

CHAPTER 7

PEDESTRIAN CIRCULATION

SECTION 701

MEANS OF EGRESS

Both Section 701 and Chapter 19 contain the same provisions. It was determined that both Part II and Part III ultimately have the same objectives with regard to egress. It was decided to duplicate the objectives and functional statements in both Part II and III and to reference the reader from Section 701.3 to Chapter 19 for the performance requirements, primarily because Part III would always be adopted. Because the provisions in Chapter 19 also relate to existing situations, it would be more appropriate for the provisions to be found in Chapter 19.

These provisions provide guidance by which egress systems for buildings and facilities are designed, evaluated, and maintained. The current prescriptive codes dictate a solution of standardized elements based on narrowly defined minimums and maximums. The prescriptive methodology is successful in providing safe buildings, but it is found to be a hindrance in many cases in the design of new buildings because a single solution-set usually does not fit perfectly for every situation. The prescriptive approach has a tendency to focus code users on specific numbers and therefore causes users to lose sight of the intent.

The general concepts of egress have not changed over time, nor have they changed as a result of performance codes. Safe egress continues to involve exiting the building or facility safely or relocating to a safe place, i.e., an area of refuge. Many occupancy characteristics influence the decisions made on egress, ranging from an occupancy consisting of completely ambulatory, self-preservation capable persons to an occupancy consisting of disabled, infirm, or incarcerated persons.

All the elements found in the current prescriptive codes were considered in this section. The terms formerly used for these elements are not necessarily found in the text. Generic terms make it easier to expand the scope as may be necessary in the future when thinking in a true performance manner. The authors of these provisions were careful to avoid existing terminology and thereby avoided preconceived notions based on past definitions.

An effective system of egress is interdependent with provisions for accessibility, fall prevention, number of occupants, level of risk, and building safety systems. Each of these issues has to be factored into acceptable solutions for egress.

Public discussion of these performance provisions has focused on the use and lack of use of terms defined in the prescriptive codes. In the performance section on egress, the term “safe place” is used and the terms “public way” and “area of refuge” are not. The term “safe place” is universal, as it may refer to an exterior or interior location. Additionally, it gives the building designer the information needed that people must be conducted to a safe place.

701.1 Objective

The objective conveys the ultimate goal of the chapter. The current prescriptive codes do not clearly state an objective, and the commentaries focus on the hazards of fire. This code conspicuously avoids the term “fire” and focuses on the goal. There are other emergencies that may necessitate the evacuation of a building’s occupants.

These provisions apply to all building occupants, including those with disabilities. The egress provisions do not cover rescue operations by emergency responders, which are specifically dealt with in Chapter 20: Emergency Notification, Access and Facilities.

701.2 Functional statement

The functional statements indicate that the building or facility must be designed, constructed, and maintained to allow occupants to egress according to the design performance levels of Chapter 3. Chapter 17 and Section 602 were revised to reflect a single performance level for life safety. A similar revision was not made to this section. Means of egress may need to be available for other incidents beyond fire, such as a hazardous materials release or an earthquake.

701.3 Performance requirements

The performance requirements as noted are only printed in Section 1903. These provisions apply to both new and existing buildings and facilities where appropriate. The performance requirements are fairly intuitive and relate back to Chapter 10 of the *International Building Code* and *International Fire Code* in intent. Some of the key issues are as follows:

- Travel distances
- Number of occupants
- Occupant characteristics
- Identification and illumination
- Safe place (area of refuge)
- Unobstructed path

In a performance code, numerical values will not initially be provided for travel distance or occupant load. Likewise, terminology such as “exit passageway” will not be used. A performance-based egress solution will deal with the evaluation of the hazard and the available egress time for the occupants to avoid interfacing with the hazard. Some of the prescriptive egress requirements such as exit sign location and illumination may remain prescriptive in most performance designs.

Section 1901.3.6 clearly points out that regardless of when a building or facility was constructed, a suitable level of performance is still required. Essentially, this aspect relates to the intent of the egress provisions in the prescriptive *International Fire Code*. One of the traditional functions of fire codes has been to ensure that the egress system of a building or facility continues to function over time.

In forming Part III of the *Performance Code for Buildings and Facilities*, it has become apparent that this document and specifically the egress provisions could serve as a tool for the evaluation of existing buildings. In many cases, it is difficult to truly understand the hazards that exist within an existing building, and it is even more difficult to understand which changes can be the most effective. Through an analysis, the designer and the code official may find, for example, that the width of the exits is much more important than the travel distance.

Also, as noted, egress is interdependent with other aspects of building functions and characteristics such as fall prevention, accessibility, hazards, and characteristics of the occupants. Therefore, Section 1901.3.5, relating to appropriate walking surfaces and facilities to avoid falls and injuries, was included. If surfaces and related features such as ceiling clearances are addressed for egress during an emergency, then falls and injuries related to falls should be the same or lower during nonemergency daily use.

SECTION 702

ACCESSIBILITY

Accessibility requirements provide disabled persons with reasonable access to and use of buildings to an extent consistent with that to which people without disabilities are able to access and use buildings. This is consistent with the intent of federal statutes enacted to protect the rights of people with disabilities.

This intent is implicit in all provisions of this code, whether or not the intent is specifically stated in each section. The goal of the performance code is to allow freedom of design while providing an acceptable level of accessibility throughout a building. Therefore, it is incumbent upon the user of the code to base decisions on reasonable criteria with the intent of providing equal access.

A specific effort was made to make this section an all-encompassing section that requires accessibility to be evaluated in each part of the code where applicable.

The code user may look to other recognized codes or regulations for guidance in determining an acceptable level of accessibility. These include the *International Building Code* and referenced standards, federal regulations promulgated under the Americans with Disabilities Act and the Fair Housing Amendment Act, or other regulations promulgated under state disability rights statutes. More specific requirements found in these documents may also be used as compliance alternatives when appropriate.

Using state-of-the-art minimum criteria together with innovations to provide accessibility equal to or exceeding federal mandates satisfies several objectives. The code user is given minimum and necessary guidance to develop and implement innovative methods. Separate and independent obligations under federal disability rights laws are met with a minimum level of redundancy.

SECTION 703

TRANSPORTATION EQUIPMENT

This section provides general safety guidelines for installation of elevators, dumbwaiters, and escalators inside or outside buildings. These provisions include use during normal operations, use by firefighters during emergency operations, and use by maintenance personnel during activities associated with adjusting, servicing, and inspecting elevators. The provisions focus on the expected loads, emergency recall for fire fighting and rescue operations, and safety of maintenance personnel.

Other provisions not directly associated with elevators, dumbwaiters, or escalator equipment, such as the protection of hoist-way enclosures and electrical equipment, are covered by other provisions of this code such as management of fire impact.

ACCEPTABLE METHODS

Means of Egress. Chapters 10 of the *International Building Code* and *International Fire Code* are acceptable methods, given that they are based on the factors used in the development of the performance code.

Accessibility. Chapter 11 of the *International Building Code* is an acceptable method. Because of the controversial nature of these provisions, a prescriptive approach should be undertaken as a minimum. At the very least, the objectives, functional statements, and performance requirements were drafted to capture the intent and purpose of accessibility provisions.

Transportation Systems. The acceptable methods for these provisions include Chapter 30 of the *International Building Code*, ASME A17.1, ASME A90.1, and ASME B20.1.

