

**310.2 Residential Group R-1.** Residential Group R-1 occupancies containing *sleeping units* where the occupants are primarily *transient*, including:

- Hotels
- Motels
- Vacation timeshare properties

**310.3 Residential Group R-2.** Residential Group R-2 occupancies containing *sleeping units* or more than two *dwelling units* where the occupants are primarily permanent, including:

- Apartment houses
- Convents
- Dormitories*
- Fraternities and sororities
- Live/work units*
- Monasteries
- Rooming houses with more than 5 occupants

**310.4 Residential Group R-3.** Residential Group R-3 occupancies where the occupants are primarily permanent and not classified as Group R-1, R-2, R-4 or I, including:

- Alcohol and drug treatment houses with five or fewer residents
- Boarding houses* with five or fewer occupants
- Buildings that do not contain more than two *dwelling units*
- Care facilities that provide accommodations for five or fewer persons receiving care
- Detached one- and two-family dwellings greater than three stories in height, multiple single-family townhouses greater than three stories in height, attached two-family dwellings separated from adjacent units by firewalls, and other one- and two-family dwellings that are outside the scope of the one- and two-family dwelling subcode
- Group homes with five or fewer occupants in accordance with Section 308.2.4
- Rooming houses with five or fewer occupants
- Single residential occupancies, accessory to a dwelling unit, having no more than five roomers or lodgers (Single occupancies, accessory to a dwelling unit, having more than five roomers or lodgers shall be classified as Group R-2 or I-1, as appropriate.)

**310.4.1 Care facilities within a dwelling.** Deleted.

**310.4.2 Lodging houses.** Deleted.

**310.5 Residential Group R-4.** Residential Group R-4 occupancy shall include buildings, structures or portions thereof for more than five but not more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised residential environment, receive *custodial care* and are capable of slow evacuation. Buildings of Group R-4 shall be classified as one of the occupancy conditions specified in Section 310.5.1 or 310.5.2. This group shall include, but not be limited to, the following:

- Alcohol and drug treatment centers
- Boarding houses
- Group homes*
- Halfway houses
- Residential board and care facilities
- Social rehabilitation facilities

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code.

**310.5.1 Condition 1.** This occupancy condition shall include buildings in which all persons receiving custodial care, without any assistance, are capable of responding to an emergency situation to complete building evacuation.

**310.5.2 Condition 2.** This occupancy condition shall include buildings in which there are any persons receiving custodial care who require limited verbal or physical assistance while responding to an emergency situation to complete building evacuation.

**310.6 Residential Group R-5.** Residential Group R-5 occupancies shall include all detached one- and two-family dwellings not more than three stories in height with a separate means of egress and multiple single-family townhouses not more than three stories in height with a separate means of egress designed and constructed in accordance with the *International Residential Code*. This Group shall also include:

- Care facilities that provide accommodations for five or fewer persons receiving care
- Group Homes with five or fewer occupants in accordance with Section 308.2.4
- Rooming houses with five or fewer residents.
- Single residential occupancies, accessory to a dwelling unit, having no more than five roomers or lodgers. (Single occupancies, accessory to a dwelling unit, having more than five roomers or lodgers shall be classified as Group R-2 or I-1, as appropriate.)

## SECTION 311 STORAGE GROUP S

**311.1 Storage Group S.** Storage Group S occupancy includes, among others, the use of a building or structure, or a portion thereof, for storage that is not classified as a hazardous occupancy.

**311.1.1 Accessory storage spaces.** A room or space used for storage purposes that is accessory to another occupancy shall be classified as part of that occupancy.

**311.2 Moderate-hazard storage, Group S-1.** Storage Group S-1 occupancies are buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

- Aerosol products, Levels 2 and 3
- Aircraft hangar (storage and repair)
- Bags: cloth, burlap and paper
- Bamboos and rattan
- Baskets
- Belting: canvas and leather
- Books and paper in rolls or packs
- Boots and shoes
- Buttons, including cloth covered, pearl or bone
- Cardboard and cardboard boxes
- Clothing, woolen wearing apparel
- Cordage
- Dry boat storage (indoor)
- Furniture
- Furs

## OCCUPANCY CLASSIFICATION AND USE

Glues, mucilage, pastes and size  
Grains  
Horns and combs, other than celluloid  
Leather  
Linoleum  
Lumber  
Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.8)  
Photo engravings  
Resilient flooring  
Self-service storage facility (mini-storage)  
Silks  
Soaps  
Sugar  
Tires, bulk storage of  
Tobacco, cigars, cigarettes and snuff  
Upholstery and mattresses  
Wax candles

**311.3 Low-hazard storage, Group S-2.** Storage Group S-2 occupancies include, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic *trim*, such as knobs, handles or film wrapping. Group S-2 storage uses shall include, but not be limited to, storage of the following:

Asbestos  
Beverages up to and including 16-percent alcohol in metal, glass or ceramic containers  
Cement in bags  
Chalk and crayons  
Dairy products in nonwaxed coated paper containers  
Dry cell batteries  
Electrical coils  
Electrical motors  
Empty cans  
Food products  
Foods in noncombustible containers  
Fresh fruits and vegetables in nonplastic trays or containers  
Frozen foods  
Glass  
Glass bottles, empty or filled with noncombustible liquids  
Gypsum board  
Inert pigments  
Ivory  
Meats  
Metal cabinets  
Metal desks with plastic tops and *trim*  
Metal parts  
Metals  
Mirrors  
Oil-filled and other types of distribution transformers  
Parking garages, open or enclosed  
Porcelain and pottery  
Stoves  
Talc and soapstones  
Washers and dryers

## SECTION 312 UTILITY AND MISCELLANEOUS GROUP U

**312.1 General.** Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

Agricultural buildings  
Aircraft hangars, accessory to a one- or two-family residence (see Section 412.4)  
Barns  
Carports  
Communication equipment structures with a *gross floor area* of less than 1,500 square feet (139 m<sup>2</sup>)  
Fences more than 6 feet (1829 mm) in height  
Grain silos, accessory to a residential occupancy  
Livestock shelters  
Private garages  
Retaining walls  
Sheds  
Stables  
Tanks  
Towers

**312.1.1 Greenhouses.** Greenhouses not classified as another occupancy shall be classified as Use Group U.

**SECTION 420****GROUPS I-1, I-2 Assisted Living, R-1, R-2, R-3 and R-4**

**420.1 General.** Occupancies in Groups I-1, R-1, R-2, R-3 and R-4 shall comply with the provisions of Sections 420.1 through 420.10 and other applicable provisions of this code.

