



Department of Commerce

Division of Industrial Compliance
 John R. Kasich, Governor
 Jacqueline T. Williams, Director

NOVEMBER 2015 STAKEHOLDER MEETING 2011 OHIO BUILDING CODE PROPOSED CHANGES

Ohio Administrative Code Rule Number	OBC Section	Reason for Proposed Change
4101:1-2-01	“ACTIVE SHOOTER DRILL” definition	To add definition
	“ADMINISTRATIVE AUTHORITY OF A SCHOOL BUILDING” definition	To add definition
	“EMERGENCY SITUATION” definition	To add definition
	“INSTITUTION OF HIGHER EDUCATION” definition	To add definition
	“PRIVATE SCHOOL” definition	To add definition
	“PUBLIC SCHOOL” definition	To add definition
	“SCHOOL BUILDING” definition	To add definition
	“TEMPORARY DOOR LOCKING DEVICE” definition	To add definition
4101:1-10-01	1008.1.9.1	To add an exception to the Door Hardware requirements of the OBC
	1008.1.9.3	To add an exception to the Locks and Latches requirements of the OBC
	1008.1.9.5	To add an exception to the Unlatching requirements of the OBC
	1008.1.9.11	To add a new section addressing Temporary Door Locking Devices used in school buildings.

4101:1-2-01 Definitions.

[Comment: When a reference is made within this rule to a federal statutory provision, an industry consensus standard, or any other technical publication, the specific date and title of the publication as well as the name and address of the promulgating agency are listed in rule 4101:1-35-01 of the Administrative Code. The application of the referenced standards shall be limited and as prescribed in section 102.5 of rule 4101:1-1-01 of the Administrative Code.]

SECTION 201 GENERAL

201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings shown in this chapter.

201.2 Interchangeability. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

Terms defined in other codes. Where terms are not defined in this code and are defined in the “*International Fuel Gas Code*”, *fire code*, *mechanical code* or *plumbing code*, such terms shall have the meanings ascribed to them as in those codes.

201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

SECTION 202 DEFINITIONS

24-HOUR CARE. *The actual time that a person is an occupant within a facility for the purpose of receiving care. It shall not include a facility that is open for 24 hours and is capable of providing care to someone visiting the facility during any segment of the 24 hours.*

AAC MASONRY. See Section 2102.1.

ABOVE-GROUND STORAGE TANK. *A vessel, intended for fixed installation above grade, at grade, or below grade without backfill, used for the purpose of bulk storage, dispensing, handling or processing of hazardous, flammable or*

combustible liquids or gases and not connected to and utilized for the operation of building service equipment.

ACCESSIBLE. See Section 1102.1.

ACCESSIBLE MEANS OF EGRESS. See Section 1002.1.

ACCESSIBLE ROUTE. See Section 1102.1.

ACCESSIBLE UNIT. See Section 1102.1.

ACCREDITATION BODY. See Section 2302.1.

ACTIVE SHOOTER DRILL. *An exercise performed by staff and occupants to evaluate their efficiency and effectiveness in executing an adopted school safety plan to respond to an active shooter event by sheltering and securing occupants in place within a building when normal evacuation would put occupants at risk. See 1008.1.9.11.*

ADDITION. An extension or increase in floor area or height of a building or structure.

ADHERED MASONRY VENEER. See Section 1402.1.

ADMINISTRATIVE AUTHORITY OF A SCHOOL BUILDING. *The superintendent, principal, chief administrative officer, or other person having supervisory authority of a school building. See section 1008.1.9.11.*

ADOBE CONSTRUCTION. See Section 2102.1.

Adobe, stabilized. See Section 2102.1.

Adobe, unstabilized. See Section 2102.1.

AEROSOL. See Section 307.2.

Level 1 aerosol products. See Section 307.2.

Level 2 aerosol products. See Section 307.2.

Level 3 aerosol products. See Section 307.2.

AEROSOL CONTAINER. See Section 307.2.

AGGREGATE. See Section 1502.1.

AGRICULTURAL, BUILDING. A structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products. (*see "AGRICULTURAL PURPOSES", section 101.2, and section 312 of this code*).

AGRICULTURAL LABOR CAMPS. *Camps as defined in section 3733.41 of the Revised Code.*

AGRICULTURAL PURPOSES: *Includes agriculture, farming, dairying, pasturage, apiculture, horticultural, floriculture, viticulture, ornamental horticulture, olericulture, pomiculture, animal and poultry husbandry, etc.*

AIR-INFLATED STRUCTURE. See Section 3102.2.

AIR-SUPPORTED STRUCTURE. See Section 3102.2.

Double skin. See Section 3102.2.

Single skin. See Section 3102.2.

AIRCRAFT HANGER, RESIDENTIAL. *See section 412.3.1.*

AISLE. See Section 1002.1.

AISLE ACCESSWAY. See Section 1002.1.

ALARM NOTIFICATION APPLIANCE. See Section 902.1.

ALARM SIGNAL. See Section 902.1.

ALARM VERIFICATION FEATURE. See Section 902.1.

ALLOWABLE STRESS DESIGN. See Section 1602.1.

ALTERATION. Any construction or renovation to an existing structure other than repair or *addition*.

ALTERNATING TREAD DEVICE. See Section 1002.1.

AMBULATORY CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to individuals who are rendered incapable of self-preservation *by the services provided*.

AMUSEMENT RIDE. *Any mechanical, aquatic, or inflatable device, or combination of those devices that carries or conveys passengers on, along, around, over, or through a fixed or restricted course or within a defined area for the purpose of providing amusement, pleasure, or excitement and includes carnival rides, bungee jumping facilities, and fair rides but does not include passenger tramways as defined in section 4169.01 of the Revised Code or amusement rides operated solely at trade shows for a limited period of time. For regulation and definitions, see sections 1711.50 to 1711.57 of the Revised Code. Amusement rides are not regulated by this code but are regulated by the Ohio department of agriculture. Also see section 411, Special Amusement Buildings.*

ANCHOR. See Section 2102.1.

ANCHOR BUILDING. See Section 402.2.

ANCHORED MASONRY VENEER. See Section 1402.1.

ANNULAR SPACE. See Section 702.1.

ANNUNCIATOR. See Section 902.1.

APPROVED. *Determined to be in compliance by the authority having jurisdiction in accordance with the rules of the board.*

APPROVED AGENCY. *An established and accredited testing laboratory, listing agency, inspection body, or field evaluation body recognized by the board of*

building standards providing services consistent with their accreditation and the code section requiring the approved agency service.

APPROVED FABRICATOR. See Section 1702.1.

APPROVED NATIONAL AND ACCREDITATION SERVICE. *An established and nationally recognized service regularly engaged in evaluating the competency of agencies to conduct tests and inspections required by the rules of the board.*

APPROVED SOURCE. *Deleted.*

ARCHITECTURAL TERRA COTTA. See Section 2102.1.

AREA (for masonry). See Section 2102.1.

Bedded. See Section 2102.1.

Gross cross-sectional. See Section 2102.1.

Net cross-sectional. See Section 2102.1.

AREA, BUILDING. See Section 502.1.

AREA OF REFUGE. See Section 1002.1.

AREAWAY. A subsurface space adjacent to a building open at the top or protected at the top by a grating or guard.

ASSISTED LIVING FACILITIES. See Section 310.2, “Residential Care/Assisted living facilities.”

ATRIUM. See Section 404.1.1.

ATTIC. The space between the ceiling beams of the top story and the roof rafters.

AUDIBLE ALARM NOTIFICATION APPLIANCE. See Section 902.1.

AUTOCLAVED AERATED CONCRETE (AAC). See Section 2102.1.

AUTOMATIC. See Section 902.1.

AUTOMATIC FIRE-EXTINGUISHING SYSTEM. See Section 902.1.

AUTOMATIC SMOKE DETECTION SYSTEM. See Section 902.1.

AUTOMATIC SPRINKLER SYSTEM. See Section 902.1.

AVERAGE AMBIENT SOUND LEVEL. See Section 902.1.

AWNING. An architectural projection that provides weather protection, identity or decoration and is wholly supported by the building to which it is attached. An awning is comprised of a lightweight frame structure over which a covering is attached.

BACKING. See Section 1402.1.

BALED COTTON. See Section 307.2.

BALED COTTON, DENSELY PACKED. See Section 307.2.

BALLAST. See Section 1502.1.

BARRICADE. See Section 307.2.

Artificial barricade. See Section 307.2.

Natural barricade. See Section 307.2.

BASE FLOOD. See Section 1612.2.

BASE FLOOD ELEVATION. See Section 1612.2.

BASEMENT (for other than flood loads). See Section 502.1.

BASEMENT (for flood loads). See Section 1612.2.

BEARING WALL STRUCTURE. See Section 1614.2.

BED JOINT. See Section 2102.1.

BLEACHERS. See Section 1002.1.

BOARDING HOUSE. See Section 310.2.

BOILING POINT. See Section 307.2.

BOND BEAM. See Section 2102.1.

BRACED WALL LINE. See Section 2302.1.

BRACED WALL PANEL. See Section 2302.1.

BRICK. See Section 2102.1.

Calcium silicate (sand lime brick). See Section 2102.1.

Clay or shale. See Section 2102.1.

Concrete. See Section 2102.1.

BUILDING. *Any structure consisting of foundations, walls, columns, girders, beams, floors, and roof, or a combination of any number of these parts, with or without other parts or appurtenances.*

BUILDING DEPARTMENT. *An agency, department or division of the state or of the government of a municipal corporation, township, or county, which has been created and authorized in conformity with law for the purpose of enforcing construction code provisions of the board's rules applicable to structures specified in section 3781.06 of the Revised Code.*

BUILDING LINE. The line established by law, beyond which a building shall not extend, except as specifically provided by law.

BUILDING OFFICIAL. *The superintendent of the division of industrial compliance of the Ohio department of commerce or the person appointed by the superintendent to enforce this code in that division, or the designated authority charged with the administration and enforcement of this code, approved by the board in accordance with section 103 of this code, in a municipal corporation, township or county having a building department, certified by the board pursuant to section 3781.10 of the Revised Code, or the health commissioner or his authorized representative in health districts, whichever one has jurisdiction.*

BUILDING SERVICE EQUIPMENT. *Equipment, appliances, materials, devices, and systems integrated into a building which provide space heating, air conditioning, ventilation, fire protection, lighting, electricity, sanitation, water,*

heating, cooking, medical gas, medical vacuum, and clothes drying. Building service equipment begins from the connected stored source of liquid or gas fuel or electrical power supplying the equipment or the utility service point /point of delivery and extends through the point of use but does not include process equipment that may also be connected to the same source.

BUILDING SERVICES PIPING. *All piping systems and their component parts that are part of a building system and that promote the safe, sanitary, and energy efficient occupancy of a building. Building services piping includes, but is not limited to, cold and hot potable water distribution for plumbing fixtures; sanitary lines from plumbing fixtures; nonflammable medical gas systems; medical oxygen systems; medical vacuum systems; fire protection piping systems and compressed air in dry systems; refrigeration, chilled water, condenser and cooling tower water, brine, and water/antifreeze systems; steam, steam condensate, and hot water piping systems; and fuel oil piping and fuel gas piping for heating, cooling, and cooking applications.*

BUILT-UP ROOF COVERING. See Section 1502.1.

CABLE-RESTRAINED, AIR-SUPPORTED STRUCTURE. See Section 3102.2.

CANOPY. A permanent structure or architectural projection of rigid construction over which a covering is attached that provides weather protection, identity or decoration, and shall be structurally independent or supported by attachment to a building on one end and by not less than one stanchion on the outer end.

CARBON DIOXIDE EXTINGUISHING SYSTEMS. See Section 902.1.

CAST STONE. See Section 2102.1.

CEILING LIMIT. See Section 902.1.

CEILING RADIATION DAMPER. See Section 702.1.

CELL. See Section 408.1.1.

CELL (masonry). See Section 2102.1.

CELL TIER. See Section 408.1.1.

CEMENT PLASTER. See Section 2502.1.

CERAMIC FIBER BLANKET. See Section 721.1.1.

CERTIFICATE OF COMPLIANCE. See Section 1702.1.

CHILD CARE FACILITIES. See Section 308.3.1. *Also see TYPE A FAMILY DAY-CARE HOME AND TYPE B FAMILY DAY-CARE HOME.*

CHIMNEY. See Section 2102.1.

CHIMNEY TYPES. See Section 2102.1.

High-heat appliance type. See Section 2102.1.

Low-heat appliance type. See Section 2102.1.

Masonry type. See Section 2102.1.

Medium-heat appliance type. See Section 2102.1.

CIRCULATION PATH. See Section 1102.1.

CLEAN AGENT. See Section 902.1.

CLEANOUT. See Section 2102.1.

CLINIC, OUTPATIENT. See Section 304.1.1.

CLOSED CONSTRUCTION. *See section 114.*

CLOSED SYSTEM. See Section 307.2.

COLLAR JOINT. See Section 2102.1.

COLLECTOR. See Section 2302.1.

COMBINATION FIRE/SMOKE DAMPER. See Section 702.1.

COMBUSTIBLE DUST. See Section 307.2.

COMBUSTIBLE FIBERS. See Section 307.2.

COMBUSTIBLE LIQUID. See Section 307.2.

Class II. See Section 307.2.

Class IIIA. See Section 307.2.

Class IIIB. See Section 307.2.

COMBUSTIBLE MATERIAL. See section 703.4.

COMMERCIAL COOKING RECIRCULATING SYSTEM. *Self-contained system consisting of the exhaust hood, the cooking equipment, the filters, and the fire suppression system. The system is designed to capture cooking vapors and residues generated from commercial cooking equipment. The system removes contaminants from the exhaust air and recirculates the air to the space from which it was withdrawn.*

COMMON USE. See Section 1102.1.

COMMON PATH OF EGRESS TRAVEL. See Section 1002.1.

COMPRESSED GAS. See Section 307.2.

COMPRESSIVE STRENGTH OF MASONRY. See Section 2102.1.

CONCRETE, CARBONATE AGGREGATE. See Section 721.1.1.

CONCRETE, CELLULAR. See Section 721.1.1.

CONCRETE, LIGHTWEIGHT AGGREGATE. See Section 721.1.1.

CONCRETE, PERLITE. See Section 721.1.1.

CONCRETE, SAND-LIGHTWEIGHT. See Section 721.1.1.

CONCRETE, SILICEOUS AGGREGATE. See Section 721.1.1.

CONCRETE, VERMICULITE. See Section 721.1.1.

CONGREGATE LIVING FACILITIES. See Section 310.2.

CONNECTOR. See Section 2102.1.

CONSTANTLY ATTENDED LOCATION. See Section 902.1.

CONSTRUCTION DOCUMENTS. Written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of a project necessary for obtaining *plan approval in accordance with section 106*.

CONSTRUCTION TYPES. See Section 602.

Type I. See Section 602.2.

Type II. See Section 602.2.

Type III. See Section 602.3.

Type IV. See Section 602.4.

Type V. See Section 602.5.

CONTINUOUS GAS DETECTION SYSTEM. See Section 415.2.

CONTROL AREA. See Section 307.2.

CONTROLLED LOW-STRENGTH MATERIAL. A self-compacted, cementitious material used primarily as a backfill in place of compacted fill.

CONVENTIONAL LIGHT-FRAME CONSTRUCTION. See Section 2302.1.

CORRIDOR. See Section 1002.1.

CORROSION RESISTANCE. The ability of a material to withstand deterioration of its surface or its properties when exposed to its environment.

CORROSIVE. See Section 307.2.

COURT. An open, uncovered space, unobstructed to the sky, bounded on three or more sides by exterior building walls or other enclosing devices.

COVER. See Section 2102.1.

COVERED MALL BUILDING. See Section 402.2.

Mall. See Section 402.2.

Open mall. See Section 402.2.

Open mall building. See Section 402.2.

CREDENTIALS. *The badge of office, certificate, or letter issued by a governmental department to an employee for the identification of said employee in the performance of his duties.*

CRIPPLE WALL. See Section 2302.1.

CRYOGENIC FLUID. See Section 307.2.

CUSTODIAL CARE. *Assistance with day-to-day living tasks; such as assistance with cooking, taking medication, bathing, using toilet facilities and other tasks of daily living. Custodial care includes care for occupants that have the ability to respond to emergency situations and evacuate at a slower rate and/or who have mental and psychiatric complications.*

DALLE GLASS. See Section 2402.1.

DAMPER. See Section 702.1.

DANGEROUS. See Section 3402.1.

DAY BOX. See Section 307.2.

DEAD LOADS. See Section 1602.1.

DECORATIVE GLASS. See Section 2402.1.

DECORATIVE MATERIALS. All materials applied over the building interior finish for decorative, acoustical or other effect (such as curtains, draperies, fabrics, streamers and surface coverings), and all other materials utilized for decorative effect (such as batting, cloth, cotton, hay, stalks, straw, vines, leaves, trees, moss and similar items), including foam plastics and materials containing foam plastics. Decorative materials do not include floor coverings, ordinary window shades,

interior finish and materials 0.025 inch (0.64 mm) or less in thickness applied directly to and adhering tightly to a substrate.

DEEP FOUNDATION. See Section 1802.1.

DEFLAGRATION. See Section 307.2.

DELUGE SYSTEM. See Section 902.1.

DESIGN DISPLACEMENT. See Section 1908.1.1.

DESIGN EARTHQUAKE GROUND MOTION. See Section 1613.2.

DESIGN FLOOD. See Section 1612.2.

DESIGN FLOOD ELEVATION. See Section 1612.2.

DESIGN STRENGTH. See Section 1602.1.

DESIGNATED SEISMIC SYSTEM. See Section 1702.1.

DETACHED BUILDING. See Section 415.2.

DETAILED PLAIN CONCRETE STRUCTURAL WALL. See Section 1908.1.1.

DETECTABLE WARNING. See Section 1102.1.

DETECTOR, HEAT. See Section 902.1.

DETONATION. See Section 307.2.

DETOXIFICATION FACILITY. See Section 308.3.1.

DIAPHRAGM. See Sections 1602.1 and 2302.1.

Diaphragm, blocked. See Section 1602.1.

Diaphragm, boundary. See Section 1602.1.

Diaphragm, chord. See Section 1602.1.

Diaphragm, flexible. See Section 1602.1.

- Diaphragm, rigid.** See Section 1602.1.
- Diaphragm, unblocked.** See Section 2302.1.
- DIMENSIONS.** See Section 2102.1.
- Actual.** See Section 2102.1.
- Nominal.** See Section 2102.1.
- Specified.** See Section 2102.1.
- DISPENSING.** See Section 307.2.
- DOOR, BALANCED.** See Section 1002.1.
- DORMITORY.** See Section 310.2.
- DRAFTSTOP.** See Section 702.1.
- DRAG STRUT.** See Section 2302.1.
- DRILLED SHAFT.** See Section 1802.1.
- Socketed drilled shaft.** See Section 1802.1.
- DRY-CHEMICAL EXTINGUISHING AGENT.** See Section 902.1.
- DRY FLOODPROOFING.** See Section 1612.2.
- DURATION OF LOAD.** See Section 1602.1.
- DWELLING.** *Any building that exclusively contains one, two, or three dwelling units, each of which may be occupied by a family and no more than five lodgers or boarders, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that is occupied for living purposes, physically separated from adjacent structures, and with an independent exit from each dwelling unit.*
- DWELLING, ONE-, TWO-, OR THREE- FAMILY.** *See Dwelling.*
- DWELLING UNIT.** *A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation. The dwelling unit may include any accessory space intended for the exclusive use of the occupants of an individual dwelling unit such as a private garage, greenhouse, etc.*

DWELLING UNIT OR SLEEPING UNIT, MULTISTORY. See Section 1102.1.

DWELLING UNIT OR SLEEPING UNIT, TYPE A. See Section 1102.1.

DWELLING UNIT OR SLEEPING UNIT, TYPE B. See Section 1102.1.

EGRESS COURT. See Section 1002.1.

ELEVATOR GROUP. See Section 902.1.

EMERGENCY ALARM SYSTEM. See Section 902.1.

EMERGENCY CONTROL STATION. See Section 415.2.

EMERGENCY ESCAPE AND RESCUE OPENING. See Section 1002.1.

EMERGENCY SITUATION. *An incident requiring a response to prevent loss of life or injury at a school building involving an active shooter or similar occurrence where normal evacuation could put occupants at risk, but shall not include fire, tornado/earthquake, building collapse, boiler failure, or similar occurrence caused by natural activity or building failure. See section 1008.1.9.11.*

EMERGENCY VOICE/ALARM COMMUNICATIONS. See Section 902.1.

EMPLOYEE WORK AREA. See Section 1102.1.

ENGINE-MOUNTED TANK. *A fuel tank furnished by the engine manufacturer or the emergency power system supplier and mounted on the engine, the engine-frame, or under as a subbase.*

EQUIPMENT PLATFORM. See Section 502.1.

ESSENTIAL FACILITIES. See Section 1602.1.

EXHAUSTED ENCLOSURE. See Section 415.2.

EXISTING CONSTRUCTION. See Section 1612.2.

EXISTING STRUCTURE. A structure *regulated by this code that was erected or one for which a plan approval has been issued.* See also Section 1612.2.

EXIT. See Section 1002.1.

EXIT ACCESS. See Section 1002.1.

EXIT ACCESS DOORWAY. See Section 1002.1.

EXIT DISCHARGE. See Section 1002.1.

EXIT DISCHARGE, LEVEL OF. See Section 1002.1.

EXIT ENCLOSURE. See Section 1002.1.

EXIT, HORIZONTAL. See Section 1002.1.

EXIT PASSAGEWAY. See Section 1002.1.

EXPANDED VINYL WALL COVERING. See Section 802.1.

EXPLOSION. See Section 307.2.

EXPLOSIVE. See Section 307.2.

High explosive. See Section 307.2.

Low explosive. See Section 307.2.

Mass detonating explosives. See Section 307.2.

UN/DOTh Class 1 Explosives. See Section 307.2.

Division 1.1. See Section 307.2.

Division 1.2. See Section 307.2.

Division 1.3. See Section 307.2.

Division 1.4. See Section 307.2.

Division 1.5. See Section 307.2.

Division 1.6. See Section 307.2.

EXTERIOR INSULATION AND FINISH SYSTEM (EIFS). See Section 1402.1.

EXTERIOR INSULATION AND FINISH SYSTEM

(EIFS) WITH DRAINAGE. See Section 1402.1.

EXTERIOR SURFACES. See Section 2502.1.

EXTERIOR WALL. See Section 1402.1.

EXTERIOR WALL COVERING. See Section 1402.1.

EXTERIOR WALL ENVELOPE. See Section 1402.1.

F RATING. See Section 702.1.

FABRIC PARTITION. See Section 1602.1.

FABRICATED ITEM. See Section 1702.1.

FABRICATION AREA. See Section 415.2.

FACILITY. See Section 1102.1.

FACTORED LOAD. See Section 1602.1.

FIBER CEMENT SIDING. See Section 1402.1.

FIBER REINFORCED POLYMER. See Section 2602.1.

Fiberglass Reinforced Polymer. See Section 2602.1.

FIBERBOARD. See Section 2302.1.

FIRE ALARM BOX, MANUAL. See Section 902.1.

FIRE ALARM CONTROL UNIT. See Section 902.

FIRE ALARM SIGNAL. See Section 902.1.

FIRE ALARM SYSTEM. See Section 902.1.

FIRE AREA. See Section 902.1.

FIRE BARRIER. See Section 702.1.

FIRE CODE. *“Ohio Fire Code”.*

FIRE COMMAND CENTER. See Section 902.1.

FIRE DAMPER. See Section 702.1.

FIRE DETECTOR, AUTOMATIC. See Section 902.1.

FIRE DOOR. See Section 702.1.

FIRE DOOR ASSEMBLY. See Section 702.1.

FIRE EXIT HARDWARE. See Section 1002.1.

FIRE LANE. A road or other passageway developed to allow the passage of fire apparatus. A fire lane is not necessarily intended for vehicular traffic other than fire apparatus.

FIRE PARTITION. See Section 702.1.

FIRE PREVENTION. *The preventative measures which provide for the safe conduct and operation of hazardous processes, storage of combustibile and flammable materials, conducting of fire drills and the maintenance of fire protection, detection and extinguishing service equipment and good housekeeping conditions.*

FIRE PROTECTION RATING. See Section 702.1.

FIRE PROTECTION SYSTEM. See Section 902.1.

FIRE RESISTANCE. See Section 702.1.

FIRE-RESISTANCE RATING. See Section 702.1.

FIRE-RESISTANT JOINT SYSTEM. See Section 702.1.

FIRE SAFETY FUNCTIONS. See Section 902.1.

FIRE SEPARATION DISTANCE. See Section 702.1.

FIRE WALL. See Section 702.1.

FIRE WINDOW ASSEMBLY. See Section 702.1.

FIREBLOCKING. See Section 702.1.

FIREPLACE. See Section 2102.1.

FIREPLACE THROAT. See Section 2102.1.

FIREWORKS. See Section 307.2.

Fireworks, 1.3G. See Section 307.2.

Fireworks, 1.4G. See Section 307.2.

FIXED BASE OPERATOR (FBO). See Section 412.2.

FLAME SPREAD. See Section 802.1.

FLAME SPREAD INDEX. See Section 802.1.

FLAMMABLE GAS. See Section 307.2.

FLAMMABLE LIQUEFIED GAS. See Section 307.2.

FLAMMABLE LIQUID. See Section 307.2.

Class IA. See Section 307.2.

Class IB. See Section 307.2.

Class IC. See Section 307.2.

FLAMMABLE MATERIAL. See Section 307.2.

FLAMMABLE SOLID. See Section 307.2.

FLAMMABLE VAPORS OR FUMES. See Section 415.2.

FLASH POINT. See Section 307.2.

FLIGHT. See Section 1002.1.

FLOOD OR FLOODING. See Section 1612.2.

FLOOD DAMAGE-RESISTANT MATERIALS. See Section 1612.2.

FLOOD HAZARD AREA. See Section 1612.2.

