

**EXPRESS TERMS  
FOR  
PROPOSED BUILDING STANDARDS  
OF THE  
OFFICE OF THE STATE FIRE MARSHAL  
REGARDING THE ADOPTION BY REFERENCE OF THE  
2006 EDITION OF THE INTERNATIONAL FIRE CODE (IFC)  
WITH AMENDMENTS INTO THE 2007 CALIFORNIA FIRE CODE  
CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 9.**

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**Legend for Express Terms:**

1. California amendments brought forward without modification: *All such language appears in Italics.*
  2. California amendments brought forward with modification: *All such language appears in Italics, modified language is underlined.*
  3. New IFC language with new California amendment: IFC language is shown in normal Arial 9 pt. California amendments to IFC text appear underlined and in italics.
  4. New California amendment: California language appears underlined and in Italics.
  5. Repealed text: Shown as ~~Strikeout~~.
  6. IFC text proposed to be removed: Shown as ~~Strikeout~~.
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**REPEAL OF EXISTING AMENDMENTS AND/OR CALIFORNIA BUILDING STANDARDS NOT ADDRESSED BY MODEL CODES THAT ARE NO LONGER NECESSARY AS FOLLOWS:**

**REPEALED AMENDMENTS:**

**101.1 Title.** ~~This code shall be known as the UNIFORM FIRE CODE, may be cited as such, and will be referred to herein as "this code." [For SFM] For the state of California, this code shall be known as the CALIFORNIA FIRE CODE, may be cited as such, and will be referenced to herein as "this code."~~

**101.2 Scope. [for SFM] and Application.**

~~**101.2.1 Scope.** This code prescribes regulations consistent with nationally recognized good practice for the safeguarding to a reasonable degree of life and property from the hazards of fire explosion, and dangerous conditions arising from the storage, handling and use of hazardous materials and devices, and from conditions hazardous to life or property in the use or occupancy of buildings or premises and provisions to assist emergency response personnel. The provisions of this code shall supplement any and all laws relating to fire safety and shall apply to all persons without restriction, unless specifically exempted.~~

~~The provisions of this code do not apply to off site transportation of hazardous materials in accordance with DOT requirements.~~

~~**101.2.2 Applications and enforcing agency. SFM-California State Fire Marshal.**~~

~~**101.2.2.1 Application.** Any building or structure used or intended for use as an asylum, jail, mental hospital, sanitarium, home for the aged, children's nursery, children's home, school or any similar occupancy of any capacity.~~

~~Any theater, dance hall, skating rink, auditorium, assembly hall, meeting hall, nightclub, fair building, or similar place of assemblage when 50 or more persons may gather together in a building, room or structure for the purpose of amusement, entertainment, instruction, liberation, worship, drinking or dining, awaiting transportation, or education.~~

~~Authority Cited Health and Safety Code Section 13143.  
Reference Health and Safety Code Section 13143.~~

**~~Small Family Day-care Homes.~~**

~~Authority Cited Health and Safety Code Sections 1597.45, 1597.54, 13143 and 17921.  
Reference Health and Safety Code Section 13143.~~

**~~Large Family Day-care Homes~~**

~~Authority Cited Health and Safety  
Code Sections 1597.46, 1597.54 and 17921.  
Reference Health and Safety Code Section 13143.~~

**~~Residential Facilities and Residential Facilities for the Elderly~~**

~~Authority Cite Health and Safety Code Section 13113 and 13131.5  
Reference Health and Safety Code Section 13143.~~

**~~Any state institution or other state-owned or state-occupied building.~~**

~~Authority Cited Health and Safety Code Section 13108.  
Reference Health and Safety Code Section 13143.~~

**~~High-Rise Structures.~~**

~~Authority Cited Health and Safety Code Section 13211.  
Reference Health and Safety Code Section 13143.~~

**~~Motion Picture Production Studios~~**

~~Authority Cited Health and Safety Code Section 13143.1  
Reference Health and Safety Code Section 13143.~~

**~~Organized Camps.~~**

~~Authority Cited Health and Safety Code Section 18897.3  
Reference Health and Safety Code Section 13143.~~

~~All hotels, motels, lodging houses, apartment houses and dwellings, including congregate residences and buildings and structures accessory thereto.~~

~~Multiple-story structures existing on January 1, 1975, let for human habitation, including and limited to, hotels, motels, apartment houses, less than 75 feet (22 860mm) above the lowest floor level having building access, wherein rooms, used for sleeping are let above the ground floor.~~

~~Authority Cited Health and Safety Code Sections 13143.2 and 17921.  
Reference Health and Safety Code Section 13143.~~

~~Certified family care homes, out-of-home placement facilities, halfway houses, drug and/or alcohol rehabilitation facilities and any building or structure used or intended for use as a home or institution for the housing of any person of any age when such person is referred to or placed within such home or institution for protection social care and supervision services by any governmental agency.~~

~~Authority Cited Health and Safety Code Section 13143.6  
Reference Health and Safety Code Section 13143.~~

**~~Tents, awnings or other fabric enclosures used in connection with any occupancy.~~**

~~Authority Cited Health and Safety Code Section 13116.~~

~~Reference Health and Safety Code Section 13143.~~

~~**Fire alarm devices, equipment systems, in connection with any occupancy.**~~

~~Authority Cited Health and Safety Code Section 13114.~~

~~**Hazardous Materials.**~~

~~Authority Cited Health and Safety Code Sections 13143.9  
Reference Health and Safety Code, Sections 25531-25545.~~

~~**Flammable and combustible liquids.**~~

~~Authority Cited Health and Safety Code Section 13143.6~~

~~**101.2.2.2 Enforcing Agency.** Pursuant to Section 13146, Health and Safety Code, the responsibility for enforcement of building standards adopted by the state fire marshal and published in the California Building Standards Code relating to fire and panic safety and other regulations of the state fire marshal shall be as follows:~~

~~1. The city, county, or city and county jurisdiction in the area affected by the standard or regulation shall delegate the enforcement of the building standards relating to fire and panic safety and other regulations of the state fire marshal as they relate to Group R, Division 3 dwellings as described in Section 310 of Part 2 of the California Building Standards Code, to either of the following:~~

~~1.1 The chief of the fire authority of the city, county, or city and county, or authorized representative.~~

~~1.2 The chief building official of the city, county, or city and county or an authorized representative.~~

~~2. The chief of any city or county fire department or of any fire protection district, and any authorized representative, shall enforce within its jurisdiction the building standards and other regulations of the state fire marshal, except those described in Section 101.2.2.2, Item 1 or Item 4.~~

~~3. The state fire marshal shall have the authority to enforce the building standards and other regulations of the state fire marshal in areas outside of corporate cities and districts providing fire protection services.~~

~~4. The state fire marshal shall have the authority to enforce such building standards and other regulations of the state fire marshal in corporate and districts providing fire protection services on request of the chief fire official or the governing body.~~

~~5. Any fee charged pursuant to the enforcement authority of this section shall not exceed the estimated reasonable cost of providing the service for which the fee is charged, pursuant to Section 66014 of the Government Code.~~

~~**102.1 Existing Conditions.** The provisions of this code shall apply to conditions arising 180 days after the publication thereof or at a later date as established by the California Building Standards Commission, conditions not legally in existence at the effective date of this code, and to conditions which, in the opinion of the chief, constitute a distinct hazard to life or property. See also Appendices 1-A and 1-B.~~

~~**1006.2.4.2.1.2 [For SFM] Increased travel distance and travel through adjoining rooms.** Smoke detectors shall be installed when required by the California Building Code, section 1007.3 for increases in travel distance to exits and to allow the only means of egress from a room to be through adjoining or intervening room.~~

~~**1006.2.9.1.3 Smoke detectors.** Smoke detectors shall be provided in all common areas and interior corridors [For SFM] of Group R, Division 1 occupancies with an occupant load of 10 or more.~~

~~**1006.2.9.2.3 [For SFM] Group R, Division 2.1.1. and 2.2.1 Occupancies.** In addition to smoke alarms required by Section 1006.2.9.1.6, Group R, Division 2.1.1 and 2.2.1 Occupancies shall be provided with one manual pull station at a location approved by the enforcing agency. Such pull station shall actuate a distinctive fire alarm signal, which shall be audible throughout the facility. These devices need not be interconnected to any other fire alarm device, electrically supervised or provided with emergency power.~~

~~**9101.1 California Standards.** The California Standards referred to as in various parts of this code, which are listed in Section 9002, are hereby declared to be part of this code and are referred to in this code as "CFC Standards." Whenever this code refers to a UBC or UFC Standard, it shall be construed to mean the appropriate State Fire Marshal (SFM) adopted standard, as listed in this chapter.~~

~~**9101.1.1 National Standards Adopted by the State Fire Marshal**~~

*(SFM). Standards as adopted by the SFM in California Building Code, Chapter 35 are duplicated here for ease of reference. Whenever the Uniform Building Code refers to:*

*UBC Standard, it shall be construed to mean:*

*9-1 NFPA 13*

*9-2 NFPA 14*

*9-3 NFPA 13R*

**9101.1.2 California State Fire Marshal (SFM) Standards.**

*SFM 12-4-100 Smoke Ventilators.*

*SFM 12-7-3 Fire testing Furnace.*

*SFM 12-8-100 Room Fire Tests for Wall and Ceiling Materials.*

*The State Fire Marshal standards referred to above are found in the California Code of Regulations, Title 24, Part 12.*

**9101.1.3 [For SFM] National Standards.**

*1. NFPA 11, 1998 Edition, Low-Expansion Foams*

*2. NFPA 11A, 1999 Edition, Medium and High-Expansion Foam Systems*

*3. NFPA 12, 1998 Edition, Carbon Dioxide Extinguishing Systems*

*4. NFPA 12A, 1997 Edition, Halon 1301 Fire Extinguishing Systems*

*5. NFPA 13, 1999 Edition, The Installation of Automatic Sprinkler Systems, as amended.*

*6. NFPA 13D, 1999 Edition, Installation of Sprinkler Systems in One and Two-Family Dwellings and Manufactured Homes*

*7. NFPA 13R, 1999 Edition, Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height*

*8. NFPA 14, 2000 Edition, Installation of Standpipe, Private Hydrant, and Hose Systems*

*9. NFPA 15, 1996 Edition, Water Spray Fixed Systems for Fire Protection*

*10. NFPA 16, 1999 Edition, Installation of Deluge, Foam-Water Sprinkler and Foam-Water Spray Systems*

*11. NFPA 17, 1998 Edition, Dry Chemical Extinguishing Systems*

*12. NFPA 17A, 1998 Edition, Wet Chemical Extinguishing Systems.*

*13. NFPA 20, 1999 Edition, Installation of Stationary Pumps for Fire Protection*

*14. NFPA 22, 1998 Edition, Water Tanks for Private Fire Protection*

*15. NFPA 24, 1995 Edition, Installation of Private Fire Service Mains and Their Appurtenances*

*16. NFPA 37, 1998 Edition, Installation and Use of Stationary Combustion Engines and Gas Turbines*

*17. NFPA 50, 1996 Edition, Bulk Oxygen Systems at Consumer Sites*

*18. NFPA 54, 1996 Edition, National Fuel Gas Code*

*19. NFPA 58, 1998 Edition, Standard for the Storage and Handling of Liquefied Petroleum Gases.*

*20. NFPA 72, 1999 Edition, National Fire Alarm Code, as amended. [The SFM does not adopt NFPA 72, 1999 Edition, Chapter 8.]*

*20.1 NFPA 72□, 1996 Edition, National Fire Alarm Code, as amended, Chapter 2 "Household Fire Warning Equipment."*

*21. NFPA 92 A, 2000 Edition, Smoke Control Systems*

*22. NFPA 99, 1999 Edition, Health Care Facilities, Chapter 4, Gas and Vacuum Systems.*

*23. NFPA 99 C, 1999 Edition, Gas and Vacuum Systems*

*24. NFPA 253, 2000 Edition, Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source*

*25. NFPA 2001, 2000 Edition, Clean Agent Fire Extinguishing Systems*

*26. UL 13, Power-limited Circuit Cables, 4 Second Edition 1996.*

*27. UL 38, Manually Actuated Signaling Boxes, Seventh Edition, March 26, 1999, with revisions through April 28, 2000.*

*28. UL 193, Alarm Valves for Fire Protection Service, Ninth Edition, March 24, 1993.*

*29. UL 217, Single and Multiple Station Smoke Alarm, as amended, Fifth Edition, 1997.*

*30. UL 228, Door Closers/ Holders, with or without Integral Smoke Alarms Fourth Edition, April 29, 1997, with revisions through January 21, 1999.*

31. UL 260, Dry Pipe and Deluge Valves for Fire Protection Service, Sixth Edition, May 27, 1994, with revisions through February 15, 1999.
32. UL 262, Gate Valves for Fire Protection Service, Seventh Edition, May 27, 1994, with revisions through January 28, 1998.
33. UL 268, Smoke Detectors for Fire Protective Signaling Systems, as amended, Fourth Edition, December 30, 1996, with revisions through January 4, 1999.
34. UL 268A, Smoke Detectors for Duct Application, as amended, Third Edition, May 15, 1998.
35. UL 312, Check Valves for Fire Protection Service, Eighth Edition, June 2, 1993, with revisions through February 17, 1994.
36. UL 346, Water flow Indicators for Fire Protective Signaling Systems, Fourth Edition, 1994.
37. UL 464, Audible Signal Appliances Seventh Edition, February 23, 1996, with revisions through May 11, 1999.
38. UL 497B, Protectors for Data Communication and Fire Alarm Circuits, Second Edition, December 28, 1993, with revisions through October 20, 1994.
39. UL 521, Heat Detectors for Fire Protective Signaling Systems, Seventh Edition, February 19, 1999.
40. UL 539, Single and Multiple Station Heat Detectors, Fourth Edition, 1995.
41. UL 632, Electrically Actuated Transmitters, Sixth Edition, 1994.
42. UL 753, Alarm Accessories for Automatic Water Supply Valves for Fire Protection Service, Sixth Edition, 1994.
43. UL 813, Commercial Audio Equipment, Seventh Edition, December 13, 1996, with revisions through March 30, 1999.
44. UL 864, Control Units for Fire Protective Signaling Systems, as amended, Eighth Edition, November 27, 1996, with revisions through March 30, 1999.
45. UL 884, Under floor Electric Raceways and Fittings, Eighth Edition, 1987 Tenth Edition, 1998.
46. UL 913, Intrinsically Safe Apparatus for Use in Class I, II, and III, Division 1, Hazardous Locations, Fifth Edition, February 21, 1997, with revisions dated February 24, 1997.
47. UL 924, Emergency Lighting and Power Equipment, Eighth Edition, 1999, November 29, 1990, with revisions through November 24, 1993.
48. UL 985, Household Fire Warning System Units, as amended, Fifth Edition, May 26, 2000.
49. UL 1091, Butterfly Valves for Fire Protection Service, Fifth Edition, 1994.
50. UL 1424, Cables for Power-limited Fire Protective Signaling Circuits, Second Edition, 1996.
51. UL 1480, Speakers for Fire Protective Signaling Systems Fourth Edition, July 28, 1998.
52. UL 1481, Power Supplies for Fire Protective Signaling Systems, Fourth Edition, April 9, 1999.
53. UL 1711, Amplifiers for Fire Protective Signaling Systems, First Edition, January 5, 1987, with revisions October 12, 1992.
54. UL 1730, Smoke Detector Monitors and Accessories (annunciators) for Individual Living Units of Multifamily Residences and Hotel/Motel Rooms, Third Edition, September 18, 1998, with revisions through May 17, 1999.
55. UL 1971, Signaling Devices for the Hearing Impaired, Second Edition, October 17, 1995, with revisions through May 24, 2000.
56. UL 1484, Residential Gas Detectors, Third Edition, November 30, 1994, with revisions dated December 1, 1994.
57. UL 1994, Low Level Path Marking and Lighting Systems, Sixth Edition, 1994.
58. UL 2034, Single and Multiple Station Carbon Monoxide Alarms, Second Edition, October 29, 1996, with revisions through June 2, 1999.
59. UL 2079, Tests for Fire Resistance of Building Joint Systems, Third Edition, July 31, 1998.
60. FM Class No. 3260, Flame Radiation Detectors for Automatic Fire Alarm Signaling, February 1994 Edition.

## **9102 [For SFM] AMENDMENTS TO NATIONAL STANDARDS**

### **9102.1 [SFM] NFPA 72, 1999 Edition, as amended.**

#### **Amend Section 1-5.2.6, second paragraph as follows:**

*For a combination system, the secondary supply capacity required above shall include the load of any non-fire related equipment, functions, or features. (The balance of the section text is to remain unchanged.)*

#### **Delete the last sentence of Section 1-5.4.8 as follows:**

*If automatically turning of the alarm verification appliances is permitted by the enforcing agency, the alarm shall not be turned off in less than 5 minutes.*

#### **Delete Exception No 1.**

*Exception No 1: If otherwise permitted by the enforcing agency, the 5 minute requirement shall not apply.*

#### **Renumber Exception No 2 to No 1.**

~~Exception No 2-1: If permitted by the enforcing agency subsequent actuation of another addressable initiating device of the same type in the same room or space shall not be required to cause the notification appliance(s) to reactivate.~~

**Add a Section 1-5.4.7.1 as follows:**

**Sec. 1-5.4.7.1. Supplementary Audible Notification Appliances.**

~~Every public, private or parochial school building having an occupant load of fifty (50) or more students or more than one classroom shall sound the California uniform fire alarm signal as described in Education Code Sections 32002, 32003 and 32004.~~

~~**EXCEPTION:** When a fire alarm system having a distinctive tone, and which is used for no other purpose, is installed, the manner of sounding such alarm shall not be subject to the provisions of Education Code Sections 32002, 32003 and 32004.~~

**Amend Section 1-5.5.4, as follows:**

~~**Sec. 1-5.5.4. Wiring.** The installation of all wiring, cable and equipment shall be in accordance with the California Electrical Code, and specifically with Article 760, 770 and 800, where applicable. Optical fiber cables shall be protected against mechanical injury in accordance with Article 760.~~

**Amend Section 1-5.7.1.2 as follows:**

~~**Sec. 1-5.7.1.2. Zone of Origin.** Fire alarm systems serving two or more zones shall identify the zone of origin of the alarm initiation by annunciation or coded signal as required by the authority having jurisdiction.~~

**Add a new SFM subsection 1-6.2.2 (3) as follows:**

~~(3) [For SFM] The owner's manual and the record drawings shall be provided at a location approved by the enforcing agency.~~

**Amend Section 2-8.1 as follows**

~~**Sec. 2-8.1** Each manual fire alarm box shall be securely mounted. The operable part of each manual fire alarm box shall be not less than 42" (1066 mm) and not more than 48" (1219mm) above floor level.~~

**Amend Section 2-8.2.4 by adding an exception as follows:**

~~**EXCEPTION:** When individual dwelling units are served by a single exit stairway, additional boxes at other than the ground floor may be omitted.~~

**Add a Section 3-8.3.2.3.1(b) as follows:**

~~**Sec. 3-8.3.2.3.1(b)** A smoke detector that is continuously subjected to a smoke concentration above alarm threshold does not delay the system functions of 1-5.4 by more than 30 seconds.~~

**Add a Section 3-8.4.1.3.3.3(3) c and amend Section 3-4.2.2.2 as follows:**

~~**Sec. 3-8.4.1.3.3.3 (3)c.** Installation of listed circuit integrity (C.I.) cable, which meets or exceeds a two-hour fire-resistance rating.~~

~~**Sec. 3-4.2.2.2:(b)** Where the vertically run conductors are contained in a 2-hour rated cable assembly, or enclosed (installed) in a 2-hour rated enclosure or a listed circuit integrity (C.I.) cable, which meets or exceeds a 2-hour fire resistive rating~~

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**Amend Sections 4-3.2.1 and 4-3.3.1 as follows:**

~~**Sec. 4-3.2.1.** Audible notification appliances intended for operation in the public mode shall have a sound level of not less than 75dBA at 10 feet (3m) or more than 110dBA at the minimum hearing distance from the audible appliance.~~

~~**Sec. 4-3.3.1. Private Mode.** Audible notification appliances intended for operation in the private mode shall have a sound level of not less than 45dBA at 10 feet (3m) or more than 110dBA at the minimum hearing distance from the audible appliance.~~

**Add a Section 4-4.5 as follows:**

**4-4.5 Notification Appliances for the Hearing Impaired.** Approved notification appliances for the hearing impaired shall be installed in the following areas:

1. Restrooms
2. Corridors
3. Music practice rooms

4. ~~Band rooms~~
5. ~~Gymnasiums~~
6. ~~Multipurpose rooms~~
7. ~~Occupational shops~~
8. ~~Occupied rooms where ambient noise impairs hearing of the fire alarm~~
9. ~~Lobbies~~
10. ~~Meeting rooms~~
11. ~~Any other area for common use~~

**NOTE:** This section is also adopted by the Division of the State Architect, Access Compliance for buildings not regulated by the State Fire Marshal.

**Amend Section 2-4.2.1 of NFPA 72<sup>®</sup>, 1996.**

**9102.1.1 [For SFM] NFPA 72<sup>®</sup>, 1996 Edition, Chapter 2, as amended.**

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**Chapter 2 Household Fire Warning Equipment**

**2-1 Introduction.**

**2-1.1\* Scope.** This chapter contains minimum requirements for the selection, installation, operation, and maintenance of fire warning equipment for use within family living units. The requirements of the other chapters shall not apply.

**Exception:** Where specifically indicated.

**2-1.2 Purpose.**

**2-1.2.1** Household fire warning systems shall be designed and installed to provide sufficient warning of a fire to enable occupants to escape. It is recognized that household fire warning systems might not be of material assistance to all occupants, such as persons intimate with the ignition of a fire.

**2-1.2.2** This chapter is primarily concerned with life safety, not with protection of property. It presumes that a family has an exit plan.

**2-1.3 General.**

**2-1.3.1** A control and associated equipment, a multiple or single station alarm(s), or any combination thereof shall be permitted to be used as a household fire warning system, provided the requirements of 2-1.3.7 are met.

**2-1.3.2** Detection and alarm systems for use within the protected household are covered by this chapter.

**2-1.3.3** Supplementary functions, including the extension of an alarm beyond the household, shall be permitted and shall not interfere with the performance requirements of this chapter.

**2-1.3.4** Where the enforcing agency requires a household fire warning system to comply with the requirements of Chapter 4 or any other chapters of this code, the requirements of Section 2-2 shall still apply.

**2-1.3.5** The definitions of Section 1-4 shall apply.

**2-1.3.6** This chapter does not exclude the use of fire alarm systems complying with other chapters of this code in household applications, provided all of the requirements of this chapter are met or exceeded.

**2-1.3.7** All devices, combinations of devices, and equipment to be installed in conformity with this chapter shall be approved or listed for the purposes for which they are intended.

**2-1.3.8** A device or system of devices having materials or forms that differ from those detailed in this chapter shall be permitted to be examined and tested according to the intent of the chapter and, if found equivalent, shall be permitted to be approved.

**2-1.3.9 Equivalency.** Nothing in this code is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this code, provided technical documentation is submitted to the enforcing agency to demonstrate equivalency and the system, method, or device is approved for the intended purpose.

## **2-2 Basic Requirements.**

### **2-2.1 Required Protection.**

**2-2.1.1\*** This code requires the following detectors within the family living unit.

**2-2.1.1.1** Smoke alarms shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms and on each additional story of the family living unit, including basements and excluding crawl spaces and unfinished attics. In new construction, a smoke alarm also shall be installed in each sleeping room.

**2-2.1.1.2\*** For family living units with one or more split levels (i.e., adjacent levels with less than one full story separation between levels), a smoke alarm required by 2-2.1.1.1 shall be permitted for an adjacent lower level, including basements. (See Figure A-2-2.1.1.2.)