**420.2 Separation walls.** Walls separating *dwelling units* in the same building, walls separating *sleeping units* in the same building and walls separating *dwelling* or *sleeping units* from other occupancies contiguous to them in the same building shall be constructed as *fire partitions* in accordance with Section 708.

**420.3 Horizontal separation.** Floor assemblies separating *dwelling units* in the same buildings, floor assemblies separating *sleeping units* in the same building and floor assemblies separating *dwelling* or *sleeping units* from other occupancies contiguous to them in the same building shall be constructed as *horizontal assemblies* in accordance with Section 711.

[F] **420.4 Automatic sprinkler system.** Group R occupancies shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.2.8. Group I-1 occupancies shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.2.6. Quick-response or residential automatic sprinklers shall be installed in accordance with Section 903.3.2.

[F] **420.5 Fire alarm systems and smoke alarms.** Fire alarm systems and smoke alarms shall be provided in Group I-1, R-1 and R-2 occupancies in accordance with Sections 907.2.6, 907.2.8 and 907.2.9, respectively. Single- or multiple-station smoke alarms shall be provided in Groups I-1, R-2, R-3 and R-4 in accordance with Section 907.2.10.

**420.6 Smoke barriers in Group I-1, Condition 2.** Smoke barriers shall be provided in Group I-1, Condition 2 to subdivide every story used by persons receiving care, treatment or sleeping and to provide other stories with an occupant load of 50 or more persons, into not fewer than two smoke compartments. Such stories shall be divided into smoke compartments with an area of not more than 22,500 square feet (2092 m<sup>2</sup>) and the distance of travel from any point in a smoke compartment to a smoke barrier door shall not exceed 200 feet (60 960 mm). The smoke barrier shall be in accordance with Section 709.

**420.6.1 Refuge area.** Refuge areas shall be provided within each smoke compartment. The size of the refuge area shall accommodate the occupants and care recipients from the adjoining smoke compartment. Where a smoke compartment is adjoined by two or more smoke compartments, the minimum area of the refuge area shall accommodate the largest occupant load of the adjoining compartments. The size of the refuge area shall provide the following:

1. Not less than 15 net square feet (1.4 m<sup>2</sup>) for each care recipient.
2. Not less than 6 net square feet (0.56 m<sup>2</sup>) for other occupants.

Areas or spaces permitted to be included in the calculation of the refuge area are corridors, lounge or dining areas and other low-hazard areas.

**420.7 Group I-2 assisted living housing units.** In Group I-2 occupancies, where a fire-resistance corridor is provided in areas where assisted living residents are housed, shared living spaces, group meeting or multipurpose therapeutic spaces open to the corridor shall be in accordance with all of the following criteria:

1. The walls and ceilings of the space are constructed as required for corridors.
2. The spaces are not occupied as resident sleeping rooms, treatment rooms, incidental uses in accordance with Section 509, or hazardous uses.
3. The open space is protected by an automatic fire detection system installed in accordance with Section 907.
4. Deleted.
5. In Group I-2, Condition 1, the corridors onto which the spaces open, in the same smoke compartment, are protected by an automatic fire detection system installed in accordance with Section 907, or the smoke compartment in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with Section 903.3.2.
6. The space is arranged so as not to obstruct access to the required exits.

**420.8 Group I-1 cooking facilities.** In Group I-1 occupancies, rooms or spaces that contain cooking facilities with domestic cooking appliances shall be in accordance with all of the following criteria:

1. In Group I-1, Condition 1 occupancies, the number of care recipients served by one cooking facility shall not be greater than 30.
2. In Group I-1, Condition 2 occupancies, the number of care recipients served by one cooking facility and within the same smoke compartment shall not be greater than 30.
3. The types of domestic cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves.
4. The space containing the domestic cooking facilities shall be arranged so as not to obstruct access to the required exit.
5. Domestic cooking hoods installed and constructed in accordance with Section 505 of the *International Mechanical Code* shall be provided over cooktops or ranges.
6. Cooktops and ranges shall be protected in accordance with Section 904.13.
7. A shutoff for the fuel and electrical supply to the cooking equipment shall be provided in a location that is accessible only to staff.

8. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.
9. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906 and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance.

**420.8.1 Cooking facilities open to the corridor.** Cooking facilities located in a room or space open to a corridor, aisle or common space shall comply with Section 420.8.

**420.9 Group R cooking facilities.** In Group R occupancies, cooking appliances used for domestic cooking operations shall be in accordance with Section 917.2 of the *International Mechanical Code*.

**420.10 Group R-2 dormitory cooking facilities.** Domestic cooking appliances for use by residents of Group R-2 college dormitories shall be in accordance with Sections 420.10.1 and 420.10.2.

**420.10.1 Cooking appliances.** Where located in Group R-2 college dormitories, domestic cooking appliances for use by residents shall be in compliance with all of the following:

1. The types of domestic cooking appliances shall be limited to ovens, cooktops, ranges, warmers, coffee makers and microwaves.
2. Domestic cooking appliances shall be limited to approved locations.
3. Cooktops and ranges shall be protected in accordance with Section 904.13.
4. Cooktops and ranges shall be provided with a domestic cooking hood installed and constructed in accordance with Section 505 of the *International Mechanical Code*.

**420.10.2 Cooking appliances in sleeping rooms.** Cooktops, ranges and ovens shall not be installed or used in sleeping rooms.

## SECTION 421 HYDROGEN FUEL GAS ROOMS

**[F] 421.1 General.** Where required by the *International Fire Code*, hydrogen fuel gas rooms shall be designed and constructed in accordance with Sections 421.1 through 421.7.