FLOOD HAZARD AREA SUBJECT TO HIGH-VELOCITY WAVE ACTION. See Section 1612.2.

FLOOD INSURANCE RATE MAP (FIRM). See Section 1612.2.

FLOOD INSURANCE STUDY. See Section 1612.2.

FLOODWAY. See Section 1612.2.

FLOOR AREA, GROSS. See Section 1002.1.

FLOOR AREA, NET. See Section 1002.1.

FLOOR FIRE DOOR ASSEMBLY. See Section 702.1.

FLY GALLERY. See Section 410.2.

FOAM-EXTINGUISHING SYSTEMS. See Section 902.1.

FOAM PLASTIC INSULATION. See Section 2602.1.

FOLDING AND TELESCOPIC SEATING. See Section 1002.1.

FOOD COURT. See Section 402.2.

FOUNDATION PIER. See Section 2102.1.

FRAME STRUCTURE. See Section 1614.2.

FUEL TANK. *A tank containing fuel for an engine(s) or appliance.*

FURNACE ROOM. *A room primarily utilized for the installation of fuel-burning space-heating and water-heating appliances other than boilers.*

GAS CABINET. See Section 415.2.

GAS ROOM. See Section 415.2.

GASEOUS HYDROGEN SYSTEM. See Section 421.2.

GLASS FIBERBOARD. See Section 721.1.1.

GLUED BUILT-UP MEMBER. See Section 2302.1.

GRADE FLOOR OPENING. A window or other opening located such that the sill height of the opening is not more than 44 inches (1118 mm) above or below the finished ground level adjacent to the opening.

GRADE (LUMBER). See Section 2302.1.

GRADE PLANE. See Section 502.1.

GRANDSTAND. See Section 1002.1.

GRIDIRON. See Section 410.2.

GROSS LEASABLE AREA. See Section 402.2.

GROUTED MASONRY. See Section 2102.1.

Grouted hollow-unit masonry. See Section 2102.1.

Grouted multiwythe masonry. See Section 2102.1.

GUARD. See Section 1002.1.

GYPSUM BOARD. See Section 2502.1.

GYPSUM PLASTER. See Section 2502.1.

GYP SUM VENEER PLASTER. See Section 2502.1.

HABITABLE SPACE. A space in a building for living, sleeping, eating or cooking. Bathrooms, toilet rooms, closets, halls, storage or utility spaces and similar areas are not considered habitable spaces.

HALOGENATED EXTINGUISHING SYSTEMS. See Section 902.1.

HANDLING. See Section 307.2.

HANDRAIL. See Section 1002.1.

HARDBOARD. See Section 2302.1.

HAZARDOUS MATERIALS. See Section 307.2.

HAZARDOUS PRODUCTION MATERIAL (HPM). See Section 415.2.

HEAD JOINT. See Section 2102.1.

HEALTH HAZARD. See Section 307.2.

HEIGHT, BUILDING. See Section 502.1.

HEIGHT, WALLS. See Section 2102.1.

HELICAL PILE. See Section 1802.1.

HELIPORT. See Section 412.2.

HELISTOP. See Section 412.2.

HIGH-RISE BUILDING. A building with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

HIGHLY TOXIC. See Section 307.2.

HISTORIC BUILDINGS. Buildings that are listed in or eligible for listing in the “National Register of Historic Places,” or designated as historic *by certified local governments in accordance with the National Historic Preservation Act of 1966 as amended.* See 3409.

HOME. *An institution, residence, or facility, required to be licensed by the Ohio Department of Health, that provides, for a period of more than twenty-four hours, whether for a consideration or not, accommodations to three or more unrelated individuals who are dependent upon the services of others, including a nursing home, residential care facility, home for the aging, a veterans' home operated under Chapter 5907. of the Revised Code, and a county home or district home that is or has been licensed as a residential care facility. For the purposes of licensure of homes, pursuant to Chapter 3721. of the Revised Code, any residence, institution, hotel, congregate housing project, or similar facility that meets the definition of a home under this section is such a home regardless of how the facility holds itself out to the public.*

HOME, COUNTY AND DISTRICT. *A county home or district home operated under Chapter 5155. of the Revised Code.*

HOME FOR THE AGING. *A home that provides services as a residential care facility and a nursing home, except that the home provides its services only to individuals who are dependent on the services of others by reason of both age and physical or mental impairment. The part or unit of a home for the aging that provides services only as a residential care facility is required to be licensed by the Ohio Department of Health as a residential care facility. The part or unit that may provide skilled nursing care beyond the extent authorized by section 3721.011 [3721.01.1] of the Revised Code is required to be licensed as a nursing home.*

HOME, NURSING. *A home used for the reception and care of individuals who by reason of illness or physical or mental impairment require skilled nursing care and of individuals who require personal care services but not skilled nursing care. A nursing home is required to be licensed by the Ohio Department of Health to provide personal care services and skilled nursing care.*

HOME, TYPE A FAMILY DAY-CARE. *A home where the administrator permanently resides and where care is provided for seven to twelve children under six years of age or four to twelve children when at least four are under two years of age. Licensure is required of these homes by the Ohio Department of Job and Family Services when at least one of the children cared for is not a sibling of the others and the home is not the permanent residence of the children. These homes are also referred to as Type A Homes and Type A Child Care and are exempt from the rules of the board. Also see Chapter 5104. of the Revised Code*

HOME, TYPE B FAMILY DAY-CARE. *A home where the administrator permanently resides and where care is provided for one to six children under six years of age with no more than three children under two years of age when at least one of the children cared for is not a sibling of the others and the home is not the permanent residence of the children. These homes are also referred to as Type B Homes and Type B Child Care and are exempt from the rules of the board. Also see Chapter 5104. of the Revised Code.*

HORIZONTAL ASSEMBLY. See Section 702.1.

HOSPITALS AND MENTAL HOSPITALS. See Section 308.3.1.

HOUSING UNIT. See Section 408.1.1.

HPM FLAMMABLE LIQUID. See Section 415.2.

HPM ROOM. See Section 415.2. **HURRICANE-PRONE REGIONS.** See Section 1609.2.

HYDROGEN CUTOFF ROOM. See Section 421.2.

IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH). See Section 415.2.

IMPACT LOAD. See Section 1602.1.

INCAPABLE OF SELF-PRESERVATION. *Persons because of age, physical limitations, mental limitations, chemical dependency, or medical treatment who cannot respond as an individual to an emergency situation.*

INCOMPATIBLE MATERIALS. See Section 307.2.

INDUSTRIALIZED UNITS. *See section 117.*

INERT GAS. See Section 307.2.

INITIATING DEVICE. See Section 902.1.

INSPECTION CERTIFICATE. See Section 1702.1.

INSTITUTION OF HIGHER EDUCATION. *A state institution of higher education as defined in section 3345.011 of the Revised Code, a private nonprofit college or university located in this state that possesses a certificate of authorization issued pursuant to Chapter 1713. of the Revised Code, or a school located in this state that possesses a certificate of registration and one or more program authorizations issued by the state board of career colleges and schools under Chapter 3322. of the Revised Code. See School Building.*

INTENDED TO BE OCCUPIED AS A RESIDENCE. See Section 1102.1.

INTERIOR FINISH. See Section 802.1.

INTERIOR FLOOR FINISH. See Section 802.1.

INTERIOR FLOOR-WALL BASE. See Section 802.1.

INTERIOR SURFACES. See Section 2502.1.

INTERIOR WALL AND CEILING FINISH. See Section 802.1.

INTERLAYMENT. See Section 1502.1.

INTUMESCENT FIRE-RESISTANT COATINGS. See Section 1702.1.

JOINT. See Section 702.1.

JURISDICTION. *The authority to enforce this code by municipal corporations, townships or counties certified by the board in accordance with section 3781.10 of the Revised Code or the division of industrial compliance in the department of commerce.*

LABEL. An identification applied on a product by the manufacturer that contains the name of the manufacturer, the function and performance characteristics of the product or material, and the name and identification of an approved agency and that indicates that the representative sample of the product or material has been tested and evaluated by an approved agency (see Section 1703.5 and “Inspection certificate,” “Manufacturer’s designation” and “Mark”).

LABELED. Equipment, materials or products to which has been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that

maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

LIGHT-DIFFUSING SYSTEM. See Section 2602.1.

LIGHT-FRAME CONSTRUCTION. A type of construction whose vertical and horizontal structural elements are primarily formed by a system of repetitive wood or cold-formed steel framing members.

LIGHT-TRANSMITTING PLASTIC ROOF PANELS. See Section 2602.1.

LIGHT-TRANSMITTING PLASTIC WALL PANELS. See Section 2602.1.

LIMIT STATE. See Section 1602.1.

LIMITED SPRAYING SPACE. *An area in which spraying operations for touch-up or spot painting of a surface area of nine square feet (0.84 m²) or less are conducted.*

LIQUID. See Section 415.2.

LIQUID STORAGE ROOM. See Section 415.2.

LIQUID USE, DISPENSING AND MIXING ROOM. See Section 415.2.

LISTED. Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

LIVE LOADS. See Section 1602.1.

LIVE LOADS (ROOF). See Section 1602.1.

LIVE/WORK UNIT. *A dwelling unit or sleeping unit in which a significant portion of the space includes a nonresidential use that is operated by the tenant. See Section 419.*

LOAD AND RESISTANCE FACTOR DESIGN (LRFD). See Section 1602.1.

LOAD EFFECTS. See Section 1602.1.

LOAD FACTOR. See Section 1602.1.

LOADS. See Section 1602.1.

LOT. A portion or parcel of land considered as a unit.

LOT LINE. A line dividing one lot from another, or from a street or any public place.

LOWER FLAMMABLE LIMIT (LFL). See Section 415.2.

LOWEST FLOOR. See Section 1612.2.

MAIN WINDFORCE-RESISTING SYSTEM. See Section 1702.1.

MANUAL FIRE ALARM BOX. See Section 902.1.

MANUFACTURER'S DESIGNATION. An identification applied on a product by the manufacturer indicating that a product or material complies with a specified standard or set of rules (see also "Inspection certificate," "Label" and "Mark").

MARK. An identification applied on a product by the manufacturer indicating the name of the manufacturer and the function of a product or material (see also "Inspection certificate," "Label" and "Manufacturer's designation").

MARQUEE. A permanent roofed structure *projecting over an entrance attached to and supported by a building for the purpose of supporting a marquee sign.*

MASONRY. See Section 2102.1.

Ashlar masonry. See Section 2102.1.

Coursed ashlar. See Section 2102.1.

Glass unit masonry. See Section 2102.1.

Plain masonry. See Section 2102.1.

Random ashlar. See Section 2102.1.

Reinforced masonry. See Section 2102.1.

Solid masonry. See Section 2102.1.

Unreinforced (plain) masonry. See Section 2102.1.

MASONRY UNIT. See Section 2102.1.

Clay. See Section 2102.1.

Concrete. See Section 2102.1.

Hollow. See Section 2102.1.

Solid. See Section 2102.1.

MASTIC FIRE-RESISTANT COATINGS. See Section 1702.1.

MAXIMUM CONSIDERED EARTHQUAKE GROUND MOTION. See Section 1613.2.

MEANS OF EGRESS. See Section 1002.1.

MECHANICAL-ACCESS OPEN PARKING GARAGES. See Section 406.3.2.

MECHANICAL CODE. *The “Ohio Mechanical Code.”*

MECHANICAL EQUIPMENT SCREEN. See Section 1502.1.

MECHANICAL SYSTEMS. See Section 1613.2.

MEMBRANE-COVERED CABLE STRUCTURE. See Section 3102.2.

MEMBRANE-COVERED FRAME STRUCTURE. See Section 3102.2.

MEMBRANE PENETRATION. See Section 702.1.

MEMBRANE-PENETRATION FIRESTOP. See Section 702.1.

MENTAL HOSPITALS. See Section 308.3.1.

MERCHANDISE PAD. See Section 1002.1.

METAL COMPOSITE MATERIAL (MCM). See Section 1402.1.

METAL COMPOSITE MATERIAL (MCM) SYSTEM. See Section 1402.1.

METAL ROOF PANEL. See Section 1502.1.

METAL ROOF SHINGLE. See Section 1502.1.

MEZZANINE. See Section 502.1.

MICROPILE. See Section 1802.1.

MINERAL BOARD. See Section 721.1.1.

MINERAL FIBER. See Section 702.1.

MINERAL WOOL. See Section 702.1.

MINOR REPAIR. See *REPAIR, MINOR*.

MODIFIED BITUMEN ROOF COVERING. See Section 1502.1.

MORTAR. See Section 2102.1.

MORTAR, SURFACE-BONDING. See Section 2102.1.

MULTILEVEL ASSEMBLY SEATING. See Section 1102.1.

MULTIPLE-STATION ALARM DEVICE. See Section 902.1.

MULTIPLE-STATION SMOKE ALARM. See Section 902.1.

MULTISTORY UNITS. See Section 1102.1.

NAILING, BOUNDARY. See Section 2302.1.

NAILING, EDGE. See Section 2302.1.

NAILING, FIELD. See Section 2302.1.

NATURAL GAS PROCESSING FACILITIES – *Installations, including associated buildings, pipes, valves, tanks, and other equipment, used to separate various fluids, hydrocarbons, natural gas liquids, and impurities from the raw natural gas, manufacturing residue gas suitable for transmission and distribution to end users.*

NATURAL GAS LIQUIDS FRACTIONATION FACILITIES – *Installations, including associated buildings, pipes, valves, tanks, and other equipment, used for the separation of mixtures of light hydrocarbons or natural gas liquids into individual, purity natural gas liquid products, which include ethane, propane, normal butane, iso-butane, and natural gasolines.*

NATURALLY DURABLE WOOD. See Section 2302.1.

Decay resistant. See Section 2302.1.

Termite resistant. See Section 2302.1.

NOMINAL LOADS. See Section 1602.1.

NOMINAL SIZE (LUMBER). See Section 2302.1.

NONCOMBUSTIBLE MEMBRANE STRUCTURE. See Section 3102.2.

NORMAL TEMPERATURE AND PRESSURE (NTP). See Section 415.2.

NOSING. See Section 1002.1.

NOTIFICATION ZONE. See Section 902.1.

NUISANCE ALARM. See Section 902.1.

NURSING HOMES. See Section 308.3.1.

OCCUPANCY. *The purpose for which a building, or portion thereof, is used.*

OCCUPANCY, CHANGE OF. *See section 3402.*

OCCUPANCY CATEGORY. See Section 1602.1.

OCCUPANT LOAD. See Section 1002.1.

OCCUPIABLE SPACE. A room or enclosed space designed for human occupancy in which individuals congregate for amusement, educational or similar purposes or in which occupants are engaged at labor, and which is equipped with means of egress and light and ventilation facilities meeting the requirements of this code.

OPEN PARKING GARAGE. See Section 406.3.2.

OPEN SYSTEM. See Section 307.2.

OPERATING BUILDING. See Section 307.2.

ORDINARY PRECAST STRUCTURAL WALL. See Section 1908.1.1.

ORDINARY REINFORCED CONCRETE STRUCTURAL WALL. See Section 1908.1.1.

ORDINARY STRUCTURAL PLAIN CONCRETE WALL. See Section 1908.1.1.

ORGANIC PEROXIDE. See Section 307.2.

Class I. See Section 307.2.

Class II. See Section 307.2.

Class III. See Section 307.2.

Class IV. See Section 307.2.

Class V. See Section 307.2.

Unclassified detonable. See Section 307.2.

ORTHOGONAL. See Section 1613.2.

OTHER STRUCTURES. See Section 1602.1.

OWNER. Any person, agent, firm or corporation having a legal or equitable interest in the property.

OXIDIZER. See Section 307.2.

Class 4. See Section 307.2.

Class 3. See Section 307.2.

Class 2. See Section 307.2.

Class 1. See Section 307.2.

OXIDIZING GAS. See Section 307.2.

PANEL (PART OF A STRUCTURE). See Section 1602.1.

PANIC HARDWARE. See Section 1002.1.

PARTICLEBOARD. See Section 2302.1.

PENETRATION FIRESTOP. See Section 702.1.

PENTHOUSE. See Section 1502.1.

PERMIT. *Deleted*

PERSON. An individual, heirs, executors, administrators or assigns, and also includes a firm, partnership or corporation, its or their successors or assigns, or the agent of any of the aforesaid. *Whenever the word "person" is used in any section of this code prescribing a penalty or fine, as to partnerships or associations, the word shall include the partners or members thereof, and as to corporations, shall include the officer, agents or members thereof who are responsible for any violation of such section.*

PERSONAL CARE SERVICE. See Section 310.2.

PHOTOLUMINESCENT. See Section 1002.1.

PHYSICAL HAZARD. See Section 307.2.

PHYSIOLOGICAL WARNING THRESHOLD LEVEL. See Section 415.2.

PINRAIL. See Section 410.2.

PLASTIC, APPROVED. See Section 2602.1.

PLASTIC GLAZING. See Section 2602.1.

PLATFORM. See Section 410.2.

PLUMBING CODE. *The "Ohio Plumbing Code."*

POSITIVE ROOF DRAINAGE. See Section 1502.1.

POWER PIPING. *Piping systems and their component parts that are not building services piping systems, and that may be installed within electric power generating stations, industrial and institutional plants, utility geothermal heating systems, and central and district heating and cooling systems. Power piping includes, but is not limited to, piping used in the distribution of plant and process steam at boiler pressures greater than fifteen pounds per square inch gauge, high temperature water piping from high pressure and high temperature boilers, power boiler steam condensate piping, high pressure and high temperature water condensate piping, and compressed air and hydraulic piping upstream of the first stop valve off a system distribution header.*

PREFABRICATED WOOD I-JOIST. See Section 2302.1.

PREMISES. *A lot, plot or parcel of land, including any structure thereon.*

PRESTRESSED MASONRY. See Section 2102.1.

PRIMARY FUNCTION. See Section 3402.1.

PRIMARY STRUCTURAL FRAME. The primary structural frame shall include all of the following structural members:

- 1 The columns;
- 2 Structural members having direct connections to the columns, including girders, beams, trusses and spandrels;
- 3 Members of the floor construction and roof construction having direct connections to the columns; and
- 4 Bracing members that are essential to the vertical stability of the primary structural frame under gravity loading shall be considered part of the primary structural frame whether or not the bracing member carries gravity loads.

PRISM. See Section 2102.1.

PRIVATE SCHOOL. *A chartered nonpublic school or a nonchartered nonpublic school. See School Building.*

PROCESS PIPING. *Piping systems and their component parts that are not building services or power piping systems and that may be installed in petroleum*

refineries; chemical, pharmaceutical, textile, paper, semiconductor, and cryogenic plants; and related processing plants and terminals.

PROCESSING EQUIPMENT. *Equipment, machinery and devices specifically intended and used exclusively for manufacturing and other similar purposes. Processing equipment does not include the building electrical service and distribution system, mechanical and plumbing systems related to space heating, air conditioning, ventilation, water distribution and sanitation or other systems regulated by board rules.*

PROSCENIUM WALL. See Section 410.2.

PUBLIC ENTITY. *(1) Any state or local government; (2) Any department, agency, special purpose district, or other instrumentality of Ohio or local government; and (3) The national railroad passenger corporation, and any commuter authority (as defined in section 103(8) of the "Rail Passenger Service Act").*

PUBLIC ENTRANCE. See Section 1102.1.

PUBLIC SCHOOL. *Any school operated by a school district board of education, any community school established under Chapter 3314. of the Revised Code, any STEM school established under Chapter 3326. of the Revised Code, and any college-preparatory boarding school established under Chapter 3328. of the Revised Code. See School Building.*

PUBLIC-USE AREAS. See Section 1102.1.

PUBLIC WAY. See Section 1002.1.

PYROPHORIC. See Section 307.2.

PYROTECHNIC COMPOSITION. See Section 307.2.

RAMP. See Section 1002.1.

RAMP-ACCESS OPEN PARKING GARAGES. See Section 406.3.2.

RECORD DRAWINGS. See Section 902.1.

REFLECTIVE PLASTIC CORE FOIL INSULATION.

An insulation material packaged in rolls, that is less than 0.5 inches thick, with at least one exterior low emittance surface (0.1 or less) and a core material containing voids or cells.

REGISTERED DESIGN PROFESSIONAL. *Any architect holding a certificate issued under sections 4703.10 and 4703.36 of the Revised Code or any engineer holding a certificate issued under section 4733.14 of the Revised Code.*

REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
Deleted

RELIGIOUS WORSHIP, PLACE OF. A building or portion thereof intended for the performance of religious services.

REPAIR. The reconstruction or renewal of any part of an existing building for the purpose of its maintenance.

REPAIR, MINOR. *The reconstruction or renewal of any part of an existing building for the purpose of its maintenance when the work has limited impact on access, safety or health. Minor repairs do not include the cutting away of any wall, partition or portions of walls, the removal or cutting of any structural beam or load bearing support, or the removal or change of any required element of accessibility, means of egress, or rearrangement of parts of a structure affecting the egress requirements. Minor repairs do not include addition to, alteration of, replacement or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.*

REROOFING. See Section 1502.1.

RESIDENTIAL AIRCRAFT HANGAR. See Section 412.2.

RESIDENTIAL CARE/ASSISTED LIVING FACILITIES. See Section 310.2.

RESISTANCE FACTOR. See Section 1602.1.

RESTRICTED ENTRANCE. See Section 1102.1.

RETRACTABLE AWNING. See Section 3105.2.

REVISED CODE. All statutes of a permanent and general nature of this state as revised and consolidated into general provisions, titles, chapters, and sections.

ROOF ASSEMBLY. See Section 1502.1.

ROOF COVERING. See Section 1502.1.

ROOF COVERING SYSTEM. See Section 1502.1.

ROOF DECK. See Section 1502.1.

ROOF RECOVER. See Section 1502.1.

ROOF REPAIR. See Section 1502.1.

ROOF REPLACEMENT. See Section 1502.1.

ROOF VENTILATION. See Section 1502.1.

ROOFTOP STRUCTURE. See Section 1502.1.

RUBBLE MASONRY. See Section 2102.1.

Coursed rubble. See Section 2102.1.

Random rubble. See Section 2102.1.

Rough or ordinary rubble. See Section 2102.1.

RUNNING BOND. See Section 2102.1.

SAFE. As applied to a building, means free from danger or hazard to the life, safety, health or welfare of persons occupying or frequenting it, or of the public, and from danger of settlement, movement, disintegration, or collapse, whether such danger arises from the method or materials of its construction or from equipment installed therein, for the purpose of lighting, heating, the transmission or utilization of electric current, or from its location or otherwise.

SALLYPORT. See section 408.1.1.

SANITARY. *As applied to a building, means free from danger or hazard to the health of persons occupying or frequenting it or to that of the public, if such danger arises from the method or materials of its construction or from any equipment installed therein for the purpose of lighting, heating, ventilating, or plumbing.*

SALLYPORT. See Section 408.1.1.

SCISSOR STAIR. See Section 1002.1.

SCHOOL BUILDING. *A structure used for the instruction of students by a public or private school or institution of higher education.*

SCUPPER. See Section 1502.1.

SECONDARY MEMBERS. The following structural members shall be considered secondary members and not part of the primary structural frame:

- 1 Structural members not having direct connections to the columns;
- 2 Members of the floor construction not having direct connections to the columns; and
- 3 Bracing members other than those that are part of the primary structural frame.

SEISMIC DESIGN CATEGORY. See Section 1613.2.

SEISMIC-FORCE-RESISTING SYSTEM. See Section 1613.2.

SELF-CLOSING. See Section 702.1.

SELF-LUMINOUS. See Section 1002.1.

SELF-SERVICE STORAGE FACILITY. See Section 1102.1.

SERIOUS HAZARD. *A hazard of considerable consequence to safety or health through the design, location, construction, or equipment of a building, or the condition thereof, which hazard has been established through experience to be of certain or probable consequence, or which can be determined to be, or which is obviously such a hazard.*

SERVICE CORRIDOR. See Section 415.2.

SERVICE ENTRANCE. See Section 1102.1.

SHAFT. See Section 702.1.

SHAFT ENCLOSURE. See Section 702.1.

SHALLOW FOUNDATION. See Section 1802.1.

SHEAR WALL. See Sections 2102.1 and 2302.1.

Detailed plain masonry shear wall. See Section 2102.1.

Intermediate prestressed masonry shear wall. See Section 2102.1.

Intermediate reinforced masonry shear wall. See Section 2102.1.

Ordinary plain masonry shear wall. See Section 2102.1.

Ordinary plain prestressed masonry shear wall. See Section 2102.1.

Ordinary reinforced masonry shear wall. See Section 2102.1.

Perforated shear wall. See Section 2302.1.

Perforated shear wall segment. See Section 2302.1.

Special prestressed masonry shear wall. See Section 2102.1.

Special reinforced masonry shear wall. See Section 2102.1.

SHELL. See Section 2102.1.

SINGLE-PLY MEMBRANE. See Section 1502.1.

SINGLE-STATION SMOKE ALARM. See Section 902.1.

SITE. See Section 1102.1.

SITE CLASS. See Section 1613.2.

SITE COEFFICIENTS. See Section 1613.2.

SITE-FABRICATED STRETCH SYSTEM. See Section 802.1.

SKYLIGHT, UNIT. A factory-assembled, glazed fenestration unit, containing one panel of glazing material that allows for natural lighting through an opening in the roof assembly while preserving the weather-resistant barrier of the roof.

SKYLIGHTS AND SLOPED GLAZING. Glass or other transparent or translucent glazing material installed at a slope of 15 degrees (0.26 rad) or more from vertical. Glazing material in skylights, including unit skylights, solariums, sunrooms, roofs and sloped walls, are included in this definition.

SLEEPING UNIT. A room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of a dwelling unit are not sleeping units.

SMOKE ALARM. See Section 902.1.

SMOKE BARRIER. See Section 702.1.

SMOKE COMPARTMENT. See Section 702.1.

SMOKE DAMPER. See Section 702.1.

SMOKE DETECTOR. See Section 902.1.

SMOKE-DEVELOPED INDEX. See Section 802.1.