**Exception:** Where there is an intervening door between one level and the adjacent lower level, a smoke alarm shall be installed on the lower level.

**2-2.1.1.3** Automatic sprinkler systems provided in accordance with NFPA 13D, Standard for the Installation of Sprinkler Systems in One and Two Family Dwellings and Manufactured Homes, or NFPA 13R, Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height, shall be interconnected to sound alarm notification appliances throughout the dwelling where a fire warning system is provided.

**2-2.2\* Alarm Notification Appliances.** Each automatic alarm initiating device shall cause the operation of an alarm that shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed. The tests of audibility level shall be conducted with all household equipment that might be in operation at night in full operation. Examples of such equipment are window air conditioners and room humidifiers. (See A-2-2.2 for additional information.)

**2-2.2.1** In new construction, where more than one smoke alarm is required by 2-2.1, smoke alarm shall be arranged so that operation of any smoke alarm causes the alarm in all smoke alarms within the dwelling to sound.

**Exception:** Configurations that provide equivalent distribution of the alarm signal.

**2-2.2.2\* Standard Signal.** Newly installed alarm notification appliances used with a household fire warning system and single and multiple station smoke alarms shall produce the audible emergency evacuation signal described in ANSI S3.41, Audible Emergency Evacuation Signal. Signals from different notification appliances shall not be required to be synchronized.

### **2-2.3 Alarm Notification Appliances for the Hearing Impaired.**

In a household occupied by one or more hearing impaired persons, each initiating device shall cause the operation of a visible alarm signal(s) in accordance with 2-4.4.2. Since hearing deficits are often not apparent, the responsibility for advising the appropriate persons shall be that of the hearing impaired party. The responsibility for compliance shall be that of the occupants of the family living unit.

**Exception:** A listed tactile signal shall be permitted to be employed.

## **2-3 Power Supplies.**

### **2-3.1 General.**

**2-3.1.1** All power supplies shall have sufficient capacity to operate the alarm signal(s) for at least 4 continuous minutes.

**2-3.1.2** There shall be a primary (main) and a secondary (standby) power source. For electrically powered household fire warning equipment, the primary (main) power source shall be ac; the secondary (standby) power source shall be a battery.

~~**Exception No. 1:** Where the primary (main) power source is an emergency circuit or a legally required standby circuit capable of operating the system for at least 24 hours in the normal condition, followed by not less than 4 minutes of alarm, a secondary (standby) source shall not be required.~~

~~**Exception No. 2:** Where the primary (main) power source is a circuit of an optional standby system capable of operating the system for at least 24 hours, followed by not less than 4 minutes of alarm, that meets the requirements for either an emergency system or a legally required standby system as defined in NFPA 70, National Electrical Code, Articles 700 and 701, respectively, a secondary (standby) supply shall not be required.~~

~~**Exception No. 3:** Detectors and alarms powered from a monitored dc circuit of a control unit where power for the control unit meets the requirements of Section 2-3 and the circuit remains operable upon loss of primary (main) ac power.~~

~~**Exception No. 4:** A detector and a wireless transmitter that serves only that detector shall be permitted to be powered from a monitored battery primary (main) source where part of a listed, monitored low power radio (wireless) system. A secondary (standby) source shall not be required.~~

~~**Exception No. 5:** In existing construction, either an ac primary power source, as described in 2-3.2, or a monitored battery primary (main) power source, as described in 2-3.3, shall be permitted. A secondary (standby) source shall not be required.~~

~~**Exception No. 6:** Visible notification appliances required by 2-4.4.2.~~

~~**Exception No. 7:** Where the primary (main) power source is non-electrical, a secondary (standby) source shall not be required. The requirements of 2-3.5 shall apply.~~

### **2-3.2 Primary Power Supply - AC.**

~~**2-3.2.1** An ac primary (main) power source shall be a dependable commercial light and power supply source. A visible "power on" indicator shall be provided.~~

~~**2-3.2.2** All electrical systems designed to be installed by other than a qualified electrician shall be powered from a source not in excess of 30 volts that meets the requirements for power limited fire alarm circuits as defined in NFPA 70, National Electrical Code, Article 760.2-3.2.3 A restraining means shall be used at the plug-in of any cord connected installation.~~

~~**2-3.2.4** AC primary (main) power shall be supplied either from a dedicated branch circuit or the unswitched portion of a branch circuit also used for power and lighting. Operation of a switch (other than a circuit breaker) or a ground fault circuit interrupter shall not cause loss of primary (main) power.~~

~~**Exception No. 1:** Single or multiple station alarms with a supervised rechargeable standby battery that provides at least 4 months of operation with a fully charged battery.~~

~~**Exception No. 2:** Where a ground fault circuit interrupter serves all electrical circuits within the household.~~

~~**2-3.2.5** Neither loss nor restoration of primary (main) power shall cause an alarm signal.~~

~~**Exception:** An alarm signal shall be permitted within the household but shall not exceed 2 seconds.~~

~~**2-3.2.6** Where a secondary (standby) battery is provided, the primary (main) power supply shall be of sufficient capacity to operate the system under all conditions of loading with any secondary (standby) battery disconnected or fully discharged.~~

~~**2-3.3 Primary Power Supply—Monitored Battery.** Household fire warning equipment shall be permitted to be powered by a battery, provided that the battery is monitored to ensure that the following conditions are met:~~

~~(a) All power requirements are met for at least 1 year of battery life, including monthly testing.~~

~~(b) A distinctive audible trouble signal sounds before the battery is incapable of operating (from causes such as aging or terminal corrosion) the device(s) for alarm purposes.~~

~~(c) For a unit employing a lock-in alarm feature, automatic transfer is provided from alarm to a trouble condition.~~

~~(d) The unit is capable of producing an alarm signal for at least 4 minutes at the battery voltage at which a trouble signal is normally obtained, followed by not less than 7 days of trouble signal operation.~~

~~(e) The audible trouble signal is produced at least once every minute for 7 consecutive days.~~

~~(f) Acceptable replacement batteries are clearly identified by the manufacturer's name and model number on the unit near the battery compartment.~~

~~(g) A readily noticeable, visible indication is displayed when a primary battery is removed from the unit.~~

~~(h) Any unit that uses a non-rechargeable battery as a primary power supply that is capable of a 10-year or greater service life, including testing, and meets the requirements of 2-3.3(b) through (e) shall not be required to have a replaceable battery.~~

### **2-3.4 Secondary (Standby) Power Supply.**

~~2-3.4.1 Removal or disconnection of a battery used as a secondary (standby) power source shall cause a distinctive audible or visible trouble signal.~~

~~2-3.4.2 Acceptable replacement batteries shall be clearly identified by manufacturer's name and model number on the unit near the battery compartment.~~

~~2-3.4.3 Where required by law for disposal reasons, rechargeable batteries shall be removable.~~

#### ~~2-3.4.4 Automatic Recharging.~~

~~2-3.4.4.1 Automatic recharging shall be provided where a rechargeable battery is used as the secondary (standby) supply. The supply shall be capable of operating the system for at least 24 hours in the normal condition, followed by not less than 4 minutes of alarm. Loss of the secondary (standby) source shall sound an audible trouble signal at least once every minute.~~

~~2-3.4.4.2 The battery shall be recharged within 4 hours where power is provided from a circuit that can be switched on or off by means other than a circuit breaker, or within 48 hours where power is provided from a circuit that cannot be switched on or off by means other than a circuit breaker.~~

~~2-3.4.5 Where automatic recharging is not provided, the battery shall be monitored to ensure that the following conditions are met:~~

~~(a) All power requirements are met for at least 1 year of battery life.~~

~~(b) A distinctive audible trouble signal sounds before the battery capacity has been depleted below the level required to produce an alarm signal for 4 minutes.~~

~~2-3.5 Primary Power – Non-electrical. A suitable spring-wound mechanism shall provide power for the non-electrical portion of a listed single station alarm. A visible indication shall be provided to show that sufficient operating power is not available.~~

#### ~~2-4 Equipment Performance.~~

~~2-4.1 General. The failure of any non-reliable or short life component that renders the detector inoperable shall be readily apparent to the occupant of the living unit without the need for test.~~

~~2-4.2 Smoke Alarms and Smoke Detectors. Each smoke alarm and smoke detector shall detect abnormal quantities of smoke that can occur in a dwelling, shall properly operate in the normal environmental conditions of a household, and shall be in compliance with ANS/UL 268, Standard for Safety Smoke Detectors for Fire Protective Signaling Systems, or ANS/UL 217, Standard for Safety Single and Multiple Station Smoke Alarms.~~

~~Sec. 2-4.2.1 The alarm verification feature shall not be used for household fire warning equipment. (This text is continued from CBC, Chapter 35)~~

#### ~~2-4.3 Heat Alarms and Heat Detectors.~~

~~2-4.3.1 Each heat detector, including a heat detector integrally mounted on a smoke detector, shall detect abnormally high temperature or rate of temperature rise, and all such detectors shall be listed for not less than 50 ft (15 m) spacing.~~

~~2-4.3.2 Fixed temperature detectors shall have a temperature rating at least 25°F (14°C) above the normal ambient temperature and shall not be rated 50°F (28°C) higher than the maximum anticipated ambient temperature in the room or space where installed.~~

#### ~~2-4.4 Alarm Signaling Intensity.~~

~~2-4.4.1 All alarm-sounding appliances shall have a minimum rating of 85 dBA at 10 ft (3 m).~~

~~Exception: An additional sounding appliance intended for use in the same room as the user, such as a bedroom, may have a sound pressure level as low as 75 dBA at 10 ft (3 m).~~

~~2-4.4.2 Visible notification appliances used in rooms where a hearing-impaired person(s) sleeps shall have a minimum rating of 177 candela for a maximum room size of 14 ft by 16 ft (4.27 m by 4.88 m). For larger rooms, the visible notification appliance shall be located within 16 ft (4.88 m) of the pillow. Visible notification appliances in other areas shall have a minimum rating of 15 candela.~~

~~Exception: Where a visible notification appliance in a sleeping room is mounted more than 24 in. (610mm) below the ceiling, a minimum rating of 110 candela shall be permitted.~~

#### ~~2-4.5 Control Equipment.~~

~~2-4.5.1 The control equipment shall be automatically restoring upon restoration of electrical power.~~

~~2-4.5.2 The control equipment shall be of a type that "locks in" on an alarm condition. Smoke detection circuits shall not be required to lock in.~~

~~2-4.5.3 If a reset switch is provided, it shall be of a self-restoring type.~~

~~2-4.5.4 An alarm-silencing switch or an audible trouble-silencing switch shall not be required to be provided.  
Exception: Where the switch's silenced position is indicated by a readily apparent signal.~~

~~2-4.5.5 Each electrical fire warning system and each single station smoke detector shall have an integral test means to allow the householder to check the system and the sensitivity of the detector(s).~~

~~**2-4.6 Monitoring Integrity of Installation Conductors.** All means of interconnecting initiating devices or notification appliances shall be monitored for the integrity of the interconnecting pathways up to the connections to the device or appliance so that the occurrence of a single open or single ground fault, which prevents normal operation of the system, is indicated by a distinctive trouble signal.~~

~~**Exception No. 1:** Conductors connecting multiple station alarms, provided a single fault on the wiring cannot prevent single station operation of any of the interconnected detectors.~~

~~**Exception No. 2:** Circuits extending from single or multiple station alarms to required remote notification appliances, provided operation of the test feature on any detector causes all connected appliances to activate.~~

#### ~~2-4.7 Combination System.~~

~~2-4.7.1 Where common wiring is employed for a combination system, the equipment for other than the fire warning signaling system shall be connected to the common wiring of the system so that short circuits, open circuits, grounds, or any fault in this equipment or interconnection between this equipment and the fire warning system wiring does not interfere with the supervision of the fire warning system or prevent alarm or trouble signal operation.~~

~~2-4.7.2 In a fire burglar system, the operation shall be as follows:~~

~~(a) A fire alarm signal shall take precedence or be clearly recognizable over any other signal even when the non-fire alarm signal is initiated first. (b) Distinctive alarm signals shall be used so that fire alarms can be distinguished from other functions such as burglar alarms. The use of a common sounding appliance for fire and burglar alarms shall be permitted where distinctive signals are used. (See 2-2.2.2.)~~

~~**2-4.8 Low Power Wireless Systems.** Household fire warning systems utilizing low power wireless transmission of signals within the protected household shall comply with the requirements of Section 3-13.~~

~~**Exception:** Paragraph 3-13.4.5 shall not apply.~~

#### ~~2-4.9 Supervising Station Systems.~~

~~2-4.9.1 Any communications method described in Section 4-5 shall be permitted for transmission of signals from household fire warning equipment to a supervising station. All of the provisions of Section 4-5 shall apply, as appropriate.~~

~~**Exception No. 1:** Only one telephone line shall be required for one- and two-family residences.~~

~~**Exception No. 2:** Each DACT shall be required to be programmed to call a single DACR number only.~~

~~**Exception No. 3:** Each DACT serving a one- or two-family residence shall transmit a test signal to its associated receiver at least monthly.~~

~~2-4.9.2\* On receipt of an alarm signal from household fire warning equipment, the supervising station shall immediately (within 90 seconds) retransmit the alarm to the public fire communications center.~~

~~**Exception:** The supervising station shall be permitted to contact the residence for verification of an alarm condition and, where acceptable assurance is provided within 90 seconds that the fire service is not needed, retransmission of an alarm to the public service fire communications center shall not be required.~~

### ~~2-5 Installation.~~

#### ~~2-5.1 General.~~

##### ~~2-5.1.1 General Provisions.~~

~~2-5.1.1.1\* All equipment shall be installed in a workmanlike manner.~~

~~2-5.1.1.2 All devices shall be so located and mounted that accidental operation is not caused by jarring or vibration.~~

~~2-5.1.1.3 All installed household fire warning equipment shall be mounted so as to be supported independently of its attachment to wires.~~

~~2-5.1.1.4 All equipment shall be restored to normal as promptly as possible after each alarm or test.~~

~~2-5.1.1.5 The supplier or installing contractor shall provide the owner with: (a) An instruction booklet illustrating typical installation layouts. (b) Instruction charts describing the operation, method and frequency of testing, and proper maintenance of household fire warning equipment. (c) Printed information for establishing a household emergency evacuation plan. (d) Printed information to inform owners where they can obtain repair or replacement service, and where and how parts requiring regular replacement (such as batteries or bulbs) can be obtained within 2 weeks.~~

~~2-5.1.2 Interconnection of Detectors or Multiple Station Alarms.~~

~~(a) Where the interconnected wiring is unsupervised, no more than 18 multiple station alarms shall be interconnected in a multiple station configuration.~~

~~(b) Where the interconnecting wiring is supervised, the number of interconnected detectors shall be limited to 64.~~

~~2-5.1.2.1 Interconnection that causes other alarms to sound shall be limited to an individual family living unit. Remote annunciation from single or multiple station alarms shall be permitted.~~

~~2-5.1.2.2 No more than 12 smoke alarms shall be interconnected in a multiple station connection. The remainder of the alarms shall be permitted to be of other types.~~

~~2-5.2\* Alarm and Detector Location and Spacing.~~

~~2-5.2.1 Smoke Alarms and Smoke Detectors.~~

~~2-5.2.1.1 Smoke alarms and smoke detectors in rooms with ceiling slopes greater than 1 ft in 8 ft (1 in 8 m) horizontally shall be located at the high side of the room.~~

~~2-5.2.1.2 A smoke alarm and smoke detector installed in a stairwell shall be so located as to ensure that smoke rising in the stairwell cannot be prevented from reaching the detector by an intervening door or obstruction.~~

~~2-5.2.1.3 A smoke alarm and smoke detector installed to detect a fire in the basement shall be located in close proximity to the stairway leading to the floor above.~~

~~2-5.2.1.4 The smoke alarm and smoke detector installed to comply with 2-2.1.1.1 on a story without a separate sleeping area shall be located in close proximity to the stairway leading to the floor above.~~

~~2-5.2.1.5 Smoke alarms and smoke detectors shall be mounted on the ceiling at least 4 in. (102 mm) from a wall or on a wall with the top of the detector not less than 4 in. (102 mm) nor more than 12 in. (305 mm) below the ceiling. Exception: Where the mounting surface might become considerably warmer or cooler than the room, such as a poorly insulated ceiling below an unfinished attic or an exterior wall, the detectors shall be mounted on an inside wall.~~

~~2-5.2.1.6 Smoke alarms and smoke detectors shall not be located within kitchens or garages, or in other spaces where temperatures can fall below 40°F (4°C) or exceed 100°F (38°C). Smoke detectors shall not be located closer than 3 ft (0.9 m) horizontally from:~~

~~(a) The door to a kitchen.~~

~~(b) The door to a bathroom containing a tub or shower.~~

~~(c) The supply registers of a forced air heating or cooling system, and outside of the airflow from those registers.~~

~~Exception: Detectors specifically listed for the application.~~

~~2-5.2.2\* Heat Detectors and Heat Alarms.~~

~~2-5.2.2.1 On smooth ceilings, heat detectors shall be installed within the strict limitations of their listed spacing.~~

~~2-5.2.2.2 For sloped ceilings having a rise greater than 1 ft in 8 ft (1 in 8 m) horizontally, the detector shall be located on or near the ceiling at or within 3 ft (0.9 m) of the peak. The spacing of additional detectors, if any, shall be based on a horizontal distance measurement, not on a measurement along the slope of the ceiling.~~

**2-5.2.2.3\*** Heat detectors and heat alarms shall be mounted on the ceiling at least 4 in. (102 mm) from a wall or on a wall with the top of the detector not less than 4 in. (102 mm) nor more than 12 in. (305 mm) below the ceiling. **Exception:** Where the mounting surface might become considerably warmer or cooler than the room, such as a poorly insulated ceiling below an unfinished attic or an exterior wall, the detectors shall be mounted on an inside wall.

**2-5.2.2.4** In rooms with open joists or beams, all ceiling-mounted detectors shall be located on the bottom of such joists or beams.

**2-5.2.2.5\*** Detectors installed on an open-joisted ceiling shall have their smooth ceiling spacing reduced where this spacing is measured at right angles to solid joists; in the case of heat detectors, this spacing shall not exceed 1/2 of the listed spacing.

**2-5.3 Wiring and Equipment.** The installation of wiring and equipment shall be in accordance with the requirements of NFPA 70, National Electrical Code, Article 760.

#### **2-6 Maintenance and Tests.**

**2-6.1\* Maintenance.** Where batteries are used as a source of energy, they shall be replaced in accordance with the recommendations of the alarm equipment manufacturer.

**Exception:** Batteries described in 2-3.3(h).

#### **2-6.2\* Tests.**

**2-6.2.1 Single and Multiple Station Smoke Alarms.** Homeowners shall inspect and test smoke alarms and all connected appliances in accordance with the manufacturer's instructions at least monthly.

**2-6.2.2 Fire Alarm Systems.** Homeowners shall test systems in accordance with the manufacturer's instructions and shall have every household fire alarm system having a control panel tested by a qualified service technician at least every 3 years. This test shall be conducted according to the methods of Chapter 7.

**2-7 Markings and Instructions.** All household fire warning equipment or systems shall be plainly marked with the following

information on the unit: (a) Manufacturer's or lister's name, address, and model number; (b) A mark or certification that the unit has been approved or listed by a testing laboratory; (c) Electrical rating (where applicable); (d) Temperature rating (where applicable); (e) Spacing rating (where applicable); (f) Operating instructions; (g) Test instructions; (h) Maintenance instructions; (i) Replacement and service instructions.

**Exception:** Where space limitations prohibit inclusion of 2-7(g), (h), and (i), a label or plaque suitable for permanent attachment within the living unit, or a manufacturer's manual, shall be provided with the equipment and referenced on the equipment. In the case of a household fire warning system, the required information shall be prominently displayed at the control panel.

**Sec. 2-4.2.1** The alarm verification feature shall not be used for household fire warning equipment.

#### **Add to Section 3-8.4.1.3.5.5.1 as follows:**

**Sec. 3-8.4.1.3.5.5.1.** Special fire alarm provisions for occupancies having floors used for human occupancy located more than 75 feet (22 860 mm) above the lowest level of the fire department vehicle access, are found in Title 24, Part 2, Chapter 4, of the California Building Code. Those provisions include providing a central control station. The requirements provided for, in a fire command center, may be included within the central control station.

#### **9102.3 [For SFM] UL 217, 1997 UL 217, 1997 Edition amend as follows:**

##### **Add a Section 6A.1 as follows:**

**Sec. 6A.1.** Each single and multiple station smoke alarm may be provided with an automatically resettable alarm silencing means that has a fixed or variable time setting and that silences the smoke alarm for a maximum of 15 minutes. Alarm silencing shall not disable the smoke alarm. It may reduce the sensitivity to no more than 4 percent obscuration (0.0177 O.D. per foot). Each device shall operate a distinctive audible trouble signal while in the silence mode. This may be done with a short beep similar to the low-battery signal or by visible indication. Following the silenced period, the smoke alarm shall restore automatically to its intended operation. Silencing of one smoke alarm of a multiple station system shall not prevent an alarm operation from the other smoke alarm in the system. See paragraphs 33.10 and 33.11.

#### **9102.4 [For SFM] UL 268, 1996 Edition.**

**Amend Section 26.2 F as follow:**

~~F. A circuit for a supplementary signal annunciator, signal sounding appliance, motor controller, or similar appliance, provided that a break, short or ground fault in no way affects the operation of the detector other than to cause the omission of the supplementary feature.~~

**9102.5 [For SFM] UL 268A, 1998 Edition.**

**Amend Section 27.1, Exception F, as follows:**

~~F. A circuit for a supplementary signal annunciator, signal sounding appliance, motor controller or similar appliance, provided that a break, short or ground fault in no way affects the operation of the air duct smoke detector, except for omission of the supplementary feature.~~

**9102.6 [For SFM] UL 864, 1996 Edition amend as follows:**

**Amend Figure No. 3-1 on page 7 as follows:**

~~RETARD-RESET-RESTART PERIOD – MAXIMUM 30 SECONDS~~

**Amend Section 6.2 as follows:**

~~If an alarm verification feature is provided, the maximum retard reset period before an alarm signal can be confirmed and indicated at the control unit, including any control unit reset time and the power up time for the detector to become operational for alarm, shall not exceed 30 seconds. (The balance of the section text is to remain unchanged.)~~

**Delete exception to Section 6.5.**

**Add a Section 6.7 as follows:**

~~6.7 Smoke detectors connected to an alarm verification feature shall not be used as releasing devices.~~

~~**EXCEPTION:** Smoke detectors, which operate their releasing function immediately upon alarm actuation independent of alarm verification feature.~~

**Amend Section 21.22 as follows:**

~~The maximum retard-reset-restart period of alarm verification to a system control unit, including anytime delay due to system reset and power-up time of the smoke detectors to become operational for alarm, shall not exceed 30 seconds. (The balance of the section text is to remain unchanged.)~~

**Amend Section 49.1.14 as follows:**

~~THIS UNIT INCLUDES AN ALARM VERIFICATION FEATURE THAT WILL RESULT IN A DELAY OF THE SYSTEM ALARMSIGNAL FROM THE INDICATED CIRCUITS. THE TOTAL DELAY (CONTROL UNIT PLUS SMOKE DETECTOR) SHALL NOT EXCEED 30 SECONDS. (The balance of the section text is to remain unchanged.)~~

**9102.7 [For SFM] NFPA 13, 1999 Edition.**

**6-4.5.8 Add a sentence after the first sentence as follows:**

~~Where pipe is used for sway bracing, it shall have a wall thickness of not less than Schedule 40.~~

**Revise the Exception to 6-4.5.8.5 as follows:**

~~Materials, other than pipe, not specifically included in Table 6-4.5.8.5 ... (The balance of the exception text is to remain unchanged.)~~

~~Also, delete the Exception No. 1 of Section 6-4.5.9 and renumber Exception No. 2 to No. 1~~

~~Also, delete the portion of Table 6-4.5.9 related to lag screws.~~

**Adopt entire Section 6-4.7.4**

Authority: Health and Safety Code Sections 13143, 18949

References: Health and Safety Code Sections 13143

**AMENDMENTS:**

**CALIFORNIA CHAPTER 1**  
**GENERAL CODE PROVISIONS**

(Note: Adopt only those sections listed in the matrix adoption table.)