**[F] 421.2 Location.** Hydrogen fuel gas rooms shall not be located below grade.

**[F] 421.3 Design and construction.** Hydrogen fuel gas rooms not classified as Group H shall be separated from other areas of the building in accordance with Section 509.1.

**[F] 421.3.1 Pressure control.** Hydrogen fuel gas rooms shall be provided with a ventilation system designed to maintain the room at a negative pressure in relation to surrounding rooms and spaces.

**[F] 421.3.2 Windows.** Operable windows in interior walls shall not be permitted. Fixed windows shall be permitted where in accordance with Section 716.

**[F] 421.4 Exhaust ventilation.** Hydrogen fuel gas rooms shall be provided with mechanical exhaust ventilation in accordance with the applicable provisions of Section 502.16.1 of the *International Mechanical Code*.

**[F] 421.5 Gas detection system.** Hydrogen fuel gas rooms shall be provided with a *gas detection system* that complies with Sections 421.5.1, 421.5.2, and 916.

**[F] 421.5.1 System activation.** Activation of a gas detection alarm shall result in both of the following:

1. Initiation of distinct audible and visible alarm signals both inside and outside of the hydrogen fuel gas room.
2. Automatic activation of the mechanical exhaust ventilation system.

**[F] 421.5.2 Failure of the gas detection system.** Failure of the *gas detection system* shall automatically activate the mechanical exhaust ventilation system, stop hydrogen generation, and cause a trouble signal to sound at an approved location.

**[F] 421.6 Explosion control.** Explosion control shall be provided where required by Section 414.5.1.

**[F] 421.7 Standby power.** Mechanical *ventilation* and gas detection systems shall be provided with a standby power system in accordance with Section 2702.

## SECTION 422 AMBULATORY CARE FACILITIES

**422.1 General.** Occupancies classified as *ambulatory care facilities* shall comply with the provisions of Sections 422.1 through 422.6 and other applicable provisions of this code.

**422.2 Separation.** *Ambulatory care facilities* where the potential for four or more care recipients are to be *incapable of self-preservation* at any time shall be separated from adjacent spaces, *corridors* or tenants with a *fire partition* installed in accordance with Section 708.

**422.3 Smoke compartments.** Where the aggregate area of one or more *ambulatory care facilities* is greater than 10,000 square feet (929 m<sup>2</sup>) on one *story*, the *story* shall be provided with a *smoke barrier* to subdivide the *story* into not fewer than two *smoke compartments*. The area of any one such *smoke compartment* shall be not greater than 22,500 square feet (2090 m<sup>2</sup>). The distance of travel from any point in a *smoke compartment* to a *smoke barrier* door shall be not greater than 200 feet (60 960 mm). The *smoke barrier* shall be installed in accordance with Section 709 with the exception that *smoke barriers* shall be continuous from outside wall to an outside wall, a floor to a floor, or from a *smoke barrier* to a *smoke barrier* or a combination thereof.

**422.3.1 Means of egress.** Where ambulatory care facilities require smoke compartmentation in accordance with Section 422.3, the fire safety evacuation plans provided in accordance with Section 1002.2 shall identify the building components necessary to support a *defend-in-place* emergency response in accordance with Sections 403 and 404 of the *International Fire Code*.

exceeding 40 pounds (18 kg) shall be installed so that their tops are not more than 5 feet (1524 mm) above the floor.

**[F] 906.9.2 Extinguishers weighing more than 40 pounds.** Hand-held portable fire extinguishers having a gross weight exceeding 40 pounds (18 kg) shall be installed so that their tops are not more than 3.5 feet (1067 mm) above the floor.

**[F] 906.9.3 Floor clearance.** The clearance between the floor and the bottom of installed hand-held portable fire extinguishers shall be not less than 4 inches (102 mm).

**[F] 906.10 Wheeled units.** Wheeled fire extinguishers shall be conspicuously located in a designated location.

## SECTION 907 FIRE ALARM AND DETECTION SYSTEMS

**[F] 907.1 General.** This section covers the application, installation, performance and maintenance of fire alarm systems and their components.

**[F] 907.1.1 Construction documents.** *Construction documents* for fire alarm systems shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code, and the *International Fire Code*.

**907.1.2 Fire alarm shop drawings.** Shop drawings for fire alarm systems shall be submitted for review and approval prior to system installation, and shall include, but not be limited to, all of the following where applicable to the system being installed:

1. A floor plan that indicates the use of all rooms.
2. Locations of alarm-initiating devices.
3. Locations of alarm notification appliances, including candela ratings for visible alarm notification appliances.
4. Design minimum audibility level for occupant notification.
5. Location of fire alarm control unit, transponders and notification power supplies.
6. Annunciators.
7. Power connection.
8. Battery calculations.
9. Conductor type and sizes.
10. Voltage drop calculations.
11. Manufacturers' data sheets indicating model numbers and listing information for equipment, devices and materials.
12. Details of ceiling height and construction.
13. The interface of fire safety control functions.
14. Classification of the supervising station.

**[F] 907.1.3 Equipment.** Systems and components shall be listed and approved for the purpose for which they are installed.

**[F] 907.2 Where required—new buildings and structures.** An approved fire alarm system installed in accordance with

the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2.1 through 907.2.23 and provide occupant notification in accordance with Section 907.5, unless other requirements are provided by another section of this code.

Not fewer than one manual fire alarm box shall be provided in an *approved* location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or waterflow detection devices. Where other sections of this code allow elimination of fire alarm boxes due to sprinklers, a single fire alarm box shall be installed.

**Exceptions:**

1. The manual fire alarm box is not required for fire alarm systems dedicated to elevator recall control and supervisory service.
2. The manual fire alarm box is not required for Group R-2 occupancies unless required by the fire protection subcode official to provide a means for fire watch personnel to initiate an alarm during a sprinkler system impairment event. Where provided, the manual fire alarm box shall not be located in an area that is open to the public.