SMOKE-PROTECTED ASSEMBLY SEATING. See Section 1002.1.

SMOKEPROOF ENCLOSURE. See Section 902.1.

SOLID. See Section 415.2.

SPECIAL AMUSEMENT BUILDING. See Section 411.2.

SPECIAL FLOOD HAZARD AREA. See Section 1612.2.

SPECIAL INSPECTION. See Section 1702.1.

SPECIAL INSPECTION AGENCY. See Section 1702.1.

SPECIAL INSPECTION, CONTINUOUS. See Section 1702.1.

SPECIAL INSPECTION, PERIODIC. See Section 1702.1.

SPECIAL INSPECTOR. See Section 1702.1.

SPECIAL STRUCTURAL WALL. See Section 1908.1.1.

SPECIFIED. See Section 2102.1.

SPECIFIED COMPRESSIVE STRENGTH OF MASONRY ($f'm$). See Section 2102.1.

SPLICE. See Section 702.1.

SPRAY BOOTH. *A mechanically ventilated appliance of varying dimensions and construction provided to enclose or accommodate a spraying operation and to confine and limit the escape of spray vapor and residue and to exhaust it safely.*

SPRAY ROOM. *A room designed to accommodate spraying operations constructed in accordance with this code and separated from the remainder of the building by a minimum one-hour fire barrier.*

SPRAYED FIRE-RESISTANT MATERIALS. See Section 1702.1.

SPRAYING SPACE. *An area in which dangerous quantities of flammable vapors or combustible residues, dusts or deposits are present due to the operation of spraying processes. The building official is authorized to define the limits of the spraying space in any specific case.*

SRO (Single room occupancy) FACILITY. *A facility with more than five sleeping rooms that is kept, used, maintained, advertised or held out to the public as a place where each individual is provided with separate sleeping accommodations which is intended to be the permanent residence of a single occupant. SRO facilities are required to be licensed by the Ohio Fire Marshal and do not include agricultural labor camps, apartment houses, lodging houses, rooming houses or college dormitories.*

STACK BOND. See Section 2102.1.

STAGE. See Section 410.2.

STAIR. See Section 1002.1.

STAIRWAY. See Section 1002.1.

STAIRWAY, EXTERIOR. See Section 1002.1.

STAIRWAY, INTERIOR. See Section 1002.1.

STAIRWAY, SPIRAL. See Section 1002.1.

STANDPIPE SYSTEM, CLASSES OF. See Section 902.1.

Class I system. See Section 902.1.

Class II system. See Section 902.1.

Class III system. See Section 902.1.

STANDPIPE, TYPES OF. See Section 902.1.

Automatic dry. See Section 902.1.

Automatic wet. See Section 902.1.

Manual dry. See Section 902.1.

Manual wet. See Section 902.1.

Semiautomatic dry. See Section 902.1.

START OF CONSTRUCTION. See Section 1612.2.

STEEL CONSTRUCTION, COLD-FORMED. See Section 2202.1.

STEEL JOIST. See Section 2202.1.

STEEL MEMBER, STRUCTURAL. See Section 2202.1.

STEEP SLOPE. A roof slope greater than two units vertical in 12 units horizontal (17-percent slope).

STONE MASONRY. See Section 2102.1.

Ashlar stone masonry. See Section 2102.1.

Rubble stone masonry. See Section 2102.1.

STORAGE, HAZARDOUS MATERIALS. See Section 415.2.

STORM SHELTER. See Section 423.2.

Community storm shelter. See Section 423.2.

Residential storm shelter. See Section 423.2.

STORY. That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above (also see “Basement,” “Mezzanine” and Section 502.1). It is measured as the vertical distance from top to top of two successive tiers of beams or finished floor surfaces and, for the topmost story, from the top of the floor finish to the top of the ceiling joists or, where there is not a ceiling, to the top of the roof rafters.

STORY ABOVE GRADE PLANE. Any story having its finished floor surface entirely above grade plane, or in which the finished surface of the floor next above is:

1. More than 6 feet (1829 mm) above grade plane; or
2. More than 12 feet (3658 mm) above the finished ground level at any point.

STRENGTH. See Section 2102.1.

Design strength. See Section 2102.1.

Nominal strength. See Sections 1602.1 and 2102.1.

Required strength. See Sections 1602.1 and 2102.1.

STRENGTH DESIGN. See Section 1602.1.

STRUCTURAL COMPOSITE LUMBER. See Section 2302.1.

Laminated veneer lumber (LVL). See Section 2302.1.

Parallel strand lumber (PSL). See Section 2302.1.

STRUCTURAL GLUED-LAMINATED TIMBER. See Section 2302.1.

STRUCTURAL OBSERVATION. See Section 1702.1.

STRUCTURE. That which is built or constructed.

SUBDIAPHRAGM. See Section 2302.1.

SUBSTANTIAL DAMAGE. See Section 1612.2.

SUBSTANTIAL IMPROVEMENT. See Section 1612.2.

SUBSTANTIAL STRUCTURAL DAMAGE. See Section 3402.1.

SUITE. See Section 1002.1.

SUNROOM. See Section 1202.1.

SUPERVISING STATION. See Section 902.1.

SUPERVISORY SERVICE. See Section 902.1.

SUPERVISORY SIGNAL. See Section 902.1.

SUPERVISORY SIGNAL-INITIATING DEVICE. See Section 902.1.

SWIMMING POOLS. See Section 3109.2.

T RATING. See Section 702.1.

TECHNICALLY INFEASIBLE. See Section 3402.1.

TEMPORARY DOOR LOCKING DEVICE. *An assembly of parts intended to be engaged by a trained school staff member in a school building for the purpose of preventing both ingress and egress through a door in a school building for a finite period of time in an emergency situation and during active shooter drills. See Section 1008.1.9.11.*

TENT. A structure, enclosure or shelter, with or without sidewalls or drops, constructed of fabric or pliable material supported in any manner except by air or the contents it protects.

THERMAL ISOLATION. See Section 1202.1.

THERMOPLASTIC MATERIAL. See Section 2602.1.

THERMOSETTING MATERIAL. See Section 2602.1.

THIN-BED MORTAR. See Section 2102.1.

THROUGH PENETRATION. See Section 702.1.

THROUGH-PENETRATION FIRESTOP SYSTEM. See Section 702.1.

TIE-DOWN (HOLD-DOWN). See Section 2302.1.

TIE, LATERAL. See Section 2102.1.

TIE, WALL. See Section 2102.1.

TILE. See Section 2102.1.

TILE, STRUCTURAL CLAY. See Section 2102.1.

TIRES, BULK STORAGE OF. See Section 902.1.

TOWNHOUSE. A single-family dwelling unit constructed in a group of three or more attached units in which each unit extends from the foundation to roof.

TOXIC. See Section 307.2.

TRANSIENT, PRIMARILY. See Section 310.2.

TRANSIENT AIRCRAFT. See Section 412.2.

TREATED WOOD. See Section 2302.1.

Fire-retardant-treated wood. See Section 2302.1.

Preservative-treated wood. See Section 2302.1.

TRIM. See Section 802.1.

TROUBLE SIGNAL. See Section 902.1.

TYPE A FAMILY DAY-CARE HOME. See *HOME, TYPE A FAMILY DAY-CARE*

TYPE B FAMILY DAY-CARE HOME. See *HOME, TYPE B FAMILY DAY-CARE*

TYPE A UNIT. See Section 1102.1.

TYPE B UNIT. See Section 1102.1.

UNDERLAYMENT. See Section 1502.1.

UNSTABLE (REACTIVE) MATERIAL. See Section 307.2.

Class 4. See Section 307.2.

Class 3. See Section 307.2.

Class 2. See Section 307.2.

Class 1. See Section 307.2.

USE (MATERIAL). See Section 415.2.

VAPOR AREA. *An area containing flammable vapors in the vicinity of dip tanks, drain boards or associated drying, conveying or other equipment during operation or shutdown periods. The code official is authorized to determine the extent of the vapor area, taking into consideration the characteristics of the liquid, the degree of sustained ventilation and the nature of the operations.*

VAPOR-PERMEABLE MEMBRANE. A material or covering having a permeance rating of 5 perms ($52.9 \cdot 10^{-10} \text{ kg/Pa} \cdot \text{s} \cdot \text{m}^2$) or greater, when tested in accordance with the desiccant method using Procedure A of ASTM E 96. A vapor-permeable material permits the passage of moisture vapor.

VAPOR RETARDER CLASS. A measure of a material or assembly's ability to limit the amount of moisture that passes through that material or assembly. Vapor retarder class shall be defined using the desiccant method of ASTM E 96 as follows:

Class I: 0.1 perm or less.

Class II: $0.1 < \text{perm} \leq 1.0$ perm.

Class III: $1.0 < \text{perm} \leq 10$ perm.

VEHICLE BARRIER SYSTEM. See Section 1602.1.

VEHICULAR GATE. See Section 3110.2.

VENEER. See Section 1402.1.

VENTILATION. The natural or mechanical process of supplying conditioned or unconditioned air to, or removing such air from, any space.

VINYL SIDING. See Section 1402.1.

VISIBLE ALARM NOTIFICATION APPLIANCE. See Section 902.1.

WALKWAY, PEDESTRIAN. A walkway used exclusively as a pedestrian

trafficway.

WALL. See Section 2102.1.

Cavity wall. See Section 2102.1.

Composite wall. See Section 2102.1.

Dry-stacked, surface-bonded wall. See Section 2102.1.

Masonry-bonded hollow wall. See Section 2102.1.

Parapet wall. See Section 2102.1.

WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

- 1 Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
- 2 Any masonry or concrete wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

WALL, NONLOAD-BEARING. Any wall that is not a load-bearing wall.

WALL PIER. See Section 1908.1.1.

WATER-REACTIVE MATERIAL. See Section 307.2.

Class 3. See Section 307.2.

Class 2. See Section 307.2.

Class 1. See Section 307.2.

WATER-RESISTIVE BARRIER. See Section 1402.1.

WEATHER-EXPOSED SURFACES. See Section 2502.1.

WEB. See Section 2102.1.

WET-CHEMICAL EXTINGUISHING SYSTEM. See Section 902.1.

WHEELCHAIR SPACE. See Section 1102.1.

WIND-BORNE DEBRIS REGION. See Section 1609.2.

WINDER. See Section 1002.1.

WIRE BACKING. See Section 2502.1.

WIRELESS PROTECTION SYSTEM. See Section 902.1.

WOOD SHEAR PANEL. See Section 2302.1.

WOOD STRUCTURAL PANEL. See Section 2302.1.

Composite panels. See Section 2302.1.

Oriented strand board (OSB). See Section 2302.1.

Plywood. See Section 2302.1.

WORKSTATION. See Section 415.2.

WYTHE. See Section 2102.1.

YARD. An open space, other than a court, unobstructed from the ground to the sky, except where specifically provided by this code, on the lot on which a building is situated.

ZONE. See Section 902.1.

ZONE, NOTIFICATION. See Section 902.1.

4101:1-10-01 Means of egress.

[Comment: When a reference is made within this rule to a federal statutory provision, an industry consensus standard, or any other technical publication, the specific date and title of the publication as well as the name and address of the promulgating agency are listed in rule 4101:1-35-01 of the Administrative Code. The application of the referenced standards shall be limited and as prescribed in section 102.5 of rule 4101:1-1-01 of the Administrative Code.]

SECTION 1001 ADMINISTRATION

1001.1 General. Buildings or portions thereof shall be provided with a means of egress system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of means of egress components required to provide an approved means of egress from structures and portions thereof. *Where Chapter 11 and this chapter have provisions relating to the same content, both chapters shall apply.*

1001.2 Minimum requirements. It shall be unlawful to alter a building or structure in a manner that will reduce the number of exits or the capacity of the means of egress to less than required by this code.

1001.3 Maintenance. Means of egress shall be maintained in accordance with the *fire code*.

1001.4 Fire safety and evacuation plans. *Fire safety and evacuation plans shall be provided for all occupancies and buildings where required by the fire code. Such fire safety and evacuation plans shall comply with the applicable provisions of Sections 401.2 and 404 of the fire code.*

SECTION 1002 DEFINITIONS

1002.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

ACCESSIBLE MEANS OF EGRESS. A continuous and unobstructed way of egress travel from any accessible point in a building or facility to a public way.

AISLE. An unenclosed exit access component that defines and provides a path of egress travel.

AISLE ACCESSWAY. That portion of an exit access that leads to an aisle.

ALTERNATING TREAD DEVICE. A device that has a series of steps between 50 and 70 degrees (0.87 and 1.22 rad) from horizontal, usually attached to a center support rail in an alternating manner so that the user does not have both feet on the same level at the same time.

AREA OF REFUGE. An area where persons unable to use stairways can remain temporarily to await instructions or assistance during emergency evacuation.

BLEACHERS. Tiered seating supported on a dedicated structural system and two or more rows high and is not a building element (see “Grandstands”).

COMMON PATH OF EGRESS TRAVEL. That portion of exit access which the occupants are required to traverse before two separate and distinct paths of egress travel to two exits are available. Paths that merge are common paths of travel. Common paths of egress travel shall be included within the permitted travel distance.

CORRIDOR. An enclosed exit access component that defines and provides a path of egress travel to an exit.

DOOR, BALANCED. A door equipped with double-pivoted hardware so designed as to cause a semi-counter balanced swing action when opening.

EGRESS COURT. A court or yard which provides access to a public way for one or more exits.

EMERGENCY ESCAPE AND RESCUE OPENING. An operable window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency.

EXIT. That portion of a means of egress system *between the exit access and the exit discharge or public way. Exit components include exterior exit doors at the level of exit discharge, interior exit stairways, interior exit ramps, exit passageways, exterior exit stairways and exit ramps and horizontal exits.*

EXIT ACCESS. That portion of a means of egress system that leads from any occupied portion of a building or structure to an exit.

EXIT ACCESS DOORWAY. A door or access point along the path of egress travel from an occupied room, area or space where the path of egress enters an intervening room, corridor, exit access stair or exit access ramp.

EXIT ACCESS RAMP. *An interior ramp that is not a required interior exit*

ramp.

EXIT ACCESS STAIRWAY. *An interior stairway that is not a required interior exit stairway.*

EXIT DISCHARGE. That portion of a means of egress system between the termination of an exit and a public way.

EXIT DISCHARGE, LEVEL OF. The story at the point at which an exit terminates and an exit discharge begins.

EXIT ENCLOSURE. An exit component that is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives, and provides for a protected path of egress travel in a vertical or horizontal direction to the exit discharge or the public way.

EXIT, HORIZONTAL. A path of egress travel from one building to an area in another building on approximately the same level, or a path of egress travel through or around a wall or partition to an area on approximately the same level in the same building, which affords safety from fire and smoke from the area of incidence and areas communicating therewith.

EXIT PASSAGEWAY. An exit component that is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives, and provides for a protected path of egress travel in a horizontal direction to the exit discharge or the public way.

FIRE EXIT HARDWARE. Panic hardware that is listed for use on fire door assemblies.

FIXED SEATING. *Furniture or fixture designed and installed for the use of sitting and secured in place including bench-type seats with or without backs or arm rests.*

FLIGHT. A continuous run of rectangular treads, winders or combination thereof from one landing to another.

FLOOR AREA, GROSS. The floor area within the inside perimeter of the exterior walls of the building under consideration, exclusive of vent shafts and

courts, without deduction for corridors, stairways, closets, the thickness of interior walls, columns or other features. The floor area of a building, or portion thereof, not provided with surrounding exterior walls shall be the usable area under the horizontal projection of the roof or floor above. The gross floor area shall not include shafts with no openings or interior courts.

FLOOR AREA, NET. The actual occupied area not including unoccupied accessory areas such as corridors, stairways, toilet rooms, mechanical rooms and closets.

FOLDING AND TELESCOPIC SEATING. Tiered seating having an overall shape and size that is capable of being reduced for purposes of moving or storing and is not a building element.

GRANDSTAND. Tiered seating supported on a dedicated structural system and two or more rows high and is not a building element (see “Bleachers”).

GUARD. A building component or a system of building components located at or near the open sides of elevated walking surfaces that minimizes the possibility of a fall from the walking surface to a lower level.

HANDRAIL. A horizontal or sloping rail intended for grasping by the hand for guidance or support.

INTERIOR EXIT RAMP. *An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and provides for a protected path of egress travel to the exit discharge or public way.*

INTERIOR EXIT STAIRWAY. *An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and provides for a protected path of egress travel to the exit discharge or public way.*

MEANS OF EGRESS. A continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a public way. A means of egress consists of three separate and distinct parts: the exit access, the exit and the exit discharge.

MERCHANDISE PAD. A merchandise pad is an area for display of merchandise surrounded by aisles, permanent fixtures or walls. Merchandise pads contain elements such as nonfixed and moveable fixtures, cases, racks, counters and partitions as indicated in Section 105.2 from which customers browse or shop.

NOSING. The leading edge of treads of stairs and of landings at the top of

stairway flights.

OCCUPANT LOAD. The number of persons for which the means of egress of a building or portion thereof is designed.

PANIC HARDWARE. A door-latching assembly incorporating a device that releases the latch upon the application of a force in the direction of egress travel.

PHOTOLUMINESCENT. Having the property of emitting light that continues for a length of time after excitation by visible or invisible light has been removed.

PUBLIC WAY. A street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet (3048 mm).

RAMP. A walking surface that has a running slope steeper than one unit vertical in 20 units horizontal (5-percent slope).

SCISSOR STAIR. Two interlocking stairways providing two separate paths of egress located within one stairwell enclosure.

SELF-LUMINOUS. Illuminated by a self-contained power source, other than batteries, and operated independently of external power sources.

SMOKE-PROTECTED ASSEMBLY SEATING. Seating served by means of egress that is not subject to smoke accumulation within or under a structure.

STAIR. A change in elevation, consisting of one or more risers.

STAIRWAY. One or more flights of stairs, either exterior or interior, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage from one level to another.

STAIRWAY, EXTERIOR. A stairway that is open on at least one side, except for required structural columns, beams, handrails and guards. The adjoining open areas shall be either yards, courts or public ways. The other sides of the exterior stairway need not be open.

STAIRWAY, INTERIOR. A stairway not meeting the definition of an exterior stairway.

STAIRWAY, SPIRAL. A stairway having a closed circular form in its plan view with uniform section-shaped treads attached to and radiating from a minimum-diameter supporting column.

SUITE. *When used in provisions of this code relating to I-2 occupancies,* a group of patient treatment rooms or patient sleeping rooms where staff are in attendance within the suite, for supervision of all patients within the suite and the suite is in compliance with the requirements of Sections 1014.2.2 through 1014.2.7.

WINDER. A tread with nonparallel edges.

SECTION 1003 GENERAL MEANS OF EGRESS

1003.1 Applicability. The general requirements specified in Sections 1003 through 1013 shall apply to all three elements of the means of egress system, in addition to those specific requirements for the exit access, the exit and the exit discharge detailed elsewhere in this chapter.

1003.2 Ceiling height. The means of egress shall have a ceiling height of not less than 7 feet 6 inches (2286 mm).

Exceptions:

1. Sloped ceilings in accordance with Section 1208.2.
2. Ceilings of dwelling units and sleeping units within residential occupancies in accordance with Section 1208.2.
3. Allowable projections in accordance with Section 1003.3.
4. Stair headroom in accordance with Section 1009.2.
5. Door height in accordance with Section 1008.1.1.
6. Ramp headroom in accordance with Section 1010.5.2.
7. The clear height of floor levels in vehicular and pedestrian traffic areas in parking garages in accordance with Section 406.2.2.
8. Areas above and below mezzanine floors in accordance with Section 505.1.

1003.3 Protruding objects. Protruding objects shall comply with the requirements of Sections 1003.3.1 through 1003.3.4.

1003.3.1 Headroom. Protruding objects are permitted to extend below the minimum ceiling height required by Section 1003.2 provided a minimum headroom of 80 inches (2032 mm) shall be provided for any walking surface, including walks, corridors, aisles and passageways. Not more than 50 percent of the ceiling area of a means of egress shall be reduced in height by protruding objects.

Exception: Door closers and stops shall not reduce headroom to less than 78 inches (1981 mm).

A barrier shall be provided where the vertical clearance is less than 80 inches (2032 mm) high. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the floor.

1003.3.2 Post-mounted objects. A free-standing object mounted on a post or pylon shall not overhang that post or pylon more than 4 inches (102 mm) where

the lowest point of the leading edge is more than 27 inches (686 mm) and less than 80 inches (2032 mm) above the walking surface. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (686 mm) maximum or 80 inches (2032 mm) minimum above the finished floor or ground.

Exception: These requirements shall not apply to sloping portions of handrails between the top and bottom riser of stairs and above the ramp run.

1003.3.3 Horizontal projections. Structural elements, fixtures or furnishings shall not project horizontally from either side more than 4 inches (102 mm) over any walking surface between the heights of 27 inches (686 mm) and 80 inches (2032 mm) above the walking surface.

Exception: Handrails are permitted to protrude 4 ½ inches (114 mm) from the wall.

1003.3.4 Clear width. Protruding objects shall not reduce the minimum clear width of accessible routes.

1003.4 Floor surface. Walking surfaces of the means of egress shall have a slip-resistant surface and be securely attached.

1003.5 Elevation change. Where changes in elevation of less than 12 inches (305 mm) exist in the means of egress, sloped surfaces shall be used. Where the slope is greater than one unit vertical in 20 units horizontal (5-percent slope), ramps complying with Section 1010 shall be used. Where the difference in elevation is 6 inches (152 mm) or less, the ramp shall be equipped with either handrails or floor finish materials that contrast with adjacent floor finish materials.

Exceptions:

1. A single step with a maximum riser height of 7 inches (178 mm) is permitted for buildings with occupancies in Groups F, H, R-2, R-3, S and U at exterior doors not required to be accessible by Chapter 11.
2. A stair with a single riser or with two risers and a tread is permitted at locations not required to be accessible by Chapter 11, provided that the risers and treads comply with Section 1009.4, the minimum depth of the tread is 13 inches (330 mm) and at least one handrail complying with Section 1012 is provided within 30 inches (762 mm) of the centerline of the normal path of egress travel on the stair.
3. A step is permitted in aisles serving seating that has a difference in elevation less than 12 inches (305 mm) at locations not required to be accessible by Chapter 11, provided that the risers and treads comply with Section 1028.11 and the aisle is provided with a handrail complying with

Section 1028.13.

Throughout a story in a Group I-2 occupancy, any change in elevation in portions of the *means of egress* that serve non-ambulatory persons shall be by means of a ramp or sloped walkway.

1003.6 Means of egress continuity. The path of egress travel along a means of egress shall not be interrupted by any building element other than a means of egress component as specified in this chapter. Obstructions shall not be placed in the required width of a means of egress except projections permitted by this chapter. The required capacity of a means of egress system shall not be diminished along the path of egress travel.

1003.7 Elevators, escalators and moving walks. Elevators, escalators and moving walks shall not be used as a component of a required means of egress from any other part of the building.

Exception: Elevators used as an accessible means of egress in accordance with Section 1007.4.

SECTION 1004 OCCUPANT LOAD

1004.1 Design occupant load. In determining means of egress requirements, the number of occupants for whom means of egress facilities shall be provided shall be determined in accordance with this section. Where occupants from accessory areas egress through a primary space, the calculated occupant load for the primary space shall include the total occupant load of the primary space plus the number of occupants egressing through it from the accessory area.

1004.1.1 Areas without fixed seating. The number of occupants shall be computed at the rate of one occupant per unit of area as prescribed in Table 1004.1.1. For areas without fixed seating, the occupant load shall not be less than that number determined by dividing the floor area under consideration by the occupant per unit of area factor assigned to the occupancy as set forth in Table 1004.1.1. Where an intended use is not listed in Table 1004.1.1, the building official shall establish a use based on a listed use that most nearly resembles the intended use.

Exception: Where approved by the building official, the actual number of occupants for whom each occupied space, floor or building is designed, although less than those determined by calculation, shall be permitted to be used in the determination of the design occupant load.

1004.2 Increased occupant load. The occupant load permitted in any building, or

portion thereof, is permitted to be increased from that number established for the occupancies in Table 1004.1.1, provided that all other requirements of the code are also met based on such modified number and the occupant load does not exceed one occupant per 7 square feet (0.65 m²) of occupiable floor space. Where required by the building official, an approved aisle, seating or fixed equipment diagram substantiating any increase in occupant load shall be submitted. Where required by the building official, such diagram shall be posted.

1004.3 Posting of occupant load. Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway from the room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or authorized agent.

1004.4 Exiting from multiple levels. Where exits serve more than one floor, only the occupant load of each floor considered individually shall be used in computing the required capacity of the exits at that floor, provided that the exit capacity shall not decrease in the direction of egress travel.

1004.5 Egress convergence. Where means of egress from floors above and below converge at an intermediate level, the capacity of the means of egress from the point of convergence shall not be less than the sum of the two floors.

1004.6 Mezzanine levels. The occupant load of a mezzanine level with egress onto a room or area below shall be added to that room or area's occupant load, and the capacity of the exits shall be designed for the total occupant load thus established.

1004.7 Fixed seating. For areas having fixed seats and aisles, the occupant load shall be determined by the number of fixed seats installed therein. The occupant load for areas in which fixed seating is not installed, such as waiting spaces and wheelchair spaces, shall be determined in accordance with Section 1004.1.1 and added to the number of fixed seats.

The occupant load of wheelchair spaces and the associated companion seat shall be based on one occupant for each wheelchair space and one occupant for the associated companion seat provided in accordance with Section 1108.2.3.

For areas having fixed seating without dividing arms, the occupant load shall not be less than the number of seats based on one person for each 18 inches (457 mm) of seating length.

The occupant load of seating booths shall be based on one person for each 24 inches (610 mm) of booth seat length measured at the backrest of the seating booth.

1004.8 Outdoor areas. Yards, patios, courts and similar outdoor areas accessible to and usable by the building occupants shall be provided with means of egress as required by this chapter. The occupant load of such outdoor areas shall be assigned by the building official in accordance with the anticipated use.

Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, means of egress requirements for the building shall be based on the sum of the occupant loads of the building plus the outdoor areas.

Exceptions

1. Outdoor areas used exclusively for service of the building need only have one means of egress.
2. Outdoor areas *dedicated to individual dwelling units* in Group R-3 and Group R-2.

**TABLE 1004.1.1
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT**

FUNCTION OF SPACE	FLOOR AREA IN SQ. FT. PER OCCUPANT
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Assembly with fixed seats	See Section 1004.7
Assembly without fixed seats	7 net
Concentrated (chairs only—not fixed)	5 net
Standing space Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	100 gross
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross

Educational Classroom area Shops and other vocational room areas	20 net 50 net
Exercise rooms	50 gross
H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas Inpatient treatment areas Outpatient areas Sleeping areas	240 gross 100 gross 120 gross
Kitchens, commercial	200 gross
Library Reading rooms Stack area	50 net 100 gross
Locker rooms	50 gross
Mercantile Areas on other floors Basement and grade floor areas Storage, stock, shipping areas	60 gross 30 gross 300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools Rink and pool Decks	50 gross 15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m².

1004.9 Multiple occupancies. Where a building contains two or more occupancies, the means of egress requirements shall apply to each portion of the building based on the occupancy of that space. Where two or more occupancies utilize portions of the same means of egress system, those egress components shall meet the more stringent requirements of all occupancies that are served.

SECTION 1005 EGRESS WIDTH

1005.1 Minimum required capacity based on occupant load. *The required capacity, in inches (mm), of the means of egress for any room, area, space or story shall not be less than that determined in accordance with Sections 1005.1.1 and 1005.1.2.*

1005.1.1 Stairways. *The capacity, in inches (mm), of means of egress stairways shall be calculated by multiplying the occupant load served by such stairway by a means of egress capacity factor of 0.3 inch (7.6 mm) per occupant. Where stairways serve more than one story, only the occupant load of each story considered individually shall be used in calculating the required capacity of the stairways serving that story.*

Exception: *For other than Group H and I--2 occupancies, the capacity, in inches (mm), of means of egress stairways shall be calculated by multiplying the occupant load served by such stairway by a means of egress capacity factor of 0.2 inch (5.1 mm) per occupant in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.*

1005.1.2 Other egress components. *The capacity, in inches (mm), of means of egress components other than stairways shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.2 inch (5.1 mm) per occupant.*

Exception: *For other than Group H and I--2 occupancies, the capacity, in inches (mm), of means of egress components other than stairways shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.15 inch (3.8 mm) per occupant in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.*

1005.2 Door encroachment. Doors, when fully opened, and handrails shall not reduce the required means of egress width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features shall be permitted to project into the required width a maximum of 1½ inches (38 mm) on each side.

Exception: The restrictions on a door swing shall not apply to doors within individual dwelling units and sleeping units of Group R-2 and dwelling units of Group R-3.

1005.3 Door hardware encroachment. Surface-mounted latch release hardware shall be exempt from inclusion in the 7-inch (178 mm) maximum projection requirement of Section 1005.2 when:

- 1.The hardware is mounted to the side of the door facing the corridor width when the door is in the open position; and
- 2.The hardware is mounted not less than 34 inches (865 mm) or more than 48 inches (1220 mm) above the finished floor.

1005.4 Other projections. *Handrail projections shall be in accordance with the provisions of Section 1012.8. Other nonstructural projections such as trim and similar decorative features shall be permitted to project into the required width a maximum of 1½ inches (38 mm) on each side.*

Exception: *Projections are permitted in corridors within Group I-2 nursing homes in accordance with Section 407.3.3.*

SECTION 1006 MEANS OF EGRESS ILLUMINATION

1006.1 Illumination required. The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

Exceptions:

1. Occupancies in Group U.
2. Aisle accessways in Group A.
3. Dwelling units and sleeping units in Groups R-1, R-2 and R-3.
4. Sleeping units of Group I occupancies.

1006.2 Illumination level. The means of egress illumination level shall not be less than 1 foot-candle (11 lux) at the walking surface.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances to not less than 0.2 foot-candle (2.15 lux), provided that the required illumination is automatically restored upon activation of a premises' fire alarm system where such system is provided.

1006.3 Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premises' electrical supply.

In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:

1. Aisles and unenclosed egress stairways in rooms and spaces that require two or more means of egress.
2. Corridors, exit enclosures, *ramps* and exit passageways in buildings required to have two or more exits.

3. Exterior egress components at other than their levels of exit discharge until exit discharge is accomplished for buildings required to have two or more exits.
4. Interior exit discharge elements, as permitted in Section 1027.1, in buildings required to have two or more exits.
5. Exterior landings as required by Section 1008.1.6 for exit discharge doorways in buildings required to have two or more exits.

The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Chapter 27.

1006.4 Performance of system. Emergency lighting facilities shall be arranged to provide initial illumination that is at least an average of 1 foot-candle (11 lux) and a minimum at any point of 0.1 foot-candle (1 lux) measured along the path of egress at floor level. Illumination levels shall be permitted to decline to 0.6 foot-candle (6 lux) average and a minimum at any point of 0.06 foot-candle (0.6 lux) at the end of the emergency lighting time duration. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.

SECTION 1007 ACCESSIBLE MEANS OF EGRESS

1007.1 Accessible means of egress required. Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress are required by Section 1015.1 or 1021.1 from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.

Exceptions:

1. Accessible means of egress are not required in alterations to existing buildings.
2. One accessible means of egress is required from an accessible mezzanine level in accordance with Section 1007.3, 1007.4 or 1007.5.
3. In assembly areas with sloped or stepped aisles, one accessible means of egress is permitted where the common path of travel is accessible and meets the requirements in Section 1028.8.

1007.2 Continuity and components. Each required accessible means of egress

shall be continuous to a public way and shall consist of one or more of the following components:

1. Accessible routes complying with Section 1104.
2. Interior exit stairways complying with Sections 1007.3 and 1022.
3. Exterior exit stairways complying with Sections 1007.3 and 1026.
4. Elevators complying with Section 1007.4.
5. Platform lifts complying with Section 1007.5.
6. Horizontal exits complying with Section 1025.
7. Ramps complying with Section 1010.
8. Areas of refuge complying with Section 1007.6.

Exceptions:

1. Where the exit discharge is not accessible, an exterior area for assisted rescue must be provided in accordance with Section 1007.7.
2. Where the exit stairway is open to the exterior, the accessible means of egress shall include either an area of refuge in accordance with Section 1007.6 or an exterior area for assisted rescue in accordance with Section 1007.7.

1007.2.1 Elevators required. In buildings where a required accessible floor is four or more stories above or below a level of exit discharge, at least one required accessible means of egress shall be an elevator complying with Section 1007.4.

Exceptions:

1. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a horizontal exit and located at or above the levels of exit discharge.
2. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a ramp conforming to the provisions of Section 1010.

1007.3 Stairways. In order to be considered part of an accessible means of egress, an exit access stairway as permitted by Section 1016.1 or exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. The area of refuge is not required at open exit access or exit stairways as permitted by Sections 1016.1 and 1022.1 in buildings that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
2. The clear width of 48 inches (1219 mm) between handrails is not required at exit access stairway as permitted by Section 1016.1 or exit stairways in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
3. Areas of refuge are not required at exit stairways in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
5. Areas of refuge are not required at exit stairways serving open parking garages.
6. Areas of refuge are not required for smoke protected seating areas complying with Section 1028.6.2.
7. The areas of refuge are not required in Group R-2 occupancies.

1007.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Chapter 27 and Section 3003. The elevator shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.
2. Elevators are not required to be accessed from an area of refuge or horizontal exit in buildings and facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
3. Elevators not required to be located in a shaft in accordance with Section 708.2 are not required to be accessed from an area of refuge or horizontal exit.
4. Elevators are not required to be accessed from an area of refuge or horizontal exit for smoke protected seating areas complying with Section 1028.6.2.

1007.5 Platform lifts. Platform (wheelchair) lifts shall not serve as part of an accessible means of egress, except where allowed as part of a required accessible route in Section 1109.7. Standby power shall be provided in accordance with

Chapter 27 for platform lifts permitted to serve as part of a means of egress.

1007.5.1 Openness. Platform lifts on an accessible means of egress shall not be installed in a fully enclosed hoistway .

1007.6 Areas of refuge. Every required area of refuge shall be accessible from the space it serves by an accessible means of egress. The maximum travel distance from any accessible space to an area of refuge shall not exceed the travel distance permitted for the occupancy in accordance with Section 1016.1. Every required area of refuge shall have direct access to a stairway within an exit enclosure complying with Sections 1007.3 and 1022 or an elevator complying with Section 1007.4. Where an elevator lobby is used as an area of refuge, the shaft and lobby shall comply with Section 1022.9 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.

Exceptions:

1. A stairway serving an area of refuge is not required to be enclosed where permitted in Sections 1016.1 and 1022.1.
2. Smokeproof enclosure is not required for an elevator lobby used as an area of refuge not required to be enclosed.

1007.6.1 Size. Each area of refuge shall be sized to accommodate one wheelchair space of 30 inches by 48 inches (762 mm by 1219 mm) for each 200 occupants or portion thereof, based on the occupant load of the area of refuge and areas served by the area of refuge. Such wheelchair spaces shall not reduce the required means of egress width. Access to any of the required wheelchair spaces in an area of refuge shall not be obstructed by more than one adjoining wheelchair space.

1007.6.2 Separation. Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 710 or a horizontal exit complying with Section 1025. Each area of refuge shall be designed to minimize the intrusion of smoke.

Exception: Areas of refuge located within an exit enclosure.

1007.6.3 Two-way communication. Areas of refuge shall be provided with a two-way communication system complying with Sections 1007.8.1 and 1007.8.2.

1007.7 Exterior area for assisted rescue. *Exterior areas for assisted rescue shall be accessed by an accessible route from the area served.* The exterior area for

assisted rescue must be open to the outside air and meet the requirements of Section 1007.6.1. Separation walls shall comply with the requirements of Section 705 for exterior walls. Where walls or openings are between the area for assisted rescue and the interior of the building, the building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than $\frac{3}{4}$ hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the floor level of the area for assisted rescue or to the roof line, whichever is lower.

1007.7.1 Openness. The exterior area for assisted rescue shall be at least 50 percent open, and the open area above the guards shall be so distributed as to minimize the accumulation of smoke or toxic gases.

1007.7.2 Exterior exit stairway. Exterior exit stairways that are part of the means of egress for the exterior area for assisted rescue shall provide a clear width of 48 inches (1219 mm) between handrails.

1007.8 Two-way communication. A two-way communication system shall be provided at the elevator landing on each accessible floor that is one or more stories above or below the story of exit discharge complying with Sections 1007.8.1 and 1007.8.2.

Exceptions:

1. Two-way communication systems are not required at the elevator landing where the two-way communication system is provided within areas of refuge in accordance with Section 1007.6.3.
2. Two-way communication systems are not required on floors provided with exit ramps conforming to the provisions of Section 1010.

1007.8.1 System requirements. Two-way communication systems shall provide communication between each required location and the fire command center or a central control point location approved by the fire department. Where the central control point is not constantly attended, a two-way communication system shall have a timed automatic telephone dial-out capability to a monitoring location or 911. The two-way communication system shall include both audible and visible signals.

1007.8.2 Directions. Directions for the use of the two-way communication system, instructions for summoning assistance via the two-way communication system and written identification of the location shall be posted adjacent to the two-way communication system.

1007.9 Signage. Signage indicating special accessibility provisions shall be provided as shown:

1. Each door providing access to an area of refuge from an adjacent floor area shall be identified by a sign stating: AREA OF REFUGE.
2. Each door providing access to an exterior area for assisted rescue shall be identified by a sign stating: EXTERIOR AREA FOR ASSISTED RESCUE.

Signage shall comply with the ICC A117.1 requirements for visual characters and include the International Symbol of Accessibility. Where exit sign illumination is required by Section 1011.2, the signs shall be illuminated. Additionally, tactile signage complying with ICC A117.1 shall be located at each door to an area of refuge and exterior area for assisted rescue in accordance with Section 1011.3.

1007.10 Directional signage. Direction signage indicating the location of the other means of egress and which are accessible means of egress shall be provided at the following:

1. At exits serving a required accessible space but not providing an approved accessible means of egress.
2. At elevator landings.
3. Within areas of refuge.

1007.11 Instructions. In areas of refuge and exterior areas for assisted rescue, instructions on the use of the area under emergency conditions shall be posted. The instructions shall include all of the following:

1. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.
2. Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.
3. Directions for use of the two-way communications system where provided.

SECTION 1008 DOORS, GATES AND TURNSTILES

1008.1 Doors. Means of egress doors shall meet the requirements of this section. Doors serving a means of egress system shall meet the requirements of this section and Section 1020.2. Doors provided for egress purposes in numbers greater than required by this code shall meet the requirements of this section.

Means of egress doors shall be readily distinguishable from the adjacent construction and finishes such that the doors are easily recognizable as doors. Mirrors or similar reflecting materials shall not be used on means of egress doors. Means of egress doors shall not be concealed by curtains, drapes, decorations or similar materials.

1008.1.1 Size of doors. The minimum width of each door opening shall be sufficient for the occupant load thereof and shall provide a clear width of 32 inches (813 mm). Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a clear opening width of 32 inches (813 mm). The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. Means of egress doors in a Group I-2 occupancy used for the movement of beds shall provide a clear width not less than 41 ½ inches (1054 mm). The height of door openings shall not be less than 80 inches (2032 mm).

Exceptions:

1. The minimum and maximum width shall not apply to door openings that are not part of the required means of egress in Group R-2 and R-3 occupancies.
2. Door openings to resident sleeping units *not required to be accessible*, in Group I-3 occupancies, shall have a clear width of not less than 28 inches (711 mm).
3. Door openings to *reach-in* storage closets less than 10 square feet (0.93 m²) in area shall not be limited by the minimum width.
4. Width of door leaves in revolving doors that comply with Section 1008.1.4.1 shall not be limited.
5. Door openings within a dwelling unit or sleeping unit shall not be less than 78 inches (1981 mm) in height.
6. Exterior door openings in dwelling units and sleeping units, other than the required exit door, shall not be less than 76 inches (1930 mm) in height.
7. In other than Group R-1 occupancies, the minimum widths shall not apply to interior egress doors within a dwelling unit or sleeping unit that is not

required to be an Accessible unit, Type A unit or Type B unit.

8. Door openings required to be accessible within Type B units shall have a minimum clear width of 31.75 inches (806mm).

1008.1.1.1 Projections into clear width. There shall not be projections into the required clear width lower than 34 inches (864 mm) above the floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the floor or ground shall not exceed 4 inches (102 mm).

Exception: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the floor.

1008.1.2 Door swing. Egress doors shall be of the pivoted or side-hinged swinging type.

Exceptions:

1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less.
2. Group I-3 occupancies used as a place of detention.
3. Critical or intensive care patient rooms within suites of health care facilities.
4. Doors within or serving a single dwelling unit in Groups R-2 and R-3.
5. In other than Group H occupancies, revolving doors complying with Section 1008.1.4.1.
6. In other than Group H occupancies, horizontal sliding doors complying with Section 1008.1.4.3 are permitted in a means of egress.
7. Power-operated doors in accordance with Section 1008.1.4.2.
8. Doors serving a bathroom within an individual sleeping unit in Group R-1.
9. In other than Group H occupancies, manually operated horizontal sliding doors are permitted in a means of egress from spaces with an occupant load of 10 or less.

Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons or a Group H occupancy.

1008.1.3 Door opening force. The force for pushing or pulling open interior swinging egress doors, other than fire doors, shall not exceed 5 pounds (22 N). For other swinging doors, as well as sliding and folding doors, the door latch shall release when subjected to a 15-pound (67 N) force. The door shall be set in motion when subjected to a 30-pound (133 N) force. The door shall swing to a full-open position when subjected to a 15-pound (67 N) force.

1008.1.3.1 Location of applied forces. Forces shall be applied to the latch side of the door.

1008.1.4 Special doors. Special doors and security grilles shall comply with the requirements of Sections 1008.1.4.1 through 1008.1.4.5.

1008.1.4.1 Revolving doors. Revolving doors shall comply with the following:

1. Each revolving door shall be capable of collapsing into a bookfold position with parallel egress paths providing an aggregate width of 36 inches (914 mm).
2. A revolving door shall not be located within 10 feet (3048 mm) of the foot of or top of stairs or escalators. A dispersal area shall be provided between the stairs or escalators and the revolving doors.
3. The revolutions per minute (rpm) for a revolving door shall not exceed those shown in Table 1008.1.4.1.
4. Each revolving door shall have a side-hinged swinging door which complies with Section 1008.1 in the same wall and within 10 feet (3048 mm) of the revolving door.
5. Revolving doors shall not be part of an accessible route required by Section 1007 and Chapter 11.

**TABLE 1008.1.4.1
REVOLVING DOOR SPEEDS**

INSIDE DIAMETER (feet-inches)	POWER- DRIVEN-TYPE SPEED CONTROL (rpm)	MANUAL-TYPE SPEED CONTROL (rpm)
6-6	11	12
7-0	10	11
7-6	9	11
8-0	9	10
8-6	8	9
9-0	8	9
9-6	7	8
10-0	7	8

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

1008.1.4.1.1 Egress component. A revolving door used as a component of a means of egress shall comply with Section 1008.1.4.1 and the following three conditions:

1. Revolving doors shall not be given credit for more than 50 percent of

the required egress capacity.

2. Each revolving door shall be credited with no more than a 50-person capacity.
3. Each revolving door shall be capable of being collapsed when a force of not more than 130 pounds (578 N) is applied within 3 inches (76 mm) of the outer edge of a wing.

1008.1.4.1.2 Other than egress component. A revolving door used as other than a component of a means of egress shall comply with Section 1008.1.4.1. The collapsing force of a revolving door not used as a component of a means of egress shall not be more than 180 pounds (801 N).

Exception: A collapsing force in excess of 180 pounds (801 N) is permitted if the collapsing force is reduced to not more than 130 pounds (578 N) when at least one of the following conditions is satisfied:

1. There is a power failure or power is removed to the device holding the door wings in position.
2. There is an actuation of the automatic sprinkler system where such system is provided.
3. There is an actuation of a smoke detection system which is installed in accordance with Section 907 to provide coverage in areas within the building which are within 75 feet (22 860 mm) of the revolving doors.
4. There is an actuation of a manual control switch, in an approved location and clearly defined, which reduces the holding force to below the 130-pound (578 N) force level.

1008.1.4.2 Power-operated doors. Where means of egress doors are operated by power, such as doors with a photoelectric-actuated mechanism to open the door upon the approach of a person, or doors with power-assisted manual operation, the design shall be such that in the event of power failure, the door is capable of being opened manually to permit means of egress travel or closed where necessary to safeguard means of egress. The forces required to open these doors manually shall not exceed those specified in Section 1008.1.3, except that the force to set the door in motion shall not exceed 50 pounds (220 N). The door shall be capable of swinging from any position to the full width of the opening in which such door is installed when a force is applied to the door on the side from which egress is made. Full-power-operated doors shall comply with BHMA A156.10. Power-assisted and low-energy doors shall comply with BHMA A156.19.

Exceptions:

1. Occupancies in Group I-3.
2. Horizontal sliding doors complying with Section 1008.1.4.3.
3. For a bi-parting door in the emergency breakout mode, a door leaf located within a multiple-leaf opening shall be exempt from the minimum 32-inch (813 mm) single-leaf requirement of Section 1008.1.1, provided a minimum 32-inch (813 mm) clear opening is provided when the two biparting leaves meeting in the center are broken out.

1008.1.4.3 Horizontal sliding doors. In other than Group H occupancies, horizontal sliding doors permitted to be a component of a means of egress in accordance with Exception 6 to Section 1008.1.2 shall comply with all of the following criteria:

1. The doors shall be power operated and shall be capable of being operated manually in the event of power failure.
2. The doors shall be openable by a simple method from both sides without special knowledge or effort.
3. The force required to operate the door shall not exceed 30 pounds (133 N) to set the door in motion and 15 pounds (67 N) to close the door or open it to the minimum required width.
4. The door shall be openable with a force not to exceed 15 pounds (67 N) when a force of 250 pounds (1100 N) is applied perpendicular to the door adjacent to the operating device.
5. The door assembly shall comply with the applicable fire protection rating and, where rated, shall be self-closing or automatic closing by smoke detection in accordance with Section 715.4.8.3, shall be installed in accordance with NFPA 80 and shall comply with Section 715.
6. The door assembly shall have an integrated standby power supply.
7. The door assembly power supply shall be electrically supervised.
8. The door shall open to the minimum required width within 10 seconds after activation of the operating device.

1008.1.4.4 Access-controlled egress doors. The entrance doors in a means of egress in buildings with an occupancy in Group A, B, E, I-2, M, R-1 or R-2 and entrance doors to tenant spaces in occupancies in Groups A, B, E, I-2, M, R-1 and R-2 are permitted to be equipped with an approved entrance and egress access control system which shall be installed in accordance with all of the following criteria:

1. A sensor shall be provided on the egress side arranged to detect an occupant approaching the doors. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.
2. Loss of power to that part of the access control system which locks the doors shall automatically unlock the doors.
3. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the lock—independent of the access control system electronics—and the doors shall remain unlocked for a minimum of 30 seconds.
4. Activation of the building fire alarm system, if provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
5. Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.
6. Entrance doors in buildings with an occupancy in Group A, B, E or M shall not be secured from the egress side during periods that the building is open to the general public.

1008.1.4.5 Security grilles. In Groups B, F, M and S, horizontal sliding or vertical security grilles are permitted at the main exit and shall be openable from the inside without the use of a key or special knowledge or effort during periods that the space is occupied. The grilles shall remain secured in the full-open position during the period of occupancy by the general public. Where two or more means of egress are required, not more than one-half of the exits or exit access doorways shall be equipped with horizontal sliding or vertical security grilles.

1008.1.5 Floor elevation. There shall be a floor or landing on each side of a door. Such floor or landing shall be at the same elevation on each side of the door. Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed *one* unit vertical in *fifty* units horizontal (2-percent slope).

Exceptions:

1. Doors serving individual dwelling units in Groups R-2 and R-3 where the following apply:

- 1.1. A door is permitted to open at the top step of an interior flight of stairs, provided the door does not swing over the top step.
- 1.2. Screen doors and storm doors are permitted to swing over stairs or landings.
2. Exterior doors as provided for in Section 1003.5, Exception 1, and Section 1020.2, which are not on an accessible route.
3. In Group R-3 occupancies not required to be Accessible units, Type A units or Type B units, the landing at an exterior doorway shall not be more than 7 $\frac{3}{4}$ inches (197 mm) below the top of the threshold, provided the door, other than an exterior storm or screen door, does not swing over the landing.
4. *In units not required to be Type A, Type B or accessible*, variations in elevation due to differences in finish materials, but not more than $\frac{1}{2}$ inch (12.7 mm).
5. Exterior decks, patios or balconies that are part of Type B dwelling units, have impervious surfaces and that are not more than 4 inches (102 mm) below the finished floor level of the adjacent interior space of the dwelling unit.

1008.1.6 Landings at doors. Landings shall have a width not less than the width of the stairway or the door, whichever is greater. Doors in the fully open position shall not reduce a required dimension by more than 7 inches (178 mm). When a landing serves an occupant load of 50 or more, doors in any position shall not reduce the landing to less than one-half its required width. Landings shall have a length measured in the direction of travel of not less than 44 inches (1118 mm).

Exception: Landing length in the direction of travel in Groups R-3 and U and within individual units of Group R-2 need not exceed 36 inches (914 mm) *when the units are not required to be accessible or Type A units.*

1008.1.7 Thresholds. Thresholds at doorways shall not exceed $\frac{3}{4}$ inch (19.1 mm) in height for sliding doors serving dwelling units or $\frac{1}{2}$ inch (12.7 mm) for other doors. Raised thresholds and floor level changes greater than $\frac{1}{4}$ inch (6.4 mm) at doorways shall be beveled with a slope not greater than one unit vertical in two units horizontal (50-percent slope).

Exception: The threshold height shall be limited to $7\frac{3}{4}$ inches (197 mm) where the occupancy is Group R-2 or R-3; the door is an exterior door that is not a component of the required means of egress; the door, other than an exterior storm or screen door, does not swing over the landing or step; and the doorway is not on an accessible route as required by Chapter 11 and is not part of an Accessible unit, Type A unit or Type B unit.

1008.1.8 Door arrangement. Space between two doors in a series shall be 48 inches (1219 mm) minimum plus the width of a door swinging into the space. Doors in a series shall swing either in the same direction or away from the space between the doors.

Exceptions:

1. The minimum distance between horizontal sliding power-operated doors in a series shall be 48 inches (1219 mm).
2. Storm and screen doors serving individual dwelling units in Groups R-2 and R-3 need not be spaced 48 inches (1219 mm) from the other door.
3. Doors within individual dwelling units in Groups R-2 and R-3 other than within Type A dwelling units.

1008.1.9 Door operations. Except as specifically permitted by this section egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort.

1008.1.9.1 Hardware. Door handles, pulls, latches, locks and other operating devices on doors required to be accessible by Chapter 11 shall not require tight grasping, tight pinching or twisting of the wrist to operate.

Exception: *Non-fixed portions of door or gate hardware, including keys, access cards and temporary door locking devices.*

1008.1.9.2 Hardware height. Door handles, pulls, latches, locks and other operating devices shall be installed 34 inches (864 mm) minimum and 48 inches (1219 mm) maximum above the finished floor. Locks used only for security purposes and not used for normal operation are permitted at any height.

Exception: Access doors or gates in barrier walls and fences protecting pools, spas and hot tubs shall be permitted to have operable parts of the release of latch on self-latching devices at 54 inches (1370 mm) maximum above the finished floor or ground, provided the self-latching devices are not also self-locking devices operated by means of a key, electronic opener or integral combination lock.