**SECTION 101**  
**GENERAL**

**101.1 Title.** *These regulations shall be known as the California Fire Code, may be cited as such and will be referred to herein as "this code." The California Fire Code is Part 9 of twelve parts of the official compilation and publication of the adoptions, amendment, and repeal of building regulations to the California Code of Regulations, Title 24, also referred to as the California Building Standards Code. This part incorporates by adoption the 2006 International Fire Code of the International Code Council with necessary California amendments.*

**Section 101.2 Purpose.** *The purpose of this code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety and general welfare from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations.*

**Section 101.3 Scope.** *The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout the State of California.*

*This code establishes regulations affecting or relating to buildings, structures, processes, premises and a reasonable degree of life and property safeguards regarding:*

- 1. The hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices;*
- 2. Conditions hazardous to life, property or public welfare in the use of, occupancy of buildings, structures, or premises;*
- 3. Fire hazards in the buildings, structures, or on premises from use of, occupancy of, or operation;*
- 4. Matters related to the construction, extension, repair, alteration or removal of fire suppression or alarm systems.*

**101.3.1 Non-State-Regulated Buildings, Structures, and Applications.** *Except as modified by local ordinance pursuant to Section 101.8, the building standards in the California Code of Regulations, Title 24, Parts 2, 3, 4, 5, 6, 9 and 10 shall apply to all occupancies and applications not regulated by a state agency.*

**101.3.2 State-Regulated Buildings, Structures, and Applications.** *The model code, state amendments to the model code, and/or state amendments where there are no relevant model code provisions, shall apply to the following buildings, structures, and applications regulated by state agencies as referenced in the Matrix Adoption Tables and as specified in sections 102 through 113, except where modified by local ordinance pursuant to Section 101.8. When adopted by a state agency, the provisions of this code shall be enforced by the appropriate enforcing agency, but only to the extent of authority granted to such agency by the State Legislature.*

**Note:** *See Preface to distinguish the model code provisions from the California provisions.*

*1. Applications regulated by the Office of State Fire Marshal include but are not limited to the following in accordance with Section 111:*

*1. Buildings or structures used or intended for use as an:*

*1.1. Asylum, jail*

*1.2. Mental hospital, hospital, home for the elderly, children's nursery, children's home or institution, school or any similar occupancy of any capacity*

*1.3. Theater, dancehall, skating rink, auditorium, assembly hall, meeting hall, nightclub, fair building, or similar place of assemblage where 50 or more persons may gather together in a*

building, room or structure for the purpose of amusement, entertainment, instruction, deliberation, worship, drinking or dining, awaiting transportation, or education

1.4. Small family day care homes, large family day-care homes, residential facilities and residential facilities for the elderly, residential care facilities

1.5. State institutions or other state-owned or state-occupied buildings

1.6. High rise structures

1.7. Motion picture production studios

1.8. Organized camps

1.9. Residential structures

2. Tents, awnings or other fabric enclosures used in connection with any occupancy

3. Fire alarm devices, equipment and systems in connection with any occupancy

4. Hazardous materials, flammable and combustible liquids

5. Public school automatic fire detection, alarm, and sprinkler systems

6. Wildland urban interface fire areas

**101.4 Appendices.** Provisions contained in the appendices of this code shall not apply unless specifically adopted by a state agency or adopted by a local enforcing agency in compliance with Health and Safety Code Section 18938 (b) for Building Standards Law, Health and Safety Code Section 17950 for State Housing Law and Health and Safety Code Section 13869.7 for Fire Protection Districts. See section 101.8 of this code.

**101.5 Referenced Codes.** The codes, standards and publications adopted and set forth in this code, including other codes, standards and publications referred to therein are, by title and date of publication, hereby adopted as standard reference documents of this code. When this code does not specifically cover any subject related to building design and construction, recognized fire engineering practices shall be employed. The National Fire Codes and the Fire Protection Handbook of the National Fire Prevention Association are permitted to be used as authoritative guides in determining recognized fire-prevention engineering practices.

**101.6 Non-Building Standards, Orders and Regulations.** Requirements contained in the International Fire Code, or in any other referenced standard, code or document, which are not building standards as defined in section 18909, Health and Safety Code, shall not be construed as part of the provisions of this code. For non-building standards, orders, and regulations, see other titles of the California Code of Regulations.

#### **101.7 Order of Precedence and Use.**

**101.7.1 Differences.** In the event of any differences between these building standards and the standard reference documents, the text of these building standards shall govern.

**101.7.2 Specific provision.** Where a specific provision varies from a general provision, the specific provisions shall apply.

**101.7.3 Conflicts.** When the requirements of this code conflict with the requirements of any other part of the California Building Standards Code, Title 24, the most restrictive requirement shall prevail.

#### **101.8 City, County, or City and County Amendments, Additions or Deletions.**

The provisions of this code do not limit the authority of city, county, or city and county governments to establish more restrictive and reasonably necessary differences to the provisions contained in this code pursuant to complying with section 101.8.1. The effective date of amendments, additions, or deletions to this code of cities, counties, or city and counties filed pursuant to section 101.8.1 shall be the date filed. However, in no case shall the amendments, additions or deletions to this code be effective any sooner than the effective date of this code.

##### **101.8.1 Findings and Filings.**

1. The city, county, or city and county shall make express findings for each amendment, addition or deletion based upon climatic, topographical, or geological conditions.

**Exception:** Hazardous building ordinances and programs mitigating unreinforced masonry buildings.

2. The city, county, or city and county shall file the amendments, additions, or deletions expressly marked and identified as to the applicable findings. Cities, counties, cities and counties, and fire departments

shall file the amendments, additions or deletions, and the findings with the California Building Standards Commission at 2525 Natomas Park Drive, Suite 130, Sacramento, CA 95833.

3. Findings prepared by fire protection districts shall be ratified by the local city, county, or city and county and filed with the California Department of Housing and Community Development at 1800 3<sup>rd</sup> Street, Room 260, Sacramento, CA 95814.

**101.9 Effective Date of this Code.** Only those standards approved by the California Building Standards Commission that are effective at the time an application for building permit is submitted shall apply to the plans and specifications for, and to the construction performed under, that permit. For the effective dates of the provisions contained in this code, see the History Note page of this code.

**101.10 Availability of Codes.** At least one entire copy each of Titles 8, 19, 20, 24, and 25 with all revisions shall be maintained in the office of the building official responsible for the administration and enforcement of this code. See Health and Safety Code section 18942 (d) (1) & (2).

**101.11 Format.** This part fundamentally adopts the International Fire Code by reference on a chapter-by-chapter basis. Such adoption is reflected in the Matrix adoption table of each chapter of this part. When the Matrix adoption tables make no reference to a specific chapter of the International Fire Code, such chapter of the International Fire Code is not adopted as a portion of this code.

**101.12 Validity.** If any chapter section, subsection, sentence, clause or phrase of this code is for any reason held to be unconstitutional, contrary to statute, exceeding the authority of the state as stipulated by statutes, or otherwise inoperative, such decision shall not affect the validity of the remaining portion of this code.

Authority: Health and Safety Code Sections 13143, 17921, 18949

References: Health and Safety Code Sections 13143

**SECTION 102**  
**RESERVED**

**SECTION 103**  
**RESERVED**

**SECTION 104**  
**RESERVED**

**SECTION 105**  
**RESERVED**

**SECTION 106**  
**RESERVED**

**SECTION 107**  
**RESERVED**

**SECTION 108**  
**RESERVED**

**SECTION 109**  
**RESERVED**

**SECTION 110**  
**RESERVED**

**SECTION 111**  
**OFFICE OF THE STATE FIRE MARSHAL**

**111.1** (Relocated from 2001 CBC 101.17.14) **SFM-Office of the State Fire Marshal.**

Any building or structure used or intended for use as an asylum, jail, mental hospital, hospital, sanitarium, home for the aged, children's nursery, children's home, school or any similar occupancy of any capacity.

Any theater, dancehall, skating rink, auditorium, assembly hall, meeting hall, nightclub, fair building, or similar place of assemblage where 50 or more persons may gather together in a building, room or structure for the purpose of amusement, entertainment, instruction, deliberation, worship, drinking or dining, awaiting transportation, or education.

Authority Cited. Health and Safety Code Section 13143.

Reference. Health and Safety Code Section 13143.

### **Small Family Day-care Homes**

Authority Cited. Health and Safety Code Sections 1597.45, 1597.54, 13143 and 17921.

Reference. Health and Safety Code Section 13143.

### **Large Family Day-care Homes**

Authority Cited. Health and Safety Code Sections 1597.46, 1597.54 and 17921.

Reference. Health and Safety Code Section 13143.

### **Residential Facilities and Residential Facilities for the Elderly**

Authority Cited. Health and Safety Code Section 13133.

Reference. Health and Safety Code Section 13143.

### **Any state institution or other state-owned or state-occupied building.**

Authority Cited. Health and Safety Code Section 13108.

Reference. Health and Safety Code Section 13143.

### **High-rise Structures**

Authority Cited. Health and Safety Code Section 13211.

Reference. Health and Safety Code Section 13143.

### **Motion Picture Production Studios**

Authority Cited. Health and Safety Code Section 13143.1.

Reference. Health and Safety Code Section 13143.

### **Organized Camps**

Authority Cited. Health and Safety Code Section 18897.3.

Reference. Health and Safety Code Section 13143.

### **Residential**

All hotels, motels, lodging houses, apartment houses and dwellings, including congregate residences and buildings and structures accessory thereto.

Multiple-story structures existing on January 1, 1975, let for human habitation, including and limited to, hotels, motels, apartment houses, less than 75 feet (22 860 mm) above the lowest floor level having building access, wherein rooms used for sleeping are let above the ground floor.

Authority Cited. Health and Safety Code Sections 13143.2 and 17921.

Reference. Health and Safety Code Section 13143.

### **Residential Care Facilities**

Certified family-care homes, out-of-home placement facilities, halfway houses, drug and/or alcohol rehabilitation facilities and any building or structure used or intended for use as a home or institution for the housing of any person of any age when such person is referred to or placed within such home or institution for protective social care and supervision services by any governmental agency.

Authority Cited. Health and Safety Code Section 13143.6.

**Tents, awnings or other fabric enclosures used in connection with any occupancy.**

Authority Cited. Health and Safety Code Section 13116.

Reference. Health and Safety Code Section 13143.

Enforcing Agency. Pursuant to Section 13146, Health and Safety Code:

**Fire alarm devices, equipment and systems in connection with any occupancy.**

Authority Cited. Health and Safety Code Section 13114.

**Hazardous materials.**

Authority Cited. Health and Safety Code Section 13143.9.

**Flammable and combustible liquids.**

Authority Cited. Health and Safety Code Section 13143.6.

**Public School Automatic Fire Detection, Alarm, and Sprinkler Systems**

Authority Cited. Health & Safety Code Section 13143 and California Education Code Article 7.5, Sections 17074.50, 17074.52, & 17074.54.

Reference. Government Code Section 11152.5 and Health & Safety Code Section 13143 and California Education Code Chapter 12.5, Leroy F. Greene School Facilities Act of 1998, Article 1.

**Wildland Urban Interface Fire Area**

Authority Cited. Health & Safety Code Sections 13143, 13108.5(a) and 18949.2(b) and (c) and Government Code Section 51189.

Reference. Health & Safety Code Sections 13143 and Government Code Sections 51176, 51177, 51178 and 51179 and Public Resources Code Sections 4201 through 4204

**111.2 Duties and Powers of the Enforcing Agency**

**111.2.1 Enforcement.**

**111.2.1.1** (Relocated from 2001 CBC 101.17.4) The responsibility for enforcement of building standards adopted by the State Fire Marshal and published in the California Building Standards Code relating to fire and panic safety and other regulations of the Office of the State Fire Marshal shall be as follows:

1. The city, county, or city and county with jurisdiction in the area affected by the standard or regulation shall delegate the enforcement of the building standards relating to fire and panic safety and other regulations of the State Fire Marshal as they relate to Group R, Division 3 dwellings, as described in Section 310.1 of Part 2 of the California Building Standards Code, to either of the following:
  - 1.1. The chief of the fire authority of the city, county, or city and county, or an authorized representative.
  - 1.2. The chief building official of the city, county, or city and county, or an authorized representative.
2. The chief of any city or county fire department or of any fire protection district, and authorized representatives, shall enforce within the jurisdiction the building standards and other regulations of the State Fire Marshal, except those described in Item 1 or 4.
3. The State Fire Marshal shall have authority to enforce the building standards and other regulations of the State Fire Marshal in areas outside of corporate cities and districts providing fire protection services.

4. The State Fire Marshal shall have authority to enforce the building standards and other regulations of the State Fire Marshal in corporate cities and districts providing fire-protection services on request of the chief fire official or the governing body.
5. Any fee charged pursuant to the enforcement authority of this section shall not exceed the estimated reasonable cost of providing the service for which the fee is charged pursuant to Section 66014 of the Government Code.

**111.2.1.2** (Relocated from 2001 CBC 104.2.1) Pursuant to Health and Safety Code Section 13108, upon the written request of the chief fire official of any city, county or fire-protection district, the State Fire Marshal may authorize such chief fire official and his or her authorized representatives, in their geographical area of responsibility, to make fire-prevention inspections of state-owned or state-occupied buildings, other than state institutions, for the purpose of enforcing the regulations relating to fire and panic safety adopted by the State Fire Marshal pursuant to this section and building standards relating to fire and panic safety published in the California Building Standards Code. Authorization from the State Fire Marshal shall be limited to those fire departments or fire districts which maintain a fire-prevention bureau staffed by paid personnel.

Pursuant to Health and Safety Code Section 13108, any requirement or order made by any chief fire official who is authorized by the State Fire Marshal to make fire-prevention inspections of state-owned or state-occupied buildings, other than state institutions, may be appealed to the State Fire Marshal. The State Fire Marshal shall, upon receiving an appeal and subject to the provisions of Chapter 5 (commencing with Section 18945) of Part 2, 5 of Division 13 of the Health and Safety Code, determine if the requirement or order made is reasonably consistent with the fire and panic safety regulations adopted by the Office of the State Fire Marshal and building standards relating to fire and panic safety published in the California Building Code.

(Relocated from 2001 CBC 104.2.1) Any person may request a code interpretation from the State Fire Marshal relative to the intent of any regulation or provision adopted by the State Fire Marshal. When the request relates to a specific project, occupancy or building, the State Fire Marshal shall review the issue with the appropriate local enforcing agency prior to rendering such code interpretation.

**111.2.1.3** (Relocated from 2001 CBC 103.1) Pursuant to Health and Safety Code Section 13112, any person who violates any order, rule or regulation of the state fire marshal is guilty of a misdemeanor punishable by a fine of not less than \$100.00 or more than \$500.00, or by imprisonment for not less than six months, or by both. A person is guilty of a separate offense each day during which he or she commits, continues or permits a violation of any provision of, or any order, rule or regulation of, the state fire marshal as contained in this code.

Any inspection authority who, in the exercise of his or her authority as a deputy state fire marshal, causes any legal complaints to be filed or any arrest to be made shall notify the state fire marshal immediately following such action.

**111.2.2** (Relocated from 2001 CBC 104.2.3) **Right of entry.**

The fire chief of any city, county or fire-protection district, or such person's authorized representative, may enter any state institution or any other state-owned or state-occupied building for the purpose of preparing a fire-suppression preplanning program or for the purpose of investigating any fire in a state-occupied building.

The State Fire Marshal, his or her deputies or salaried assistants, the chief of any city or county fire department or fire protection district and his or her authorized representatives may enter any building or premises not used for dwelling purposes at any reasonable hour for the purpose of enforcing this chapter. The owner, lessee, manager or operator of any such building or premises shall permit the State Fire Marshal, his or her deputies or salaried assistants and the chief of any city or county fire department or fire-protection district and his or her authorized representatives to enter and inspect them at the time and for the purpose stated in this section.

**111.2.3 More Restrictive Fire and Panic Safety Building Standards.** (Relocated from 2001 CBC 101.15)

**111.2.3.1** Any fire-protection district organized pursuant to Health and Safety Code Part 2.7 (commencing with Section 13800) of Division 12 may adopt building standards relating to fire and panic safety that are more stringent than those building standards adopted by the State Fire Marshal and contained in the California Building Standards Code. For these purposes, the district board shall be deemed a legislative body and the district shall be deemed a local agency. Any changes or modifications that are more stringent than the requirements published in the California Building Standards Code relating to fire and panic safety shall be subject to 101.8.1.

111.2.3.2 Any fire protection district that proposes to adopt an ordinance pursuant to this section shall, not less than 30 days prior to noticing a proposed ordinance for public hearing, provide a copy of that ordinance, together with the adopted findings made pursuant to Section 111.2.3.1, to the city, county, or city and county where the ordinance will apply. The city, county, or city and county, may provide the district with written comments, which shall become part of the fire protection district's public hearing record.

111.2.3.3 The fire-protection district shall transmit the adopted ordinance to the city, county, or city and county where the ordinance will apply. The legislative body of the city, county, or city and county, may ratify, modify or deny an adopted ordinance and transmit its determination to the district within 15 days of the determination. Any modification or denial of an adopted ordinance shall include a written statement describing the reasons for any modifications or denial. No ordinance adopted by the district shall be effective until ratification by the city, county, or city and county where the ordinance will apply. Upon ratification of an adopted ordinance, the city, county, or city and county, shall file a copy of the findings of the district, and any findings of the city, county, or city and county, together with the adopted ordinance expressly marked and identified to which each finding refers, in accordance with Section 101.8.1:3.

111.2.4 (Relocated from 2001 CFC 103.1.2.1) Request for alternate means of protection. Requests for approval to use an alternative material, assembly or materials, equipment, method of construction, method of installation of equipment, or means of protection shall be made in writing to the enforcing agency by the owner or the owner's authorized representative and shall be accompanied by a full statement of the conditions. Sufficient evidence or proof shall be submitted to substantiate any claim that may be made regarding its conformance. The enforcing agency may require tests and the submission of a test report from an approved testing organization as set forth in Title 19, California code of Regulation, to substantiate the equivalency of the proposed alternative means of protection.

~~The enforcing agency may consider implementation of the findings and recommendations identified in a Risk Management Plan (RMP) as developed in accordance with Title 19, Division 2, Chapter 3, when evaluating requests for alternative means of protection. When a request for alternate means of protection involves hazardous materials, the enforcing agency may consider implementation of the findings and recommendations identified in a Risk Management Plan (RMP) developed in accordance with Title 19, Division 2, Chapter 4.5, Article 3.~~

Approval of a request for use of an alternative material, assembly of materials, equipment, method of construction, method of installation of equipment, or means of protection made pursuant to these provisions shall be limited to the particular case covered by request and shall not be construed as establishing any precedent for any future request.

111.2.5 (Relocated from 2001 CFC 103.1.4.2) Appeals. When a request for an alternate means of protection has been denied by the enforcing agency, the applicant may file a written appeal to the state fire marshal for consideration of the applicant's proposal. In considering such appeal, the state fire marshal may seek the advice of the State Board of Fire Services. The State Fire Marshal shall, after considering all of the facts presented, including any recommendations of the State board of Fire Services, determine if the proposal is for the purposes intended, at least equivalent to that specified in these regulations in quality, strength, effectiveness, fire resistance, durability and safety, and shall transmit such findings and any recommendations to the applicant and to the enforcing agency.

111.3 Construction Documents. In addition to the provisions of this Section, see Title 24, Part 2, California Building Code, Appendix Chapter 1, Section 106 for additional requirements.

111.3.1 (Relocated from 2001 CBC 106.3.3.1) Public schools. Plans and specifications for the construction, alteration or addition to any building owned, leased or rented by any public school district shall be submitted to the Division of the State Architect, Office of Regulation Services for review and approval.

Exception: Upon the annual submission of a written request by the chief of any city, county, or city and county fire department or fire-protection district to the Division of the State Architect, Office of Regulation Services, approvals required by this subsection shall be obtained from the appropriate chief or his or her authorized representative. In such instances plans and specifications may be submitted to the State Fire Marshal for relay to the appropriate local authority or may be submitted directly to such local authority.

111.3.2 (Relocated from 2001 CBC 106.3.3.2) Movable walls and partitions. Plans or diagrams shall be submitted to the enforcing agency for approval before the installation of, or rearrangement of, any movable wall or partition in any occupancy. Approval shall be granted only if there is no increase in the fire hazard.

111.3.3 (Relocated from 2001 CBC 106.3.3.3) New construction high-rise buildings.

1. Complete plans or specifications, or both, shall be prepared covering all work required to comply with new construction high-rise buildings. Such plans and specifications shall be submitted to the enforcing agency having jurisdiction.

2. All plans and specifications shall be prepared under the responsible charge of an architect or a civil or structural engineer authorized by law to develop construction plans and specifications, or by both such architect and engineer. Plans and specifications shall be prepared by an engineer duly qualified in that branch of engineering necessary to perform such services. Administration of the work of construction shall be under the charge of the responsible architect or engineer except that where plans and specifications involve alterations or repairs, such work of construction may be administered by an engineer duly qualified to perform such services and holding a valid certificate under Chapter 7 (commencing with Section 65700) of Division 3 of the Business and Professions Code for performance of services in that branch of engineering in which said plans, specifications and estimates and work of construction are applicable.

This section shall not be construed as preventing the design of fire-extinguishing systems by persons holding a C-16 license issued pursuant to Division 3, Chapter 9, Business and Professions Code. In such instances, however, the responsibility charge of this section shall prevail.

111.3.4 (Relocated from 2001 CBC 106.3.3.4) **Existing high-rise buildings.** 1. Complete plans or specifications, or both, shall be prepared covering all work required by Section 3412, for existing high-rise buildings. Such plans or specifications shall be submitted to the enforcing agency having jurisdiction.

2. When new construction is required to conform with the provisions of these regulations, complete plans or specifications, or both, shall be prepared in accordance with the provisions of this subsection. As used in this section "new construction" is not intended to include repairs, replacements or minor alterations which do not disrupt or appreciably add to or affect the structural aspects of the building.

111.3.5 (Relocated from 2001 CPC 103.3.2.2) **Retention of Plans.** Refer to Building Standards Law, Health and Safety Code Sections 19850 and 19851, for permanent retention of plans.

#### 111.4 Fees

111.4.1 (Relocated from 2001 CBC 107.6.1) **Other fees.** Pursuant to Health and Safety Code Section 13146.2, a city, county or district which inspects a hotel, motel, lodging house, or apartment house may charge and collect a fee for the inspection from the owner of the structure in an amount, as determined by the city, county or district, sufficient to pay its costs of that inspection.

(Relocated from 2001 CBC 107.6.1)

111.4.2 **Large Family Day Care.** Pursuant to Health and Safety Code Section 1597.46, Large Family Day-care Homes, the local government shall process any required permit as economically as possible, and fees charged for review shall not exceed the costs of the review and permit process.

(Relocated from 2001 CBC 107.6.1)

111.4.3 **High-Rise.** Pursuant to Health and Safety Code Section 13217, High-rise Structure Inspection: Fees and Costs, a local agency which inspects a high-rise structure pursuant to Health and Safety Code Section 13217 may charge and collect a fee for the inspection from the owner of the high-rise structure in an amount, as determined by the local agency, sufficient to pay its costs of that inspection.