**[F] 907.2.1 Group A.** A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the occupant load due to the assembly occupancy is 300 or more, or where the Group A occupant load is more than 100 persons above or below the *lowest level of exit discharge*. Group A occupancies not separated from one another in accordance with Section 707.3.10 shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

**Exception:** Manual fire alarm boxes are not required where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

**[F] 907.2.1.1 System initiation in Group A occupancies with an occupant load of 1,000 or more.** Activation of the fire alarm in Group A occupancies with an *occupant load* of 1,000 or more shall initiate a signal using an emergency voice/alarm communications system in accordance with Section 907.5.2.2.

**Exception:** Where *approved*, the prerecorded announcement is allowed to be manually deactivated for a period of time, not to exceed 3 minutes, for the sole purpose of allowing a live voice announcement from an *approved, constantly attended location*.

**907.2.1.2 Group A-2 nightclubs.** An automatic fire detection system shall be installed throughout all Group A-2 nightclubs with an occupant load of 100 or more. If the alarm is activated by smoke detectors, it shall be activated by either two cross-zoned smoke detectors

within a single protected area or a single smoke detector monitored by an alarm verification zone or an approved equivalent method and the smoke detectors shall be of a type designed to reduce the possibility of false notifications based on the conditions present in the area protected. The automatic fire detection system shall be tied to the performance sound system and to the house lights in such a way that activation of the fire detection system mutes the performance sound system and restores the intensity of illumination to that required by Section 1008.2.

**Exception:** Automatic fire detection systems are not required in buildings provided with an automatic sprinkler system throughout.

**[F] 907.2.1.3 Emergency voice/alarm communication captions.** Stadiums, arenas and grandstands required to caption audible public announcements shall be in accordance with Section 907.5.2.2.4.

**[F] 907.2.2 Group B.** A manual fire alarm system shall be installed in Group B occupancies where one of the following conditions exists:

1. The combined Group B *occupant load* of all floors is 500 or more.
2. The Group B *occupant load* is more than 100 persons above or below the lowest *level of exit discharge*.
3. The *fire area* contains an ambulatory care facility.

**Exception:** Manual fire alarm boxes are not required where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

**[F] 907.2.2.1 Ambulatory care facilities.** *Fire areas* containing ambulatory care facilities shall be provided with an electronically supervised automatic smoke detection system installed within the ambulatory care facility and in public use areas outside of tenant spaces, including public *corridors* and elevator lobbies.

**Exception:** Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, provided that the occupant notification appliances will activate throughout the notification zones upon sprinkler waterflow.

**[F] 907.2.3 Group E.** A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies. Where *automatic sprinkler systems* or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

**Exceptions:**

1. A manual fire alarm system is not required in Group E occupancies with an *occupant load* of 50 or less.

2. Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of 100 or less, provided that activation of the manual fire alarm system initiates an *approved* occupant notification signal in accordance with Section 907.5.

3. Manual fire alarm boxes are not required in Group E occupancies where all of the following apply:

- 3.1. Interior *corridors* are protected by smoke detectors with alarm verification.
- 3.2. Auditoriums, cafeterias, gymnasiums and similar areas are protected by *heat detectors* or other *approved* detection devices.
- 3.3. Shops and laboratories involving dusts or vapors are protected by *heat detectors* or other *approved* detection devices.

4. Manual fire alarm boxes shall not be required in Group E occupancies where all of the following apply:

- 4.1. The building is equipped throughout with an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1.
- 4.2. The emergency voice/alarm communication system will activate on sprinkler waterflow.
- 4.3. Manual activation is provided from a normally occupied location.

**[F] 907.2.4 Group F.** A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group F occupancies where both of the following conditions exist:

1. The Group F occupancy is two or more *stories* in height.
2. The Group F occupancy has a combined *occupant load* of 500 or more above or below the lowest *level of exit discharge*.

**Exception:** Manual fire alarm boxes are not required where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

**[F] 907.2.5 Group H.** A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group H-5 occupancies and in occupancies used for the manufacture of organic coatings. An automatic smoke detection system shall be installed for highly toxic gases, organic peroxides and oxidizers in accordance with Chapters 60, 62 and 63, respectively, of the *International Fire Code*.

**[F] 907.2.6 Group I.** A manual fire alarm system that activates the occupant notification system in accordance with

**1005.6 Egress convergence.** Where the *means of egress* from stories above and below converge at an intermediate level, the capacity of the *means of egress* from the point of convergence shall be not less than the largest minimum width or the sum of the required capacities for the *stairways* or *ramps* serving the two adjacent stories, whichever is larger.

**1005.7 Encroachment.** Encroachments into the required *means of egress* width shall be in accordance with the provisions of this section.

**1005.7.1 Doors.** Doors, when fully opened, shall not reduce the required width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half.

**Exceptions:**

1. Surface-mounted latch release hardware shall be exempt from inclusion in the 7-inch maximum (178 mm) encroachment where both of the following conditions exist:
  - 1.1. The hardware is mounted to the side of the door facing away from the adjacent wall where the door is in the open position.
  - 1.2. The hardware is mounted not less than 34 inches (865 mm) nor more than 48 inches (1219 mm) above the finished floor.
2. The restrictions on door swing shall not apply to doors within individual *dwelling units* and *sleeping units* of Group R-2 occupancies and *dwelling units* of Group R-3 occupancies.

**1005.7.2 Other projections.** *Handrail* projections shall be in accordance with the provisions of Section 1014.8. Other nonstructural projections such as trim and similar decorative features shall be permitted to project into the required width not more than 1½ inches (38 mm) on each side.

**Exception:** Projections are permitted in corridors within Group I-2 Condition 1 in accordance with Section 407.4.3.

**1005.7.3 Protruding objects.** Protruding objects shall comply with the applicable requirements of Section 1003.3.

## SECTION 1006 NUMBER OF EXITS AND EXIT ACCESS DOORWAYS

**1006.1 General.** The number of *exits* or *exit access doorways* required within the *means of egress* system shall comply with the provisions of Section 1006.2 for spaces, including *mezzanines*, and Section 1006.3 for *stories* or occupied roofs.