1008.1.9.3 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exists:

1. Places of detention or restraint.
2. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main exterior

door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:

- 2.1 The locking device is readily distinguishable as locked;
- 2.2 A readily visible durable sign is posted on the egress side on or adjacent to the door stating: **THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED**. The sign shall be in letters 1 inch (25 mm) high on a contrasting background; and
- 2.3 The use of the key-operated locking device is revocable by the building official for due cause.
3. Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts has no doorknob or surface-mounted hardware.
4. Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.
5. Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures.
6. Temporary door locking device used in accordance with section 1008.1.9.11.

1008.1.9.4 Bolt locks. Manually operated flush bolts or surface bolts are not permitted.

Exceptions:

1. On doors not required for egress in individual dwelling units or sleeping units.
2. Where a pair of doors serves a storage or equipment room, manually operated edge-or surface-mounted bolts are permitted on the inactive leaf.
3. Where a pair of doors serves an occupant load of less than 50 persons in a Group B, F or S occupancy, manually operated edge-or surface-mounted bolts are permitted on the inactive leaf. The inactive leaf shall contain no doorknobs, panic bars or similar operating hardware.
4. Where a pair of doors serves a Group B, F or S occupancy, manually operated edge-or surface-mounted bolts are permitted on the inactive leaf provided such inactive leaf is not needed to meet egress width requirements and the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The inactive leaf shall contain no doorknobs, panic bars or similar operating hardware.
5. Where a pair of doors serves patient care rooms in Group I-2 occupancies,

self-latching edge-or surface-mounted bolts are permitted on the inactive leaf provided that the inactive leaf is not needed to meet egress width requirements and the inactive leaf contains no doorknobs, panic bars or similar operating hardware.

1008.1.9.5 Unlatching. The unlatching of any door or leaf shall not require more than one operation.

Exceptions:

1. Places of detention or restraint.
2. Where manually operated bolt locks are permitted by Section 1008.1.9.4.
3. Doors with automatic flush bolts as permitted by Section 1008.1.9.3, Exception 3.
4. Doors from individual dwelling units and sleeping units of Group R occupancies as permitted by Section 1008.1.9.3, Exception 4.
5. Temporary door locking device used in accordance with section 1008.1.9.11.

1008.1.9.5.1 Closet and bathroom doors in Groups I-1 and R-4 occupancies.

In Group I-1 and R-4 occupancies, closet doors that latch in the closed position shall be *operable* from inside the closet, and bathroom doors that latch in the closed position shall be capable of being unlocked from the ingress side.

1008.1.9.6 Special egress locks for Group I-2. Approved *special egress locks* ~~in~~ shall be permitted in a Group I-2 occupancy where the clinical needs of persons receiving care require such locking. *Special egress locks* shall be permitted in such occupancies where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed *throughout the locked space* in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 7. *The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.*

1. *The doors unlock upon loss of power controlling the lock or lock mechanism.*
2. *The door locks shall have the capability of being unlocked by a signal from the fire command center, a nursing station or other approved location.*
3. *A building occupant shall not be required to pass through more than one door equipped with a special egress lock before entering an exit.*

4. *The procedures for the operation(s) of the unlocking system shall be described and approved as part of the emergency planning and preparedness required by Chapter 4 of the fire code.*
5. *All clinical staff shall have the keys, codes or other means necessary to operate the locking devices.*
6. *Emergency lighting shall be provided at the door.*

Exception: *Items 1 through 4 shall not apply to doors to areas where persons, which because of clinical needs, require restraint or containment as part of the function of a psychiatric treatment area.*

1008.1.9.7 Delayed egress locks. Approved, listed, delayed egress locks shall be permitted to be installed on doors serving any occupancy except Group A, E and H occupancies in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 6 below. *A delayed egress locking system shall be permitted to be installed in an I-2 occupancy when installed in accordance with section 1008.1.9.7.1.* A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit.

1. The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.
2. The doors unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a signal from the fire command center.
4. The initiation of an irreversible process which will release the latch in not more than 15 seconds when a force of not more than 15 pounds (67 N) is applied for 1 second to the release device. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the door lock has been released by the application of force to the releasing device, relocking shall be by manual means only.
Exception: Where approved, a delay of not more than 30 seconds is permitted.
5. A sign shall be provided on the door located above and within 12 inches (305 mm) of the release device reading: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
6. Emergency lighting shall be provided at the door.

1008.1.9.7.1 Delayed egress locks in I-2 occupancies. *Delayed egress locks shall be permitted in I-2 occupancies where the clinical needs of persons receiving care require such locking and where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 6 below. A building occupant shall not be required to pass through more than one door equipped with a special egress lock before entering an exit.*

1. *The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.*
2. *The doors unlock upon loss of power controlling the lock or lock mechanism.*
3. *The door locks shall have the capability of being unlocked by a signal from the fire command center, a nursing station or other approved location.*
4. *The procedures for the operation(s) of the unlocking system shall be described and approved as part of the emergency planning and preparedness required by Chapter 4 of the fire code.*
5. *All clinical staff shall have the keys, codes or other means necessary to operate the locking devices.*
6. *Emergency lighting shall be provided at the door.*

Exception: *Items 1 through 3 shall not apply to doors to areas where persons, because of clinical needs, require restraint or containment as part of the function of a mental hospital.*

1008.1.9.8 Electromagnetically locked egress doors.

Doors in the means of egress that are not otherwise required to have panic hardware in buildings with an occupancy in Group A, B, E, M, R-1 or R-2 and doors to tenant spaces in Group A, B, E, M, R-1 or R-2 shall be permitted to be electromagnetically locked if equipped with listed hardware that incorporates a built-in switch and meet the requirements below:

1. The listed hardware that is affixed to the door leaf has an obvious method of operation that is readily operated under all lighting conditions.
2. The listed hardware is capable of being operated with one hand.
3. Operation of the listed hardware releases to the electromagnetic lock and unlocks the door immediately.
4. Loss of power to the listed hardware automatically unlocks the door.

1008.1.9.9 Locking arrangements in correctional facilities. In occupancies in

Groups A-2, A-3, A-4, B, E, F, I-2, I-3, M and S within correctional and detention facilities, doors in means of egress serving rooms or spaces occupied by persons whose movements are controlled for security reasons shall be permitted to be locked when equipped with egress control devices which shall unlock manually and by at least one of the following means:

1. Activation of an automatic sprinkler system installed in accordance with Section 903.3.1.1;
2. Activation of an approved manual alarm box; or
3. A signal from a constantly attended location.

1008.1.9.10 Stairway doors. Interior stairway means of egress doors shall be openable from both sides without the use of a key or special knowledge or effort.

Exceptions:

1. Stairway discharge doors shall be openable from the egress side and shall only be locked from the opposite side.
2. This section shall not apply to doors arranged in accordance with Section 403.5.3.
3. In stairways serving not more than four stories, doors are permitted to be locked from the side opposite the egress side, provided they are openable from the egress side and capable of being unlocked simultaneously without unlatching upon a signal from the fire command center, if present, or a signal by emergency personnel from a single location inside the main entrance to the building.

1008.1.9.11 Temporary door locking device in school buildings. *A temporary door locking device shall be permitted when approved by the building official and noted on the certificate of occupancy only in school buildings where the requirements of sections 1008.1.9.11.1 and 1008.1.9.11.2 are met.*

1008.1.9.11.1 Conditions of use. *A temporary door locking device shall only be used on doors under the following conditions:*

1. The temporary door locking device shall only be used in an emergency situation and during active shooter drills; and
2. The temporary door locking device is engaged only by a staff member of the school building; and
3. The temporary door locking device shall only be engaged for a finite period of time as determined by the administrative authority of a school building in accordance with an adopted school safety plan; and
4. Evidence is provided that the administrative authority of a school

building has notified the police and fire officials having jurisdiction for the school building prior to the use of the temporary door locking device; and

5. In-service training on the use of the temporary door locking device is provided for school staff members and records verifying this training shall be maintained on file and provided to the fire official upon request.

1008.1.9.11.2 Operational requirements. The temporary door locking device shall be permitted to be used in accordance with the following items:

1. The temporary door locking device shall not be permanently mounted to the door.

Exception: Individual parts of the temporary door locking device assembly such as bolts, stops, brackets, pins, etc. that do not prevent normal ingress and egress through the door may be permanently mounted provided that when such parts are mounted on a labeled fire door assembly such installation does not affect the fire rating of the fire door assembly.

2. The removal of the temporary door locking device, after it is engaged, shall not require more than one operation.

Exception: Two operations may be permitted to remove a temporary door locking device, after it is engaged, if the school building is equipped throughout with an automatic sprinkler system in accordance section 903.3.1.1.

Provisions of the “Americans with Disabilities Act of 1990,” 104 Stat. 327, 42 U.S.C.A. 12101, as amended, may apply to the use of the temporary door locking device but are outside the scope of this code.

1008.1.10 Panic and fire exit hardware. Doors serving a Group H occupancy and doors serving rooms or spaces with an occupant load of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware.

Exception: A main exit of a Group A occupancy in compliance with Section 1008.1.9.3, Item 2.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide that contain overcurrent devices, switching devices or control devices with exit or exit access doors shall be equipped with panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel.

1008.1.10.1 Installation. Where panic or fire exit hardware is installed, it shall comply with the following:

1. Panic hardware shall be listed in accordance with UL 305;
2. Fire exit hardware shall be listed in accordance with UL 10C and UL 305;
3. The actuating portion of the releasing device shall extend at least one-half of the door leaf width; and
4. The maximum unlatching force shall not exceed 15 pounds (67 N).

1008.1.10.2 Balanced doors. If balanced doors are used and panic hardware is required, the panic hardware shall be the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side.

1008.2 Gates. Gates serving the means of egress system shall comply with the requirements of this section. Gates used as a component in a means of egress shall conform to the applicable requirements for doors.

Exception: Horizontal sliding or swinging gates exceeding the 4-foot (1219 mm) maximum leaf width limitation are permitted in fences and walls surrounding a stadium.

1008.2.1 Stadiums. Panic hardware is not required on gates surrounding stadiums where such gates are under constant immediate supervision while the public is present, and where safe dispersal areas based on 3 square feet (0.28 m²) per occupant are located between the fence and enclosed space. Such required safe dispersal areas shall not be located less than 50 feet (15 240 mm) from the enclosed space. See Section 1027.6 for means of egress from safe dispersal areas.

1008.3 Turnstiles. Turnstiles or similar devices that restrict travel to one direction shall not be placed so as to obstruct any required means of egress.

Exception: Each turnstile or similar device shall be credited with no more than a 50-person capacity where all of the following provisions are met:

1. Each device shall turn free in the direction of egress travel when primary power is lost, and upon the manual release by an employee in the area.

2. Such devices are not given credit for more than 50 percent of the required egress capacity.
3. Each device is not more than 39 inches (991 mm) high.
4. Each device has at least 16¹/₂ inches (419 mm) clear width at and below a height of 39 inches (991 mm) and at least 22 inches (559 mm) clear width at heights above 39 inches (991 mm).

Where located as part of an accessible route, turnstiles shall have at least 36 inches (914 mm) clear at and below a height of 34 inches (864 mm), at least 32 inches (813 mm) clear width between 34 inches (864 mm) and 80 inches (2032 mm) and shall consist of a mechanism other than a revolving device.

1008.3.1 High turnstile. Turnstiles more than 39 inches (991 mm) high shall meet the requirements for revolving doors.

1008.3.2 Additional door. Where serving an occupant load greater than 300, each turnstile that is not portable shall have a side-hinged swinging door which conforms to Section 1008.1 within 50 feet (15 240 mm).

SECTION 1009 STAIRWAYS

1009.1 Stairway width. The width of stairways shall be determined as specified in Section 1005.1, but such width shall not be less than 44 inches (1118 mm). See Section 1007.3 for accessible means of egress stairways.

Exceptions:

1. Stairways serving an occupant load of less than 50 shall have a width of not less than 36 inches (914 mm).
2. Spiral stairways as provided for in Section 1009.9.
3. Aisle stairs complying with Section 1028.
4. Where an incline platform lift or stairway chairlift is installed on stairways serving occupancies in Group R-3, or within dwelling units in occupancies in Group R-2, a clear passage width not less than 20 inches (508 mm) shall be provided. If the seat and platform can be folded when not in use, the distance shall be measured from the folded position.

1009.2 Headroom. Stairways shall have a minimum headroom clearance of 80 inches (2032 mm) measured vertically from a line connecting the edge of the nosings. Such headroom shall be continuous above the stairway to the point where the line intersects the landing below, one tread depth beyond the bottom riser. The minimum clearance shall be maintained the full width of the stairway

and landing.

Exceptions:

1. Spiral stairways complying with Section 1009.9 are permitted a 78-inch (1981 mm) headroom clearance.
2. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; where the nosings of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of 4 ³/₄ inches (121 mm).

1009.3 Walkline. The walkline across winder treads shall be concentric to the direction of travel through the turn and located 12 inches (305 mm) from the side where the winders are narrower. The 12-inch (305 mm) dimension shall be measured from the widest point of the clear stair width at the walking surface of the winder. If winders are adjacent within the flight, the point of the widest clear stair width of the adjacent winders shall be used.

1009.4 Stair treads and risers. Stair treads and risers shall comply with Sections 1009.4.1 through 1009.4.5.

1009.4.1 Dimension reference surfaces. For the purpose of this section, all dimensions are exclusive of carpets, rugs or runners.

1009.4.2 Riser height and tread depth. Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. The riser height shall be measured vertically between the leading edges of adjacent treads. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimum tread depth of 11 inches (279 mm) measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline and a minimum tread depth of 10 inches (254 mm) within the clear width of the stair.

Exceptions:

1. Alternating tread devices in accordance with Section 1009.10.
2. Ship ladders in accordance with Section 1009.11.
3. Spiral stairways in accordance with Section 1009.9.
4. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in

accordance with Section 1028.11.2.

5. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 8 ¼ inches (197 mm); the minimum tread depth shall be 9 inches (254 mm); the minimum winder tread depth at the walkline shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). A nosing not less than ¾ inch (19.1 mm) but not more than 1 ¼ inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).
6. See Section 3404.1 for the replacement of existing stairways.
7. In Group I-3 facilities, stairways providing access to guard towers, observation stations and control rooms, not more than 250 square feet (23 m²) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).

1009.4.3 Winder treads. Winder treads are not permitted in means of egress stairways except within a dwelling unit.

Exceptions:

1. Curved stairways in accordance with Section 1009.8.
2. Spiral stairways in accordance with Section 1009.9.

1009.4.4 Dimensional uniformity. Stair treads and risers shall be of uniform size and shape. The tolerance between the largest and smallest riser height or between the largest and smallest tread depth shall not exceed 3/8 inch (9.5 mm) in any flight of stairs. The greatest winder tread depth at the walkline within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

Exceptions:

1. Nonuniform riser dimensions of aisle stairs complying with Section 1028.11.2.
2. Consistently shaped winders, complying with Section 1009.4.2, differing from rectangular treads in the same stairway flight.

Where the bottom or top riser adjoins a sloping public way, walkway or driveway having an established grade and serving as a landing, the bottom or top riser is permitted to be reduced along the slope to less than 4 inches (102 mm) in height, with the variation in height of the bottom or top riser not to exceed one unit vertical in 12 units horizontal (8-percent slope) of stairway

width. The nosings or leading edges of treads at such nonuniform height risers shall have a distinctive marking stripe, different from any other nosing marking provided on the stair flight. The distinctive marking stripe shall be visible in descent of the stair and shall have a slip-resistant surface. Marking stripes shall have a width of at least 1 inch (25 mm) but not more than 2 inches (51 mm).

1009.4.5 Profile. The radius of curvature at the leading edge of the tread shall be not greater than 9/16 inch (14.3 mm). Beveling of nosings shall not exceed 9/16 inch (14.3 mm). Risers shall be solid and vertical or sloped under the tread above from the underside of the nosing above at an angle not more than 30 degrees (0.52 rad) from the vertical. The leading edge (nosing) of treads shall project not more than 1 ¼ inches (32 mm) beyond the tread below and all projections of the leading edges shall be of uniform size, including the leading edge of the floor at the top of a flight.

Exceptions:

1. Solid risers are not required for stairways that are not required to comply with Section 1007.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3 or in Group F, H and S occupancies other than areas accessible to the public. There are no restrictions on the size of the opening in the riser.
3. Solid risers are not required for spiral stairways constructed in accordance with Section 1009.9.
4. Solid risers are not required for alternating tread devices constructed in accordance with Section 1009.10.

1009.5 Stairway landings. There shall be a floor or landing at the top and bottom of each stairway. The width of landings shall not be less than the width of stairways they serve. Every landing shall have a minimum dimension measured in the direction of travel equal to the width of the stairway. Such dimension need not exceed 48 inches (1219 mm) where the stairway has a straight run. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm) into a landing. When wheelchair spaces are required on the stairway landing in accordance with Section 1007.6.1, the wheelchair space shall not be located in the required width of the landing and doors shall not swing over the wheelchair spaces.

Exception: Aisle stairs complying with Section 1028.

1009.6 Stairway construction. All stairways shall be built of materials

consistent with the types permitted for the type of construction of the building, except that wood handrails shall be permitted for all types of construction.

1009.6.1 Stairway walking surface. The walking surface of treads and landings of a stairway shall not be sloped steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. Stairway treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exceptions:

1. Openings in stair walking surfaces shall be a size that does not permit the passage of ½ -inch-diameter (12.7 mm) sphere. Elongated opening shall be placed so that the long dimension is perpendicular to the direction of travel.
2. In Group F, H and S occupancies, other than areas of parking structures accessible to the public, openings in treads and landings shall not be prohibited provided a sphere with a diameter of 1-1/8 inches (29 mm) cannot pass through the opening.

1009.6.2 Outdoor conditions. Outdoor stairways and outdoor approaches to stairways shall be designed so that water will not accumulate on walking surfaces.

1009.6.3 Enclosures under stairways. The walls and soffits within enclosed usable spaces under enclosed and unenclosed stairways shall be protected by 1-hour fire-resistance-rated construction or the fire-resistance rating of the stairway enclosure, whichever is greater. Access to the enclosed space shall not be directly from within the stair enclosure.

Exception: Spaces under stairways serving and contained within a single residential dwelling unit in Group R-2 or R-3 shall be permitted to be protected on the enclosed side with ½ inch (12.7 mm) gypsum board.

There shall be no enclosed usable space under exterior exit stairways unless the space is completely enclosed in 1-hour fire-resistance-rated construction. The open space under exterior stairways shall not be used for any purpose.

1009.7 Vertical rise. A flight of stairs shall not have a vertical rise greater than 12 feet (3658 mm) between floor levels or landings.

Exceptions:

1. Aisle stairs complying with Section 1028.
2. Alternating tread devices used as a means of egress shall not have a rise greater than 20 feet (6096 mm) between floor levels or landings.

1009.8 Curved stairways. Curved stairways with winder treads shall have treads

and risers in accordance with Section 1009.4 and the smallest radius shall not be less than twice the required width of the stairway.

Exception: The radius restriction shall not apply to curved stairways for occupancies in Group R-3 and within individual dwelling units in occupancies in Group R-2.

1009.9 Spiral stairways. Spiral stairways are permitted to be used as a component in the means of egress only within dwelling units or from a space not more than 250 square feet (23 m²) in area and serving not more than five occupants, or from galleries, catwalks and gridirons in accordance with Section 1015.6.

A spiral stairway shall have a 7 ½ -inch (191 mm) minimum clear tread depth at a point 12 inches (305 mm) from the narrow edge. The risers shall be sufficient to provide a headroom of 78 inches (1981 mm) minimum, but riser height shall not be more than 9 ½ inches (241 mm). The minimum stairway clear width at and below the handrail shall be 26 inches (660 mm).

1009.10 Alternating tread devices. Alternating tread devices are limited to an element of a means of egress in buildings of Groups F, H and S from a mezzanine not more than 250 square feet (23 m²) in area and which serves not more than five occupants; in buildings of Group I-3 from a guard tower, observation station or control room not more than 250 square feet (23 m²) in area and for access to unoccupied roofs.

1009.10.1 Handrails of alternating tread devices. Handrails shall be provided on both sides of alternating tread devices and shall comply with Section 1012.

1009.10.2 Treads of alternating tread devices. Alternating tread devices shall have a minimum projected tread of 5 inches (127 mm), a minimum tread depth of 8 ½ inches (216 mm), a minimum tread width of 7 inches (178 mm) and a maximum riser height of 9 ½ inches (241 mm). The projected tread depth shall be measured horizontally between the vertical planes of the foremost projections of adjacent treads. The riser height shall be measured vertically between the leading edges of adjacent treads. The combination of riser height and projected tread depth provided shall result in an alternating tread device angle that complies with Section 1002. The initial tread of the device shall begin at the same elevation as the platform, landing or floor surface.

Exception: Alternating tread devices used as an element of a means of egress in buildings from a mezzanine area not more than 250 square feet (23 m²) in area which serves not more than five occupants shall have a minimum projected tread of 8 ½ inches (216 mm) with a minimum tread depth of 10 ½

inches (267 mm). The rise to the next alternating tread surface should not be more than 8 inches (203 mm).

1009.11 Ship ladders. Ship ladders are permitted to be used in Group I-3 as a component of a means of egress to and from control rooms or elevated facility observation stations not more than 250 square feet (23 m²) with not more than three occupants and for access to unoccupied roofs.

Ship ladders shall have a minimum tread depth of 5 inches (127 mm). The tread shall be projected such that the total of the tread depth plus the nosing projection is no less than 8 ½ inches (216 mm). The maximum riser height shall be 9 ½ inches (241 mm).

Handrails shall be provided on both sides of ship ladders. The minimum clear width at and below the handrails shall be 20 inches (508 mm).

1009.12 Handrails. Stairways shall have handrails on each side and shall comply with Section 1012. Where glass is used to provide the handrail, the handrail shall also comply with Section 2407.

Exceptions:

1. Handrails for aisle stairs are not required where permitted by Section 1028.13.
2. Stairways within dwelling units, spiral stairways and aisle stairs serving seating only on one side are permitted to have a handrail on one side only.
3. Decks, patios and walkways that have a single change in elevation where the landing depth on each side of the change of elevation is greater than what is required for a landing do not require handrails.
4. In Group R-3 occupancies, a change in elevation consisting of a single riser at an entrance or egress door does not require handrails.
5. Changes in room elevations of three or fewer risers within dwelling units and sleeping units in Group R-2 and R-3 do not require handrails.

1009.13 Stairway to roof. In buildings four or more stories above grade plane, one stairway shall extend to the roof surface, unless the roof has a slope steeper than four units vertical in 12 units horizontal (33-percent slope). In buildings without an occupied roof, access to the roof from the top story shall be permitted to be by an alternating tread device.

1009.13.1 Roof access. Where a stairway is provided to a roof, access to the roof shall be provided through a penthouse complying with Section 1509.2.

Exception: In buildings without an occupied roof, access to the roof shall be permitted to be a roof hatch or trap door not less than 16 square feet (1.5 m²) in area and having a minimum dimension of 2 feet (610 mm).

1009.13.2 Protection at roof hatch openings. Where the roof hatch opening providing the required access is located within 10 feet (3049 mm) of the roof edge, such roof access or roof edge shall be protected by guards installed in accordance with the provisions of Section 1013.

1009.14 Stairway to elevator equipment. *Deleted.*

SECTION 1010 RAMPS

1010.1 Scope. The provisions of this section shall apply to ramps used as a component of a means of egress.

Exceptions:

1. Other than ramps that are part of the accessible routes providing access in accordance with Sections 1108.2 through 1108.2.4 and 1108.2.6, ramped aisles within assembly rooms or spaces shall conform with the provisions in Section 1028.11.
2. Curb ramps shall comply with *ICC A117.1*.
3. Vehicle ramps in parking garages for pedestrian exit access shall not be required to comply with Sections 1010.3 through 1010.9 when they are not an accessible route serving accessible parking spaces, other required accessible elements or part of an accessible means of egress.

1010.2 Slope. Ramps used as part of a means of egress shall have a running slope not steeper than one unit vertical in 12 units horizontal (8-percent slope). The slope of other pedestrian ramps shall not be steeper than one unit vertical in eight units horizontal (12.5-percent slope).

Exception: Aisle ramp slope in occupancies of Group A or assembly occupancies accessory to Group E occupancies shall comply with Section 1028.11.

1010.3 Cross slope. The slope measured perpendicular to the direction of travel of a ramp shall not be steeper than one unit vertical in 48 units horizontal (2-percent slope).

1010.4 Vertical rise. The rise for any ramp run shall be 30 inches (762 mm) maximum.

1010.5 Minimum dimensions. The minimum dimensions of means of egress ramps shall comply with Sections 1010.5.1 through 1010.5.3.

1010.5.1 Width. The minimum width of a means of egress ramp shall not be less than that required for corridors by Section 1018.2. The clear width of a ramp between handrails, if provided, or other permissible projections shall be 36 inches (914 mm) minimum.

1010.5.2 Headroom. The minimum headroom in all parts of the means of egress ramp shall not be less than 80 inches (2032 mm).

1010.5.3 Restrictions. Means of egress ramps shall not reduce in width in the direction of egress travel. Projections into the required ramp and landing width are prohibited. Doors opening onto a landing shall not reduce the clear width to less than 42 inches (1067 mm).

1010.6 Landings. Ramps shall have landings at the bottom and top of each ramp, points of turning, entrance, exits and at doors. Landings shall comply with Sections 1010.6.1 through 1010.6.5.

1010.6.1 Slope. Landings shall have a slope not steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. Changes in level are not permitted.

1010.6.2 Width. The landing shall be at least as wide as the widest ramp run adjoining the landing.

1010.6.3 Length. The landing length shall be 60 inches (1525 mm) minimum.

Exceptions:

1. In Group R-2 and R-3 individual dwelling and sleeping units that are not required to be Accessible units, Type A units or Type B units in accordance with Section 1107, landings are permitted to be 36 inches (914 mm) minimum.
2. Where the ramp is not a part of an accessible route, the length of the landing shall not be required to be more than 48 inches (1220 mm) in the direction of travel.