(Relocated from 2001 CBC 107.6.1)

111.4.4 **Fire Clearance Pre-inspection.** Pursuant to Health and Safety Code Section 13235, Fire Clearance Pre-inspection, fee: upon receipt of a request from a prospective licensee of a community care facility, as defined in Section 1502, of a residential-care facility for the elderly, as defined in Section 1569.2, or of a child day-care facility, as defined in Section 1596.750, the local fire enforcing agency, as defined in Section 13244, or state fire marshal, whichever has primary jurisdiction, shall conduct a pre-inspection of the facility prior to the final fire clearance approval. At the time of the pre-inspection, the primary fire enforcing agency shall price consultation and interpretation of the fire safety regulations, and shall notify the prospective licensee of the facility in writing of the specific fire safety regulations which shall be enforced in order to obtain fire clearance approval. A fee of not more than \$50.00 may be charged for the pre-inspection of a facility with a capacity to serve 25 or fewer persons. A fee of not more than \$100.00 may be charged for a pre-inspection of a facility with a capacity to serve 26 or more persons.

(Relocated from 2001 CBC 107.6.1)

**111.4.5 Care Facilities.** The primary fire enforcing agency shall complete the final fire clearance inspection for a community care facility, residential-care facility for the elderly, or child day-care facility within 30 days of receipt of the request for the final inspection, or as of the date the prospective facility requests the final pre-licensure inspection by the State Department of Social Services, whichever is later.

Pursuant to Health and Safety Code Section 13235, a pre-inspection fee of not more than \$50 may be charged for a facility with a capacity to serve 25 or less clients. A fee of not more than \$100 may be charged for a pre-inspection of a facility with a capacity to serve 26 or more clients.

Pursuant to Health and Safety Code Section 13131.5, a reasonable final inspection fee, not to exceed the actual cost of inspection services necessary to complete a final inspection may be charged for Occupancies classified as residential care facilities for the elderly (RCFE).

Pursuant to Health and Safety Code Section 1569.84, neither the state fire marshal nor any local public entity shall charge any fee for enforcing fire inspection regulations pursuant to state law or regulation or local ordinance, with respect to residential-care facilities for the elderly (RCFE) which service six or fewer persons.

(Relocated from 2001 CBC 107.6.1)

**111.4.6 Requests of the Office of the State Fire Marshal Requests.** Whenever a local enforcing agency requests that the State Fire Marshal perform plan review and/or inspection services related to a building permit, the applicable fees for such shall be payable to the Office of the State Fire Marshal.

**111.5 Inspections.** Work performed subject to the provisions of this Code shall comply with the inspection requirements contained in Appendix Chapter 1, Section 106 as adopted by the Office of the State Fire Marshal.

**111.5.1 Existing Group I-1 or R occupancies.** Licensed 24-hour care in a Group I-1 or R occupancy in existence and originally classified under previously adopted state codes be reinspected under the appropriate previous code provided there is no change in the use or character which would place the facility in a different occupancy group.

**111.6 Certificate of Occupancy.** A Certificate of Occupancy shall be issued as specified in Title 24, Part 2, California Building Code, Appendix Chapter 1, Section 110.

**Exception:** Group R-3 and Group U Occupancies.

**111.7 Temporary Structures and Uses.** See Title 24, Part 2, California Building Code, Appendix Chapter 1, Section 107.

**111.8 Service Utilities.** See Title 24, Part 2, California Building Code, Appendix Chapter 1, Section 111.

**111.9 Stop Work Order.** See Title 24, Part 2, California Building Code, Appendix Chapter 1, Section 114.

**111.10 Unsafe Buildings, Structures and Equipment.** See Title 24, Part 2, California Building Code, Appendix Chapter 1, Section 115.

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13143, 17921, 18949

References: Health and Safety Code Sections 13143

**SECTION 112**  
**RESERVED**

**SECTION 113**  
**RESERVED**

## CHAPTER 2

## DEFINITIONS

(Note: Adopt the entire Chapter with amendments.)

**201.3 Terms defined in other codes.** Where terms are not defined in this Code and are defined in the ~~International California Building Code, International Fuel Gas Code, International California Mechanical Code or International California Plumbing Code~~, such terms shall have the meanings ascribed to them as in those codes.

Authority Cited: Health and Safety Code Section 13143.

Reference: Health and Safety Code Section 13143.

### SECTION 202 GENERAL DEFINITIONS

**[B] AGED HOME OR INSTITUTION.** *is a facility used for the housing of persons 65 years of age or older in need of care and supervision. (See definition of "care and supervision")*

**[B] ASSEMBLY.** *The gathering together of 50 or more persons for such purposes as deliberation, education, instruction, worship, entertainment, amusement, drinking, dining or awaiting transportation.*

**[B] ASSEMBLY BUILDING** is a building or portion of a building used for the gathering together of 50 or more persons for such purposes as deliberation, education, instruction, worship, entertainment, amusement, drinking or dining, or awaiting transportation. (Relocated from 2001 CBC 202-A) ~~[For SFM]~~ *Any building or structure or portion thereof used or intended to be used for the showing of motion pictures when an admission fee is charged and when such building or structure is open to the public and has a capacity of 10 or more persons.*

**[B] BEDRIDDEN PERSON** *means a person, requiring assistance in turning and repositioning in bed, or being unable to independently transfer to and from bed, except in facilities with appropriate and sufficient care staff, mechanical devices if necessary, and safety precautions as determined in Title 22 regulations, by the Director of Social Services or his or her designated representative.*

*The Director of Social Services or his or her designated representative shall make the determination of the bedridden status of persons with developmental disabilities, in consultation with the Director of Developmental Services or his or her designated representative.*

*The Director of Social Services or his or her designated representative shall make the determination of the bedridden status of all other persons with disabilities who are not developmentally disabled.*

**[B]** (Relocated from 2001 CBC 203-B) ~~[For SFM]~~ **BUILDING.** *is any structure as to which state agencies have regulatory power, used or intended for supporting or sheltering any use or occupancy, housing or enclosure of persons, animals, chattels, equipment or property of any kind, and also includes structures wherein things may be grown, made, produced, kept, handled, stored or disposed of, and all appendages, accessories, apparatus, appliances and equipment installed as a part thereof.*

*Building shall not include machinery, equipment or appliances installed for manufacture or process purposes only, nor shall it include any construction installations which are not a part of a building, any tunnel, mine shaft, highway or bridge, or include any house trailer or vehicle which conforms to the Vehicle Code.*

(Relocated from 2001 CBC 203-B) **Note:** *Building shall have the same meaning as defined in Health and Safety Code Section 17920 and 18908 for the applications specified in Sections 101.17.9 and 101.17.10 111.*

**[B] CARE AND SUPERVISION** *means any one or more of the following activities provided by a person or facility to meet the needs of the clients:*

*Assistance in dressing, grooming, bathing and other personal hygiene.*

*Assistance with taking medication.*

*Central storing and/or distribution of medications.*

*Arrangement of and assistance with medical and dental care.*

*Maintenance of house rules for the protection of clients.*

*Supervision of client schedules and activities.*

*Maintenance and/or supervision of client cash resources or property.*

Monitoring food intake or special diets.

Providing basic services required by applicable law and regulation to be provided by the licensee in order to obtain and maintain a community-care facility license.

**[B] CATASTROPHICALLY INJURED**, as termed, means a person whose origin of disability was acquired through trauma or nondegenerative neurologic illness, for whom it has been determined by the Department of Health Services Certification and Licensing that active rehabilitation would be beneficial.

**[B] CELL** is a housing unit in a detention or correctional facility for the confinement of not more than two inmates or prisoners.

**[B] CELL COMPLEX** is a cluster or group of cells or dormitories in a jail, prison or other detention facility, together with rooms used for accessory purposes, all of which open into the cell complex, and are used for functions such as dining, counseling, exercise, classrooms, sick call, visiting, storage, staff offices, control rooms or similar functions, and interconnecting corridors all within the cell complex.

**CELL TIERS** are cells, dormitories and accessory spaces. Cell tiers are located one level above the other, and do not exceed two levels per floor. A cell tier shall not be considered a story or mezzanine.

**[B] CHILD-CARE CENTER**, is any facility of any capacity other than a large or small family day-care home as defined in these regulations in which less than 24-hour-per-day nonmedical supervision is provided for children in a group setting.

**[B] CHILD OR CHILDREN**, is a person or persons under the age of 18 years.

**[B] CHRONICALLY ILL**. See "Terminally ill."

**[B] CONGREGATE LIVING HEALTH FACILITY (CLHF)**, as termed, is a residential home with a capacity of no more than six beds, which provides inpatient care, including the following basic services: medical supervision, 24-hour skilled nursing and supportive care, pharmacy, dietary, social recreational, and at least provides services for persons who are diagnosed with a terminal illness or who are catastrophically and severely disabled.

**[B] CONGREGATE RESIDENCE**, is any building or portion thereof that contains facilities for living, sleeping and sanitation, as required by this code, and may include facilities for eating and cooking, for occupancy by other than a family. A congregate residence may be a shelter, convent, monastery, dormitory, fraternity or sorority house, but does not include jails, hospitals, nursing homes, hotels or lodging houses.

**[B] DAY-CARE** shall, for the purposes of these regulations, mean the care of persons during any period of a 24-hour day where permanent sleeping accommodations are not provided.

**Note**: "Day-care" shall not be construed to preclude the use of cots or mats for napping purposes, provided all employees, attendants and staff personnel are awake and on duty in the area where napping occurs.

**[B] DAY-CARE HOME, LARGE FAMILY**. A providers own home licensed to provide day care for periods less than 24-hours per day for nine to 14 persons, including children under the age of 10 years who reside at the home.

**[B] DAY-CARE HOME, SMALL FAMILY**. A home which provides family day-care to eight or fewer children, including children under the age of 10 years who reside at the home, in the provider's own home, for periods of less than 24 hours per day. Small family day-care homes are exempted from state fire and life safety regulations other than those state and local standards applicable to Group R, division 3 Occupancies. [See Health and Safety Code, Section 13143 (b).]

**[B] DAY ROOM** is a room which is adjacent to a cell, or cell tier, or dormitory and which is used as a dining, exercise or other activity room for inmates.

**[B] ENFORCING AGENCY**. Enforcing Agency is the designated department or agency as specified by statute or regulation.

**FIRE APPLIANCE** See Section 902.1.

**[B] FIRE-RETARDANT TREATED WOOD.** *Fire-Retardant Wood is any wood product impregnated with chemicals by a pressure process or other means during manufacture, and which, when tested in accordance with ASTM E84-05 for a period of 30 minutes, shall have a flame spread of not over 25 and show no evidence of progressive combustion. In addition, the flame front shall not progress more than 10 1/2 feet (3200 mm) beyond the center line of the burner at any time during the test. Materials that may be exposed to the weather shall pass the accelerated weathering test and be identified as Exterior type, in accordance with ASTM D 2898-94 and ASTM D 3201-94. Where material is not directly exposed to rainfall but exposed to high humidity conditions, it shall be subjected to the hygroscopic test and identified as Interior Type A in accordance with ASTM D 2898-94 and ASTM D 3201-94.*

*All materials shall bear identification showing the fire performance rating thereof. Such identifications shall be issued by an approved agency having a service for inspection of materials at the factory.*

*Fire-retardant-treated wood shall not be construed as “noncombustible”.*

Authority: Health and Safety Code Sections 13143, 13108.5(a) and 18949.2(b) and (c) and Government Code Section 51189.

References: Health and Safety Code Sections 13143 and Government Code Sections 51176, 51177, 51178 and 51179 and Public Resources Code Sections 4201 through 4204

**[B] FIXED GUIDEWAY TRANSIT SYSTEMS.** *(See California Building Code, Section 443.)*

**[B] FULL-TIME CARE** *shall mean the establishment and routine care of persons on an hourly, daily, weekly, monthly, yearly or permanent basis, whether for 24-hours per day or less, and where sleeping accommodations are provided.*

(Relocated from 2001 CBC Sections 209-H and Chapter 4)

**[B] HIGH-RISE BUILDING.** *As used in this Code:*

- 1. “Existing high-rise structure” means a high-rise structure, the construction of which is commenced or completed prior to July 1, 1974.*
- 2. “High-rise structure” means every building of any type of construction or occupancy having floors used for human occupancy located more than 75 feet above the lowest floor level having building access (see California Building Code, Section 403.1.2), except buildings used as hospitals as defined in Health and Safety Code Section 1250.*
- 3. “New high-rise structure” means a high-rise structure, the construction of which is commenced on or after July 1, 1974.*

Authority: Health and Safety Code Sections 13210, 13211, 13143 and 18949

References: 13211 and 13143

**[B] HOLDING FACILITY** *means a detention or correctional facility or area where inmates, staff and public are not housed but are restrained.*

**[B] HOUSING UNIT** *is an area intended to lodge inmates on a 24-hour basis where accommodations are provided for sleeping.*

**[B] INFANT,** *for the purpose of these regulations, shall mean any child who because of age only, is unable to walk and requires the aid of another person to evacuate the building. In no case shall the term “infant” mean a child beyond two years of age.*

**[B] LODGING HOUSE** *is any building or portion thereof containing not more than five guest rooms where rent is paid in money, goods, labor or otherwise.*

**[B] MENTALLY RETARDED PERSONS, PROFOUNDLY OR SEVERELY** *shall mean any retarded person who is unable to evacuate a building unassisted during emergency conditions.*

**Note:** The determination as to such incapacity shall be made by the Director of the State Department of Public Health or his or her designated representative pursuant to Health and Safety Code Section §13131.3.

**MODERNIZATION PROJECT** is any construction effort that has an estimated total cost in excess of \$200,000.00 that is intended to modify a permanent school building or structure and or the addition of a new school building or structure used to serve or house students from kindergarten through twelfth grade (K-12). Modernization efforts shall apply strictly to a public school that was established prior to July 1, 2002 and is funded pursuant to the Education Code, section 17074.56 and Education Code commencing with section 17070.10. Modernization projects that are to be completed in more than one phase, may defer the installation of the automatic fire detection and alarm systems until the final phase of the modernization project. Solely for the purposes of Education Code section 17074.20, routine maintenance and repair work shall not be considered a modernization project.

**NEW PUBLIC SCHOOL CAMPUS.** New public school campus is an educational institution established on or after July 1, 2002 that houses and or serves students from kindergarten through twelfth grade (K-12) and is funded pursuant to the Education Code, commencing with section 17070.10.

**NON-ACCESSIBLE AREA** is an enclosed area that creates a cavity by the application of any construction feature and or building materials. This area shall be recognized by the enforcing agency as a separation between the non-accessible space and any adjacent, occupied space of the building.

**[B] NONAMBULATORY PERSONS,** are persons unable to leave a building unassisted under emergency conditions. It includes, but is not limited to, persons who depend on mechanical aids such as crutches, walkers and wheelchairs and any person who is unable to physically and mentally respond to a sensory signal approved by the state fire marshal or an oral instruction relating to fire danger.

The determination of ambulatory or non-ambulatory status of persons with developmental disabilities shall be made by the Director of Social Services or his or her designated representative, in consultation with the director of Developmental Services or his or her designated representative. The determination of ambulatory or nonambulatory status of all other disabled persons placed after January 1, 1984, who are not developmentally disabled shall be made by the Director of Social Services or his or her designated representative.

**[B] NONCOMBUSTIBLE.** Noncombustible as applied to building construction material means a material which, in the form in which it is used, is either one of the following:

1. Material of which no part will ignite and burn when subjected to fire. Any material passing ASTM 136 shall be considered noncombustible.
2. Material having a structural base of noncombustible material as defined in Item 1 above, with a surfacing material not over  $\frac{1}{8}$  inch (3.2 mm) thick which has a flame-spread rating of 50 or less.

"Noncombustible" does not apply to surface finish materials. Material required to be noncombustible for reduced clearances to flues, heating appliances or other sources of high temperature shall refer to material conforming to Item 1. No material shall be classed as noncombustible which is subject to increase in combustibility or flame-spread rating, beyond the limits herein established, through the effects of age, moisture or other atmospheric condition.

## **OCCUPANCY CLASSIFICATION**

**[B] Assembly Group A.** Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering of persons for purposes such as civic, social or religious functions; recreation, food or drink consumption; or awaiting transportation or (Relocated from 2001 CBC 303.1.1) Motion Picture and Television Production Studio Sound Stages, Approved Production Facilities and production locations.

### **Exceptions:**

1. A building used for assembly purposes with an occupant load of less than 50 persons shall be classified as a Group B occupancy.
2. A room or space used for assembly purposes with an occupant load of less than 50 persons and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.
3. A room or space used for assembly purposes that is less than 750 square feet (70 m<sup>2</sup>) in area and is accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy. Assembly occupancies shall include the following:

**A-1** Assembly uses, usually with fixed seating, intended for the production and viewing of the performing arts or motion pictures including, but not limited to:

(Relocated from 2001 CBC 303.1.1) *Motion picture and television production studio Sound Stages, Approved Production Facilities and production locations. (With live audiences).*

Motion picture theaters  
Symphony and concert halls  
Television and radio studios admitting an audience  
Theaters

**A-2** Assembly uses intended for food and/or drink consumption including, but not limited to:

Banquet halls  
Night clubs  
Restaurants  
Taverns and bars

**A-3** Assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A including, but not limited to:

Amusement arcades  
Art galleries  
Bowling alleys  
Places of religious worship  
Community halls  
Courtrooms  
Dance halls (not including food or drink consumption)  
Exhibition halls  
Funeral parlors  
Gymnasiums (without spectator seating)  
Indoor swimming pools (without spectator seating)  
Indoor tennis courts (without spectator seating)  
Lecture halls  
Libraries  
Museums  
Waiting areas in transportation terminals  
Pool and billiard parlors

**A-4** Assembly uses intended for viewing of indoor sporting events and activities with spectator seating including, but not limited to:

Arenas  
Skating rinks  
Swimming pools  
Tennis courts

**A-5** Assembly uses intended for participation in or viewing outdoor activities including, but not limited to:

Amusement park structures  
Bleachers  
Grandstands  
Stadiums

Authority: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143

**[B] Business Group B.** Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

Airport traffic control towers  
Animal hospitals, kennels and pounds  
Banks  
Barber and beauty shops  
Car wash  
Civic administration  
Clinic-outpatient (*Not classified as Group I-2.1*)  
Dry cleaning and laundries: pick-up and delivery stations and self-service  
Educational occupancies for students above the 12th grade  
Electronic data processing  
Laboratories: testing and research  
Motor vehicle showrooms  
Post offices  
Print shops  
Professional services (architects, attorneys, dentists, physicians, engineers, etc.)  
Radio and television stations  
Telephone exchanges  
Training and skill development not within a school or academic program

Authority: Health and Safety Code Sections 13131, 13143

References: Health and Safety Code Sections 13143

**[B] Group C (CAMPS, ORGANIZED).** *An organized camp is a site with programs and facilities established for the primary purpose of providing an outdoor group living experience with social, spiritual, educational or recreational objectives, for five days or more during one or more seasons of the year.*

**[B] Educational Group E.** Educational Group E occupancy includes, among others, the use of a building or structure, or a portion thereof, by six or more persons at any one time for educational purposes through the 12th grade. Religious educational rooms and religious auditoriums, which are accessory to churches in accordance with Section 508.3.1 and have occupant loads of less than 100, shall be classified as A-3 occupancies.

(Relocated from 2001 CBC 305.1) **Exception:** *A residence used as a home school for the children who normally reside at the residence. Such residences shall remain classified as Group R-2, or Group R-3 Occupancies.*

**Day care.** The use of a building or structure, or portion thereof, for educational, supervision or personal care services for more than five children older than 2½ years of age, shall be classified as a Group E occupancy.

**Exception:** *A Daycare facility not otherwise classified as an R-3 Occupancy, where occupants are not capable of responding to an emergency situation without physical assistance from the staff shall be classified as Group I-4.*

Authority: Health and Safety Code Sections 1502, 13143

References: Health and Safety Code Sections 13143

**[B] Factory Industrial F-1 Moderate-hazard Occupancy.**

Factory industrial uses which are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:

Aircraft  
Appliances  
Athletic equipment  
Automobiles and other motor vehicles  
Bakeries  
Beverages; over 12-percent alcohol content  
Bicycles

Boats  
Brooms or brushes  
Business machines  
Cameras and photo equipment  
Canvas or similar fabric  
Carpets and rugs (includes cleaning)  
Construction and agricultural machinery  
Disinfectants  
Dry cleaning and dyeing  
Electric generation plants  
Electronics  
Engines (including rebuilding)  
Food processing  
Furniture  
Hemp products  
Jute products  
Laundries  
Leather products  
Machinery  
Metals  
Millwork (sash & door)  
(Relocated from 2001 CBC 306.1) *Motion picture and television production studio Sound Stages, Approved Production Facilities and production locations (without live audiences)*  
~~Motion pictures and television filming (without spectators)~~  
Musical instruments  
Optical goods  
Paper mills or products  
Photographic film  
Plastic products  
Printing or publishing  
Recreational vehicles  
Refuse incineration  
Shoes  
Soaps and detergents  
Textiles  
Tobacco  
Trailers  
Upholstering  
Wood; distillation  
Woodworking (cabinet)

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**Group H High-hazard.** High-hazard Group H occupancy includes, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of quantities allowed in control areas constructed and located as required in Section 2703.8.3. Hazardous uses are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this code and the requirements of Section 415 of the ~~International~~ California Building Code.

**Exceptions:** The following shall not be classified in Group H, but shall be classified in the occupancy that they most nearly resemble:

1. Buildings and structures that contain not more than the maximum allowable quantities per control area of hazardous materials as shown in Tables 2703.1.1(1) and 2703.1.1(2), provided that such buildings are maintained in accordance with this code.
2. Buildings utilizing control areas in accordance with Section 2703.8.3 that contain not more than the maximum allowable quantities per control area of hazardous materials as shown in Tables 2703.1.1(1) and 2703.1.1(2).
3. Buildings and structures occupied for the application of flammable finishes, provided that such buildings

or areas conform to the requirements of Section 416 of the ~~International California Building Code~~ and Chapter 15 of this code.

4. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to Chapter 34.
5. Closed piping systems containing flammable or combustible liquids or gases utilized for the operation of machinery or equipment.
6. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140°F (60°C) or higher in closed systems employing equipment listed by an approved testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour fire barriers constructed in accordance with Section 706 of the ~~International California Building Code~~ or 1-hour horizontal assemblies constructed in accordance with Section 711 of the ~~International Building Code~~, or both.
7. Cleaning establishments that utilize a liquid solvent having a flash point at or above 200°F (93°C).
8. Liquor stores and distributors without bulk storage.
9. Refrigeration systems.
10. The storage or utilization of materials for agricultural purposes on the premises.
11. Stationary batteries utilized for facility emergency power, uninterrupted power supply or telecommunication facilities, provided that the batteries are provided with safety venting caps and ventilation is provided in accordance with the ~~International California Mechanical Code~~.
12. Corrosives shall not include personal or household products in their original packaging used in retail display or commonly used building materials.
13. Buildings and structures occupied for aerosol storage shall be classified as Group S-1, provided that such buildings conform to the requirements of Chapter 28.
14. Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in quantities not exceeding the maximum allowable quantity per control area in Group M or S occupancies complying with Section 2703.8.3.5.
15. The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements of this code.

**[B] Institutional Group I.** Institutional Group I occupancy includes, among others, the use of a building or structure, or a portion thereof, in which people are cared for or live in a supervised environment, having physical limitations because of health or age are harbored for medical treatment or other care or treatment, or in which people are detained for penal or correctional purposes or in which the liberty of the occupants is restricted. Institutional occupancies shall be classified as Group I-1, I-2, I-3 or I-4. Restraint shall not be permitted in any building except in Group I-3 occupancies constructed for such use. See Section 308.4. See special provisions for I-2.1 occupancies in Section 509.9.