**1006.2 Egress from spaces.** Rooms, areas or spaces, including *mezzanines*, within a *story* or *basement* shall be provided with the number of *exits* or access to *exits* in accordance with this section.

**1006.2.1 Egress based on occupant load and common path of egress travel distance.** Two *exits* or *exit access doorways* from any space shall be provided where the design *occupant load* or the *common path of egress travel*

distance exceeds the values listed in Table 1006.2.1. The cumulative *occupant load* from adjacent rooms, areas or spaces shall be determined in accordance with Section 1004.2.

**Exceptions:**

1. The number of *exits* from foyers, lobbies, vestibules or similar spaces need not be based on cumulative *occupant loads* for areas discharging through such spaces, but the capacity of the *exits* from such spaces shall be based on applicable cumulative *occupant loads*.
2. *Care suites* in Group I-2 occupancies complying with Section 407.4.

**1006.2.1.1 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.

**1006.2.2 Egress based on use.** The numbers of *exits* or access to *exits* shall be provided in the uses described in Sections 1006.2.2.1 through 1006.2.2.6.

**1006.2.2.1 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<sup>2</sup>) 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.

**1006.2.2.2 Refrigeration machinery rooms.** Machinery rooms larger than 1,000 square feet (93 m<sup>2</sup>) shall have not less than two *exits* or *exit access doorways*. 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 the room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an *exit* or *exit access doorway*. An increase in *exit access* travel distance is permitted in accordance with Section 1017.1.

*Exit* and *exit access doorways* shall swing in the direction of egress travel, regardless of the *occupant load* served. *Exit* and *exit access doorways* shall be tight fitting and self-closing.

**1006.2.2.3 Refrigerated rooms or spaces.** Rooms or spaces having a floor area larger than 1,000 square feet (93 m<sup>2</sup>), 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 doorways*.

*Exit access* travel distance shall be determined as specified in Section 1017.1, but all portions of a refrigerated room or space shall be within 150 feet (45 720

## MEANS OF EGRESS

mm) of an *exit* or *exit access doorway* 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 *International Mechanical Code*.

**1006.2.2.4 Group I-4 means of egress.** Group I-4 facilities, rooms or spaces where care is provided for more than 10 children that are 2½ years of age or less, shall have access to not less than two *exits* or *exit access doorways*.

**1006.2.2.5 Vehicular ramps.** Vehicular ramps shall not be considered as an *exit access ramp* unless pedestrian facilities are provided.

**1006.2.2.6 Group R-4.** Where Group R-4 occupancies are permitted by Section 903.2.8 to be protected by an *automatic sprinkler system* installed in accordance with Section 903.3.1.3, the *exit access* travel distance for Group R-4 shall be not more than 75 feet (22 860 mm).

**1006.3 Egress from stories or occupied roofs.** The *means of egress* system serving any *story* or occupied roof shall be provided with the number of separate and distinct *exits* or access to *exits* based on the aggregate *occupant load* served in accordance with this section. Where *stairways* serve more than one *story*, only the occupant load of each *story* considered indi-

vidually shall be used in calculating the required number of *exits* or access to *exits* serving that *story*.

**1006.3.1 Adjacent story.** The path of egress travel to an *exit* shall not pass through more than one adjacent *story*.

**Exception:** The path of egress travel to an *exit* shall be permitted to pass through more than one adjacent *story* in any of the following:

1. In Group R-1, R-2 or R-3 occupancies, exit access stairways and ramps connecting four stories or less serving and contained within an individual dwelling unit, sleeping unit or live/work unit.
2. Exit access stairways serving and contained within a Group R-3 congregate residence or a Group R-4 facility.
3. Exit access stairways and ramps in open parking garages that serve only the parking garage.
4. Exit access stairways and ramps serving open-air assembly seating complying with the exit access travel distance requirements of Section 1029.7.
5. Exit access stairways and ramps 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.

**TABLE 1006.2.1  
SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY**

| OCCUPANCY                   | MAXIMUM OCCUPANT LOAD OF SPACE | MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet) |         |                              |
|-----------------------------|--------------------------------|--|---------|------------------------------|
|                             |                                | Without Sprinkler System (feet)            |         | With Sprinkler System (feet) |
|                             |                                | Occupant Load                              |         |                              |
|                             |                                | OL ≤ 30                                    | OL > 30 |                              |
| A <sup>c</sup> , E, M       | 49                             | 75   | 75      | 75 <sup>a</sup>              |
| B                           | 49                             | 100  | 75      | 100 <sup>a</sup>             |
| F                           | 49                             | 75   | 75      | 100 <sup>a</sup>             |
| H-1, H-2, H-3               | 3                              | NP   | NP      | 25 <sup>b</sup>              |
| H-4, H-5                    | 10                             | NP   | NP      | 75 <sup>b</sup>              |
| I-1, I-2 <sup>d</sup> , I-4 | 10                             | NP   | NP      | 75 <sup>a</sup>              |
| I-3                         | 10                             | NP   | NP      | 100 <sup>a</sup>             |
| R-1                         | 10                             | NP   | NP      | 75 <sup>a</sup>              |
| R-2                         | 20                             | NP   | NP      | 125 <sup>a</sup>             |
| R-3 <sup>c</sup>            | 20                             | NP   | NP      | 125                          |
| R-4 <sup>c</sup>            | 20                             | NP   | NP      | 125 <sup>e</sup>             |
| S <sup>f</sup>              | 29                             | 100  | 75      | 100 <sup>a</sup>             |
| U                           | 49                             | 100  | 75      | 75 <sup>a</sup>              |

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

- a. 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.
- b. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.
- c. For a room or space used for assembly purposes having fixed seating, see Section 1029.8.
- d. For the travel distance limitations in Group I-2, see Section 407.4.
- e. The common path of egress travel distance shall only apply in a Group R-3 occupancy located in a mixed occupancy building.
- f. The length of common path of egress travel distance in a Group S-2 open parking garage shall be not more than 100 feet.
- g. For the travel distance limitations in Group R-4 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3, see Section 1006.2.2.6.