1010.6.4 Change in direction. Where changes in direction of travel occur at landings provided between ramp runs, the landing shall be 60 inches by 60 inches (1524 mm by 1524 mm) minimum.

Exception: In Group R-2 and R-3 individual dwelling or sleeping units that are not required to be Accessible units, Type A units or Type B units in accordance with Section 1107, landings are permitted to be 36 inches by 36 inches (914 mm by 914 mm) minimum.

1010.6.5 Doorways. Where doorways are located adjacent to a ramp landing, maneuvering clearances required by ICC A117.1 are permitted to overlap the

required landing area.

1010.7 Ramp construction. All ramps shall be built of materials consistent with the types permitted for the type of construction of the building, except that wood handrails shall be permitted for all types of construction. Ramps used as an exit shall conform to the applicable requirements of Sections 1022.1 through 1022.6 for exit enclosures.

1010.7.1 Ramp surface. The surface of ramps shall be of slip-resistant materials that are securely attached.

1010.7.2 Outdoor conditions. Outdoor ramps and outdoor approaches to ramps shall be designed so that water will not accumulate on walking surfaces.

1010.8 Handrails. Ramps with a rise greater than 6 inches (152 mm) shall have handrails on both sides. Handrails shall comply with Section 1012.

Exception: Handrails for ramped aisles are not required where permitted by Section 1028.13.

1010.9 Edge protection. Edge protection complying with Section 1010.9.1 or 1010.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

Exceptions:

1. Edge protection is not required on ramps that are not required to have handrails, provided they have flared sides that comply with the ICC A117.1 curb ramp provisions.
2. Edge protection is not required on the sides of ramp landings serving an adjoining ramp run or stairway.
3. Edge protection is not required on the sides of ramp landings having a vertical drop off of not more than ½ inch (12.7 mm) within 10 inches (254 mm) horizontally of the required landing area.
4. In assembly spaces with fixed seating, edge protection is not required on the sides of ramps where the ramps provide access to the adjacent seating and aisle accessways.

1010.9.1 Curb, rail, wall or barrier. A curb, rail, wall or barrier shall be provided to serve as edge protection. A curb must be a minimum of 4 inches (102 mm) in height. Barriers must be constructed so that the barrier prevents the passage of a 4-inch-diameter (102 mm) sphere, where any portion of the sphere is within 4 inches (102 mm) of the floor or ground surface.

1010.9.2 Extended floor or ground surface. The floor or ground surface of the ramp run or landing shall extend 12 inches (305 mm) minimum beyond the inside face of a handrail complying with Section 1012.

1010.10 Guards. Guards shall be provided where required by Section 1013 and shall be constructed in accordance with Section 1013.

SECTION 1011 EXIT SIGNS

1011.1 Where required. Exits and exit access doors shall be marked by an approved exit sign readily visible from any direction of egress travel. The path of egress travel to exits and within exits shall be marked by readily visible exit signs to clearly indicate the direction of egress travel in cases where the exit or the path of egress travel is not immediately visible to the occupants. Intervening means of egress doors within exits shall be marked by exit signs. Exit sign placement shall be such that no point in an exit access corridor or exit passageway is more than 100 feet (30 480 mm) or the listed viewing distance for the sign, whichever is less, from the nearest visible exit sign.

Exceptions:

1. Exit signs are not required in rooms or areas that require only one exit or exit access.
2. Main exterior exit doors or gates that are obviously and clearly identifiable as exits need not have exit signs where approved by the building official.
3. Exit signs are not required in occupancies in Group U and individual sleeping units or dwelling units in Group R-1, R-2 or R-3.
4. Exit signs are not required in dayrooms, sleeping rooms or dormitories in occupancies in *Group I*.
5. In occupancies in Groups A-4 and A-5, exit signs are not required on the seating side of vomitories or openings into seating areas where exit signs are provided in the concourse that are readily apparent from the vomitories. Egress lighting is provided to identify each vomitory or opening within the seating area in an emergency.

1011.2 Illumination. Exit signs shall be internally or externally illuminated.

Exception: Tactile signs required by Section 1011.3 need not be provided with illumination.

1011.3 Tactile exit signs. A tactile sign stating EXIT and complying with *Chapter 11* shall be provided adjacent to each door to an area of refuge, an exterior area for assisted rescue, an exit stairway, an exit ramp, an exit passageway and the exit discharge.

1011.4 Internally illuminated exit signs. Electrically powered, self-luminous and photoluminescent exit signs shall be listed and labeled in accordance with UL

924 and shall be installed in accordance with the manufacturer's instructions and Chapter 27. Exit signs shall be illuminated at all times.

1011.5 Externally illuminated exit signs. Externally illuminated exit signs shall comply with Sections 1011.5.1 through 1011.5.3.

1011.5.1 Graphics. Every exit sign and directional exit sign shall have plainly legible letters not less than 6 inches (152 mm) high with the principal strokes of the letters not less than $\frac{3}{4}$ inch (19.1 mm) wide. The word "EXIT" shall have letters having a width not less than 2 inches (51 mm) wide, except the letter "I," and the minimum spacing between letters shall not be less than $\frac{3}{8}$ inch (9.5 mm). Signs larger than the minimum established in this section shall have letter widths, strokes and spacing in proportion to their height.

The word "EXIT" shall be in high contrast with the background and shall be clearly discernible when the means of exit sign illumination is or is not energized. If a chevron directional indicator is provided as part of the exit sign, the construction shall be such that the direction of the chevron directional indicator cannot be readily changed.

1011.5.2 Exit sign illumination. The face of an exit sign illuminated from an external source shall have an intensity of not less than 5 foot-candles (54 lux).

1011.5.3 Power source. Exit signs shall be illuminated at all times. To ensure continued illumination for a duration of not less than 90 minutes in case of primary power loss, the sign illumination means shall be connected to an emergency power system provided from storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Chapter 27.

Exception: Approved exit sign illumination means that provide continuous illumination independent of external power sources for a duration of not less than 90 minutes, in case of primary power loss, are not required to be connected to an emergency electrical system.

SECTION 1012 HANDRAILS

1012.1 Where required. Handrails for stairways and ramps shall be adequate in strength and attachment in accordance with Section 1607.7. Handrails required for stairways by Section 1009.12 shall comply with Sections 1012.2 through 1012.9. Handrails required for ramps by Section 1010.8 shall comply with Sections 1012.2 through 1012.8.

1012.2 Height. Handrail height, measured above stair tread nosings, or finish surface of ramp slope, shall be uniform, not less than 34 inches (864 mm) and not more than 38 inches (965 mm). Handrail height of alternating tread devices and ship ladders, measured above tread nosings, shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

1012.3 Handrail graspability. All required handrails shall comply with Section 1012.3.1 or shall provide equivalent graspability.

Exception: In Group R-3 occupancies; within dwelling units *not required to be accessible, Type A or Type B* in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; handrails shall be Type I in accordance with Section 1012.3.1, Type II in accordance with Section 1012.3.2 or shall provide equivalent graspability.

1012.3.1 Type I. Handrails with a circular cross section shall have an outside diameter of at least 1 ¼ inches (32 mm) and not greater than 2 inches (51 mm). If the handrail is not circular, it shall have a perimeter dimension of at least 4 inches (102 mm) and not greater than 6 ¼ inches (160 mm) with a maximum cross-section dimension of 2 ¼ inches (57 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

1012.3.2 Type II. Handrails with a perimeter greater than 6 ¼ inches (160 mm) shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of ¾ inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of at least 5/16 inch (8 mm) within 7/8 inch (22 mm) below the widest portion of the profile. This required depth shall continue for at least 3/8 inch (10 mm) to a level that is not less than 1 ¾ inches (45 mm) below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1 ¼ inches (32 mm) to a maximum of 2 ¾ inches (70 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

1012.4 Continuity. Handrail-gripping surfaces shall be continuous, without interruption by newel posts or other obstructions.

Exceptions:

1. Handrails within dwelling units are permitted to be interrupted by a newel post at a turn or landing.
2. Within a dwelling unit, the use of a volute, turnout, starting easing or starting newel is allowed over the lowest tread.
3. Handrail brackets or balusters attached to the bottom surface of the handrail that do not project horizontally beyond the sides of the

handrail within 1 ½ inches (38 mm) of the bottom of the handrail shall not be considered obstructions. For each ½ inch (12.7 mm) of additional handrail perimeter dimension above 4 inches (102 mm), the vertical clearance dimension of 1 ½ inches (38 mm) shall be permitted to be reduced by 1/8 inch (3 mm).

4. Where handrails are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of the handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper guards.

1012.5 Fittings. Handrails shall not rotate within their fittings.

1012.6 Handrail extensions. Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight. Where handrails are not continuous between flights the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom *riser*. At ramps where handrails are not continuous between runs, the handrails shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. The extensions of handrails shall be in the same direction of the stair flights at stairways and the ramp runs at ramps.

Exceptions:

1. Handrails within a dwelling unit that is not required to be accessible need extend only from the top riser to the bottom riser.
2. Aisle handrails in *rooms or spaces used for assembly purposes* in accordance with Section 1028.13.
3. Handrails for alternating tread devices and ship ladders are permitted to terminate at a location vertically above the top and bottom risers. Handrails for alternating tread devices are not required to be continuous between flights or to extend beyond the top or bottom risers.

1012.7 Clearance. Clear space between a handrail and a wall or other surface shall be a minimum of 1 ½ inches (38 mm). A handrail and a wall or other surface adjacent to the handrail shall be free of any sharp or abrasive elements.

1012.8 Projections. On ramps, the clear width between handrails shall be 36 inches (914 mm) minimum. Projections into the required width of stairways and ramps at each handrail shall not exceed 4 ½ inches (114 mm) at or below the handrail height. Projections into the required width shall not be limited above the minimum headroom height required in Section 1009.2.

1012.9 Intermediate handrails. Stairways shall have intermediate handrails located in such a manner that all portions of the stairway width required for egress

capacity are within 30 inches (762 mm) of a handrail. On monumental stairs, handrails shall be located along the most direct path of egress travel.

SECTION 1013 GUARDS

1013.1 Where required. Guards shall be located along open-sided walking surfaces, including mezzanines, equipment platforms, stairs, ramps and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Guards shall be adequate in strength and attachment in accordance with Section 1607.7.

Exception: Guards are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of stages and raised platforms, including steps leading up to the stage and raised platforms.
3. On raised stage and platform floor areas, such as runways, ramps and side stages used for entertainment or presentations.
4. At vertical openings in the performance area of stages and platforms.
5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating where guards in accordance with Section 1028.14 are permitted and provided.

1013.1.1 Glazing. Where glass is used to provide a guard or as a portion of the guard system, the guard shall also comply with Section 2407. Where the glazing provided does not meet the strength and attachment requirements of Section 1607.7, complying guards shall also be located along glazed sides of open-sided walking surfaces.

1013.2 Height. Required guards shall be not less than 42 inches (1067 mm) high, measured vertically above the adjacent walking surfaces, adjacent fixed seating or the line connecting the leading edges of the treads.

Exceptions:

1. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
2. For occupancies in Group R-3, and within individual dwelling units in

occupancies in Group R-2, where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

3. The height in assembly seating areas shall be in accordance with Section 1028.14.
4. Along alternating tread devices and ship ladders, guards whose top rail also serves as a handrail, shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread nosing.

1013.3 Opening limitations. Required guards shall not have openings which allow passage of a sphere 4 inches (102 mm) in diameter from the walking surface to the required guard height.

Exceptions:

1. *Deleted*
2. The triangular openings at the open sides of a stair, formed by the riser, tread and bottom rail shall not allow passage of a sphere 6 inches (152 mm) in diameter.
3. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.
4. In areas that are not open to the public within occupancies in Group I-3, F, H or S, and for alternating tread devices and ship ladders, guards shall not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.
5. In assembly seating areas, guards at the end of aisles where they terminate at a fascia of boxes, balconies and galleries shall not have openings which allow passage of a sphere 4 inches in diameter (102 mm) up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, guards shall not have openings which allow passage of a sphere 8 inches (203 mm) in diameter.
6. *Deleted*

1013.4 Screen porches. Porches and decks which are enclosed with insect screening shall be provided with guards where the walking surface is located more than 30 inches (762 mm) above the floor or grade below.

1013.5 Mechanical equipment. Guards shall be provided where appliances, equipment, fans, roof hatch openings or other components that require service are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter. The guard shall extend not less than 30 inches (762 mm) beyond each end of such appliance, equipment, fan or component.

1013.6 Roof access. Guards shall be provided where the roof hatch opening is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter.

SECTION 1014 EXIT ACCESS

1014.1 General. The exit access shall comply with the applicable provisions of Sections 1003 through 1013. Exit access arrangement shall comply with Sections 1014 through 1019.

1014.2 Egress through intervening spaces. Egress through intervening spaces shall comply with this section.

1. Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to one or the other, are not a Group H occupancy and provide a discernible path of egress travel to an exit.
Exception: Means of egress are not prohibited through adjoining or intervening rooms or spaces in a Group H, S or F occupancy when the adjoining or intervening rooms or spaces are the same or a lesser hazard occupancy group.
2. An exit access shall not pass through a room that can be locked to prevent egress.
3. Means of egress from dwelling units or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms.
4. Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes.

Exceptions:

1. Means of egress are not prohibited through a kitchen area

- serving adjoining rooms constituting part of the same dwelling unit or sleeping unit.
2. Means of egress are not prohibited through stockrooms in Group M occupancies when all of the following are met:
 - 2.1. The stock is of the same hazard classification as that found in the main retail area;
 - 2.2. Not more than 50 percent of the exit access is through the stockroom;
 - 2.3. The stockroom is not subject to locking from the egress side; and
 - 2.4. There is a demarcated, minimum 44-inch-wide (1118 mm) aisle defined by full-or partial-height fixed walls or similar construction that will maintain the required width and lead directly from the retail area to the exit without obstructions.

1014.2.1 Multiple tenants. Where more than one tenant occupies any one floor of a building or structure, each tenant space, dwelling unit and sleeping unit shall be provided with access to the required exits without passing through adjacent tenant spaces, dwelling units and sleeping units.

Exception: The means of egress from a smaller tenant space shall not be prohibited from passing through a larger adjoining tenant space where such rooms or spaces of the smaller tenant occupy less than 10 percent of the area of the larger tenant space through which they pass; are the same or similar occupancy group; a discernable path of egress travel to an exit is provided; and the means of egress into the adjoining space is not subject to locking from the egress side. A required means of egress serving the larger tenant space shall not pass through the smaller tenant space or spaces.

1014.2.2 Group I-2. Habitable rooms or suites in Group I-2 occupancies shall have an exit access door leading directly to a corridor.

Exception: Rooms with exit doors opening directly to the outside at ground level.

1014.2.3 Suites in patient sleeping areas. Patient sleeping areas in Group I-2 occupancies shall be permitted to be divided into suites with one intervening room if one of the following conditions is met:

1. The intervening room within the suite is not used as an exit access for more than eight patient beds.
2. The arrangement of the suite allows for direct and constant visual

supervision by nursing personnel.

1014.2.3.1 Area. Suites of sleeping rooms shall not exceed 5,000 square feet (465 m²).

1014.2.3.2 Exit access. Any patient sleeping room, or any suite that includes patient sleeping rooms, of more than 1,000 square feet (93 m²) shall have at least two exit access doors remotely located from each other.

1014.2.3.3 Travel distance. The travel distance between any point in a suite of sleeping rooms and an exit access door of that suite shall not exceed 100 feet (30 480 mm).

1014.2.4 Suites in areas other than patient sleeping areas. Areas other than patient sleeping areas in Group I-2 occupancies shall be permitted to be divided into suites.

1014.2.4.1 Area. Suites of rooms, other than patient sleeping rooms, shall not exceed 10,000 square feet (929 m²).

1014.2.4.2 Exit access. Any room or suite of rooms, other than patient sleeping rooms, of more than 2,500 square feet (232 m²) shall have at least two exit access doors remotely located from each other.

1014.2.4.3 One intervening room. For rooms other than patient sleeping rooms, suites of rooms are permitted to have one intervening room if the travel distance within the suite to the exit access door is not greater than 100 feet (30 480 mm).

1014.2.4.4 Two intervening rooms. For rooms other than patient sleeping rooms located within a suite, exit access travel from within the suite shall be permitted through two intervening rooms where the travel distance to the exit access door is not greater than 50 feet (15 240 mm).

1014.2.5 Exit access through suites. Exit access from all other portions of a building not classified as a suite in a Group I-2 occupancy shall not pass through a suite.

1014.2.6 Travel distance. The travel distance between any point in a Group I-2 occupancy patient sleeping room and an exit access door in that room shall not exceed 50 feet (15240 mm).

1014.2.7 Separation. Suites in Group I-2 occupancies shall be separated from other portions of the building by a smoke partition complying with Section 711.

1014.3 Common path of egress travel. In occupancies other than Groups H-1, H-2 and H-3, the common path of egress travel shall not exceed 75 feet (22 860 mm). In Group H-1, H-2 and H-3 occupancies, the common path of egress travel

shall not exceed 25 feet (7620 mm). For common path of egress travel in Group A occupancies and assembly occupancies accessory to Group E occupancies having fixed seating, see Section 1028.8.

Exceptions:

1. The length of a common path of egress travel in Group B, F and S occupancies shall not be more than 100 feet (30 480 mm), provided that the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. Where a tenant space in Group B, S and U occupancies has an occupant load of not more than 30, the length of a common path of egress travel shall not be more than 100 feet (30 480 mm).
3. The length of a common path of egress travel in a Group I-3 occupancy shall not be more than 100 feet (30 480 mm).

The length of a common path of egress travel in a Group R-2 occupancy shall not be more than 125 feet (38 100 mm), provided that the building is protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

SECTION 1015 EXIT AND EXIT ACCESS DOORWAYS

1015.1 Exits or exit access doorways from spaces. Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

Exception: Group I-2 occupancies shall comply with Section 1014.2.2 through 1014.2.7.

1. The occupant load of the space exceeds one of the values in Table 1015.1.

Exception: In Group R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

2. The common path of egress travel exceeds one of the limitations of Section 1014.3.
3. Where required by Section 1015.3, 1015.4, 1015.5, 1015.6 or 1015.6.1.

Where a building contains mixed occupancies, each individual occupancy shall comply with the applicable requirements for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1.

**TABLE 1015.1
SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY**

OCCUPANCY	MAXIMUM OCCUPANT LOAD
A, B, E ^a , F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I-1, I-3, I-4, R	10
S	29

a. Day care maximum occupant load is 10.

1015.1.1 Three or more exits or exit access doorways.

Three exits or exit access doorways shall be provided from any space with an occupant load of 501 to 1,000. Four exits or exit access doorways shall be provided from any space with an occupant load greater than 1,000.

1015.2 Exit or exit access doorway arrangement. Required exits shall be located in a manner that makes their availability obvious. Exits shall be unobstructed at all times. Exit and exit access doorways shall be arranged in accordance with Sections 1015.2.1 and 1015.2.2.

1015.2.1 Two exits or exit access doorways. Where two exits or exit access doorways are required from any portion of the exit access, the exit doors or exit access doorways shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between exit doors or exit access doorways. Interlocking or scissor stairs shall be counted as one exit stairway.

Exceptions:

1. Where exit enclosures are provided as a portion of the required exit and are interconnected by a 1-hour fire-resistance-rated corridor conforming to the requirements of Section 1018, the required exit separation shall be measured along the shortest direct line of travel within the corridor.
2. Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, the

separation distance of the exit doors or exit access doorways shall not be less than one-third of the length of the maximum overall diagonal dimension of the area served.

1015.2.2 Three or more exits or exit access doorways.

Where access to three or more exits is required, at least two exit doors or exit access doorways shall be arranged in accordance with the provisions of Section 1015.2.1.

1015.3 Boiler, incinerator and furnace rooms. Two exit access doorways are required in boiler, incinerator and furnace rooms where the area is over 500 square feet (46 m^2) and any fuel-fired equipment exceeds 400,000 British thermal units (Btu) (422 000 KJ) input capacity. Where two exit access doorways are required, one is permitted to be a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the length of the maximum overall diagonal dimension of the room.

1015.4 Refrigeration machinery rooms. Machinery rooms larger than 1,000 square feet (93 m^2) shall have not less than two exits or exit access doors. Where two exit access doorways are required, one such doorway is permitted to be served by a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an exit or exit access doorway. An increase in travel distance is permitted in accordance with Section 1016.1.

Doors shall swing in the direction of egress travel, regardless of the occupant load served. Doors shall be tight fitting and self-closing.

1015.5 Refrigerated rooms or spaces. Rooms or spaces having a floor area larger than 1,000 square feet (93 m^2), containing a refrigerant evaporator and maintained at a temperature below 68°F (20°C), shall have access to not less than two exits or exit access doors.

Travel distance shall be determined as specified in Section 1016.1, but all portions of a refrigerated room or space shall be within 150 feet (45 720 mm) of an exit or exit access door where such rooms are not protected by an approved automatic sprinkler system. Egress is allowed through adjoining refrigerated rooms or spaces.

Exception: Where using refrigerants in quantities limited to the amounts based on the volume set forth in the *mechanical code*.

1015.6 Stage means of egress. Where two means of egress are required, based on

the stage size or occupant load, one means of egress shall be provided on each side of the stage.

1015.6.1 Gallery, gridiron and catwalk means of egress. The means of egress from lighting and access catwalks, galleries and gridirons shall meet the requirements for occupancies in Group F-2.

Exceptions:

1. A minimum width of 22 inches (559 mm) is permitted for lighting and access catwalks.
2. Spiral stairs are permitted in the means of egress.
3. Stairways required by this subsection need not be enclosed.
4. Stairways with a minimum width of 22 inches (559 mm), ladders or spiral stairs are permitted in the means of egress.
5. A second means of egress is not required from these areas where a means of escape to a floor or to a roof is provided. Ladders, alternating tread devices or spiral stairs are permitted in the means of escape.
6. Ladders are permitted in the means of egress.

SECTION 1016 EXIT ACCESS TRAVEL DISTANCE

1016.1 Travel distance limitations. Exits shall be so located on each story such that the maximum length of exit access travel, measured from the most remote point within a story along the natural and unobstructed path of egress travel to an exterior exit door at the level of exit discharge, an entrance to a vertical exit enclosure, an exit passageway, a horizontal exit, an exterior exit stairway or an exterior exit ramp, shall not exceed the distances given in Table 1016.1.

Exceptions:

1. Travel distance in open parking garages is permitted to be measured to the closest riser of open exit stairways.
2. In outdoor facilities with open exit access components and open exterior exit stairways or exit ramps, travel distance is permitted to be measured to the closest riser of an exit stairway or the closest slope of the exit ramp.
3. In other than occupancy Groups H and I, the exit access travel distance to a maximum of 50 percent of the exits is permitted to be measured from the most remote point within a building to an exit using unenclosed exit access stairways or ramps when connecting a maximum of two stories. The two connected stories shall be provided with at least two means of egress. Such interconnected stories shall not be open to

other stories.

4. In other than occupancy Groups H and I, exit access travel distance is permitted to be measured from the most remote point within a building to an exit using unenclosed exit access stairways or ramps in the first and second stories above grade plane in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The first and second stories above grade plane shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories.

Where applicable, travel distance on unenclosed exit access stairways or ramps and on connecting stories shall also be included in the travel distance measurement. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.

TABLE 1016.1
EXIT ACCESS TRAVEL DISTANCE^a

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200	250 ^b
I-1	Not Permitted	250 ^c
B	200	300 ^c
F-2, S-2, U	300	400 ^c
H-1	Not Permitted	75 ^c
H-2	Not Permitted	100 ^c
H-3	Not Permitted	150 ^c
H-4	Not Permitted	175 ^c
H-5	Not Permitted	200 ^c
I-2, I-3, I-4	Not Permitted	200 ^c

For SI: 1 foot = 304.8 mm.

- a. See the following sections for modifications to exit access travel distance requirements:
 - Section 402.4: For the distance limitation in malls.
 - Section 404.9: For the distance limitation through an atrium space.
 - Section 407.4: For the distance limitation in Group I-2.
 - Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.
 - Section 411.4: For the distance limitation in special amusement buildings.
 - Section 1014.2.2: For the distance limitation in Group I-2 hospital suites.
 - Section 1015.4: For the distance limitation in refrigeration machinery rooms.
 - Section 1015.5: For the distance limitation in refrigerated rooms and spaces.

Section 1016.3: For increased limitation in Groups F-1 and S-1.

Section 1021.2: For buildings with one exit.

Section 1028.7: For increased limitation in assembly seating.

Section 1028.7: For increased limitation for assembly open-air seating.

Section 3103.4: For temporary structures.

Section 3104.9: For pedestrian walkways.

- b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.
- c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

1016.2 Exterior egress balcony increase. Travel distances specified in Section 1016.1 shall be increased up to an additional 100 feet (30 480 mm) provided the last portion of the exit access leading to the exit occurs on an exterior egress balcony constructed in accordance with Section 1019. The length of such balcony shall not be less than the amount of the increase taken.

1016.3 Group F-1 and S-1 increase. *The maximum exit access travel distance shall be 400 feet (121,920 mm) in Group F-1 and S-1 occupancies where all of the following are met:*

1. *The portion of the building classified as Group F-1 or S-1 is limited to one story in height; and*
2. *The minimum height from the finished floor to the bottom of the ceiling or roof slab or deck is 24 feet (7315 mm); and*
3. *The portion of the building classified as Group F-1 or S-1 is equipped throughout with an early suppression fast response (ESFR) automatic fire sprinkler system in accordance with Section 903.3.1.1; and*
4. *The portion of the building classified as Group F-1 or S-1 is equipped with a manually activated smoke exhaust system complying with Section 910.5.*

SECTION 1017

AISLES

1017.1 General. Aisles serving as a portion of the exit access in the means of egress system shall comply with the requirements of this section. Aisles shall be provided from all occupied portions of the exit access which contain seats, tables, furnishings, displays and similar fixtures or equipment. Aisles serving assembly areas shall comply with Section 1028. Aisles serving reviewing stands, grandstands and bleachers shall also comply with Section 1028. The required width of aisles shall be unobstructed.

