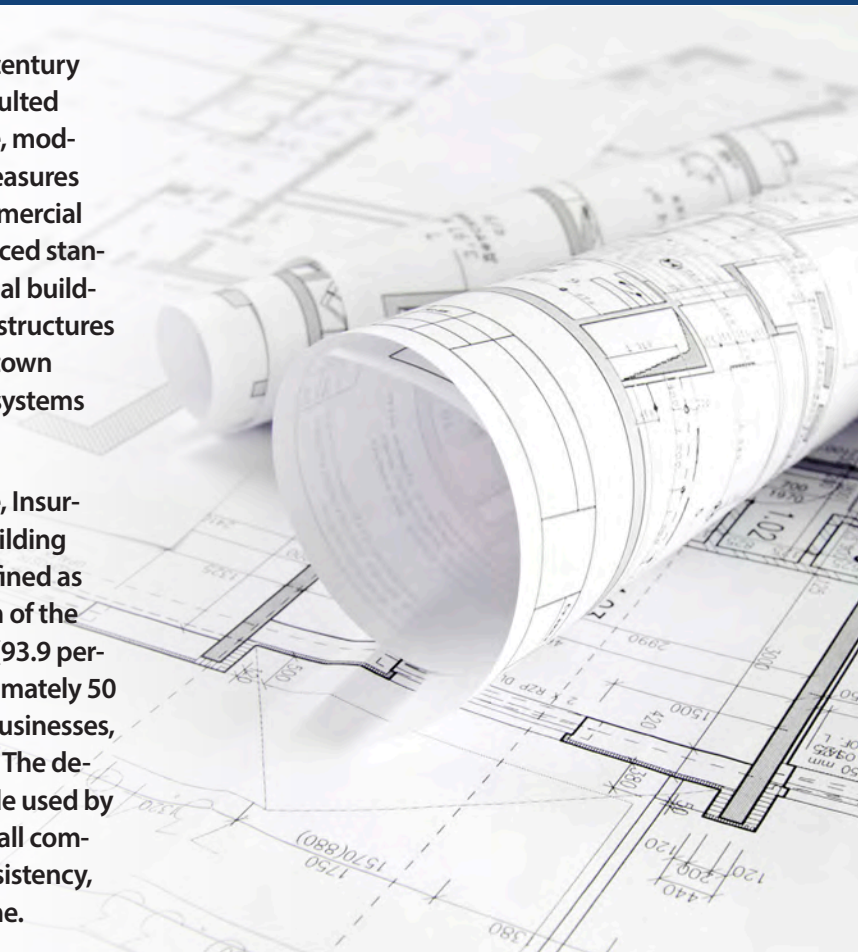




## MODERN BUILDING CODES: The Foundation for Business Protection

Commercial building codes were developed more than a century ago as a response to tragic factory and urban fires that resulted in massive fatalities and significant devastation. Over time, modern building regulations have become proactive safety measures designed to protect the people who visit and work in commercial buildings. Today, modern building codes and their referenced standards play an important role in promoting safer commercial buildings. This is particularly important for smaller commercial structures which house a wide range of businesses in every city and town across the U.S., and may incorporate a variety of building systems and combustible or new and innovative materials.

According to a report published by the Council on Finance, Insurance and Real Estate (CFIRE) of the National Institute of Building Sciences (NIBS), small commercial buildings (generally defined as less than 50,000 square feet) make up a significant portion of the nation's existing building stock by both number and area (93.9 percent and 49.5 percent, respectively).<sup>1</sup> Additionally, approximately 50 percent of the working population is employed by small businesses, many of which are located in small commercial buildings.<sup>2</sup> The design and product standards referenced in the building code used by design professionals when planning and building new small commercial structures promote a degree of reliability and consistency, which is critical to how that structure will perform over time.



### THE PURPOSE OF COMMERCIAL BUILDING CODES

The primary purpose of building codes is to protect lives and prevent injuries. In addition to protecting the occupants from a variety of hazards, the codes facilitate safe evacuation in the event of an emergency, and also reduce property damage.

Recognizing the wide range of commercial construction types and occupancies, commercial building codes reference several classifications that provide both functional and regulatory standards.

### COMMERCIAL BUILDING CLASSIFICATIONS

- Buildings are classified as construction Type I through Type V, which refers to the building's fire resistance, with Type I being more resistant and Type V being less resistant. The building designer will select the construction type based on the function and risk associated with the building size, taking into consideration the overall cost of construction.

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<sup>1</sup> National Institute of Building Sciences, "Financing Small Commercial Building Energy Performance Upgrades: Challenges and Opportunities," 2015, <[c.y.mcdn.com/sites/www.nibs.org/resource/resmgr/CC/CFIRE\\_CommBldgFinance-Final.pdf](http://c.y.mcdn.com/sites/www.nibs.org/resource/resmgr/CC/CFIRE_CommBldgFinance-Final.pdf)>.

<sup>2</sup> Small Business Administration, "Frequently Asked Questions," 2012, <[www.sba.gov/sites/default/files/FAQ\\_Sept\\_2012.pdf](http://www.sba.gov/sites/default/files/FAQ_Sept_2012.pdf)>.