(Relocated from 2001 CBC 308.1) ~~Exceptions:~~ 1. Group I Occupancies shall not include buildings used only for private residential purposes for a family group.

2. ~~[For SFM]~~ Where occupancies house both ambulatory and non-ambulatory persons, the more restrictive requirements shall apply.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**Group I-1.** This occupancy shall include buildings, structures or parts thereof housing ~~more than 16 persons~~ clients, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment that provides personal care services. ~~The occupants are capable of responding to an emergency situation without physical assistance from staff.~~

~~Residential board and care facilities~~  
~~Assisted living facilities~~  
~~Halfway houses~~  
~~Group homes~~  
~~Congregate care facilities~~  
~~Social rehabilitation facilities~~  
~~Alcohol and drug centers~~

Convalescent facilities.

*This occupancy may contain more than six non-ambulatory and/or bedridden clients. (See Section 419.4 Special Provisions For Licensed 24-Hour Care Facilities in a Group I-1, R-3.1, or R-4 Occupancy).* This group shall include, but not be limited to, the following:

Assisted living facilities *such as:* Residential ~~board and~~ Care Facilities, *Residential Care Facilities for the Elderly (RCFE's), Adult Residential Facilities,* Congregate ~~care~~ *Living Health* facilities, Group homes, *Residential Care Facilities for the Chronically Ill, and Congregate Living Health Facilities for the Terminally Ill.*

Social rehabilitation facilities *such as:* Halfway houses, *Community Correctional Centers, Community Correction Reentry Centers, Community Treatment Programs, Work Furlough Programs, and Alcoholism and or drug abuse recovery or treatment facilities centers).*

~~A facility such as the above with five or fewer persons shall be classified as a Group R-3 or shall comply with the International Residential Code in accordance with Section 101.2. A facility such as above, housing at least and not more than 16 persons, shall be classified as Group R-4.~~

Authority: Health and Safety Code Sections 1502, 1568.02, 1569.72, 11159.2, 13131, 13143

References: Health and Safety Code Sections 13143

**Group I-2.** This occupancy shall include buildings and structures used for medical, surgical, psychiatric, nursing or custodial care on a 24-hour basis for more than five persons who are ~~not capable of self-preservation~~ *classified as non-ambulatory or bedridden.* This group shall include, but not be limited to, the following:

Hospitals

Nursing homes (both intermediate care facilities and skilled nursing facilities)

Mental hospitals

Detoxification facilities

~~A facility such as the above with five or fewer persons shall be classified as Group R-3 or shall comply with the International Residential Code in accordance with Section 101.2.~~

Authority: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143

**Group I-2.1 Ambulatory Care Facility.** *A Healthcare facility that receives persons for outpatient medical care that may render the patient incapable of unassisted self-preservation and where each tenant space accommodates more than five such patients.*

Authority: Health and Safety Code Sections 13131, 13143

References: Health and Safety Code Sections 13143

**Group I-3.** This occupancy shall include buildings *or portions of buildings* and structures that are inhabited by ~~more than five~~ *one or more* persons who are under restraint ~~or security~~. An I-3 facility is occupied by persons who are generally incapable of self-preservation due to security measures not under the occupants' control *restrained*. This group shall include, but not be limited to, the following:

Correctional centers

Detention centers

Jails

~~Prerelease centers~~

Prisons

Reformatories

Juvenile Halls

**Condition 1.** ~~This occupancy condition shall include buildings in which free movement is allowed from sleeping areas, and other spaces where access or occupancy is permitted, to the exterior via means of egress without restraint. A Condition 1 facility is permitted to be constructed as Group R. (Not used)~~

**Condition 2.** This occupancy condition shall include buildings in which free movement is allowed from sleeping areas and any other occupied smoke compartment to one or more other smoke compartments. Egress to the exterior is impeded by locked exits.

**Condition 3.** This occupancy condition shall include buildings in which free movement is allowed within individual smoke compartments, such as within a residential unit comprised of individual sleeping units and group activity spaces, where egress is impeded by remote-controlled release of means of egress from such a smoke compartment to another smoke compartment.

**Condition 4.** This occupancy condition shall include buildings in which free movement is restricted from an occupied space. Remote-controlled release is provided to permit movement from sleeping units, activity spaces and other occupied areas within the smoke compartment to other smoke compartments.

**Condition 5.** This occupancy condition shall include buildings in which free movement is restricted from an occupied space. Staff-controlled manual release is provided to permit movement from sleeping units, activity spaces and other occupied areas within the smoke compartment to other smoke compartments.

**[B] Group I-4, day care facilities.** This group shall include buildings and structures occupied by persons of any age who receive custodial care for less than 24 hours by individuals other than parents or guardians, relatives by blood, marriage or adoption and in a place other than the home of the person cared for. A facility such as the above with five or fewer persons shall be classified as a Group R-3. ~~or shall comply with the *International Residential Code* in accordance with Section 101.2~~. Places of worship during religious functions are not included.

**Adult care facility.** A facility that provides accommodations for less than 24 hours for more than five unrelated adults and provides supervision and personal care services shall be classified as Group I-4.

~~**Exception:** A facility where occupants are capable of responding to an emergency situation without physical assistance from the staff shall be classified as Group A-3.~~

**Child care facility.** A facility that provides supervision and personal care on less than a 24-hour basis for more than five children 21/2 years of age or less shall be classified as Group I-4.

**Exception:** A child day care facility which provides care for more than five but no more than 100 children 21/2 years or less of age, when the rooms where such children are cared for are located on the level of exit discharge and each of these child care rooms has an exit door directly to the exterior, shall be classified as Group E.

Authority: Health and Safety Code Sections 1569.78, 13143

References: Health and Safety Code Sections 13143

**[B] Group L Laboratories.** *For applications listed in Section 111 regulated by the Office of the State Fire Marshal, Group L Occupancies shall include buildings and structures or portions thereof, used as laboratories for scientific experimentation or research having quantities of materials not in excess of those listed in Tables 307.1(1) and 307.1(2) except as modified in this Section and not classified as Group B Occupancy. This occupancy shall be designed and constructed in accordance with the requirements for a Group B Occupancy except as specified in this Section.*

**[B] Residential Group R.** Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I ~~or when not regulated by the *International Residential Code* in accordance with Section 101.2~~. Residential occupancies shall include the following:

**R-1 Residential Occupancies** containing sleeping units where the occupants are primarily transient in nature, including:

Boarding houses (transient)  
Hotels (transient)  
Motels (transient)

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

Apartment houses  
Boarding houses (not transient)  
Convents  
Dormitories  
Fraternities and sororities  
Hotels (non-transient)  
Monasteries  
Motels (non-transient)  
Vacation timeshare properties

Congregate living facilities with 16 or fewer occupants are permitted to comply with the construction requirements for Group R-3.

**R-3** Residential occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-3.1, R-4 or I, including:

Buildings that do not contain more than two dwelling units.

Adult facilities that provide accommodations for ~~five or fewer persons~~ clients of any age for less than 24-hours. Licensing categories that may use this classification include, but are not limited to: Adult Day-care Facilities, Adult Day-support Center.

Child care facilities that provide accommodations for ~~five or fewer persons~~ clients of any age for less than 24-hours. Licensing categories that may use this classification include, but are not limited to: Family Day-care Homes, Day-care Center for Mildly Ill Children, Infant Care Center and School Age Child Day-care Center.

Congregate living facilities with 16 or fewer persons.

~~Adult and child care facilities that are within a single family home are permitted to comply with the *International Residential Code*.~~

**R-3.1** *This occupancy group may include facilities licensed by a governmental agency for a residentially based 24-hour care facility providing accommodations for six or fewer clients of any age. Clients may be classified as ambulatory, nonambulatory or bedridden. A Group R-3.1 occupancy shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in Section 419.4 Special Provisions For Licensed 24-Hour Care Facilities in a Group I-1, R-3.1 or R-4 Occupancy. This group may include:*

Adult Residential Facilities

Congregate Living Health Facilities

Foster Family Homes

Group Homes

Intermediate Care Facilities for the Developmentally Disabled Habilitative

Intermediate Care Facilities for the Developmentally Disabled Nursing

Nurseries for the full-time care of children under the age of six, but not including "infants" as defined in Section 310

Residential Care Facilities for the Elderly

Small Family Homes and Residential Care Facilities for the Chronically Ill

**Exception:** *Group Homes licensed by the Department of Social Services which provide nonmedical board, room and care for six or fewer ambulatory children or children two years of age or younger, and which do not have any nonambulatory clients shall not be subject to regulations found in Section 419.4.*

Pursuant to Health and Safety Code Section 13143 with respect to these exempted facilities, no city, county, or public district shall adopt or enforce any requirement for the prevention of fire or for the protection of life and property

against fire and panic unless the requirement would be applicable to a structure regardless of the special occupancy. Nothing shall restrict the application of state or local housing standards to such facilities if the standards are applicable to residential occupancies and are not based on the use of the structure as a facility for ambulatory children. For the purpose of this exception, ambulatory children does not include relatives of the licensee or the licensee's spouse.

**R-4** Residential occupancies shall include buildings arranged for occupancy as residential care/assisted living facilities including more than ~~five six~~ but not more than ~~16~~ ambulatory occupants clients, excluding staff.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code ~~or shall comply with the International Residential Code.~~

This occupancy classification may include a maximum six nonambulatory or bedridden clients (see Section 419.4 Special Provisions For Licensed 24-Hour Care Facilities in a Group I-1, R-3.1, or R-4 Occupancy). Group R-4 occupancies shall include the following:

Assisted living facilities such as: Residential care facilities, Residential Care Facilities for the Elderly (RCFE's), Adult Residential Facilities, Congregate Living Health facilities, and Group homes.

Social rehabilitation facilities such as: Halfway houses (Community Correctional Centers, Community Correction Reentry Centers, Community Treatment Programs, Work Furlough Programs, and Alcoholism or drug abuse recovery or treatment facilities.

Authority: Health and Safety Code Sections 1802, 1568.02, 1569.72, 1597.44, 1597.46, 1159.2, 13131, 13133, 13143, 17921

References: Health and Safety Code Sections 13143

**PERMANENT PORTABLE BUILDING.** A portable building that is used to serve or house students and is certified as a permanent building on a new public school campus by the public school administration shall comply with the requirements of new campus buildings.

**[B] PHOTOLUMINESCENT** (See Section 1002).

**PORTABLE BUILDING.** Portable Building is a classroom building or structure of modular design and construction that houses and or serves student from kindergarten through twelfth grade (K-12) and is funded pursuant to the Education Code, commencing with section 17070.10 and meets all of the following criteria:

- The portable building or structure is designed and constructed to be relocatable and transportable over public streets.
- The portable building or structure is designed and constructed for relocation without detaching the roof or the floor from the building or structure.
- The portable building or structure is sited upon a temporary foundation in a manner that is designed to permit easy removal.
- The portable building or structure has a floor area of 2,000 square feet or less when measured from the extent of the exterior walls.
- The portable building shall be removed within three years of installation or the school administration may request a three year extension pursuant to Education Code section 17074.54 (a) and (b).

**PROTECTIVE SOCIAL CARE.** Protective Social Care is the housing and care of any person of any age when such person is referred to or placed within such home or facility for care and supervision services by any governmental agency.

Authority: Welfare and Institutions Code 15600, 15601

References: 13143

**[B] RESIDENTIAL CARE FACILITY FOR THE CHRONICALLY ILL (RCF/CI)**, as termed, means a housing arrangement with a maximum capacity of 25 residents that provides a range of services to residents who have chronic, life-threatening illnesses.

**[B] RESIDENTIAL CARE FACILITY FOR THE ELDERLY (RCFE)**, as defined in Health and Safety Code Section §1569.2, shall mean a facility with a housing arrangement chosen voluntarily by persons 60 years of age or over, or their authorized representative, where varying levels and intensities of care and supervision, protective supervision or personal care are provided, based on their varying needs, as determined in order to be admitted and to remain in the facility. Persons under 60 years of age with compatible needs, as determined by the Department of Social Services in regulations, may be allowed to be admitted or retained in a residential-care facility for the elderly.

Pursuant to Health and Safety Code Section §13133, regulations of the state fire marshal pertaining to Group R, Division 2 Occupancies classified as Residential Facilities (RF) and Residential-care Facilities for the Elderly (RCFE) shall apply uniformly throughout the state and no city, county, city and county, including a charter city or charter county, or fire protection district shall adopt or enforce any ordinance or local rule or regulation relating to fire and panic safety which is inconsistent with these regulations. A city, county, city and county, including a charter city or charter county may pursuant to Health and Safety Code Section §13143.5, or a fire protection district may pursuant to Health and Safety Code Section §13869.7, adopt standards more stringent than those adopted by the state fire marshal that are reasonably necessary to accommodate local climate, geological, or topographical conditions relating to roof coverings for Residential-care Facilities for the Elderly.

**[B] RESIDENTIAL FACILITY (RF)**, as defined in Section §1502 of the Health and Safety Code, shall mean any family home, group care facility, or similar facility determined by the director of Social Services, for 24-hour non-medical care of persons in need of personal services, supervision, or assistance essential for sustaining the activities of daily living or for the protection of the individual. Such facilities include small family homes and social rehabilitation facilities.

Pursuant to Health and Safety Code Section §13133, regulations of the state fire marshal pertaining to Group R, Division 2 Occupancies classified as Residential Facilities (RF) and Residential-care Facilities for the Elderly (RCFE) shall apply uniformly throughout the state and no city, county, city and county, including a charter city or charter county, or fire protection district shall adopt or enforce any ordinance or local rule or regulation relating to fire and panic safety which is inconsistent with these regulations. A city, county, city and county, including a charter city or charter county may pursuant to Health and Safety Code Section §13143.5, or a fire protection district may pursuant to Health and Safety Code Section §13869.7, adopt standards more stringent than those adopted by the state fire marshal that are reasonably necessary to accommodate local climate, geological, or topographical conditions relating to roof coverings for Residential-care Facilities for the Elderly.

**[B] RESTRAINT.** Restraint shall mean the physical retention of a person within a room, cell or cell block by any means, or within the exterior walls of a building by means of locked doors inoperable by the person restrained. Restraint shall also mean the physical binding, strapping or similar restriction of any person in a chair, walker, bed or other contrivance for the purpose of deliberately restricting the free movement of ambulatory persons.

Restraint shall not be construed to include non-ambulatory persons nor shall it include the use of bandage material, strip sheeting or other fabrics or materials (soft ties) used to restrain persons in hospital-type beds or wheelchairs to prevent injury, provided an approved method of quick release is maintained. Facilities employing the use of soft ties, however, shall be classified as a building used to house non-ambulatory persons.

Restraint shall not be practiced in licensed facilities classified as Group I-1, R-3 and R-4 occupancies unless constructed as a Group I-3 occupancy. For Group I-3 Occupancies see California Building Code Section 308.2.

**[B] SELF-ILLUMINOUS** (See Section 1002).

(Relocated from 2001 CBC 220-S) ~~[For SFM]~~ **[B] STATE-OWNED/LEASED BUILDING** is a building or portion of a building that is owned, leased or rented by the state. State-leased buildings shall include all required exits to a public way serving such leased area or space. Portions of state-leased buildings that are not leased or rented by the state shall not be included within the scope of this section unless such portions present an exposure hazard to the state-leased area or space.

**[B] TERMINALLY ILL**, as termed for an individual, means the individual has a life expectancy of six months or less as stated in writing by his or her attending physician and surgeon.

**[B] WINERY CAVES.** A subterranean space for winery facilities in natural or manmade caves shall be in accordance with this *California Building Code, Section 436*. Winery Caves have a floor level used for human occupancy more than 30 feet (9144 mm) below the lowest level of exit discharge.

Authority Cited: Health and Safety Code Section 1250, 1502, 1568.02, 1569.72, 1569.78, 13131, 13133, 13143.5, 13869.7

Reference: Health and Safety Code Section 13143.

## CHAPTER 3

### GENERAL PRECAUTIONS AGAINST FIRE

(Adopt only those Sections listed in the matrix adoption table.)

**308.3.9 Group I, Group, R 3.1, Group R 4 occupancies or any Licensed Care Facility** A person shall not utilize or allow to be utilized, an open flame in Group I, Group, R 3.1, Group R 4 occupancies or any Licensed Care Facilities.

Authority Cited: Health and Safety Code Section 1502, 1569.72, 13143.6.

Reference: Health and Safety Code Section 13143.

## CHAPTER 4

### EMERGENCY PLANNING AND PREPAREDNESS

(Note: This Chapter is not adopted.)

## CHAPTER 5

### FIRE SERVICE FEATURES

(Note: Adopt only those Sections listed in the matrix adoption table.)

**[B]Section 503.5.2 Fences and Gates.** School grounds may be fenced and gates therein may be equipped with locks, provided that safe dispersal areas based on 3 square feet (0.28 m<sup>2</sup>) per occupant are located between the school and the fence. Such required safe dispersal areas shall not be located less than 50 feet (15240 mm) from school buildings.

Every public and private school shall conform with Section 32020 of the Education Code which states:

The governing board of every public school district, and the governing authority of every private school, which maintains any building used for the instruction or housing of school pupils on land entirely enclosed (except for building walls) by fences or walls, shall, through cooperation with the local law enforcement and fire-protection agencies having jurisdiction of the area, make provision for the erection of gates in such fences or walls. The gates shall be of sufficient size to permit the entrance of the ambulances, police equipment and fire-fighting apparatus used by the law enforcement and fire-protection agencies. There shall be no less than one such access gate and there shall be as many such gates as needed to assure access to all major buildings and ground areas. If such gates are to be equipped with locks, the locking devices shall be designed to permit ready entrance by the use of the chain or bolt-cutting devices with which the local law enforcement and fire-protection agencies may be equipped.

Authority Cited: Health and Safety Code Sections 13143 and Education Code Section 32020.  
References: Health and Safety Code Sections 13143.

**508.3 Fire flow.** Fire flow requirements for buildings or portions of buildings and facilities shall be determined by an approved method or Appendix B.

Authority: Health and Safety Code Sections 13143, 13108.  
References: Health and Safety Code Sections 13143

**508.5 Fire hydrant systems.** Fire hydrant systems shall comply with Sections 508.5.1 through 508.5.6 and Appendix C or by an approved method.

Authority: Health and Safety Code Sections 13108, 13143.  
References: Health and Safety Code Sections 13143.

**508.5.3 Private fire service mains and water tanks.** Private fire service mains and water tanks shall be periodically inspected, tested and maintained in accordance with ~~NFPA 25~~ Title 19 California Code of Regulations Chapter 5. ~~at the following intervals:~~

- ~~1. Private fire hydrants (all types): Inspection annually and after each operation; flow test and maintenance annually.~~
- ~~2. Fire service main piping: Inspection of exposed, annually; flow test every 5 years.~~
- ~~3. Fire service main piping strainers: Inspection and maintenance after each use.~~

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**509.1 Features.** Where required by other sections of this code and in all buildings classified as high-rise buildings by the ~~International California Building Code~~, a fire command center for fire department operations shall be provided. The location and accessibility of the fire command center shall be approved by the fire department. The fire command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 706 of the ~~International California Building Code~~ or horizontal assembly constructed in accordance with Section 711 of the ~~International California Building Code~~, or both. The room shall be a minimum of 96 square feet (9 m<sup>2</sup>) with a minimum dimension of 8 feet (2438 mm). A layout of the fire command center and all features required by this section to be contained therein shall be submitted for approval prior to installation. The fire command center shall comply with NFPA 72 and shall contain the following features:

1. The emergency voice/alarm communication system unit.
2. The fire department communications system.
3. Fire-detection and alarm system annunciator system.
4. Annunciator visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air-handling systems.
6. The fire-fighter's control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking stairway doors simultaneously.
8. Sprinkler valve and water-flow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighting equipment and fire department access.
13. Work table.
14. Generator supervision devices, manual start and transfer features.
15. Public address system, where specifically required by other sections of this code.

(Relocated from 2001 CBC, 403.6.2)

~~16. 403.6.2 Annunciation identification. [For SFM] Central control stations-Fire Command Centers shall not be used for the housing of any boiler, heating unit, generator, combustible storage, or similar hazardous equipment or storage.~~

Authority: Health and Safety Code Sections 13210

References: Health and Safety Code Sections 13210

## CHAPTER 6

### BUILDING SERVICES AND SYSTEMS

(Note: Adopt entire Chapter with amendments.)

**603.1 Installation.** The installation of nonportable fuel gas appliances and systems shall comply with the ~~International Fuel Gas~~ International California Mechanical Code. The installation of all other fuel-fired appliances, other than internal combustion engines, oil lamps and portable devices such as blow torches, melting pots and weed burners, shall comply with this section and the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**603.1.2 Approval.** The design, construction and installation of fuel-fired appliances shall be in accordance with the ~~International Fuel Gas Code and the International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**603.2 Chimneys.** Masonry chimneys shall be constructed in accordance with the ~~International~~ California Building Code. Factory-built chimneys shall be installed in accordance with the ~~International~~ California Mechanical Code. Metal chimneys shall be constructed and installed in accordance with NFPA 211.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**603.3 Fuel oil storage systems.** Fuel oil storage systems shall be installed in accordance with this code. Fuel oil piping systems shall be installed in accordance with the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**603.3.2 Maximum inside fuel oil storage.** Where connected to a fuel-oil piping system, the maximum amount of fuel oil storage allowed inside any building shall be 660 gallons (2498 L). Where the amount of fuel oil stored inside a building exceeds 660 gallons (2498 L), the storage area shall be in compliance with the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**603.5.2 Heating appliance installation and maintenance.** Heating appliances shall be installed and maintained in accordance with the manufacturer's instructions, the ~~International California Building Code~~, the ~~International California Mechanical Code~~, the ~~International Fuel Gas Code~~ and the ~~ICC California Electrical Code~~.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**603.6.1 Masonry chimneys.** Masonry chimneys that, upon inspection, are found to be without a flue liner and that have open mortar joints which will permit smoke or gases to bed as to be dangerous, shall be repaired or relined with a listed chimneys discharged into the building, or which are crackey liner system installed in accordance with the manufacturer's installation instructions or a flue lining system installed in accordance with the requirements of the ~~International California Building Code~~ and appropriate for the intended class of chimney service.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**603.8 Incinerators.** Commercial, industrial and residential-type incinerators and chimneys shall be constructed in accordance with the ~~International California Building Code~~, the ~~International Fuel Gas Code~~ and the ~~International California Mechanical Code~~.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**604.1 Installation.** Emergency and standby power systems required by this code or the ~~International California Building Code~~ shall be installed in accordance with this code, NFPA 110 and NFPA 111. Existing installations shall be maintained in accordance with the original approval.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**604.2.9 Membrane structures.** Emergency power shall be provided for exit signs in temporary tents and membrane structures in accordance with Section 2403.12.6.1. Standby power shall be provided for auxiliary inflation systems in permanent membrane structures in accordance with the ~~International California Building Code~~.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**604.2.15.1 Standby power.** A standby power system shall be provided. Where the standby system is a generator set inside a building, the system shall be located in a separate room enclosed with 2-hour fire barriers or horizontal assemblies constructed in accordance with the ~~International California Building Code~~, or both. System supervision with manual start and transfer features shall be provided at the fire command center.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**604.2.15.1.3 Connected facilities.** Power and lighting facilities for the fire command center and elevators specified in Sections 403.8 and 403.9 of the ~~International California Building Code~~, as applicable, and electrically powered fire

pumps required to maintain pressure, shall be transferable to the standby source. Standby power shall be provided for at least one elevator to serve all floors and be transferable to any elevator.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**604.2.16 Underground buildings.** Emergency and standby power systems in underground buildings covered in Chapter 4 of the ~~International~~ California Building Code shall comply with Sections 604.2.16.1 and 604.2.16.2.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**604.2.16.1 Standby power.** A standby power system complying with the ~~ICC~~ California Electrical Code shall be provided for standby power loads as specified in Section 604.2.16.1.1.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**604.2.16.1.1 Standby power loads.** The following loads are classified as standby power loads:

1. Smoke control system.
2. Ventilation and automatic fire detection equipment for smokeproof enclosures.
3. Fire pumps.
4. Standby power shall be provided for elevators in accordance with Section 3003 of the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**604.2.16.2 Emergency power.** An emergency power system complying with the ~~ICC~~ California Electrical Code shall be provided for emergency power loads as specified in Section 604.2.15.2.1.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**604.2.17 Group I-3 occupancies.** Power-operated sliding doors or power-operated locks for swinging doors in Group I-3 occupancies shall be operable by a manual release mechanism at the door, and either emergency power or a remote mechanical operating release shall be provided.