Exception: Doors complying with Section 1005.2.

1017.2 Aisles in Groups B and M. In Group B and M occupancies, the minimum clear aisle width shall be determined by Section 1005.1 for the occupant load served, but shall not be less than 36 inches (914 mm).

Exception: Nonpublic aisles serving less than 50 people and not required to be accessible by Chapter 11 need not exceed 28 inches (711 mm) in width.

1017.3 Aisle accessways in Group M. An aisle accessway shall be provided on at least one side of each element within the merchandise pad. The minimum clear width for an aisle accessway not required to be accessible shall be 30 inches (762 mm). The required clear width of the aisle accessway shall be measured perpendicular to the elements and merchandise within the merchandise pad. The 30-inch (762 mm) minimum clear width shall be maintained to provide a path to an adjacent aisle or aisle accessway. The common path of travel shall not exceed 30 feet (9144 mm) from any point in the merchandise pad.

Exception: For areas serving not more than 50 occupants, the common path of travel shall not exceed 75 feet (22 880 mm).

1017.4 Seating at tables. Where seating is located at a table or counter and is adjacent to an aisle or aisle accessway, the measurement of required clear width of the aisle or aisle accessway shall be made to a line 19 inches (483 mm) away from and parallel to the edge of the table or counter. The 19-inch (483 mm) distance shall be measured perpendicular to the side of the table or counter. In the case of other side boundaries for aisle or aisle accessways, the clear width shall be measured to walls, edges of seating and tread edges, except that handrail projections are permitted.

Exception: Where tables or counters are served by fixed seats, the width of the aisle accessway shall be measured from the back of the seat.

1017.4.1 Aisle accessway for tables and seating. Aisle accessways serving arrangements of seating at tables or counters shall have sufficient clear width to conform to the capacity requirements of Section 1005.1 but shall not have less than the appropriate minimum clear width specified in Section 1017.4.2.

1017.4.2 Table and seating accessway width. Aisle accessways shall provide a minimum of 12 inches (305 mm) of width plus ½ inch (12.7 mm) of width for each additional 1 foot (305 mm), or fraction thereof, beyond 12 feet (3658 mm) of aisle accessway length measured from the center of the seat farthest from an aisle.

Exception: Portions of an aisle accessway having a length not exceeding 6

feet (1829 mm) and used by a total of not more than four persons.

1017.4.3 Table and seating aisle accessway length. The length of travel along the aisle accessway shall not exceed 30 feet (9144 mm) from any seat to the point where a person has a choice of two or more paths of egress travel to separate exits.

SECTION 1018 CORRIDORS

1018.1 Construction. Corridors shall be fire-resistance rated in accordance with Table 1018.1. The corridor walls required to be fire-resistance rated shall comply with Section 709 for fire partitions.

Exceptions:

1. A fire-resistance rating is not required for corridors in an occupancy in Group E where each room that is used for instruction has at least one door opening directly to the exterior and rooms for assembly purposes have at least one-half of the required means of egress doors opening directly to the exterior. Exterior doors specified in this exception are required to be at ground level.
2. A fire-resistance rating is not required for corridors contained within a dwelling or sleeping unit in an occupancy in Group R.
3. A fire-resistance rating is not required for corridors in open parking garages.
4. A fire-resistance rating is not required for corridors in an occupancy in Group B which is a space requiring only a single means of egress complying with Section 1015.1.

**TABLE 1018.1
CORRIDOR FIRE-RESISTANCE RATING**

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		Without sprinkler system	With sprinkler system ^c
H-1, H-2, H-3	All	Not Permitted	1
H-4, H-5	Greater than 30	Not Permitted	1
A, B, E, F, M, S, U	Greater than 30	1	0
R	Greater than 10	Not Permitted ^d	0.5
I-2a, I-4	All	Not Permitted	0

I-1, I-3	All	Not Permitted	1 ^b
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- a. For requirements for occupancies in Group I-2, see Sections 407.2 and 407.3.
- b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.8.
- c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.
- d. *One hour when design qualifies in accordance with Section 903.2.8, exception 3.*

1018.2 Corridor width. The minimum corridor width shall be as determined in Section 1005.1, but not less than 44 inches (1118 mm).

Exceptions:

1. Twenty-four inches (610 mm)—For access to and utilization of electrical, mechanical or plumbing systems or equipment.
2. Thirty-six inches (914 mm)—With a required occupant capacity of less than 50.
3. Thirty-six inches (914 mm)—Within a dwelling unit.
4. Seventy-two inches (1829 mm)—In Group E with a corridor having a required capacity of 100 or more.
5. Seventy-two inches (1829 mm)—In corridors and areas serving gurney traffic in occupancies where patients receive outpatient medical care, which causes the patient to be not capable of self-preservation.
6. Ninety-six inches (2438 mm)—In Group I-2 in areas where required for bed movement. *Corridors are not required to have a clear width of 96 inches (2438 mm) in areas where there will not be stretcher or bed movement for access to care or as part of the defend in place strategy.*

1018.3 Corridor obstruction. The required width of corridors shall be unobstructed.

Exception: Doors complying with Section 1005.2.

1018.4 Dead ends. Where more than one exit or exit access doorway is required, the exit access shall be arranged such that there are no dead ends in corridors more than 20 feet (6096 mm) in length.

Exceptions:

1. In occupancies in Group I-3 of Occupancy Condition 2, 3 or 4 (see Section 308.4), the dead end in a corridor shall not exceed 50 feet (15 240 mm).
2. In occupancies in Groups B, E, F, I-1, M, R-1, R-2, R-4, S and U, where the building is equipped throughout with an automatic sprinkler

system in accordance with Section 903.3.1.1, the length of the dead-end corridors shall not exceed 50 feet (15 240 mm).

3. A dead-end corridor shall not be limited in length where the length of the dead-end corridor is less than 2.5 times the least width of the dead-end corridor.

1018.5 Air movement in corridors. Corridors shall not serve as supply, return, exhaust, relief or ventilation air ducts.

Exceptions:

1. Use of a corridor as a source of makeup air for exhaust systems in rooms that open directly onto such corridors, including toilet rooms, bathrooms, dressing rooms, smoking lounges and janitor closets, shall be permitted, provided that each such corridor is directly supplied with outdoor air at a rate greater than the rate of makeup air taken from the corridor.
2. Where located within a dwelling unit, the use of corridors for conveying return air shall not be prohibited.
3. Where located within tenant spaces of 1,000 square feet (93 m²) or less in area, utilization of corridors for conveying return air is permitted.
4. Incidental air movement from pressurized rooms within health care facilities, provided that the corridor is not the primary source of supply or return to the room.

1018.5.1 Corridor ceiling. Use of the space between the corridor ceiling and the floor or roof structure above as a return air plenum is permitted for one or more of the following conditions:

1. The corridor is not required to be of fire-resistance-rated construction;
2. The corridor is separated from the plenum by fire-resistance-rated construction;
3. The air-handling system serving the corridor is shut down upon activation of the air-handling unit smoke detectors required by the International Mechanical Code;
4. The air-handling system serving the corridor is shut down upon detection of sprinkler waterflow where the building is equipped throughout with an automatic sprinkler system; or
5. The space between the corridor ceiling and the floor or roof structure above the corridor is used as a component of an approved engineered smoke control system.

1018.6 Corridor continuity. Fire-resistance-rated corridors shall be continuous from the point of entry to an exit, and shall not be interrupted by intervening

rooms.

Exception: Foyers, lobbies or reception rooms constructed as required for corridors shall not be construed as intervening rooms.

SECTION 1019 EGRESS BALCONIES

1019.1 General. Balconies used for egress purposes shall conform to the same requirements as corridors for width, headroom, dead ends and projections.

1019.2 Wall separation. Exterior egress balconies shall be separated from the interior of the building by walls and opening protectives as required for corridors.

Exception: Separation is not required where the exterior egress balcony is served by at least two stairs and a dead-end travel condition does not require travel past an unprotected opening to reach a stair.

1019.3 Openness. The long side of an egress balcony shall be at least 50 percent open, and the open area above the guards shall be so distributed as to minimize the accumulation of smoke or toxic gases.

SECTION 1020 EXITS

1020.1 General. Exits shall comply with Sections 1020 through 1026 and the applicable requirements of Sections 1003 through 1013. An exit shall not be used for any purpose that interferes with its function as a means of egress. Once a given level of exit protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge.

1020.2 Exterior exit doors. Buildings or structures used for human occupancy shall have at least one exterior door that meets the requirements of Section 1008.1.1.

1020.2.1 Detailed requirements. Exterior exit doors shall comply with the applicable requirements of Section 1008.1.

1020.2.2 Arrangement. Exterior exit doors shall lead directly to the exit discharge or the public way.

SECTION 1021 NUMBER OF EXITS AND CONTINUITY

1021.1 Exits from stories. All spaces within each story shall have access to the minimum number of approved independent exits as specified in Table 1021.1 based on the occupant load of the story. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories.

Exceptions:

1. As modified by Section 403.5.2.
2. As modified by Section 1021.2.
3. Exit access stairways and ramps that comply with Exception 3 or 4 of Section 1016.1 shall be permitted to provide the minimum number of approved independent exits required by Table 1021.1 on each story.
4. In Group R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
5. Within a story, rooms and spaces complying with Section 1015.1 with exits that discharge directly to the exterior at the level of exit discharge, are permitted to have one exit.

TABLE 1021.1

MINIMUM NUMBER OF EXITS FOR OCCUPANT LOAD

OCCUPANT LOAD (persons per story)	MINIMUM NUMBER OF EXITS (per story)
1-500	2
501-1,000	3
More than 1,000	4

1021.1.1 Exits maintained. The required number of exits from any story shall be maintained until arrival at grade or the public way.

1021.1.2 Parking structures. Parking structures shall not have less than two exits from each parking tier, except that only one exit is required where vehicles are mechanically parked. Vehicle ramps shall not be considered as required exits unless pedestrian facilities are provided.

1021.1.3 Helistops. The means of egress from helistops shall comply with the provisions of this chapter, provided that landing areas located on buildings or structures shall have two or more exits. For landing platforms or roof areas less than 60 feet (18 288 mm) long, or less than 2,000 square feet (186 m²) in area,

the second means of egress is permitted to be a fire escape, alternating tread device or ladder leading to the floor below.

1021.2 Single exits. Only one exit shall be required from Group R-3 occupancy buildings or from stories of other buildings as indicated in Table 1021.2. Occupancies shall be permitted to have a single exit in buildings otherwise required to have more than one exit if the areas served by the single exit do not exceed the limitations of Table 1021.2. Mixed occupancies shall be permitted to be served by single exits provided each individual occupancy complies with the applicable requirements of Table 1021.2 for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1. Basements with a single exit shall not be located more than one story below grade plane.

**TABLE 1021.2
STORIES WITH ONE EXIT**

STORY	OCCUPANCY	MAXIMUM OCCUPANTS (OR DWELLING UNITS) PER FLOOR AND TRAVEL DISTANCE
First story or basement	A, B ^d , E ^c , F ^d , M, U, S ^d	49 occupants and 75 feet travel distance
	H-2, H-3	3 occupants and 25 feet travel distance
	H-4, H-5, I, R	10 occupants and 75 feet travel distance
	S ^a	29 occupants and 100 feet travel distance
Second story	B ^b , F, M, S ^a	29 occupants and 75 feet travel distance
	R-2	4 dwelling units and 50 feet travel distance
Third story	R-2 ^c	4 dwelling units and 50 feet travel distance

For SI: 1 foot = 304.8 mm.

- a. For the required number of exits for parking structures, see Section 1021.1.2.
- b. For the required number of exits for air traffic control towers, see Section 412.3.
- c. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1029.
- d. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall have a maximum travel distance of 100 feet.
- e. Day care occupancies shall have a maximum occupant load of 10.

1021.3 Exit continuity. Exits shall be continuous from the point of entry into the exit to the exit discharge.

1021.4 Exit door arrangement. Exit door arrangement shall meet the requirements of Sections 1015.2 through 1015.2.2.

SECTION 1022 EXIT ENCLOSURES

1022.1 Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the exit enclosure shall include any basements but not any mezzanines. Exit enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. Exit enclosures shall lead directly to the exterior of the building or shall be extended to the exterior of the building with an exit passageway conforming to the requirements of Section 1023, except as permitted in Section 1027.1. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

1. In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
 - 1.1 The stairway is open to not more than one story above its level of exit discharge; or
 - 1.2 The stairway is open to not more than one story below its level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
5. Stairways in Group I-3 occupancies, as provided for in Section 408.3.8, are not required to be enclosed.
6. Means of egress stairways as required by Sections 410.5.3 and 1015.6.1 are not required to be enclosed.
7. Means of egress stairways from balconies, galleries or press boxes as provided for in Section 1028.5.1 are not required to be enclosed.

1022.2 Termination. Exit enclosures shall terminate at an exit discharge or a public way.

Exception: An exit enclosure shall be permitted to terminate at an exit passageway complying with Section 1023, provided the exit passageway terminates at an exit discharge or a public way.

1022.2.1 Extension. Where an exit enclosure is extended to an exit discharge or a public way by an exit passageway, the exit enclosure shall be separated from the exit passageway by a fire barrier constructed in accordance with Section 707 or a horizontal assembly constructed in accordance with Section 712, or both. The fire-resistance rating shall be at least equal to that required for the exit enclosure. A fire door assembly complying with Section 715.4 shall be installed in the fire barrier to provide a means of egress from the exit enclosure to the exit passageway. Openings in the fire barrier other than the fire door assembly are prohibited. Penetrations of the fire barrier are prohibited.

Exception: Penetrations of the fire barrier in accordance with Section 1022.4 shall be permitted.

1022.3 Openings and penetrations. Exit enclosure opening protectives shall be in accordance with the requirements of Section 715.

Openings in exit enclosures other than unprotected exterior openings shall be limited to those necessary for exit access to the enclosure from normally occupied spaces and for egress from the enclosure.

Elevators shall not open into an exit enclosure.

1022.4 Penetrations. Penetrations into and openings through an exit enclosure are prohibited except for required exit doors, equipment and ductwork necessary for independent ventilation or pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication systems and electrical raceway serving the exit enclosure and terminating at a steel box not exceeding 16 square inches (0.010 m²). Such penetrations shall be protected in accordance with Section 713. There shall be no penetrations or communication openings, whether protected or not, between adjacent exit enclosures.

1022.5 Ventilation. Equipment and ductwork for exit enclosure ventilation as permitted by Section 1022.4 shall comply with one of the following items:

1. Such equipment and ductwork shall be located exterior to the building and shall be directly connected to the exit enclosure by ductwork enclosed in construction as required for shafts.
2. Where such equipment and ductwork is located within the exit enclosure, the intake air shall be taken directly from the outdoors and the exhaust air shall be discharged directly to the outdoors, or such air shall be conveyed through ducts enclosed in construction as required for shafts.

3. Where located within the building, such equipment and ductwork shall be separated from the remainder of the building, including other mechanical equipment, with construction as required for shafts.

In each case, openings into the fire-resistance-rated construction shall be limited to those needed for maintenance and operation and shall be protected by opening protectives in accordance with Section 715 for shaft enclosures.

Exit enclosure ventilation systems shall be independent of other building ventilation systems.

1022.6 Exit enclosure exterior walls. Exterior walls of an exit enclosure shall comply with the requirements of Section 705 for exterior walls. Where nonrated walls or unprotected openings enclose the exterior of the stairway and the walls or openings are exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), the building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than $\frac{3}{4}$ hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the topmost landing of the stairway or to the roof line, whichever is lower.

1022.7 Discharge identification. A stairway in an exit enclosure shall not continue below its level of exit discharge unless an approved barrier is provided at the level of exit discharge to prevent persons from unintentionally continuing into levels below. Directional exit signs shall be provided as specified in Section 1011.

1022.8 Floor identification signs. A sign shall be provided at each floor landing in exit enclosures connecting more than three stories designating the floor level, the terminus of the top and bottom of the exit enclosure and the identification of the stair or ramp. The signage shall also state the story of, and the direction to, the exit discharge and the availability of roof access from the enclosure for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions. Floor level identification signs in tactile characters complying with *Chapter 11* shall be located at each floor level landing adjacent to the door leading from the enclosure into the corridor to identify the floor level.

1022.8.1 Signage requirements. Stairway identification signs shall comply with *Chapter 11* and all of the following requirements:

1. The signs shall be a minimum size of 18 inches (457 mm) by 12 inches (305 mm).
2. The letters designating the identification of the stair enclosure shall be a minimum of 1 $\frac{1}{2}$ inches (38 mm) in height.

3. The number designating the floor level shall be a minimum of 5 inches (127 mm) in height and located in the center of the sign.
4. All other lettering and numbers shall be a minimum of 1 inch (25 mm) in height.
5. Characters and their background shall have a nonglare finish. Characters shall contrast with their background, with either light characters on a dark background or dark characters on a light background.
6. When signs required by Section 1022.8 are installed in interior exit enclosures of buildings subject to Section 1024, the signs shall be made of the same materials as required by Section 1024.4.

1022.9 Smokeproof enclosures and pressurized stairways. In buildings required to comply with Section 403 or 405, each of the exit enclosures serving a story with a floor surface located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below the finished floor of a level of exit discharge serving such stories shall be a smokeproof enclosure or pressurized stairway in accordance with Section 909.20.

1022.9.1 Termination and extension. A smokeproof enclosure or pressurized stairway shall terminate at an exit discharge or a public way. The smokeproof enclosure or pressurized stairway shall be permitted to be extended by an exit passageway in accordance with Section 1022.2. The exit passageway shall be without openings other than the fire door assembly required by Section 1022.2 and those necessary for egress from the exit passageway. The exit passageway shall be separated from the remainder of the building by 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both.

Exceptions:

1. Openings in the exit passageway serving a smokeproof enclosure are permitted where the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure, and openings are protected as required for access from other floors.
2. Openings in the exit passageway serving a pressurized stairway are permitted where the exit passageway is protected and pressurized in the same manner as the pressurized stairway.
3. The fire barrier separating the smokeproof enclosure or pressurized stairway from the exit passageway is not required, provided the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure or pressurized stairway.
4. A smokeproof enclosure or pressurized stairway shall be permitted to

egress through areas on the level of discharge or vestibules as permitted by Section 1027.

1022.9.2 Enclosure access. Access to the stairway within a smokeproof enclosure shall be by way of a vestibule or an open exterior balcony.

Exception: Access is not required by way of a vestibule or exterior balcony for stairways using the pressurization alternative complying with Section 909.20.5.

SECTION 1023 EXIT PASSAGEWAYS

1023.1 Exit passageway. Exit passageways serving as an exit component in a means of egress system shall comply with the requirements of this section. An exit passageway shall not be used for any purpose other than as a means of egress.

1023.2 Width. The width of exit passageways shall be determined as specified in Section 1005.1 but such width shall not be less than 44 inches (1118 mm), except that exit passageways serving an occupant load of less than 50 shall not be less than 36 inches (914 mm) in width. The required width of exit passageways shall be unobstructed.

Exception: Doors complying with Section 1005.2.

1023.3 Construction. Exit passageway enclosures shall have walls, floors and ceilings of not less than 1-hour fire-resistance rating, and not less than that required for any connecting exit enclosure. Exit passageways shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both.

1023.4 Termination. Exit passageways shall terminate at an exit discharge or a public way.

1023.5 Openings and penetrations. Exit passageway opening protectives shall be in accordance with the requirements of Section 715.

Except as permitted in Section 402.4.6, openings in exit passageways other than exterior openings shall be limited to those necessary for exit access to the exit passageway from normally occupied spaces and for egress from the exit passageway.

Where an exit enclosure is extended to an exit discharge or a public way by an exit passageway, the exit passageway shall also comply with Section 1022.2.1.

Elevators shall not open into an exit passageway.

1023.6 Penetrations. Penetrations into and openings through an exit passageway are prohibited except for required exit doors, equipment and ductwork necessary for independent pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication and electrical raceway serving the exit passageway and terminating at a steel box not exceeding 16 square inches (0.010 m²). Such penetrations shall be protected in accordance with Section 713. There shall be no penetrations or communicating openings, whether protected or not, between adjacent exit passageways.

SECTION 1024 LUMINOUS EGRESS PATH MARKINGS

Deleted

SECTION 1025 HORIZONTAL EXITS

1025.1 Horizontal exits. Horizontal exits serving as an exit in a means of egress system shall comply with the requirements of this section. A horizontal exit shall not serve as the only exit from a portion of a building, and where two or more exits are required, not more than one-half of the total number of exits or total exit width shall be horizontal exits.

Exceptions:

1. Horizontal exits are permitted to comprise two-thirds of the required exits from any building or floor area for occupancies in Group I-2.
2. Horizontal exits are permitted to comprise 100 percent of the exits required for occupancies in Group I-3. At least 6 square feet (0.6 m²) of accessible space per occupant shall be provided on each side of the horizontal exit for the total number of people in adjoining compartments.

1025.2 Separation. The separation between buildings or refuge areas connected by a horizontal exit shall be provided by a fire wall complying with Section 706; or it shall be provided by a fire barrier complying with Section 707 or a horizontal assembly complying with Section 712, or both. The minimum fire-resistance rating of the separation shall be 2 hours. Opening protectives in horizontal exits shall also comply with Section 715. Duct and air transfer openings in a fire wall or fire barrier that serves as a horizontal exit shall also comply with Section 716. The horizontal exit separation shall extend vertically through all levels of the building unless floor assemblies have a fire-resistance rating of not less than 2

hours with no unprotected openings.

Exception: A fire-resistance rating is not required at horizontal exits between a building area and an above-grade pedestrian walkway constructed in accordance with Section 3104, provided that the distance between connected buildings is more than 20 feet (6096 mm).

Horizontal exits constructed as fire barriers shall be continuous from exterior wall to exterior wall so as to divide completely the floor served by the horizontal exit.

1025.3 Opening protectives. Fire doors in horizontal exits shall be self-closing or automatic-closing when activated by a smoke detector in accordance with Section 715.4.8.3. Doors, where located in a cross-corridor condition, shall be automatic-closing by activation of a smoke detector installed in accordance with Section 715.4.8.3.

1025.4 Capacity of refuge area. The refuge area of a horizontal exit shall be a space occupied by the same tenant or a public area and each such refuge area shall be adequate to accommodate the original occupant load of the refuge area plus the occupant load anticipated from the adjoining compartment. The anticipated occupant load from the adjoining compartment shall be based on the capacity of the horizontal exit doors entering the refuge area. The capacity of the refuge area shall be computed based on a net floor area allowance of 3 square feet (0.2787 m²) for each occupant to be accommodated therein.

Exception: The net floor area allowable per occupant shall be as follows for the indicated occupancies:

1. Six square feet (0.6 m²) per occupant for occupancies in Group I-3.
2. Fifteen square feet (1.4 m²) per occupant for ambulatory occupancies in Group I-2.
3. Thirty square feet (2.8 m²) per occupant for nonambulatory occupancies in Group I-2.

The refuge area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this chapter, but not including the added occupant load imposed by persons entering it through horizontal exits from other areas. At least one refuge area exit shall lead directly to the exterior or to an exit enclosure.

Exception: The adjoining compartment shall not be required to have a stairway or door leading directly outside, provided the refuge area into which a horizontal exit leads has stairways or doors leading directly outside and are so arranged that egress shall not require the occupants to return through the compartment from which egress originates.

SECTION 1026 EXTERIOR EXIT RAMPS AND STAIRWAYS

1026.1 Exterior exit ramps and stairways. Exterior exit ramps and stairways serving as an element of a required means of egress shall comply with this section.

Exception: Exterior exit ramps and stairways for outdoor stadiums complying with Section 1022.1, Exception 2.

1026.2 Use in a means of egress. Exterior exit stairways shall not be used as an element of a required means of egress for *Groups I-2, I-4 and child care facilities in E occupancies*. For occupancies in other than Group *I-2, I-4 and child care facilities in E occupancies*, exterior exit ramps and stairways shall be permitted as an element of a required means of egress for buildings not exceeding six stories above grade plane or having occupied floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

1026.3 Open side. Exterior exit ramps and stairways serving as an element of a required means of egress shall be open on at least one side. An open side shall have a minimum of 35 square feet (3.3 m²) of aggregate open area adjacent to each floor level and the level of each intermediate landing. The required open area shall be located not less than 42 inches (1067 mm) above the adjacent floor or landing level.

1026.4 Side yards. The open areas adjoining exterior exit ramps or stairways shall be either yards, courts or public ways; the remaining sides are permitted to be enclosed by the exterior walls of the building.

1026.5 Location. Exterior exit ramps and stairways shall be located in accordance with Section 1027.3.

1026.6 Exterior ramps and stairway protection. Exterior exit ramps and stairways shall be separated from the interior of the building as required in Section 1022.1. Openings shall be limited to those necessary for egress from normally occupied spaces.

Exceptions:

1. Separation from the interior of the building is not required for occupancies, other than those in Group R-1 or R-2, in buildings that are no more than two stories above grade plane where a level of exit discharge serving such occupancies is the first story above grade plane.
2. Separation from the interior of the building is not required where the

exterior ramp or stairway is served by an exterior ramp or balcony that connects two remote exterior stairways or other approved exits, with a perimeter that is not less than 50 percent open. To be considered open, the opening shall be a minimum of 50 percent of the height of the enclosing wall, with the top of the openings no less than 7 feet (2134 mm) above the top of the balcony.

3. Separation from the interior of the building is not required for an exterior ramp or stairway located in a building or structure that is permitted to have unenclosed interior stairways in accordance with Section 1022.1.
4. Separation from the interior of the building is not required for exterior ramps or stairways connected to open-ended corridors, provided that Items 4.1 through 4.4 are met:
 - 4.1. The building, including corridors and ramps and stairs, shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
 - 4.2. The open-ended corridors comply with Section 1018.
 - 4.3. The open-ended corridors are connected on each end to an exterior exit ramp or stairway complying with Section 1026.
 - 4.4. At any location in an open-ended corridor where a change of direction exceeding 45 degrees (0.79 rad) occurs, a clear opening of not less than 35 square feet (3.3 m²) or an exterior ramp or stairway shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or toxic gases.