**1103.2.3.1.1** For the purposes of applying this exemption, a townhouse shall be a single dwelling unit with two or more stories of dwelling space, exclusive of basement or attic, where each dwelling unit extends from foundation to roof. The dwelling unit shall have an independent entrance that shall serve one dwelling unit only at or near grade; most or all of the sleeping rooms shall be on one story; and most or all of the remaining habitable space, such as kitchen, living, and dining areas, shall be on another story; or

**1103.2.3.2** Buildings of Group R-2, R-3, R-4 or R-5 with one, two, or three dwelling units in a single structure;

**1103.2.3.2.1** For the purposes of determining the number of dwelling units in a single structure, fire walls or party walls shall not constitute separate buildings.

**1103.2.3.2.2 Exception:** Townhouses or multistory dwelling units for which credit is sought for low- or moderate-income housing through the Council on Affordable Housing (COAH) and that are attached to at least one other dwelling unit shall comply with this chapter.

**1103.2.4 Utility buildings.** Group U occupancies are not required to comply with this chapter other than the following:

1. In agricultural buildings, access is required to paved work areas and areas open to the general public.
2. Private garages or carports that contain required *accessible* parking.

**1103.2.5 Construction sites.** Structures, *sites* and equipment directly associated with the actual processes of construction including, but not limited to, scaffolding, bridging, materials hoists, materials storage or construction trailers are not required to comply with this chapter.

**Exception:** Construction site trailers used as sales offices shall be accessible.

**1103.2.6 Raised areas.** Raised areas used primarily for purposes of security, life safety or fire safety including, but not limited to, observation galleries, prison guard towers, fire towers or lifeguard stands are not required to comply with this chapter.

**1103.2.7 Limited access spaces.** Spaces accessed only by ladders, catwalks, crawl spaces, freight elevators or very narrow passageways are not required to comply with this chapter.

**1103.2.8 Areas in places of religious worship.** Raised or lowered areas, or portions of areas, in *places of religious worship* that are less than 300 square feet (30 m<sup>2</sup>) in area and located 7 inches (178 mm) or more above or below the finished floor and used primarily for the performance of religious ceremonies are not required to comply with this chapter.

**1103.2.9 Equipment spaces.** Spaces frequented only by service personnel for maintenance, repair or occasional

monitoring of equipment are not required to comply with this chapter.

**1103.2.10 Highway tollbooths.** Highway tollbooths where the access is provided only by bridges above the vehicular traffic or underground tunnels are not required to comply with this chapter.

**1103.2.11 Residential Group R-1.** Buildings of Group R-1 containing not more than five *sleeping units* for rent or hire that are also occupied as the residence of the proprietor are not required to comply with this chapter.

**1103.2.12 Day care facilities.** Where a day care facility is part of a *dwelling unit*, only the portion of the structure utilized for the day care facility is required to comply with this chapter.

**1103.2.13 Detention and correctional facilities.** In detention and correctional facilities, *common use* areas that are used only by inmates or detainees and security personnel, and that do not serve holding cells or housing cells required to be *Accessible units*, are not required to comply with this chapter.

**1103.2.14 Walk-in coolers and freezers.** Walk-in cooler and freezer equipment accessed only from employee work areas is not required to comply with this chapter.

## SECTION 1104 ACCESSIBLE ROUTE

**1104.1 Site arrival points.** At least one *accessible route* within the *site* shall be provided from public transportation stops, *accessible* parking, *accessible* passenger loading zones, and public streets or sidewalks to the *accessible* building entrance served.

**Exception:** An *accessible route* shall not be required between *site* arrival points and the building or *facility* entrance if the only means of access between them is a vehicular way not providing for pedestrian access.

**1104.2 Within a site.** At least one *accessible route* shall connect *accessible* buildings, *accessible* facilities, *accessible* elements and *accessible* spaces that are on the same *site*.

**Exceptions:**

1. An *accessible route* is not required between *accessible* buildings, *accessible* facilities, *accessible* elements and *accessible* spaces that have, as the only means of access between them, a vehicular way not providing for pedestrian access.
2. An *accessible route* to recreational facilities shall only be required to the extent specified in Section 1110.

**1104.3 Connected spaces.** Where a building or portion of a building is required to be *accessible*, at least one *accessible route* shall be provided to each portion of the building, to *accessible* building entrances connecting *accessible* pedestrian walkways and to the *public way*.

**Exceptions:**

1. *Stories* and *mezzanines* exempted by Section 1104.4.

2. In a building, room or space used for assembly purposes with *fixed seating*, an *accessible route* shall not be required to serve levels where *wheelchair spaces* are not provided.
3. Vertical access to elevated employee work stations within a courtroom complying with Section 1108.4.1.4.
4. An *accessible route* to recreational facilities shall only be required to the extent specified in Section 1110.

**1104.3.1 Employee work areas.** *Common use circulation paths* within *employee work areas* shall be *accessible routes*.

**Exceptions:**

1. *Common use circulation paths*, located within *employee work areas* that are less than 1,000 square feet (93 m<sup>2</sup>) in size and defined by permanently installed partitions, counters, casework or furnishings, shall not be required to be *accessible routes*.
2. *Common use circulation paths*, located within *employee work areas*, that are an integral component of equipment, shall not be required to be *accessible routes*.
3. *Common use circulation paths*, located within exterior *employee work areas* that are fully exposed to the weather, shall not be required to be *accessible routes*.

**1104.3.2 Press boxes.** Press boxes in a building, room or space used for assembly purposes shall be on an *accessible route*.

**Exceptions:**

1. An *accessible route* shall not be required to press boxes in *bleachers* that have a single point of entry from the *bleachers*, provided that the aggregate area of all press boxes for each playing field is not more than 500 square feet (46 m<sup>2</sup>).
2. An *accessible route* shall not be required to free-standing press boxes that are more than 12 feet (3660 mm) above grade provided that the aggregate area of all press boxes for each playing field is not more than 500 square feet (46 m<sup>2</sup>).