**Exception:** Emergency power is not required in facilities where provisions for remote locking and unlocking of occupied rooms in Occupancy Condition 4 are not required as set forth in the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**605.1 Abatement of electrical hazards.** Identified electrical hazards shall be abated. Identified hazardous electrical conditions in permanent wiring shall be brought to the attention of the code official responsible for enforcement of the ~~ICC~~ California Electrical Code. Electrical wiring, devices, appliances and other equipment that is modified or damaged and constitutes an electrical shock or fire hazard shall not be used.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**605.3 Working space and clearance.** A working space of not less than 30 inches (762 mm) in width, 36 inches (914 mm) in depth and 78 inches (1981 mm) in height shall be provided in front of electrical service equipment. Where the electrical service equipment is wider than 30 inches (762 mm), the working space shall not be less than the width of the equipment. No storage of any materials shall be located within the designated working space.

**Exceptions:**

1. Where other dimensions are required or allowed by the ~~ICC~~ California Electrical Code.
2. Access openings into attics or under-floor areas which provide a minimum clear opening of 22 inches (559 mm) by 30 inches (762 mm).

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**605.4 Multiplug adapters.** Multiplug adapters, such as cube adapters, unfused plug strips or any other device not complying with the ~~ICC~~ California Electrical Code shall be prohibited.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**605.9 Temporary wiring.** Temporary wiring for electrical power and lighting installations is allowed for a period not to exceed 90 days. Temporary wiring methods shall meet the applicable provisions of the ~~ICC~~ California Electrical Code.

**Exception:** Temporary wiring for electrical power and lighting installations is allowed during periods of construction, remodeling, repair or demolition of buildings, structures, equipment or similar activities.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**[M] 606.1 Scope.** Refrigeration systems shall be installed in accordance with the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**[M] 606.2 Refrigerants.** The use and purity of new, recovered, and reclaimed refrigerants shall be in accordance with the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**[M] 606.3 Refrigerant classification.** Refrigerants shall be classified in accordance with the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**[M] 606.4 Change in refrigerant type.** A change in the type of refrigerant in a refrigeration system shall be in accordance with the International California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**606.7 Emergency signs.** Refrigeration units or systems having a refrigerant circuit containing more than 220 pounds (100 kg) of Group A1 or 30 pounds (14 kg) of any other group refrigerant shall be provided with approved emergency signs, charts, and labels in accordance with NFPA704. Hazard signs shall be in accordance with the International California Mechanical Code for the classification of refrigerants listed therein.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**606.8 Refrigerant detector.** Machinery rooms shall contain a refrigerant detector with an audible and visual alarm. The detector, or a sampling tube that draws air to the detector, shall be located in an area where refrigerant from a leak will concentrate. The alarm shall be actuated at a value not greater than the corresponding TLV-TWA values shown in the International California Mechanical Code for the refrigerant classification. Detectors and alarms shall be placed in approved locations.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**606.16 Electrical equipment.** Where refrigerants of Groups A2, A3, B2 and B3, as defined in the International California Mechanical Code, are used, refrigeration machinery rooms shall conform to the Class I, Division 2 hazardous location classification requirements of the ICC California Electrical Code.

**Exception:** Ammonia machinery rooms that are provided with ventilation in accordance with Section 1106.3 of the International California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**608.4 Room design and construction.** Enclosure of stationary battery systems shall comply with the International California Building Code. Battery systems shall be allowed to be in the same room with the equipment they support.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**608.6.1 Room ventilation.** Ventilation shall be provided in accordance with the International California Mechanical Code and the following:

1. For flooded lead acid, flooded nickel-cadmium, and VRLA batteries, the ventilation system shall be designed to limit the maximum concentration of hydrogen to 1 percent of the total volume of the room; or
2. Continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot [1ft<sup>3</sup>/min/ft<sup>2</sup> or 0.0051 m<sup>3</sup>/(s □ m<sup>2</sup>)] of floor area of the room.

**Exception:** Lithium-ion batteries shall not require ventilation.

Authority Cited: Health and Safety Code Sections 13143.  
 References: Health and Safety Code Sections 13143

**608.8 Seismic protection.** The battery systems shall be seismically braced in accordance with the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
 References: Health and Safety Code Sections 13143

**[M] 609.1 General.** Commercial kitchen exhaust hoods shall comply with the requirements of the International California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
 References: Health and Safety Code Sections 13143

## CHAPTER 7

### FIRE-RESISTANCE-RATED CONSTRUCTION

**(Note: Adopt entire Chapter with amendments.)**

**701.1 Scope.** The provisions of this chapter shall specify the requirements for and the maintenance of fire-resistance-rated construction and requirements for enclosing floor openings and shafts in existing buildings. New construction shall comply with the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
 References: Health and Safety Code Sections 13143

**TABLE 704.1 VERTICAL OPENING PROTECTION REQUIRED**

OCCUPANCY CLASSIFICATION	CONDITIONS	PROTECTION REQUIRED
Group I	Vertical openings connecting two or more stories	1-hour protection
All, other than Group I	Vertical openings connecting two stories	No protection required <sup>a,b</sup>
All, other than Group I	Vertical openings connecting three to five stories	1-hour protection or automatic sprinklers throughout <sup>a,b</sup>
All, other than Group I	Vertical openings connecting more than five stories	1-hour protection <sup>a,b</sup>
All	Mezzanines open to the floor below	No protection required <sup>a,b</sup>
All, other than Group I	Atriums and covered mall buildings	1-hour protection or automatic sprinklers throughout
All, other than Groups B, L and M	Escalator openings connecting four or less stories in a sprinklered building. Openings must be protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13	No protection required
Group B and M	Escalator openings in a sprinklered building protected by	No protection required

	a draft curtain and closely spaced sprinklers in accordance with NFPA 13	
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- a. Vertical opening protection is not required for Group R-3 occupancies.
- b. Vertical opening protection is not required for open parking garages and ramps.

Authority: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

## CHAPTER 8 INTERIOR FINISHES

**(Note: Adopt entire Chapter with amendments.)**

**803.1 General.** The provisions of this section shall limit the allowable flame spread and smoke development of interior wall and ceiling finishes and interior wall and ceiling trim in existing buildings based on location and occupancy classification. Interior wall and ceiling finishes shall be classified in accordance with Section 803 of the International California Building Code. Such materials shall be grouped in accordance with ASTM E 84, as indicated in Section 803.1.1, or in accordance with NFPA 286, as indicated in Section 803.1.2.

**Exceptions:**

1. Materials having a thickness less than 0.036 inch (0.9mm) applied directly to the surface of walls and ceilings.
2. Exposed portions of structural members complying with the requirements of buildings of Type IV construction in accordance with the International California Building Code shall not be subject to interior finish requirements.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**[B] TABLE 803.3  
INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY\***

GROUP	SPRINKLERED <sup>l</sup>			NONSPRINKLERED <sup>m</sup>		
	Exit enclosures and exit passageways <sup>a,b</sup>	Corridors	Rooms and enclosed spaces <sup>c</sup>	Exit enclosures and exit passageways <sup>a, b</sup>	Corridors	Rooms and enclosed spaces <sup>c</sup>
A-1 & A-2	B	B	C	A	A <sup>d</sup>	B <sup>e</sup>
A-3 <sup>f</sup> , A-4, A-5	B	B	C	A	A <sup>d</sup>	C
B, E, M, R-1, R-4	B	C	C	A	B	C
F	C	C	C	B	C	C
H, <u>L</u>	B	B	C <sup>g</sup>	A	A	B
I-1	B	C	C	A	B	B
I-2, <u>I-2.1</u>	B	B	B <sup>h, i</sup>	A	A	B
I-3	A	A <sup>j</sup>	<del>C</del> B	<del>A</del> —	<del>A</del> —	<del>B</del> —
I-4	B	B	B <sup>h, i</sup>	A	A	B
R-2	C	C	C	B	B	C
R-3, <u>R-3.1</u>	C	C	C	C	C	C

S	C	C	C	B	B	C
U	No Restrictions			No Restrictions		

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929m<sup>2</sup>.

- a. Class C interior finish materials shall be permitted for wainscoting or paneling of not more than 1,000 square feet of applied surface area in the grade lobby where applied directly to a noncombustible base or over furring strips applied to a noncombustible base and fire blocked as required by Section 803.4 of the International California Building Code.
- b. In exit enclosures of buildings less than three stories in height of other than Group I-3, Class B interior finish for nonsprinklered buildings and Class C interior finish for sprinklered buildings shall be permitted.
- c. Requirements for rooms and enclosed spaces shall be based upon spaces enclosed by partitions. Where a fire-resistance rating is required for structural elements, the enclosing partitions shall extend from the floor to the ceiling. Partitions that do not comply with this shall be considered enclosing spaces and the rooms or spaces on both sides shall be considered one. In determining the applicable requirements for rooms and enclosed spaces, the specific occupancy thereof shall be the governing factor regardless of the group classification of the building or structure.
- d. Lobby areas in Group A-1, A-2 and A-3 occupancies shall not be less than Class B materials.
- e. Class C interior finish materials shall be permitted in places of assembly with an occupant load of 300 persons or less.
- f. For places of religious worship, wood used for ornamental purposes, trusses, paneling or chancel furnishing shall be permitted.
- g. Class B material is required where the building exceeds two stories.
- h. Class C interior finish materials shall be permitted in administrative spaces.
- i. Class C interior finish materials shall be permitted in rooms with a capacity of four persons or less.
- j. Class B materials shall be permitted as wainscoting extending not more than 48 inches above the finished floor in corridors.
- k. Finish materials as provided for in other sections of this code.
- l. Applies when the exit enclosures, exit passageways, corridors or rooms and enclosed spaces are protected by a sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
- m. Not Permitted for Group I-3

Authority: Health and Safety Code Sections 13108, 13143

References: Health and Safety Code Sections 13143

**803.7.2 Thermal barrier.** Foam plastic material shall be allowed if it is separated from the interior of the building by a thermal barrier in accordance with Section 2603.4 of the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**804.1 Interior trim.** Material, other than foam plastic used as interior trim shall have a minimum Class B flame spread and smoke-developed index in Group I-3 and for all other occupancies Class C flame spread and smoke-developed index when tested in accordance with ASTM E 84, as described in Section 803.1. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the aggregate wall or ceiling area in which it is located.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**805.3.1.2 Heat release rate.** Newly introduced upholstered furniture shall have limited rates of heat release when tested in accordance with ASTM E 1537, as follows:

1. The peak rate of heat release for the single upholstered furniture item shall not exceed 80 kW.

**Exceptions:**

1. In Use Condition I, II and III occupancies, as defined in the International California Building Code, upholstered furniture in rooms or spaces protected by approved smoke detectors that initiate, without delay, an alarm that is audible in that room or space.
  2. Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. The total energy released by the single upholstered furniture item during the first 10 minutes of the test shall not exceed 25 MJ.

**Exception:** Upholstered furniture in rooms or spaces protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**807.1.2 Combustible decorative materials.** The permissible amount of decorative materials meeting the flame propagation performance criteria of NFPA 701 shall not exceed 10 percent of the aggregate area of walls and ceilings.

**Exceptions:**

1. In auditoriums in Group A, the permissible amount of decorative material meeting the flame propagation performance criteria of NFPA 701 shall not exceed 50 percent of the aggregate area of walls and ceiling where the building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, and where the material is installed in accordance with Section 803.4 of the International California Building Code.
2. The amount of fabric partitions suspended from the ceiling and not supported by the floor in Group B and M occupancies shall not be limited.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**807.4.2.4 Motion Picture and Television Production Studio Sound Stages, Approved Production Facilities and Production Locations with live audiences.**

**807.4.2.4.1 Foam plastics, decorations, textile and film materials. Foam plastics, textile and film materials and other decorative materials and materials containing foam plastics shall be in accordance with the following:**

1. Exhibit booth construction shall have a maximum heat-release rate of 100 kilowatts when tested in accordance with U.L. 1975.
2. Decorative objects, including but not limited to mannequins, murals and signs, shall have a maximum heat-release rate of 150 kilowatts when tested in accordance with U.L. 1975.

**Exception:** When the aggregate area of murals, signs or similar decorative objects occupies less than 10 percent of the floor or wall area, this requirement may be waived by the chief.

3. Theater, motion picture and television stage settings with or without horizontal projections and simulated caves or caverns shall have a maximum heat-release rate of 100 kilowatts when tested in accordance with U.L. 1975.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**807.4.5 Group F-1 Motion Picture and Television Production Studio Sound Stages, Approved Production Facilities and Production Locations without live audiences.**

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**807.4.5.1 Foam plastics, decorations, textile and film materials.** Foam plastics, textile and film materials and other decorative materials and materials containing foam plastics shall be in accordance with the following:

1. Exhibit booth construction shall have a maximum heat-release rate of 100 kilowatts when tested in accordance with U.L. 1975.

2. Decorative objects, including but not limited to mannequins, murals and signs, shall have a maximum heat-release rate of 150 kilowatts when tested in accordance with U.L. 1975.

**Exception:** When the aggregate area of murals, signs or similar decorative objects occupies less than 10 percent of the floor or wall area, this requirement may be waived by the chief.

3. Theater, motion picture and television stage settings with or without horizontal projections and simulated caves or caverns shall have a maximum heat-release rate of 100 kilowatts when tested in accordance with U.L. 1975.

Authority: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

## CHAPTER 9

### FIRE PROTECTION SYSTEMS

(Note: Adopt entire Chapter with amendments.)

**901.4.1 Required fire protection systems.** Fire protection systems required by this code or the ~~International~~ California Building Code shall be installed, repaired, operated, tested and maintained in accordance with this code.

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**901.4.2 Nonrequired fire protection systems.** Any fire protection system or portion thereof not required by this code or the ~~International~~ California Building Code shall be allowed to be furnished for partial or complete protection provided such installed system meets the requirements of this code and the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**901.6.1 Standards.** Fire protection systems shall be inspected, tested and maintained in accordance with the referenced standards listed in Table 901.6.1 and Chapters 3 and 5, Title 19 California Code of Regulations.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13160, 13195.

References: Health and Safety Code Sections 13143.

#### TABLE 901.6.1

#### FIRE PROTECTION SYSTEM MAINTENANCE STANDARDS SYSTEM STANDARD

Portable fire extinguishers	<del>NFPA 10</del> <u>Title 19, California Code of Regulations, Chapter 3</u>
Carbon dioxide fire-extinguishing system	NFPA 12
Halon 1301 fire-extinguishing systems	NFPA 12A

Dry-chemical extinguishing systems	NFPA 17
Wet-chemical extinguishing systems	NFPA 17A
Water-based fire protection systems	<del>NFPA 25</del> <u>Title 19, California Code of Regulations, Chapter 5</u>
Fire alarm systems	NFPA 72 <u>as amended in Chapter 45</u>
Water-mist systems	NFPA 750
Clean-agent extinguishing systems	NFPA 2001

Authority Cited: Health and Safety Code Sections 13108, 13143, 13160, 13195.  
References: Health and Safety Code Sections 13143.

### Section 902.1 Definitions.

(Relocated from 2001 CFC 207)

**FIRE APPLIANCE** is apparatus or equipment provided or installed for use in the event of an emergency.

Authority: Health and Safety Code Sections 13108, 13143  
References: Health and Safety Code Sections 13143

**903.2 Where required.** Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in this section.

#### Exceptions:

1. Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided those spaces or areas are equipped throughout with an automatic fire alarm system and are separated from the remainder of the building by fire barriers consisting of not less than 1-hour fire-resistance-rated walls and 2-hour fire-resistance-rated floor/ceiling assemblies.
2. Automatic fire sprinkler protection for Fixed Guideway Transit Systems shall be as per Section 903.2.17.

Authority: Health and Safety Code Sections 13108, 13143  
References: Health and Safety Code Sections 13143

**903.2.2 Group E.** Except as provided for in Sections 903.2.2.1 for a new public school campus and 907.2.3.6.1 (fire alarm and detection) for modernization of an existing public school campus building(s), an automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas greater than 20,000 square feet (1858 m<sup>2</sup>) in fire area.
2. Throughout every portion of educational buildings below the level of exit discharge.

**Exception:** An automatic sprinkler system is not required in any fire area or area below the level of exit discharge where every classroom throughout the building has at least one exterior exit door at ground level.

3. In rooms or areas with special hazards such as laboratories, vocational shops and other such areas where hazardous materials in exempt amounts are used or stored.

Authority Cited: Health and Safety Code Sections 13108, 13143 and Education Code Section 17074.50.  
References: Health and Safety Code Sections 13143.

(Relocated from 2001 CFC 904.2.4.4)

#### **903.2.2.1 ~~1003.2.4.4~~ [For SFM] Public Schools—Automatic Sprinkler System Requirements**

(Relocated from 2001 CFC 904.2.4.4.1)

~~903.2.2.1.1. 1003.2.4.4.1 [For SFM] New Public School Campus.~~ A State Fire Marshal approved automatic sprinkler system shall be provided on all new public school campus as defined in section ~~245-202~~ and maintained in accordance with ~~the California Building Code~~ and ~~Article 91-Chapter 45~~. See section ~~1006-2.4.2.2.1-1-907.2.3.6~~ for automatic detection requirements and "ceiling-plenum" spaces.

(Relocated from 2001 CFC 904.2.4.4.2)

~~903.2.2.1.2. 1003.2.4.4.2 [For SFM] Permanent Portable Buildings.~~ A portable building that is used to serve or house students and is certified, as a permanent building on a new public school campus by the public school administration shall comply with the requirements of section ~~1003.2.4.4.1-903.2.2.1.1.~~

(Relocated from 2001 CFC 904.2.4.4.3)

~~903.2.2.1.3 904.2.4.4.1.3 [For SFM] Fire-Resistive Substitution for New Campus.~~ A new public school campus as defined in Section 202 shall be entitled to include in the design and construction documents all of the applicable fire-resistive construction substitutions as permitted in ~~Section 508~~ by ~~this~~ the California Building code.

Authority Cited: Health and Safety Code Sections 13108, 13143 and Education Code Section 17074.50.

References: Health and Safety Code Sections 13143.

**903.2.4.2 Group H-5 occupancies.** An automatic sprinkler system shall be installed throughout buildings containing Group H-5 occupancies. The design of the sprinkler system shall not be less than that required under the ~~International California Building Code~~ for the occupancy hazard classifications in accordance with Table 903.2.4.2. Where the design area of the sprinkler system consists of a corridor protected by one row of sprinklers, the maximum number of sprinklers required to be calculated is 13.

Authority Cited: Health and Safety Code Sections 13108.

References: Health and Safety Code Sections 13143.

**903.2.5 Group I.** An automatic sprinkler system shall be provided throughout buildings with a Group I fire area.

**Exceptions:** ~~An automatic sprinkler system installed in accordance with Section 903.3.1.2 or 903.3.1.3 shall be allowed in Group I-1 facilities.~~

1. Those areas exempted by 407.5.

2. When not used in accordance with Section 504.2 or 506.3 an automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be allowed in Group I-1 occupancies.

3 Pursuant to Health and Safety Code Section 13113, Group I-1 occupancies housing ambulatory children only, none of whom are mentally ill or mentally retarded, and the buildings or portions thereof in which such children are housed are not more than two stories in height, and buildings or portions thereof housing such children shall have an automatic fire alarm system activated by approved smoke detectors.

4. Pursuant to Health and Safety Code Section 13113 (d), Group I-1 occupancies, or any alterations thereto, located in Type IA construction in existence on March 4, 1972.

An automatic sprinkler system designed in accordance with Section 903.3.1.3 shall not be utilized in Group I-1.

Authority: Health and Safety Code Sections 13108, 13113, 13131.5, 13143

References: Health and Safety Code Sections 13131.5, 13143

(Relocated from 2001 CBC 329A.1)

~~329A.1 General~~ **903.2.5.1 Group I-3** . Every building, or portion thereof, where inmates are restrained shall be protected by an automatic sprinkler system conforming to NFPA 13. The main sprinkler control valve or valves and all other control valves in the system shall be locked in the open position and electrically supervised so that at least an audible and visual alarm will sound at a constantly attended location when valves are closed. The sprinkler branch piping serving cells may be embedded in the concrete construction.

**EXCEPTION:** Sprinklers are not required in cells housing two or fewer inmates and the building shall be considered sprinklered throughout when all the following criteria are met:

1. Automatic fire sprinklers shall be mounted outside the cell a minimum of 6 feet (1829 mm) on center and 12 inches (305 mm) from the wall with quick response sprinkler heads. Where spacing permits, the head shall be centered over the cell door opening.
2. The maximum amount of combustibles, excluding linen and clothing, shall be maintained at three pounds per inmate.
3. For local detention facilities, each individual housing cell shall be provided with a two-way inmate or sound-actuated audio monitoring system for communication directly to the control station serving the cell(s).
4. The provisions of the exception in Section 804.4.2 shall not apply.

Authority Cited: Health and Safety Code Sections 13113, 13143.

References: Health and Safety Code Sections 13143.

**903.2.7 Group R** An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R fire area.

**Exceptions:** 1. Detached one- and two-family dwellings and multiple single-family dwellings (town houses) not more than three stories above grade plane in height with a separate means of egress, unless specifically required by other sections of this Code.

2. Group U private garages accessory to a Group R-3 occupancy.

3. Group R-3.1 occupancies not housing bedridden clients, not housing nonambulatory clients above the first floor, and not housing clients above the second floor.

4. Pursuant to Health and Safety Code Section 13113 occupancies housing ambulatory children only, none of whom are mentally ill or mentally retarded, and the buildings or portions thereof in which such children are housed are not more than two stories in height, and buildings or portions thereof housing such children have an automatic fire alarm system activated by approved smoke detectors.

5. Pursuant to Health and Safety Code Section 13143.6 occupancies licensed for protective social care which house ambulatory clients only, none of whom is a child (under the age of 18 years), or who is elderly (65 years of age or over).

An automatic sprinkler system designed in accordance with Section 903.3.1.3 shall not be utilized in Group R-4.

Authority Cited: Health and Safety Code Sections 13143, 13113, 13143.6, 17921

References: Health and Safety Code Sections 13143.

**903.2.8.1 Repair garages.** An automatic sprinkler system shall be provided throughout all buildings used as repair garages in accordance with the ~~International~~ California Building Code, as follows:

1. Buildings two or more stories in height, including basements, with a fire area containing a repair garage exceeding 10,000 square feet (929 m<sup>2</sup>).
2. One-story buildings with a fire area containing a repair garage exceeding 12,000 square feet (1115 m<sup>2</sup>).
3. Buildings with a repair garage servicing vehicles parked in the basement.

Authority Cited: Health and Safety Code Sections 13108.

References: Health and Safety Code Sections 13143.

**903.2.9 Group S-2.** An automatic sprinkler system shall be provided throughout buildings classified as enclosed parking garages in accordance with Section 406.4 of the ~~International~~ California Building Code or where located beneath other groups.