SECTION 1027 EXIT DISCHARGE

1027.1 General. Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building. The combined use of Exceptions 1 and 2 below shall not exceed 50 percent of the number and capacity of the required exits.

Exceptions:

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:

- 1.1. Such exit enclosures egress to a free and unobstructed path of travel to an exterior exit door and such exit is readily visible and identifiable from the point of termination of the exit enclosure.
 - 1.2. The entire area of the level of exit discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
 - 1.3. The egress path from the exit enclosure on the level of exit discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of exit discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of exits.
2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
 - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
 - 2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
 - 2.3. The area is separated from the remainder of the level of exit discharge by construction providing protection at least the equivalent of approved wired glass in steel frames.
 - 2.4. The area is used only for means of egress and exits directly to the outside.
 3. Stairways in open parking garages complying with Section 1022.1, Exception 4, are permitted to egress through the open parking garage at their levels of exit discharge.
 4. Horizontal exits complying with Section 1025 shall not be required to discharge directly to the exterior of the building.

1027.2 Exit discharge capacity. The capacity of the exit discharge shall be not less than the required discharge capacity of the exits being served.

1027.3 Exit discharge location. Exterior balconies, stairways and ramps shall be located at least 10 feet (3048 mm) from adjacent lot lines and from other buildings on the same lot unless the adjacent building exterior walls and openings

are protected in accordance with Section 705 based on fire separation distance.

1027.4 Exit discharge components. Exit discharge components shall be sufficiently open to the exterior so as to minimize the accumulation of smoke and toxic gases.

1027.5 Egress courts. Egress courts serving as a portion of the exit discharge in the means of egress system shall comply with the requirements of Section 1027.

1027.5.1 Width. The width of egress courts shall be determined as specified in Section 1005.1, but such width shall not be less than 44 inches (1118 mm), except as specified herein. Egress courts serving Group R-3 and U occupancies shall not be less than 36 inches (914 mm) in width. The required width of egress courts shall be unobstructed to a height of 7 feet (2134 mm).

Exception: Doors complying with Section 1005.2.

Where an egress court exceeds the minimum required width and the width of such egress court is then reduced along the path of exit travel, the reduction in width shall be gradual. The transition in width shall be affected by a guard not less than 36 inches (914 mm) in height and shall not create an angle of more than 30 degrees (0.52 rad) with respect to the axis of the egress court along the path of egress travel. In no case shall the width of the egress court be less than the required minimum.

1027.5.2 Construction and openings. Where an egress court serving a building or portion thereof is less than 10 feet (3048 mm) in width, the egress court walls shall have not less than 1-hour fire-resistance-rated construction for a distance of 10 feet (3048 mm) above the floor of the court. Openings within such walls shall be protected by opening protectives having a fire protection rating of not less than $\frac{3}{4}$ hour.

Exceptions:

1. Egress courts serving an occupant load of less than 10.
2. Egress courts serving Group R-3.

1027.6 Access to a public way. The exit discharge shall provide a direct and unobstructed access to a public way.

Exception: Where access to a public way cannot be provided, a safe dispersal area shall be provided where all of the following are met:

1. The area shall be of a size to accommodate at least 5 square feet (0.46 m²) for each person.
2. The area shall be located on the same lot at least 50 feet (15 240 mm) away from the building requiring egress.

3. The area shall be permanently maintained and identified as a safe dispersal area.
4. The area shall be provided with a safe and unobstructed path of travel from the building.

SECTION 1028 ASSEMBLY

1028.1 General. Occupancies in Group A and assembly occupancies accessory to Group E which contain seats, tables, displays, equipment or other material shall comply with this section.

1028.1.1 Bleachers. Bleachers, grandstands and folding and telescopic seating, that are not building elements, shall comply *with Chapters 1-4 of ICC 300.*

1028.2 Assembly main exit. Group A occupancies and assembly occupancies accessory to Group E occupancies that have an occupant load of greater than 300 shall be provided with a main exit. The main exit shall be of sufficient width to accommodate not less than one-half of the occupant load, but such width shall not be less than the total required width of all means of egress leading to the exit. Where the building is classified as a Group A occupancy, the main exit shall front on at least one street or an unoccupied space of not less than 10 feet (3048 mm) in width that adjoins a street or public way.

Exception: In assembly occupancies where there is no well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building provided that the total width of egress is not less than 100 percent of the required width.

1028.3 Assembly other exits. In addition to having access to a main exit, each level in Group A occupancies or assembly occupancies accessory to Group E occupancies having an occupant load greater than 300, shall be provided with additional means of egress that shall provide an egress capacity for at least one-half of the total occupant load served by that level and comply with Section 1015.2.

Exception: In assembly occupancies where there is no well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building, provided that the total width of egress is not less than 100 percent of the required width.

1028.4 Foyers and lobbies. In Group A-1 occupancies, where persons are admitted to the building at times when seats are not available, such persons shall be allowed to wait in a lobby or similar space, provided such lobby or similar space shall not encroach upon the required clear width of the means of egress. Such foyer, if not directly connected to a public street by all the main entrances or

exits, shall have a straight and unobstructed corridor or path of travel to every such main entrance or exit.

1028.5 Interior balcony and gallery means of egress. For balconies, galleries or press boxes having a seating capacity of 50 or more located in Group A occupancies, at least two means of egress shall be provided, with one from each side of every balcony, gallery or press box and at least one leading directly to an exit.

1028.5.1 Enclosure of openings. Interior stairways and other vertical openings shall be enclosed in an exit enclosure as provided in Section 1022.1, except that stairways are permitted to be open between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, auditoriums and sports facilities. At least one accessible means of egress is required from a balcony, gallery or press box level containing accessible seating locations in accordance with Section 1007.3 or 1007.4.

1028.6 Width of means of egress for assembly. The clear width of aisles and other means of egress shall comply with Section 1028.6.1 where smoke-protected seating is not provided and with Section 1028.6.2 or 1028.6.3 where smoke-protected seating is provided. The clear width shall be measured to walls, edges of seating and tread edges except for permitted projections.

1028.6.1 Without smoke protection. The clear width of the means of egress shall provide sufficient capacity in accordance with all of the following, as applicable:

1. At least 0.3 inch (7.6 mm) of width for each occupant served shall be provided on stairs having riser heights 7 inches (178 mm) or less and tread depths 11 inches (279 mm) or greater, measured horizontally between tread nosings.
2. At least 0.005 inch (0.127 mm) of additional stair width for each occupant shall be provided for each 0.10 inch (2.5 mm) of riser height above 7 inches (178 mm).
3. Where egress requires stair descent, at least 0.075 inch (1.9 mm) of additional width for each occupant shall be provided on those portions of stair width having no handrail within a horizontal distance of 30 inches (762 mm).
4. Ramped means of egress, where slopes are steeper than one unit vertical in 12 units horizontal (8-percent slope), shall have at least 0.22 inch (5.6 mm) of clear width for each occupant served. Level or ramped means of egress, where slopes are not steeper than one unit vertical in 12 units horizontal (8-percent slope), shall have at least 0.20 inch (5.1 mm) of clear width for each occupant served.

1028.6.2 Smoke-protected seating. The clear width of the means of egress for smoke-protected assembly seating shall not be less than the occupant load served by the egress element multiplied by the appropriate factor in Table 1028.6.2. The total number of seats specified shall be those within the space exposed to the same smoke-protected environment. Interpolation is permitted between the specific values shown. A life safety evaluation, complying with NFPA 101, shall be done for a facility utilizing the reduced width requirements of Table 1028.6.2 for smoke-protected assembly seating.

Exception: For an outdoor smoke-protected assembly with an occupant load not greater than 18,000, the clear width shall be determined using the factors in Section 1028.6.3.

1028.6.2.1 Smoke control. Means of egress serving a smoke-protected assembly seating area shall be provided with a smoke control system complying with Section 909 or natural ventilation designed to maintain the smoke level at least 6 feet (1829 mm) above the floor of the means of egress.

1028.6.2.2 Roof height. A smoke-protected assembly seating area with a roof shall have the lowest portion of the roof deck not less than 15 feet (4572 mm) above the highest aisle or aisle accessway.

Exception: A roof canopy in an outdoor stadium shall be permitted to be less than 15 feet (4572 mm) above the highest aisle or aisle accessway provided that there are no objects less than 80 inches (2032 mm) above the highest aisle or aisle accessway.

1028.6.2.3 Automatic sprinklers. Enclosed areas with walls and ceilings in buildings or structures containing smoke-protected assembly seating shall be protected with an approved automatic sprinkler system in accordance with Section 903.3.1.1.

Exceptions:

1. The floor area used for contests, performances or entertainment provided the roof construction is more than 50 feet (15 240 mm) above the floor level and the use is restricted to low fire hazard uses.
2. Press boxes and storage facilities less than 1,000 square feet (93 m²) in area.
3. Outdoor seating facilities where seating and the means of egress in the seating area are essentially open to the outside.

1028.6.3 Width of means of egress for outdoor smoke-protected assembly.

The clear width in inches (mm) of aisles and other means of egress shall be not less than the total occupant load served by the egress element multiplied by 0.08 (2.0 mm) where egress is by aisles and stairs and multiplied by 0.06 (1.52 mm) where egress is by ramps, corridors, tunnels or vomitories.

Exception: The clear width in inches (mm) of aisles and other means of egress shall be permitted to comply with Section 1028.6.2 for the number of seats in the outdoor smoke-protected assembly where Section 1028.6.2 permits less width.

1028.7 Travel distance. Exits and aisles shall be so located that the travel distance to an exit door shall not be greater than 200 feet (60 960 mm) measured along the line of travel in nonsprinklered buildings. Travel distance shall not be more than 250 feet (76 200 mm) in sprinklered buildings. Where aisles are provided for seating, the distance shall be measured along the aisles and aisle accessway without travel over or on the seats.

Exceptions:

1. Smoke-protected assembly seating: The travel distance from each seat to the nearest entrance to a vomitory or concourse shall not exceed 200 feet (60 960 mm). The travel distance from the entrance to the vomitory or concourse to a stair, ramp or walk on the exterior of the building shall not exceed 200 feet (60 960 mm).
2. Open-air seating: The travel distance from each seat to the building exterior shall not exceed 400 feet (122 m). The travel distance shall not be limited in facilities of Type I or II construction.

1028.8 Common path of egress travel. The common path of egress travel shall not exceed 30 feet (9144 mm) from any seat to a point where an occupant has a choice of two paths of egress travel to two exits.

Exceptions:

1. For areas serving less than 50 occupants, the common path of egress travel shall not exceed 75 feet (22 860 mm).
2. For smoke-protected assembly seating, the common path of egress travel shall not exceed 50 feet (15 240 mm).

**TABLE 1028.6.2
WIDTH OF AISLES FOR SMOKE-PROTECTED ASSEMBLY**

TOTAL NUMBER OF SEATS IN THE SMOKE-PROTECTED ASSEMBLY OCCUPANCY	INCHES OF CLEAR WIDTH PER SEAT SERVED			
	Stairs and aisle steps with handrails within 30 inches	Stairs and aisle steps without handrails within 30 inches	Passageways, doorways and ramps not steeper than 1 in 10 in slope	Ramps steeper than 1 in 10 in slope
Equal to or less than 5,000	0.200	0.250	0.150	0.165
10,000	0.130	0.163	0.100	0.110
15,000	0.096	0.120	0.070	0.077
20,000	0.076	0.095	0.056	0.062
Equal to or greater than 25,000	0.060	0.075	0.044	0.048

For SI: 1 inch = 25.4 mm.

1028.8.1 Path through adjacent row. Where one of the two paths of travel is across the aisle through a row of seats to another aisle, there shall be not more than 24 seats between the two aisles, and the minimum clear width between rows for the row between the two aisles shall be 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row between aisles.

Exception: For smoke-protected assembly seating there shall not be more than 40 seats between the two aisles and the minimum clear width shall be 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat.

1028.9 Assembly aisles are required. Every occupied portion of any occupancy in Group A or assembly occupancies accessory to Group E that contains seats, tables, displays, similar fixtures or equipment shall be provided with aisles leading to exits or exit access doorways in accordance with this section. Aisle accessways for tables and seating shall comply with Section 1017.4.

1028.9.1 Minimum aisle width. The minimum clear width for aisles shall be as shown:

- Forty-eight inches (1219 mm) for aisle stairs having seating on each side.
Exception: Thirty-six inches (914 mm) where the aisle serves less than 50 seats.
- Thirty-six inches (914 mm) for aisle stairs having seating on only one side.
- Twenty-three inches (584 mm) between an aisle stair handrail or guard and seating where the aisle is subdivided by a handrail.

4. Forty-two inches (1067 mm) for level or ramped aisles having seating on both sides.

Exceptions:

1. Thirty-six inches (914 mm) where the aisle serves less than 50 seats.
 2. Thirty inches (762 mm) where the aisle does not serve more than 14 seats.
5. Thirty-six inches (914 mm) for level or ramped aisles having seating on only one side.

Exceptions:

1. Thirty inches (762 mm) where the aisle does not serve more than 14 seats.
2. Twenty-three inches (584 mm) between an aisle stair handrail and seating where an aisle does not serve more than five rows on one side.

1028.9.2 Aisle width. The aisle width shall provide sufficient egress capacity for the number of persons accommodated by the catchment area served by the aisle. The catchment area served by an aisle is that portion of the total space that is served by that section of the aisle. In establishing catchment areas, the assumption shall be made that there is a balanced use of all means of egress, with the number of persons in proportion to egress capacity.

1028.9.3 Converging aisles. Where aisles converge to form a single path of egress travel, the required egress capacity of that path shall not be less than the combined required capacity of the converging aisles.

1028.9.4 Uniform width. Those portions of aisles, where egress is possible in either of two directions, shall be uniform in required width.

1028.9.5 Assembly aisle termination. Each end of an aisle shall terminate at cross aisle, foyer, doorway, vomitory or concourse having access to an exit.

Exceptions:

1. Dead-end aisles shall not be greater than 20 feet (6096 mm) in length.
2. Dead-end aisles longer than 20 feet (6096 mm) are permitted where seats beyond the 20-foot (6096 mm) dead-end aisle are no more than 24 seats from another aisle, measured along a row of seats having a minimum clear width of 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row.
3. For smoke-protected assembly seating, the dead-end aisle length of vertical aisles shall not exceed a distance of 21 rows.

4. For smoke-protected assembly seating, a longer dead-end aisle is permitted where seats beyond the 21-row dead-end aisle are not more than 40 seats from another aisle, measured along a row of seats having an aisle accessway with a minimum clear width of 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat above seven in the row.

1028.9.6 Assembly aisle obstructions. There shall be no obstructions in the required width of aisles except for handrails as provided in Section 1028.13.

1028.10 Clear width of aisle accessways serving seating. Where seating rows have 14 or fewer seats, the minimum clear aisle accessway width shall not be less than 12 inches (305 mm) measured as the clear horizontal distance from the back of the row ahead and the nearest projection of the row behind. Where chairs have automatic or self-rising seats, the measurement shall be made with seats in the raised position. Where any chair in the row does not have an automatic or self-rising seat, the measurements shall be made with the seat in the down position. For seats with folding tablet arms, row spacing shall be determined with the tablet arm in the used position.

Exception: For seats with folding tablet arms, row spacing is permitted to be determined with the tablet arm in the stored position where the tablet arm when raised manually to vertical position in one motion automatically returns to the stored position by force of gravity.

1028.10.1 Dual access. For rows of seating served by aisles or doorways at both ends, there shall not be more than 100 seats per row. The minimum clear width of 12 inches (305 mm) between rows shall be increased by 0.3 inch (7.6 mm) for every additional seat beyond 14 seats, but the minimum clear width is not required to exceed 22 inches (559 mm).

Exception: For smoke-protected assembly seating, the row length limits for a 12-inch-wide (305 mm) aisle accessway, beyond which the aisle accessway minimum clear width shall be increased, are in Table 1028.10.1.

**TABLE 1028.10.1
SMOKE-PROTECTED
ASSEMBLY AISLE ACCESSWAYS**

TOTAL NUMBER OF SEATS IN THE SMOKE-PROTECTED ASSEMBLY OCCUPANCY	MAXIMUM NUMBER OF SEATS PER ROW PERMITTED TO HAVE A MINIMUM 12-INCH CLEAR WIDTH AISLE ACCESSWAY	
	Aisle or doorway at both ends of row	Aisle or doorway at one end of row only
Less than 4,000	14	7

4,000	15	7
7,000	16	8
10,000	17	8
13,000	18	9
16,000	19	9
19,000	20	10
22,000 and greater	21	11

For SI: 1 inch = 25.4 mm.

1028.10.2 Single access. For rows of seating served by an aisle or doorway at only one end of the row, the minimum clear width of 12 inches (305 mm) between rows shall be increased by 0.6 inch (15.2 mm) for every additional seat beyond seven seats, but the minimum clear width is not required to exceed 22 inches (559 mm).

Exception: For smoke-protected assembly seating, the row length limits for a 12-inch-wide (305 mm) aisle accessway, beyond which the aisle accessway minimum clear width shall be increased, are in Table 1028.10.1.

1028.11 Assembly aisle walking surfaces. Aisles with a slope not exceeding one unit vertical in eight units horizontal (12.5-percent slope) shall consist of a ramp having a slip-resistant walking surface. Aisles with a slope exceeding one unit vertical in eight units horizontal (12.5-percent slope) shall consist of a series of risers and treads that extends across the full width of aisles and complies with Sections 1028.11.1 through 1028.11.3.

1028.11.1 Treads. Tread depths shall be a minimum of 11 inches (279 mm) and shall have dimensional uniformity.

Exception: The tolerance between adjacent treads shall not exceed 0.188 inch (4.8 mm).

1028.11.2 Risers. Where the gradient of aisle stairs is to be the same as the gradient of adjoining seating areas, the riser height shall not be less than 4 inches (102 mm) nor more than 8 inches (203 mm) and shall be uniform within each flight.

Exceptions:

1. Riser height nonuniformity shall be limited to the extent necessitated by changes in the gradient of the adjoining seating area to maintain adequate sightlines. Where nonuniformities exceed 0.188 inch (4.8 mm) between adjacent risers, the exact location of such nonuniformities shall be indicated with a distinctive marking stripe on each tread at the nosing or leading edge adjacent to the nonuniform risers. Such stripe shall be a

minimum of 1 inch (25 mm), and a maximum of 2 inches (51 mm), wide. The edge marking stripe shall be distinctively different from the contrasting marking stripe.

2. Riser heights not exceeding 9 inches (229 mm) shall be permitted where they are necessitated by the slope of the adjacent seating areas to maintain sightlines.

1028.11.3 Tread contrasting marking stripe. A contrasting marking stripe shall be provided on each tread at the nosing or leading edge such that the location of each tread is readily apparent when viewed in descent. Such stripe shall be a minimum of 1 inch (25 mm), and a maximum of 2 inches (51 mm), wide.

Exception: The contrasting marking stripe is permitted to be omitted where tread surfaces are such that the location of each tread is readily apparent when viewed in descent.

1028.12 Seat stability. In places of assembly, the seats shall be securely fastened to the floor.

Exceptions:

- 1 In places of assembly or portions thereof without ramped or tiered floors for seating and with 200 or fewer seats, the seats shall not be required to be fastened to the floor.
- 2 In places of assembly or portions thereof with seating at tables and without ramped or tiered floors for seating, the seats shall not be required to be fastened to the floor.
- 3 In places of assembly or portions thereof without ramped or tiered floors for seating and with greater than 200 seats, the seats shall be fastened together in groups of not less than three or the seats shall be securely fastened to the floor.
- 4 In places of assembly where flexibility of the seating arrangement is an integral part of the design and function of the space and seating is on tiered levels, a maximum of 200 seats shall not be required to be fastened to the floor. Plans showing seating, tiers and aisles shall be submitted for approval.
- 5 Groups of seats within a place of assembly separated from other seating by railings, guards, partial height walls or similar barriers with level floors and having no more than 14 seats per group shall not be required to be fastened to the floor.
- 6 Seats intended for musicians or other performers and separated by railings, guards, partial height walls or similar barriers shall not be required to be fastened to the floor.

1028.13 Handrails. Ramped aisles having a slope exceeding one unit vertical in 15 units horizontal (6.7-percent slope) and aisle stairs shall be provided with handrails located either at the side or within the aisle width.

Exceptions:

1. Handrails are not required for ramped aisles having a gradient no greater than one unit vertical in eight units horizontal (12.5-percent slope) and seating on both sides.
2. Handrails are not required if, at the side of the aisle, there is a guard that complies with the graspability requirements of handrails.
3. Handrail extensions are not required at the top and bottom of aisle stairs and aisle ramp runs to permit crossovers within the aisles.

1028.13.1 Discontinuous handrails. Where there is seating on both sides of the aisle, the handrails shall be discontinuous with gaps or breaks at intervals not exceeding five rows to facilitate access to seating and to permit crossing from one side of the aisle to the other. These gaps or breaks shall have a clear width of at least 22 inches (559 mm) and not greater than 36 inches (914 mm), measured horizontally, and the handrail shall have rounded terminations or bends.

1028.13.2 Intermediate handrails. Where handrails are provided in the middle of aisle stairs, there shall be an additional intermediate handrail located approximately 12 inches (305 mm) below the main handrail.

1028.14 Assembly guards. Assembly guards shall comply with Sections 1028.14.1 through 1028.14.3.

1028.14.1 Cross aisles. Cross aisles located more than 30 inches (762 mm) above the floor or grade below shall have guards in accordance with Section 1013.

Where an elevation change of 30 inches (762 mm) or less occurs between a cross aisle and the adjacent floor or grade below, guards not less than 26 inches (660 mm) above the aisle floor shall be provided.

Exception: Where the backs of seats on the front of the cross aisle project 24 inches (610 mm) or more above the adjacent floor of the aisle, a guard need not be provided.

1028.14.2 Sightline-constrained guard heights. Unless subject to the requirements of Section 1028.14.3, a fascia or railing system in accordance with the guard requirements of Section 1013 and having a minimum height of 26 inches (660 mm) shall be provided where the floor or footboard elevation is

more than 30 inches (762 mm) above the floor or grade below and the fascia or railing would otherwise interfere with the sightlines of immediately adjacent seating. At bleachers, a guard must be provided where required by ICC 300.

1028.14.3 Guards at the end of aisles. A fascia or railing system complying with the guard requirements of Section 1013 shall be provided for the full width of the aisle where the foot of the aisle is more than 30 inches (762 mm) above the floor or grade below. The fascia or railing shall be a minimum of 36 inches (914 mm) high and shall provide a minimum 42 inches (1067 mm) measured diagonally between the top of the rail and the nosing of the nearest tread.

1028.15 Bench seating. Where bench seating is used, the number of persons shall be based on one person for each 18 inches (457 mm) of length of the bench.

SECTION 1029 EMERGENCY ESCAPE AND RESCUE

1029.1 General. In addition to the means of egress required by this chapter, provisions shall be made for emergency escape and rescue in Group R and I-1 occupancies. Basements and sleeping rooms below the fourth story above grade plane shall have at least one exterior emergency escape and rescue opening in accordance with this section. Where basements contain one or more sleeping rooms, emergency escape and rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Such openings shall open directly into a public way or to a yard or court that opens to a public way.

Exceptions:

1. In other than Group R-3 occupancies, buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
2. In other than Group R-3 occupancies, sleeping rooms provided with a door to a fire-resistance-rated corridor having access to two remote exits in opposite directions.
3. The emergency escape and rescue opening is permitted to open onto a balcony within an atrium in accordance with the requirements of Section 404, provided the balcony provides access to an exit and the dwelling unit or sleeping unit has a means of egress that is not open to the atrium.
4. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue windows.
5. High-rise buildings in accordance with Section 403.

6. Emergency escape and rescue openings are not required from basements or sleeping rooms that have an exit door or exit access door that opens directly into a public way or to a yard, court or exterior exit balcony that opens to a public way.
7. Basements without habitable spaces and having no more than 200 square feet (18.6 m²) in floor area shall not be required to have emergency escape windows.

1029.2 Minimum size. Emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.53 m²).

Exception: The minimum net clear opening for emergency escape and rescue grade-floor openings shall be 5 square feet (0.46 m²).

1029.2.1 Minimum dimensions. The minimum net clear opening height dimension shall be 24 inches (610 mm). The minimum net clear opening width dimension shall be 20 inches (508 mm). The net clear opening dimensions shall be the result of normal operation of the opening.

1029.3 Maximum height from floor. Emergency escape and rescue openings shall have the bottom of the clear opening not greater than 44 inches (1118 mm) measured from the floor.

1029.4 Operational constraints. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates or similar devices are permitted to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with Section 1029.2 and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the escape and rescue opening. Where such bars, grilles, grates or similar devices are installed in existing buildings, smoke alarms shall be installed in accordance with Section 907.2.11 regardless of the valuation of the alteration.

1029.5 Window wells. An emergency escape and rescue opening with a finished sill height below the adjacent ground level shall be provided with a window well in accordance with Sections 1029.5.1 and 1029.5.2.

1029.5.1 Minimum size. The minimum horizontal area of the window well shall be 9 square feet (0.84 m²), with a minimum dimension of 36 inches (914 mm). The area of the window well shall allow the emergency escape and rescue opening to be fully opened.

1029.5.2 Ladders or steps. Window wells with a vertical depth of more than 44 inches (1118 mm) shall be equipped with an approved permanently affixed ladder

or steps. Ladders or rungs shall have an inside width of at least 12 inches (305 mm), shall project at least 3 inches (76 mm) from the wall and shall be spaced not more than 18 inches (457 mm) on center (o.c.) vertically for the full height of the window well. The ladder or steps shall not encroach into the required dimensions of the window well by more than 6 inches (152 mm). The ladder or steps shall not be obstructed by the emergency escape and rescue opening. Ladders or steps required by this section are exempt from the stairway requirements of Section 1009.