**1104.4 Multilevel nonresidential buildings and multilevel buildings of Group R-1.**

**1104.4.1 Small buildings.** Small buildings, defined as those with a total gross enclosed floor area of less than 10,000 square feet, shall be required to have at least one accessible entrance on the ground (or first) floor and accessible interior building features on all floors. Except as provided in Sections 1104.4.1.1 — 1104.4.4.1.5, small buildings that are not more than two stories shall not be required to have an elevator(s) to provide a vertical accessible route between floors. Small buildings that are three or more stories shall be required to have an elevator(s) to provide a vertical accessible route between floors; however, in such buildings, floors that are less than 3,000

square feet or floors with only mechanical equipment shall not be required to be served by an elevator.

**1104.4.1.1** Regardless of the square footage of the buildings or floors, buildings of two or more stories that are owned and occupied by public entities shall provide a vertical accessible route between floors.

**1104.4.1.2** Regardless of the square footage of the buildings or floors, buildings of two or more stories that house public transit stations or airport passenger terminals shall provide a vertical accessible route between floors.

**1104.4.1.3** Regardless of the square footage of the buildings or floors, buildings of two or more stories that house the professional offices of health care providers shall provide a vertical accessible route between floors.

**1104.4.1.4** Regardless of the square footage of the buildings or floors, buildings of two or more stories that house shopping centers or shopping malls shall provide a vertical accessible route between floors.

**1104.4.1.4.1** For the purposes of applying this requirement, a shopping center or shopping mall shall mean a building or a series of buildings on a common site, under common ownership or control, or developed as one project or as a series of related projects housing five or more sales or rental establishments.

**1104.4.2 Large buildings.** Large buildings, defined as those with a total gross enclosed floor area of 10,000 square feet or more, shall provide the accessible building features required of small buildings in Section 1104.4.1. In addition, large buildings shall be required to have an elevator(s) to provide a vertical accessible route between floors; however, in such buildings, floors that are less than 3,000 square feet or floors with only mechanical equipment shall not be required to be served by an elevator.

**1104.4.2.1** Where facilities for employees, including rest rooms, lunch rooms, and lockers, and public facilities, including rest rooms and drinking fountains, are provided on a floor or mezzanine that is not required to be served by an elevator and where no vertical accessible route is provided, the facilities provided on the floor or mezzanine must also be provided on the accessible level.

**1104.4.3** For the purposes of applying these provisions, buildings separated by firewalls with penetrations intended for human passage shall not constitute separate buildings.

**1104.4.4** The following provisions shall apply to a nonresidential building required to be accessible, whether a large building or a small building.

**1104.4.4.1** An accessible route available to the general public shall not pass through kitchens, storage rooms, or similar spaces.

**1104.4.4.2** In buildings, facilities, or portions thereof that primarily serve children, accessible facilities that comply with the provisions of this subchapter for use by adults shall be provided.

apply. In Section 2.6.6.2 of TIA 222, the horizontal extent of Topographic Category 2, escarpments, shall be 16 times the height of the escarpment.

**Exception:** Single free-standing poles used to support antennas not greater than 75 feet (22 860 mm), measured from the top of the pole to grade, shall not be required to be noncombustible.

**[BS] 3108.2 Location and access.** Towers shall be located such that guy wires and other accessories shall not cross or encroach on any street or other public space, or over above-ground electric utility lines, or encroach on any privately owned property without the written consent of the owner of the encroached-upon property, space or above-ground electric utility lines. Towers shall be equipped with climbing and working facilities in compliance with TIA-222. Access to the tower sites shall be limited as required by applicable OSHA, FCC and EPA regulations.

### SECTION 3109 SWIMMING POOLS, SPAS AND HOT TUBS

**3109.1 General.** The design and construction of pools, spas, hot tubs and enclosures shall comply with the *International Swimming Pool and Spa Code* listed in Chapter 35.

**3109.2 Amendments to the *International Swimming Pool and Spa Code*.** The following amendments shall be made to the *International Swimming Pool and Spa Code*:

1. Chapter 1, Scope and Administration, shall be deleted in its entirety and “See the administrative provisions of *N.J.A.C. 5:23*.” shall be inserted. In addition, any referenced section of Chapter 1 shall be deleted throughout the code and “the administrative provisions of the *Uniform Construction Code (N.J.A.C. 5:23)*” shall be inserted.
  2. Chapter 2, Definitions, shall be amended as follows:
    - 2.1. In Section 201.3, Terms defined in other codes, “*International Plumbing Code*” shall be deleted and “plumbing subcode (*N.J.A.C. 5:23-3.15*)” shall be inserted.
    - 2.2. In Section 202, Definitions:
      - 2.2.1. The definition of “alteration” shall be deleted.
      - 2.2.2. The definition of “code official” shall be deleted and the following shall be inserted: “Construction Official. A qualified person appointed by the municipal appointing authority or the commissioner pursuant to the act and the regulations to enforce and administer the regulations within the jurisdiction of the enforcing agency.”
      - 2.2.3. The definition of “existing pool or spa” shall be deleted.
      - 2.2.4. The definition of “owner” shall be deleted and the following shall be inserted: “Owner. The owner or
- owners in fee of the property of a lesser estate therein, a mortgagee or vendee in possession, an assignee of rents, receiver, executor, trustee, lessee or any other person, firm or corporation, directly or indirectly in control of a building, structure or real property and shall include any subdivision thereof of the State.”
- 2.2.5. The definitions of “permit” and “repair” shall be deleted.
3. Chapter 3, General Compliance, shall be amended as follows:
    - 3.1. In Section 302.1, Electrical, “or the *International Residential Code*, as applicable in accordance with Section 102.7.1” shall be deleted.
    - 3.2. In Section 302.2, Water service drainage, “*International Plumbing Code*” shall be deleted and “plumbing subcode (*N.J.A.C. 5:23-3.15*)” shall be inserted.
    - 3.3. In Sections 302.5, Backflow prevention, and 302.6, Waste-water discharge, “*International Plumbing Code* or the *International Residential Code*, as applicable in accordance with Section 102.7.1” shall be deleted and “plumbing subcode (*N.J.A.C. 5:23-3.15*)” shall be inserted.
    - 3.4. Section 305, Barrier requirements, shall be amended as follows:
      - 3.4.1. In Section 305.1, General, in the second sentence, “and swimming pools are equipped with a powered safety cover that complies with ASTM F1346” shall be deleted. Also in the second sentence, “hot tubs or pools” shall be replaced with “or hot tubs”.
      - 3.4.2. Section 305.4, Structure wall as a barrier, shall be deleted.
      - 3.4.3. In Section 305.5, Onground residential pool structure as a barrier, in Item 3, “capable of being secured, locked or removed to prevent access except where the ladder or steps are” shall be deleted.
    - 3.5. In Section 306.1, General, “in accordance with Section 102.7.1” shall be deleted.
    - 3.6. Sections 306.3, Step risers and treads, and 306.4, Deck steps handrail required, shall be deleted.
    - 3.7. In Section 306.9.1, Hose bibbs, “*International Plumbing Code* or the *International Residential Code*, as applicable in accordance with Section 102.7.1” shall be deleted and “plumbing subcode (*N.J.A.C. 5:23-3.15*)” shall be inserted.