- Another important classification is the use and occupancy designation, which defines the purpose for which a building is used, and identifies and triggers critical code requirements for specific occupancies. This is essential because a building used as a health care facility, for example, has construction requirements and occupancy safeguards that are quite different from a building used as a factory, an office building or a retail store.
- Specific chapters in the code are dedicated to structural performance and stability, fire resistance and protection requirements, means of egress and evacuation, light and ventilation, etc. For example, to protect occupants, the code requires emergency exit stairs to: maintain their functional integrity during emergencies (e.g., adequate structural strength coupled with fire separation walls); remain smoke-free for occupant egress during fire; and, have minimum required lighting and proper signage.

## MODEL CODES PROVIDE UNIFORMITY AND CONSISTENCY—BUT GAPS REMAIN

Although building codes are adopted by individual states or localities, most jurisdictions base their codes on a model code developed by a standards developing organization, such as the International Code Council (ICC). These model codes are consensus documents based on established scientific and engineering principles, drafted through input from leading technical experts, construction professionals, code enforcement personnel and the product manufacturing industries. Once the model codes are updated and published by the ICC, they are ready to be adopted into law for use by the “authority having jurisdiction” (AHJ) in states or local communities. While the majority of states have commercial building codes in place, not all states have adopted the model codes, and some states allow local opt-outs or weakening amendments to the codes. There are also variations in the degree to which regulatory processes are in place to make sure the technical requirements of building codes are actually incorporated into buildings—some states and local jurisdictions are taking a more active role in building code adoption and enforcement, while others have no code enforcement or very weak systems in place.

Even in jurisdictions without commercial building code requirements, design professionals, such as engineers or architects, are quite familiar with model building code requirements and many voluntarily conform to them. This is something business or building owners should verify to make sure all construction projects they undertake incorporate the design and construction protections of the latest model building codes.

## KNOW YOUR WEATHER HAZARDS AND HOW TO PROTECT AGAINST THEM

Model building codes and standards strive to achieve safety (life and property) for a wide range of hazards business owners may confront over the lifetime of a commercial building. Many of these relate to fire, plumbing, and other interior environmental quality problems; others help protect against natural hazards, such as high winds, earthquakes and freezing temperatures. However, in some regions of the country, building owners should improve and/or enhance the physical strength of their commercial structures by utilizing design features and construction practices that go beyond building codes. The IBHS FORTIFIED for Safer Business™ and FORTIFIED Commercial™ design guidelines provide the technical standards for achieving these goals. These voluntary construction standards can be utilized during new construction or remodeling and can be broadly applicable to all hazards, or more narrowly focused on a specific hazard. Learn more by reading IBHS’ recent article, “FORTIFIED: New IBHS Commercial Construction Tools Protect the Bottom Line,” found at [www.DisasterSafety.org/commercial\\_maintenance/fortified-new-ibhs-commercial-construction-tools-protect-bottom-line](http://www.DisasterSafety.org/commercial_maintenance/fortified-new-ibhs-commercial-construction-tools-protect-bottom-line).



## DO YOU KNOW YOUR BUSINESS’ RISK?

Learn to identify and mitigate potential threats at [www.DisasterSafety.org/commercial\\_maintenance/knowning-risks-starting-point-business-protection-business-continuity-planning](http://www.DisasterSafety.org/commercial_maintenance/knowning-risks-starting-point-business-protection-business-continuity-planning).

## MODEL CODES

While most business owners do not need to have a detailed understanding of technical building code requirements, this summary of the applicable model codes is intended to provide a general understanding of their scope and how they relate not only to construction, but also to the ongoing operations of many businesses.

### **THE INTERNATIONAL BUILDING CODE® (IBC)**

The IBC is the most widely used model code in the U.S. for construction of commercial buildings. Updated and published by the ICC every three years, the code contains requirements for design and construction of commercial buildings, as well as National Flood Insurance Program (NFIP) provisions consistent with the minimum flood-resistant design and construction requirements for structures.

The ICC also publishes a series of other model codes and standards that specifically address the following subjects: residential construction and residential construction in high-wind regions; fire protection (building and wildland); plumbing; mechanical systems; building energy conservation; green construction; and existing buildings.

### **NATIONAL FIRE PROTECTION ASSOCIATION® (NFPA)**

NFPA develops and publishes codes and standards that reduce the possibility and effects of fire and other risks. NFPA publishes the *National Electrical Code®* (NEC), which contains the basic minimum provisions for safe design and installation of electrical wiring, devices and systems in buildings. NFPA also publishes a range of standards for fire and life safety, including automatic fire sprinkler systems, fire alarm detection systems, and auxiliary extinguishing systems, which have a significant effect on a building's life and property protection features.

## THINKING BEYOND THE BUILDING FOR BUSINESS PROTECTION

Structural strength and fire safety protection requirements in building codes will help keep the physical doors open following a major disruption, but it is equally important to plan for the financial strength of operations by creating a business continuity plan. With this in mind, IBHS has created OFB-EZ®, a free business continuity planning toolkit to help businesses translate professional continuity concepts into action. By using OFB-EZ, a small business can take advantage of many disaster planning and recovery best practices without the need for a large company budget, thus assuring all aspects of their business are ready for extreme events. To download OFB-EZ, go to [www.DisasterSafety.org/open-for-business](http://www.DisasterSafety.org/open-for-business).