**Exception:** Enclosed parking garages located beneath Group R-3 occupancies.

Authority Cited: Health and Safety Code Sections 13108.

References: Health and Safety Code Sections 13143.

**903.2.12.1 Ducts conveying hazardous exhausts.** Where required by the ~~International~~ California Mechanical Code, automatic sprinklers shall be provided in ducts conveying hazardous exhaust, flammable or combustible materials.

**Exception:** Ducts where the largest cross-sectional diameter of the duct is less than 10 inches (254 mm).

Authority Cited: Health and Safety Code Sections 13108, 13143.9.

References: Health and Safety Code Sections 13143.

**TABLE 903.2.13  
ADDITIONAL REQUIRED SUPPRESSION SYSTEMS**

SECTION	SUBJECT
914.2.1	Covered malls
914.3.1	High rise buildings
914.4.1	Atriums
914.5.1	Underground structures
914.6.1	Stages
914.7.1	Special amusement buildings
914.8.2, 914.8.5	Aircraft hangars
914.9	Flammable finishes
914.10	Drying rooms
1025.6.2.3	Smoke-protected seating
1208.2	Dry cleaning plants
1208.3	Dry cleaning machines
1504.2	Spray finishing in Group A, E, I or R
1504.4	Spray booths and spray rooms
1505.2	Dip-tank rooms in Group A, I or R
1505.4.1	Dip tanks
1505.9.4	Hardening and tempering tanks
1803.10	HPM facilities
1803.10.1.1	HPM work station exhaust
1803.10.2	HPM gas cabinets and exhausted enclosures
1803.10.3	HPM exit access corridor
1803.10.4	HPM exhaust ducts
1803.10.4.1	HPM noncombustible ducts
1803.10.4.2	HPM combustible ducts
1907.3	Lumber production conveyor enclosures
1908.7	Recycling facility conveyor enclosures
2106.1	Class A and B ovens
2106.2	Class C and D ovens
2209.3.2.6.2	Hydrogen motor fuel-dispensing area canopies

Table 2306.2	Storage fire protection
2306.4	Storage
2703.8.4.1	Gas rooms
2703.8.5.3	Exhausted enclosures
2704.5	Indoor storage of hazardous materials
2705.1.8	Indoor dispensing of hazardous materials
2804.4.1	Aerosol warehouses
2806.3.2	Aerosol display and merchandising areas
2904.5	Storage of more than 1,000 cubic feet of loose combustible fibers
3306.5.2.1	Storage of smokeless propellant
3306.5.2.3	Storage of small arms primers
3404.3.7.5.1	Flammable and combustible liquid storage rooms
3404.3.8.4	Flammable and combustible liquid storage warehouses
3405.3.7.3	Flammable and combustible liquid Group H-2 or H-3 areas
3704.1.2	Gas cabinets for highly toxic and toxic gas
3704.1.3	Exhausted enclosures for highly toxic and toxic gas
3704.2.2.6	Gas rooms for highly toxic and toxic gas
3704.3.3	Outdoor storage for highly toxic and toxic gas
4106.2.2	Exhausted enclosures or gas cabinets for silane gas
4204.1.1	Pyroxylin plastic storage cabinets
4204.1.3	Pyroxylin plastic storage vaults
4204.2	Pyroxylin plastic storage and manufacturing
<i>California Building Code Section 430</i>	<i>Horse Racing Stables</i>
<i>California Building Code Section 431</i>	<i>Pet Kennels</i>
<i>California Building Code Section 439</i>	<i>Public Libraries</i>

Authority Cited: Health and Safety Code Sections 122155 and Business & Professions Code Section 19440  
References: Health and Safety Code Sections 13143

**903.2.14 Motion Picture and Television Production Studio Sound Stages, Approved Production Facilities and Production Locations.**

Authority: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143

(relocated from 2001 CFC 4005.1)

**903.2.14.1 Existing Sound Stages and Approved Production Facilities.** *All existing sound stages and approved production facilities equipped with an automatic fire sprinkler system shall be maintained in accordance with the provisions of California Fire Code Chapter 9.*

Authority: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143

(relocated from 2001 CFC 4005.2)

**903.2.14.2 New Sound Stages.** *All new sound stages shall be equipped with an approved automatic fire sprinkler system. The system shall be installed in accordance with the provisions of the California Fire Code Chapter 9 and shall meet the minimum design requirements of an Extra Hazard, Group 2 system.*

Authority: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143

**903.2.15 Automatic sprinkler system – Existing high-rise buildings.** *Regardless of any other provisions of these regulations, every existing high-rise building of Type II-B, Type III-B or Type V-B construction shall be provided with an approved automatic sprinkler system conforming to NFPA 13.*

Authority Cited: Health and Safety Code Sections 13211.

References: Health and Safety Code Sections 13211.

**903.2.15.1 Existing R-1 and R-2 high-rise buildings fire-extinguishing systems.** *Automatic fire-extinguishing systems installed in any existing high-rise structure in which a Group R1 or a Group R2 occupancy is, located shall have an approved flow indicator electrically interconnected to the required fire alarm system.*

Authority Cited: Health and Safety Code Sections 13211.

References: Health and Safety Code Sections 13211.

**903.2.16 Group L Occupancies.** *An automatic fire protection system shall be installed throughout buildings housing Group L Occupancies. Sprinkler system design for research laboratories and similar areas of a Group L Occupancy shall not be less than that required for Ordinary Hazard Group 3 with a design area of not less than 3,000 square feet (279 m<sup>2</sup>).*

*In mixed occupancies, portions of floors or buildings not classified as Group H, Division 8 L Occupancies shall be provided with sprinkler protection designed of not less than that required for Ordinary Hazard Group 1 with a design area of not less than 3,000 square feet (279 m<sup>2</sup>).*

Authority: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143

(Relocated from 2001 CBC 414A)

**903.2.17 Fixed guideway transit systems.**

(Relocated from 2001 CBC 414A)

**414A.4.1-903.2.17.1 Automatic sprinkler system.** *An automatic sprinkler system shall be installed in all stations of fixed guideway transit systems.*

- Exceptions:**
1. *Guideways when the closest sprinkler heads to the guideway are within 3 feet (914mm) of the edge, over the platform, and spaced 6 feet (1829 mm) on center parallel to the guideway.*
  2. *Station agent booths not exceeding 150 square feet (13.9 m<sup>2</sup>) in area, when provided with an approved smoke detector connected to the building fire alarm system.*
  3. *Power substations.*
  4. *Machinery rooms, electrical rooms and train control rooms protected by an approved automatic fixed fire-extinguishing system.*
  5. *Open stations.*
  6. *Station platform areas open to three or more sides.*

(Relocated from 2001 CBC 414A)

**~~414A.4.2-903.2.17.2~~ Station guideway deluge system.** *Underground stations and stations in open cuts with walls 5 feet (1524 mm) above the top of the running rail and with a raised platform shall be provided with an under-vehicle guideway manually activated deluge sprinkler system. In open cut stations, such system shall be provided in guideways which are situated between a raised platform edge and a retaining wall.*

(Relocated from 2001 CBC 414A)

**~~414A.4.2.1-903.2.17.2.1~~** *Systems shall be provided along the entire length of track at each station platform.*

(Relocated from 2001 CBC 414A)

**~~414A.4.2.2-903.2.17.2.2~~** *Deluge nozzles with caps shall be located in the approximate center of track with spacing designed to completely wet the undersides of the vehicle at the applied density.*

(Relocated from 2001 CBC 414A)

(Relocated from 2001 CBC 414A)

**~~414A.4.2.3-903.2.17.2.3~~** *System density shall be a minimum of 0.19 gallon per minute (gpm) per square foot (0.72 L/m per m<sup>2</sup>) for the design area. When more than one zone is provided, two adjacent zones are required to be considered operating for calculating purposes.*

(Relocated from 2001 CBC 414A)

**~~414A.4.2.4-903.2.17.2.4~~** *Deluge systems shall be directly connected to a water supply capable of supplying the required flow rate for a minimum 30-minute duration.*

(Relocated from 2001 CBC 414A)

**~~414A.4.2.5-903.2.17.2.5~~** *Controls or manually operable valves shall be in a location acceptable to the Fire Code Official. All deluge systems shall be monitored by the station fire alarm system.*

(Relocated from 2001 CBC 414A)

**~~414A.4.2.6-903.2.17.2.6~~** *Each valve shall be monitored by a separate circuit. The alarm panel shall be located in an area normally occupied by station personnel or signals shall be transmitted to the operations control center (OCC).*

Authority: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143

**903.3.1.1.1 Exempt locations.** *In other than Group I-2, I-2.1, I-3 occupancies, automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system, in accordance with Section 907.2, that will respond to visible or invisible particles of combustion. Sprinklers shall not be omitted from any room merely because it is damp, of fire-resistance-rated construction or contains electrical equipment.*

Authority Cited: Health and Safety Code Sections 13143 and 13113.

References: Health and Safety Code Sections 13143.

**903.3.2 Quick-response and residential sprinklers.** *Where automatic sprinkler systems are required by this code, quick-response or residential automatic sprinklers shall be installed in the following areas in accordance with Section 903.3.1 and their listings:*

1. *Throughout all spaces within a smoke compartment containing patient sleeping units in Group I-2 in*

accordance with the ~~International California Building Code~~.

2. Dwelling units and sleeping units in Group R and I-1 occupancies.
3. Light-hazard occupancies as defined in NFPA 13.

Authority Cited: Health and Safety Code Sections 13143 and 13113.

References: Health and Safety Code Sections 13143.

**903.3.5 Water supplies.** Water supplies for automatic sprinkler systems shall comply with this section and the standards referenced in Section 903.3.1. The potable water supply shall be protected against backflow in accordance with ~~the requirements of this section and the International Plumbing Code.~~ Health and Safety Code 13114.7.

Authority Cited: Health and Safety Code Sections 13143 and 13113, 13114.7.

References: Health and Safety Code Sections 13143.

**903.3.5.2 Secondary water supply.** A secondary on-site water supply equal to the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings in Seismic Design Category C, D, E or F as determined by the ~~International California Building Code~~. The secondary water supply shall have a duration of not less than 30 minutes as determined by the occupancy hazard classification in accordance with NFPA 13.

**Exception:** Existing buildings.

Authority Cited: Health and Safety Code Sections 13143 and 13113.

References: Health and Safety Code Sections 13143.

**903.6 Existing buildings.** The provisions of this section are intended to provide a reasonable degree of safety in existing structures not complying with the minimum requirements of the ~~International California Building Code~~ by requiring installation of an automatic fire-extinguishing system.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**904.2.1 Commercial hood and duct systems.** Each required commercial kitchen exhaust hood and duct system required by Section ~~610~~ 609 to have a Type I hood shall be protected with an approved automatic fire-extinguishing system installed in accordance with this code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**904.3.1 Electrical wiring.** Electrical wiring shall be in accordance with this code or the ~~ICC California Electrical Code~~.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**904.5 Wet-chemical systems.** Wet-chemical extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with Title 19 California Code of Regulations, Chapter 5 and NFPA 17A and their listing.

Authority Cited: Health and Safety Code Sections 13195  
References: Health and Safety Code Sections 13195.

**904.6 Dry-chemical systems.** Dry-chemical extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with Title 19 California Code of Regulations, Chapter 5 and NFPA 17 and their listing.

Authority Cited: Health and Safety Code Sections 13195.  
References: Health and Safety Code Sections 13195.

**904.7 Foam systems.** Foam-extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with Title 19 California Code of Regulations, Chapter 5 and NFPA 11, NFPA 11A and NFPA 16 and their listing.

Authority Cited: Health and Safety Code Sections 13195.  
References: Health and Safety Code Sections 13195.

**904.7.1 System test.** Foam-extinguishing systems shall be inspected and tested at intervals in accordance with ~~NFPA 25~~Title 19 California Code of Regulations, Chapter 5.

Authority Cited: Health and Safety Code Sections 13195.  
References: Health and Safety Code Sections 13195.

**904.8 Carbon dioxide systems.** Carbon dioxide extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with Title 19 California Code of Regulations, Chapter 5 and NFPA 12 and their listing.

Authority Cited: Health and Safety Code Sections 13195.  
References: Health and Safety Code Sections 13195.

**904.9 Halon systems.** Halogenated extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with Title 19 California Code of Regulations, Chapter 5 and NFPA 12A and their listing.

Authority Cited: Health and Safety Code Sections 13195.  
References: Health and Safety Code Sections 13195.

**904.10 Clean-agent systems.** Clean-agent fire-extinguishing systems shall be installed, maintained, periodically inspected and tested in accordance with Title 19 California Code of Regulations, Chapter 5 and NFPA 2001 and their listing.

Authority Cited: Health and Safety Code Sections 13195.  
References: Health and Safety Code Sections 13195.

**904.11 Commercial cooking systems.** ~~The automatic fire extinguishing system for commercial cooking systems shall be of a type recognized for protection of commercial cooking equipment and exhaust systems of the type and arrangement protected. Preengineered automatic dry and wet chemical extinguishing systems shall be tested in accordance with UL 300 and listed and labeled for the intended application. Other types of automatic fire extinguishing systems shall be listed and labeled for specific use as protection for commercial cooking operations.~~

~~The system shall be installed in accordance with this code, its listing and the manufacturer's installation instructions. Automatic fire extinguishing systems of the following types shall be installed in accordance with the referenced standard indicated, as follows:~~

- ~~1. Carbon dioxide extinguishing systems, NFPA 12.~~
- ~~2. Automatic sprinkler systems, NFPA 13.~~
- ~~3. Foam water sprinkler system or foam water spray systems, NFPA 16.~~
- ~~4. Dry chemical extinguishing systems, NFPA 17.~~
- ~~5. Wet chemical extinguishing systems, NFPA 17A.~~

~~Commercial cooking equipment that produce grease laden vapors shall be provided with a Type I Hood, in accordance with the California Mechanical Code, and an automatic fire extinguishing system that is listed and labeled for its intended use as follows:~~

- ~~1. Wet chemical extinguishing system, complying with UL 300.~~
- ~~2. Carbon dioxide extinguishing systems.~~
- ~~3. Automatic fire sprinkler systems.~~

~~**Exception** Public school kitchens, without deep-fat fryers, shall be upgraded to a UL 300 compliant system during state funded modernization projects that are under the jurisdiction of the Division of the State Architect~~

~~All systems shall be installed in accordance with the California Mechanical Code, appropriate adopted standards, their listing and the manufacturers' installation instructions.~~

~~**Exception:** Factory-built commercial cooking recirculating systems that are tested, listed, labeled and installed in accordance with UL 710B, and listed, labeled and installed in accordance with Section 304.1 of the International Mechanical Code.~~

~~All existing dry chemical and wet chemical extinguishing systems shall comply with UL 300, no later than the second required servicing of the system following the effective date of this section or January 2008, which ever occurs first.~~

Authority Cited: Health and Safety Code Sections 13195.

References: Health and Safety Code Sections 13195.

**904.11.5 Portable fire extinguishers for commercial cooking equipment.** Portable fire extinguishers shall be provided ~~within a 30-foot (9144 mm) travel distance of commercial type cooking equipment. Cooking equipment involving vegetable or animal oils and fats shall be protected by a Class K-rated portable extinguisher and maintained in accordance with Title 19 California Code of Regulations, Chapter 3.~~

Authority Cited: Health and Safety Code Sections 13160.

References: Health and Safety Code Sections 13160.

**904.11.5.2 Class K portable fire extinguishers for deep fat fryers.** When hazard areas include deep fat fryers, listed Class K portable fire extinguishers shall be provided in accordance with Title 19 California Code of Regulations, Chapter 3 and as follows:

1. For up to four fryers having a maximum cooking medium capacity of 80 pounds (36.3 kg) each: One Class K portable fire extinguisher of a minimum 1.5 gallon (6 L) capacity.
2. For every additional group of four fryers having a maximum cooking medium capacity of 80 pounds (36.3 kg) each: Additional Class K portable fire extinguishers of a minimum 1.5 gallon (6 L) capacity shall be provided.
3. For individual fryers exceeding 6 square feet (0.55 m<sup>2</sup>) in surface area: Class K portable fire extinguishers shall be installed in accordance with the extinguisher manufacturer's recommendations.

Authority Cited: Health and Safety Code Sections 13160.

References: Health and Safety Code Sections 13160.

**904.11.6 Operations and maintenance.** Commercial cooking systems shall be operated and maintained in accordance with Title 19 California Code of Regulations, Chapter 5 and this section.

Authority Cited: Health and Safety Code Sections 13195.

References: Health and Safety Code Sections 13195.

**905.3 Required installations.** Standpipe systems shall be installed where required by Sections 905.3.1 through 905.3.7 ~~10.1~~ and in the locations indicated in Sections 905.4, 905.5 and 905.6. Standpipe systems are allowed to be combined with automatic sprinkler systems.

**Exception:** Standpipe systems are not required in Group R-3 occupancies.

Authority Cited: Health and Safety Code Sections 13195.

References: Health and Safety Code Sections 13195.

**905.3.8 Smokeproof enclosures.** *For smokeproof enclosures see California Building Code Section 909.20.*

Authority Cited: Health and Safety Code Sections 13143, 13210.

References: Health and Safety Code Sections 13143.

(Relocated from 2001 CBC 329A.2)

~~[SFM] 329A.2~~ **905.3.9 Wet Standpipes-Group I-3.** *Housing units within cell complexes where 50 or more inmates are restrained, shall be provided with Class # I wet standpipes conforming to the provisions of Chapter 9. In addition, Class # I wet standpipes shall be located so that it will not be necessary to extend hose lines through interlocking security doors and any doors in smoke-barrier walls, horizontal exit walls and area or occupancy separation walls fire walls or fire barrier walls. Standpipes located in cell complexes may be placed in secured pipe chases.*

Authority Cited: Health and Safety Code Sections 13108,13143.

References: Health and Safety Code Sections 13143

(Relocated from 2001 CBC 414A)

~~414A.4.3.1~~ **905.3.10 Fixed Guideway Transit Systems.** *Underground stations shall be provided with a class III standpipe system designed to comply with the following:*

1. *Automatically supply the required flow at 65 pounds per square inch (psi) for each 1 1/2-inch (38 mm) outlet.*
2. *Supply a 250 gpm (946 L/m) flow to each of the two most remote 2 1/2 inch (64 mm) outlets when pressurized through the fire department connection(s).*

Authority: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143

(Relocated from 2001 CBC 414A)

~~414A.4.4.3.2~~ **905.3.10.1** *All other stations shall be provided with a class I manual wet standpipe system; a manual dry class I standpipe system may be allowed in areas subject to freezing.*

**Exception:** *Open at-grade stations with unrestricted fire department access need not be provided with a standpipe system.*

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**905.5 Location of Class II standpipe hose connections.** Class II standpipe hose connections shall be accessible and shall be located so that all portions of the building are within 30 feet (9144 mm) of a listed variable stream fog nozzle attached to 100 feet (30 480 mm) of hose.

Authority Cited: Health and Safety Code Sections 13143, 13210.  
References: Health and Safety Code Sections 13143.

**906.1 Where required.** Portable fire extinguishers shall be installed in the following locations.

1. In new and existing Group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies.

~~**Exception:** In new and existing Group A, B and E occupancies equipped throughout with quick response sprinklers, portable fire extinguishers shall be required only in locations specified in Items 2 through 6.~~

2. Within 30 feet (9144 mm) of commercial cooking equipment.
3. In areas where flammable or combustible liquids are stored, used or dispensed.
4. On each floor of structures under construction, except Group R-3 occupancies, in accordance with Section 1415.1.
5. Where required by the sections indicated in Table 906.1.
6. Special-hazard areas, including but not limited to laboratories, computer rooms and generator rooms, where required by the fire code official.
7. Large and small family day-care homes shall be equipped with a portable fire extinguisher having a minimum 2A10BC rating.

Authority Cited: Health and Safety Code Sections 13143 13160, 13190.  
References: Health and Safety Code Sections 13143.

**906.2 General requirements.** Portable fire extinguishers shall be selected, installed and maintained in accordance with this section and ~~NFPA 10~~ Chapter 3, Title 19 California Code of Regulation.

**Exceptions:**

1. The travel distance to reach an extinguisher shall not apply to the spectator seating portions of Group A-5 occupancies.
2. ~~Thirty-day inspections shall not be required and maintenance shall be allowed to be once every three years for dry-chemical or halogenated agent~~ portable fire extinguishers that are supervised by a listed and approved electronic monitoring device, provided that all of the following conditions are met:
  - 2.1. Electronic monitoring shall confirm that extinguishers are properly positioned, properly charged and unobstructed.
  - 2.2. Loss of power or circuit continuity to the electronic monitoring device shall initiate a trouble signal.
  - 2.3. The extinguishers shall be installed inside of a building or cabinet in a noncorrosive environment.
  - 2.4. Electronic monitoring devices and supervisory circuits shall be tested ~~every three years~~ when extinguisher maintenance is performed.
  - 2.5. A written log of required hydrostatic test dates for extinguishers shall be maintained by the owner to ensure that hydrostatic tests are conducted at the frequency required by ~~NFPA 10~~ Chapter 3, Title 19 California Code of Regulation.

Authority Cited: Health and Safety Code Sections 13143 13160, 13190.  
References: Health and Safety Code Sections 13143.

**907.1.2 Equipment.** Systems and their components shall be California State Fire Marshal listed and approved for the purpose for which they are installed.

Authority Cited: Health and Safety Code Sections 13114, 13143.  
References: Health and Safety Code Sections 13143.

**907.1.3 Fire-walls and Fire barrier walls.** *For the purpose of Section 907 fire walls and fire barrier walls shall not define separate buildings.*

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**907.1.4 Fire alarm use** *A fire alarm system shall not be used for any purpose other than fire warning or mass notification unless approved by the enforcing agency.*

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**907.2 Where required—new buildings and structures.** An approved manual, automatic or manual and automatic 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 907.10, unless other requirements are provided by another section of this code. Where automatic sprinkler protection installed in accordance with Section 903.3.1.1 or 903.3.1.2 is provided and connected to the building fire alarm system, automatic heat detection required by this section shall not be required.

The automatic fire detectors shall be smoke detectors. Where ambient conditions prohibit installation of automatic smoke detection, other automatic fire detection shall be allowed where approved.

A minimum of one fire alarm box shall be installed for each fire alarm system at a location approved by the enforcing agency.

**Exception:** Fire alarm systems dedicated to elevator recall control, supervisory service and fire sprinkler monitoring only.

Where other sections of this code allow elimination of fire alarm boxes due to sprinklers, a single fire alarm box shall be installed.

**Exception:** Where not required to be installed by the local enforcing agency.

Authority: Health and Safety Code Sections 13108, 13143  
References: Health and Safety Code Sections 13143

**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 NFPA 72. Group A occupancies with an occupant load of 10,000 or more, see Section 907.2.1.3.

**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.

Authority: Health and Safety Code Sections 13108, 13143  
References: Health and Safety Code Sections 13143

**907.2.1.3 Public address system.** Pursuant to Health and Safety Code Section 13108.9, for all buildings or structures constructed on or after July 1, 1991, which are intended for public assemblies of 10,000 or more persons a public address system with an emergency backup power system shall be required.

Existing buildings or structures intended for public assemblies of 10,000 or more persons, which, on or after January 1, 1991 have or subsequently have installed a public address system, shall have an emergency backup power system for the public address system.

Authority Cited: Health and Safety Code Sections 13108.9.  
References: Health and Safety Code Sections 13143.

**907.2.3 Group E.** A manual and automatic fire alarm system shall be installed in Group E Occupancies with an occupant load of 50 or more persons or containing more than one classroom or one or more rooms used for day care purpose.