3.8. In Sections 307.1.1, Glazing in hazardous locations, 307.2.2, Materials and structural design, 307.1.3, Roofs or canopies, 316.4, Installation, and 316.6.1, Installation, “in accordance with Section 102.7.1” shall be deleted.

3.9. In Section 318.2, Protection of potable water supply, “*International Residential Code* or the *International Plumbing Code* or, as applicable in accordance with Section 102.7.1” shall be deleted and “plumbing subcode (*N.J.A.C. 5:23-3.15*)” shall be inserted.

3.10. In Section 321.4, Residential pool and deck illumination, “or the *International Residential Code*, as applicable in accordance with Section 102.7.1” shall be deleted.

4. Chapter 4, Public swimming pools, shall be amended as follows:

4.1. In Section 410.1, Dressing and sanitary facilities, “*International Plumbing Code*” shall be deleted and “plumbing subcode (*N.J.A.C. 5:23-3.15*)” shall be inserted.

5. Amendments to Chapter 6, Aquatic recreation facilities, shall be amended as follows:

5.1. In Section 601.1, Scope, the following sentence shall be added to the end of the paragraph, “For purposes of enforcement, Class D-2 and Class D-6 public pools shall be regulated by this chapter and *N.J.A.C. 5:23*; all other Class D public pools shall be regulated by *N.J.A.C. 5:14A*.”

5.2. In Section 609.1, General, “Section 609.2 through 609.9” shall be deleted and “the plumbing subcode (*N.J.A.C. 5:23-3.15*)” shall be inserted.

5.3. Sections 609.2, Number of fixtures, 609.3, Showers, 609.4, Soap dispensers, 606.5, Toilet tissue holder, 609.6, Lavatory mirror, 606.7, Sanitary napkin receptacles, 609.8, Sanitary napkin dispensers, and 609.9, Infant care, shall be deleted.

### SECTION 3110 AUTOMATIC VEHICULAR GATES

**3110.1 General.** *Automatic vehicular gates* shall comply with the requirements of Sections 3110.2 and 3110.3 and other applicable sections of this code.

**3110.2 Vehicular gates intended for automation.** *Vehicular gates* intended for automation shall be designed, constructed and installed to comply with the requirements of ASTM F2200.

**3110.3 Vehicular gate openers.** *Vehicular gate* openers, where provided, shall be *listed* in accordance with UL 325.

### SECTION 3111 SOLAR ENERGY SYSTEMS

**3111.1 General.** Solar energy systems shall comply with the requirements of this section.

**3111.1.1 Wind resistance.** Rooftop-mounted photovoltaic panels and modules and solar thermal collectors shall be designed in accordance with Section 1609.

**3111.1.2 Roof live load.** Roof structures that provide support for solar energy systems shall be designed in accordance with Section 1607.13.5.

**3111.2 Solar thermal systems.** Solar thermal systems shall be designed and installed in accordance with Section 2606.12, the plumbing subcode (*N.J.A.C. 5:23-3.15*), the *International Mechanical Code* and the *International Fire Code*.

**3111.2.1 Equipment.** Solar thermal systems and components shall be *listed* and *labeled* in accordance with ICC 900/SRCC 300 and ICC 901/SRCC 100.

**3111.3 Photovoltaic solar energy systems.** Photovoltaic solar energy systems shall be designed and installed in accordance with this section, the *International Fire Code*, NFPA 70 and the manufacturer’s installation instructions.

**3111.3.1 Equipment.** Photovoltaic panels and modules shall be *listed* and *labeled* in accordance with UL 1703. Inverters shall be *listed* and *labeled* in accordance with UL 1741. Systems connected to the utility grid shall use inverters *listed* for utility interaction.

**3111.3.2 Fire classification.** Rooftop-mounted photovoltaic systems shall have a fire classification in accordance with Section 1505.9. Building-integrated photovoltaic systems shall have a fire classification in accordance with Section 1505.8.

**3111.3.3 Building-integrated photovoltaic systems.** Building-integrated photovoltaic systems that serve as roof coverings shall be designed and installed in accordance with Section 1507.18.

**3111.3.4 Access and pathways.** Roof access, pathways and spacing requirements shall be provided in accordance with Section 1204 of the *International Fire Code*.

**3111.3.5 Ground-mounted photovoltaic systems.** Ground-mounted photovoltaic systems shall be designed and installed in accordance with Chapter 16 and the *International Fire Code*.

**3111.3.5.1 Fire separation distances.** Ground-mounted photovoltaic systems shall be subject to the fire separation distance requirements determined by the local jurisdiction.

### SECTION 3112 GREENHOUSES

**3112.1 General.** The provisions of this section shall apply to greenhouses that are designed and used for the cultivation, maintenance, or protection of plants.

**3112.2 Accessibility.** *Greenhouses* shall be accessible in accordance with Chapter 11.