**Exceptions:**

1. ~~Group E occupancies with an occupant load of less than 50.~~
  - ~~2.1~~ Manual fire alarm boxes are not required in Group E occupancies where all the following apply:
    - ~~2.1.1.~~ Interior corridors are protected by smoke detectors with alarm verification.
    - ~~2.1.2.~~ Auditoriums, cafeterias, gymnasiums and the like are protected by heat detectors or other approved detection devices.
    - ~~2.1.3.~~ Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.
    - ~~2.1.4.~~ Off-premises monitoring is provided.
    - ~~2.1.5.~~ The capability to activate the evacuation signal from a central point is provided.
    - ~~2.1.6.~~ In buildings where normally occupied spaces are provided with a two-way communication system between such spaces and a constantly attended receiving station from where a general evacuation alarm can be sounded, except in locations specifically designated by the building official.
  - ~~3.2~~ Manual fire alarm boxes shall not be required in Group E occupancies where the building is equipped throughout with an approved automatic sprinkler system, the notification appliances will activate on sprinkler water flow and manual activation is provided from a normally occupied location.

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50  
References: Health and Safety Code Sections 13143

**907.2.3.1 6.2.4.1.1 [FOR SFM] System connection** When more than one fire alarm control unit is used at the school campus, they shall be interconnected and shall operate all ~~indicating devices~~ notification appliances.

**Exception:** Interconnection of fire alarm control units is not required when:

1. Buildings that are separated a minimum of 20 feet (6096 mm) and in accordance with the California Building Code,
2. There is a method of communication between each classroom and the school administrative office approved by the fire enforcing agency.

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50  
References: Health and Safety Code Sections 13143

**907.2.3.2 1006.2.4.1.2 [FOR SFM] School Fire Alarms.** Except as provided in Section ~~1006.2.4.1~~ 907.3 every building used for educational purposes, regardless of occupancy classification shall be provided with an approved fire

alarm system. This provision shall apply to, but shall not necessarily be limited to, every elementary school, high school, community college and university.

**Exception:** Privately owned trade or vocational schools or any firm or company which provides educational facilities and instructions for its employees.

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50

References: Health and Safety Code Sections 13143

**907.2.3.3 ~~1006.2.4.2.2.1.3~~ [For SFM] Notification.** The system notification shall be consistent with the requirements for audible and visible notification requirements of Section 907 and the NFPA 72 as amended in Chapter 35. Audible notification shall comply with the American National Standards Institute (ANSI) S3.41 Emergency Evacuation Signal. An audible alarm notification appliance shall be mounted on the exterior of buildings to alert occupants in and around the playground area.

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50

References: Health and Safety Code Sections 13143

**907.2.3.4 ~~1006.2.4.2.2.1.4~~ [For SFM] Annunciation.** Annunciation of the fire alarm system shall comply with the requirements of Section ~~1006.3.3.7~~ 907.9.1.

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50

References: Health and Safety Code Sections 13143

**907.2.3.5 ~~1006.2.4.2.2.1.5~~ Supervising Station.** Fire alarm systems shall transmit the alarm, supervisory and trouble signals to an approved supervising station in accordance with NFPA 72 as amended in Chapter 35. The supervising station shall be listed as either UUFX (Central Station) or UUJS (remote & proprietary) by the Underwriters Laboratory Inc. (UL) or shall comply with the requirements of standard, FM 3011-Approval Standard for Central Station Service for Fire Alarm and Protective Equipment Supervision, 1999 edition.

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50

References: Health and Safety Code Sections 13143

**907.2.3.6 SECTION ~~1006.2.4.2.2.1.~~ [FOR SFM] Public School –Smoke Detectors.**

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50

References: Health and Safety Code Sections 13143

**907.2.3.6.1 ~~1006.2.4.2.2.1.1~~ FOR SFM] Automatic Detection.** Smoke detectors shall be used as the primary method of automatic alarm initiation except in areas where the environment or ambient conditions exceed smoke detector installation guidelines; another method of automatic detection shall be used. In areas containing sprinklers, heat detectors may be omitted. Smoke detectors shall be designed, installed and maintained in accordance with Section 907 and NFPA 72 as amended in Chapter 35 45.

Smoke detectors shall be located at the ceiling of every room, and area, and in "ceiling-plenums" utilized for environmental air. In buildings provided with an approved automatic fire sprinkler system where the ceiling creates a "ceiling-plenum" or a space above the ceiling for non-environmental air, automatic sprinklers shall be installed to protect such spaces of buildings. that house and or serve students from kindergarten through twelfth grade (K-12) and are sited on a new public school, campus as defined in section ~~245-202.~~

Where the ceiling is attached directly to the underside of the roof structure, automatic smoke detectors shall be installed on the ceiling only.

Heat detectors shall be installed in ~~such spaces when~~ where sprinklers are not installed. Heat detectors shall be installed and maintained in accordance with Section 907 and NFPA 72 as amended in Chapter 35 45.

~~Where the ceiling is attached directly to the underside of the roof structure, automatic smoke detectors shall be installed on the ceiling only. Smoke detectors are not required in non-accessible areas as defined in Section 210~~

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50

References: Health and Safety Code Sections 13143

**907.2.3.7 1006.2.4.4 [FOR SFM] Public School – Automatic Fire Alarm System Requirements.**

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50

References: Health and Safety Code Sections 13143

**907.2.3.7.1 1006.2.4.4.1 New Public School Campus.** *On or after July 1, 2002, a State Fire Marshal approved and listed automatic fire alarm system shall be provided ~~on~~ in all new public school campus as defined in ~~Section 245 202~~. The approved fire alarm system shall be both automatic and manual and maintained in accordance with Section 907 the California Electrical Code and Article 94 Chapter 45. At least one manual box shall be installed for the purpose of manually initiating the fire alarm system.*

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50

References: Health and Safety Code Sections 13143

**907.2.3.7.2 1006.2.4.4.2 Modernization Project.** *A State Fire Marshal approved and listed fire alarm system shall be provided in all modernization projects as defined in Section ~~244 202~~. The approved fire alarm system shall be both automatic and manual and maintained in accordance with Section 907 the California Electrical Code and Article 94 Chapter 45. When the requirements of this section are met, manual fire alarm boxes are not required throughout the modernization project. At least one manual box shall be installed for the purpose of manually initiating the fire alarm system.*

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50

References: Health and Safety Code Sections 13143

**907.2.3.8 1006.2.4.4.3 [FOR SFM] Portable Buildings –Automatic Fire Alarm System Requirements**

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50

References: Health and Safety Code Sections 13143

**907.2.3.8.1 1006.2.4.4.3.1 Permanent-Portable Buildings.** *A portable building that is used to serve or house students from kindergarten through twelfth grade (K-12) and is certified as a permanent building on a new public school campus by the public school administration shall comply with the requirements of Section ~~1006.2.4.4.1. 907.2.3.7.1~~.*

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50

References: Health and Safety Code Sections 13143

**907.2.3.8.2 1006.2.4.4.3.2 Permanent-Portable Building Modernization Project.** A permanent-portable building to undergo modernization efforts, and is used to serve or house students from kindergarten through twelfth grade (K-12) that is certified as a permanent building by the public school administration shall comply with the requirements of Section ~~1006.2.4.4.2~~ **907.2.3.7.2**.

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50

References: Health and Safety Code Sections 13143

**907.2.3.8.3 1006.2.4.4.3.3 Exempted Portable Building.** A portable building as defined in Section ~~217~~ 202 that is certified by the public school administration as being sited on campus for less than three years is not required to install an automatic fire detection system, ~~automatic alarm~~ or automatic sprinkler system.

Authority: Health and Safety Code Sections 13108, 13143 Public Education Code 17074.50

References: Health and Safety Code Sections 13143

**907.2.6 Group I.** A manual fire alarm system shall be installed in Group I occupancies. An electrically supervised, automatic smoke detection system shall be provided in accordance with Sections 907.2.6.1 and 907.2.6.2.

**Exception:** ~~Manual fire alarm boxes in resident or patient sleeping areas of Group I-1 and I-2 occupancies shall not be required at exits if located at all nurses' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that travel distances required in Section 907.3.1 are not exceeded.~~ Large family day care.

Authority Cited: Health and Safety Code Sections 1502, 1569.72, 13131, 13143.6.

References: Health and Safety Code Sections 13143.6.

**[F] 907.2.6.1.1 Licensed Group I-1 Occupancies.** Licensed Group I-1 Occupancies housing more than six non-ambulatory, elderly clients shall be provided with an approved manual and automatic fire alarm system.

**Exceptions:** Buildings housing non-ambulatory clients on the first story only and which are protected throughout by the following:

1. An approved and supervised automatic sprinkler system, as specified in Sections 903.3.1.1 or 903.3.1.2, which upon activation will initiate the fire alarm system to notify all occupants.
2. A manual fire alarm system.
3. Smoke alarms required by Section 907.2.10.

Authority Cited: Health and Safety Code Sections 1502, 1569.72, 13131, 13143.6 13131.5, 13143.6.

References: Health and Safety Code Sections 13131.5.

**907.2.6.2 Group I-2 and Group I-2.1** ~~Corridors in nursing homes (both intermediate care and skilled nursing facilities), detoxification facilities and spaces permitted to be open to the corridors by Section 407.2 of the International Building Code shall be equipped with an automatic fire detection system. Hospitals shall be equipped with smoke detection as required in Section 407.2 of the International Building Code.~~

**Exceptions:**

- ~~1. Corridor smoke detection is not required in smoke compartments that contain patient sleeping units where patient sleeping units are provided with smoke detectors that comply with UL 268. Such detectors shall provide a visual display on the corridor side of each patient sleeping unit and shall provide an audible and visual alarm at the nursing station attending each unit.~~
- ~~2. Corridor smoke detection is not required in smoke compartments that contain patient sleeping units where patient sleeping unit doors are equipped with automatic door-closing devices with integral smoke detectors on the unit sides installed in accordance with their listing, provided that the integral detectors perform the required alerting function.~~

An approved manual and automatic fire alarm system shall be provided for Group I-2 and I-2.1 occupancies. Audible

appliances shall be used in non-patient areas. Visible appliances may be used in lieu of audible appliances in patient-occupied areas. Audible appliances placed in patient areas shall be only chimes or similar sounding appliances for alerting staff. An automatic smoke detection system shall be provided.

**Exceptions:**

1. Heat detectors may be used in closets, unusable space under floor areas, storage rooms, bathrooms, attics, kitchens, laundry rooms and rooms of similar use.

2. When an entire facility is used for the housing of persons, none of whom are physically or mentally handicapped or non-ambulatory, and are between the ages of 18 and 64, the buildings or structures comprising such facility shall be exempt from the provisions of this subsection relating to the installation of an automatic fire alarm system.

In occupancies housing non-ambulatory persons where restraint is practiced, staff and attendants shall be provided and housed or located in such a manner that such supervisory personnel will also be alerted upon activation of any detector required by this section.

Automatic closing doors shall comply with Section 715.4.7.3.

Authority Cited: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143.

**907.2.6.2.1** Smoke detectors shall be installed in patient and client sleeping rooms. Actuation of such detectors shall cause a visual display on the corridor side of the room in which the detector is located and shall cause an audible and visual alarm at the respective nurses' station. A nurse call system listed for this function is an acceptable method of providing the audible and visual alarm at the respective nurses station.

**Exception:** In rooms equipped with existing automatic door closers having integral smoke detector, the integral detector may substitute for the room smoke detector, provided it meets all the required alerting function.

Operation of the smoke detector shall not include any alarm verification feature.

Authority: Health and Safety Code Sections 13113, 13131, 13143.6

References: Health and Safety Code Sections 13143

**907.2.6.3.3 Smoke detectors.** An approved automatic smoke detection system shall be installed throughout resident housing areas, including sleeping units and contiguous day rooms, group activity spaces and other common spaces normally accessible to residents inmates.

**Exceptions:** ~~4. Other approved smoke detection arrangements providing equivalent protection including, but not limited to, placing detectors in exhaust ducts from cells or behind protective guards listed for the purpose are allowed when necessary to prevent damage or tampering, may be used to prevent damage or tampering or for other purposes provided the function of detecting any fire is fulfilled and the location of the detectors is such that the speed of detection will be equivalent to that provided by the spacing and location required in accordance with NFPA 72 as referenced in Chapter 45. This may include the location of detectors in return air ducts from cells, behind grilles or in other locations. Spot type, combination duct and open area smoke detectors may be used when located not more than 14 inches (356mm) from the return air grill. For initiation and annunciation purposes, these detectors may be combined in groups of four. The fire code official having jurisdiction, however, must approve the proposed equivalent performance of the design.~~

~~2. Sleeping units in Use Conditions 2 and 3.~~

~~3. Smoke detectors are not required in sleeping units with four or fewer occupants in smoke compartments that are equipped throughout with an approved automatic sprinkler system sleeping unit has an exit directly to a public way, exit court or yard.~~

Authority Cited: Health and Safety Code Sections 13143, 13108.

References: Health and Safety Code Sections 13143.

**907.2.6.3.4 System annunciation** A staff alerting fire alarm shall sound at all staff control stations on the floor of activation and an audible and visual signal shall be indicated on an annunciator at the facility control center upon activation of any automatic extinguishing system, automatic detection system, or any smoke detector or manual actuating or initiating device. In addition, where there are staff-control stations on the floor, an audible, visual and manual alarm shall be located in each staff control station.

Fire and trouble signals of fire alarm systems and sprinkler water-flow and supervisory signals of extinguishing systems shall be annunciated in an area designated as the facility control center which shall be constantly attended by staff personnel. All such signals shall produce both an audible signal and visual display at the facility control center indicating the building, floor zone or other designated area from which the signal originated in accordance with Section 907.9.

All local detention facilities within the scope of Section 6031.4 of the Penal Code shall have a automatic smoke detection system. A manual fire alarm-initiating device shall be installed in all guard control stations and shall be capable of alerting personnel in a central control point to the presence of fire or smoke within the facility.

Authority Cited: Health and Safety Code Sections 13143 and Penal Code Section 6031.4.

References: Health and Safety Code Sections 13143.

**Relocated from CBC [SFM] 310.15.4 907 2.6.4. Large family day-care.** Every large family day-care home shall be provided with at least one manual device at a location approved by the enforcing agency. Such device shall actuate a fire alarm signal, which shall be audible throughout the facility at a minimum level of 15 db above ambient noise level. These devices need not be interconnected to any other fire alarm device, have a control panel or be electrically supervised or provided with emergency power. Such device or devices shall be attached to the structure and may be of any type acceptable to the enforcing ~~agent~~agency, provided that such devices are distinctive in tone and are audible throughout the structure.

Authority Cited: Health and Safety Code Sections 1597.46,

References: Health and Safety Code Sections 1597.46.

**907.2.7 Group M.** A manual fire alarm system shall be installed in Group M occupancies having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge. The initiation of a signal from a manual fire alarm box shall initiate alarm notification appliances as required by Section 907.10.

**Exceptions:** 1. Covered mall buildings complying with Section 402 of the ~~International~~California Building Code.

2. Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system and the alarm notification appliances will automatically activate upon sprinkler water flow.

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**907.2.8 Group R-1 and Group R-4.** Fire alarm systems shall be installed in Group R-1 and Group R-4 occupancies as required in Sections 907.2.8.1 through 907.2.8.34.

Authority Cited: Health and Safety Code Section 13143

References: Health and Safety Code Section 13143.

**907.2.8.4 Fire alarm systems in Group R-4 occupancies.** An approved manual and automatic fire alarm system in accordance with-Section 907.2.8.

**Exceptions:**

1. Protective social care occupancies housing persons none of whom are physically or mentally handicapped or nonambulatory and which provide supervisory services such as alcoholism or drug abuse recovery or treatment facilities., halfway houses operated by the California Department of Corrections, and similar facilities and are provided with a manual fire alarm box which will actuate a distinctive fire alarm signal that can be heard throughout the facility.

2. Protective social care facilities provided with an automatic sprinkler system which complies with Chapter 9 and are provided with a manual fire alarm box which will actuate a distinctive fire alarm signal that can be heard throughout the facility.

Authority Cited: Health and Safety Code Sections 13143 13143.6.

References: Health and Safety Code Sections 13143

**907.2.10 Single- and multiple-station smoke alarms.** Listed single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with the provisions of this code and the household fire-warning equipment provisions of NFPA 72.

*Relocated from CFC 1006.2.9.1.6-Exception: ~~[For SFM] For Group R occupancies.~~ A fire alarm system with smoke detectors located in accordance with this section ~~the CBC~~ may be installed in lieu of smoke alarms. Upon actuation of the detector, only those notification appliances in the dwelling unit or guest room where the detector is actuated shall activate.*

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**907.2.10.1.1 Group R-1.** Single- or multiple-station smoke alarms shall be installed in all of the following locations in Group R-1:

1. In sleeping areas.
2. In every room in the path of the means of egress from the sleeping area to the door leading from the sleeping unit.
3. In each story within the sleeping unit, including basements. For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.
4. In enclosed common stairwells of multiple-dwelling complexes.

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**907.2.10.1.2 Groups R-2, R-3, R-3.1, R-4 and I-1.** Single- or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, R-3.1, R-4 and I-1 regardless of occupant load at all of the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.
2. In each room used for sleeping purposes.
3. In each story within a dwelling unit, including basements but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.
4. In enclosed common stairwells of apartment complexes and other multiple-dwelling complexes.
5. In a Group R-3.1 occupancies, in addition to the above, smoke alarms shall be provided throughout the habitable areas of the dwelling unit except kitchens.

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**Relocated from CBC ~~[SFM] 310.15.2~~ 907.2.10.1.4 Group I-4 Occupancies.** Large family day-care homes shall be equipped with State Fire Marshal approved and listed single station residential type smoke alarms. ~~The number and placement of smoke alarms shall be determined by the enforcement authority.~~

Authority Cited: Health and Safety Code Sections 1569.72, 13143.6.

References: Health and Safety Code Sections 13143.

Relocated from 2001 CFC 1006.2.9.1.7)

**~~[SFM] 1006.2.9.1.7~~ 907.2.10.1.5 Group R-3.1** In all facilities housing a bedridden client, smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms shall be electrically interconnected so as to cause all smoke alarms to sound a distinctive alarm signal upon actuation of any single smoke alarm. Such alarm signal shall be audible throughout the facility at a minimal level of 15 db above ambient noise level. These devices need not be interconnected to any other fire alarm device, have a control panel, or be electrically supervised or provided with emergency power.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**907.2.10.2 Power source.** In new construction *and in newly classified Group R-3.1 Occupancies*, required smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

**Exception:** Smoke alarms are not required to be equipped with battery backup in Group R-1 where they are connected to an emergency electrical system.

**907.2.10.3 Interconnection.** Where more than one smoke alarm is required to be installed within an individual dwelling unit in Group R-2, R-3, *R-3.1*, or R-4, or within an individual dwelling unit or sleeping unit in Group R-1, the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**907.2.10.5 (Relocated from 2001 CBC 310.16) ~~310.16 [For SFM] Existing Group R, Division 3 Occupancies.~~**

Authority: Health and Safety Code Sections 13113.7, 13113.8, 13143

References: Health and Safety Code Sections 13143

**907.2.10.5.1 (Relocated from 2001 CBC 310.16.3.1) ~~310.16.1 [For SFM] Existing Buildings housing Group R, Division 3 Occupancies established prior to the effective date of these regulations may have their use continued if they conform or are made to conform to provisions of these regulations to the extent that reasonable and adequate life safety against the hazards of fire, panic and explosion is substantially provided. Additional means of egress, the installation of automatic sprinkler systems, automatic fire alarm system or other life safety measures, may be required to provide reasonable and adequate safety.~~**

**Note:** It is the intent of this sections that every existing occupancy need not mandatorily conform with the requirements for new construction. Reasonable judgment in the application of requirements must be exercised by the enforcing agency.

Authority: Health and Safety Code Sections 13113.7, 13113.8, 13143

References: Health and Safety Code Sections 13143

**907.2.10.5.1.2** (Relocated from 2001 CBC 310.16.2) ~~310.16.2 [For SFM]~~ For purposes of clarification, Health and Safety Code section 13113.7 is repeated.

(a) Except as otherwise provided in this section, a smoke detector, approved and listed by the State Fire Marshal pursuant to Section 13114, shall be installed, in accordance with the manufacturer's instructions in each dwelling intended for human occupancy within the earliest applicable time period as follows:

(1) For all dwelling units intended for human occupancy, upon the owner's application on or after January 1, 1985, for a permit for alterations, repairs, or additions, exceeding one thousand dollars (\$1,000).

(2) For all other dwelling units intended for human occupancy on or after January 1, 1987.

However, if any local rule, regulation, or ordinance, adopted prior to the compliance dates specified in paragraphs (1) and (2) requires installation in a dwelling unit intended for human occupancy of smoke detector, which receive their power from the electrical system of the building and requires compliance with the local rule, regulation, or ordinance at a date subsequent to the dates specified in this section, the compliance date specified in the rule, regulation, or ordinance shall, but only with respect to the dwelling units specified in this section, take precedence over the dates specified in this section.

The State Fire Marshal may adopt regulations exempting dwellings intended for human occupancy with fire sprinkler systems from the provisions of this section, if he or she determines that a smoke detector is not reasonably necessary for fire safety in the occupancy.

Unless prohibited by local rules, regulations, or ordinances, a battery-operated smoke detector which otherwise meets the standards adopted pursuant to Section 13114 for smoke detectors, satisfies the requirements of this section.

(b) "Dwelling units intended for human occupancy," as used in this section, includes a duplex, lodging house, apartment complex, hotel, motel, condominium, stock cooperative, time-share project, or dwelling unit of a multiple-unit dwelling complex. For the purpose of this part, "dwelling units intended for human occupancy" does not include manufactured homes as defined in Section 18007, mobilehomes as defined in Section 18008, and commercial coaches as defined in 18001.8.

(c) The owner of each dwelling unit subject to this section shall supply and install smoke detectors required by this section in the locations and in the manner set forth in the manufacturer's instructions, as approved by the State Fire Marshal's regulations. In the case of apartment complexes and other multiple-dwelling complexes, a smoke detector shall be installed in the common stairwells. All fire alarm warning systems supplemental to the smoke detector shall also be listed by the State Fire Marshal.

(d) A high rise structure, as defined in subdivision (b) of Section 13210 and regulated by Chapter 3 (commencing with Section 13210), and which is used for purposes other than as dwelling units intended for human occupancy, is exempt from the requirements of this section.

(e) The owner shall be responsible for testing and maintaining detectors in hotels, motels, lodging houses, and common stairwells of apartment complexes and other multiple dwelling complexes.

An owner or the owner's agent may enter any dwelling unit, efficiency dwelling unit, guest room, and suite owned by the owner for the purpose of installing, repairing, testing, and maintaining single station smoke detectors required by this section. Except in cases of emergency, the owner or owner's agent shall give the tenants of each such unit, room, or suite reasonable notice in writing of the intention to enter and shall enter only during normal business hours. Twenty-four hours shall be presumed to be reasonable notice in absence of evidence to the contrary.

The smoke detector shall be operable at the time that the tenant takes possession. The apartment complex tenant shall be responsible for notifying the manager or owner if the tenant becomes aware of an inoperable smoke detector within his or her unit. The owner or authorized agent shall correct any reported deficiencies in the smoke detector and shall not be in violation of this section for a deficient smoke detector when he or she has not received notice of the deficiency.

(f) A violation of this section is an infraction punishable by a maximum fine of two hundred dollars (\$200) for each offense.

(g) This section shall not affect any rights which the parties may have under any other provision of law because of the presence or absence of a smoke detector.

(h) This section shall not apply to the installation of smoke detectors in single-family dwellings or factory-built housing which is regulated by Section 13113.8, as added by Assembly Bill No. 2285 of the 1983-84 Regular Session.

Authority: Health and Safety Code Sections 13113.7, 13113.8, 13143

References: Health and Safety Code Sections 13143

(Relocated from 2001 CBC 310.16.3)

~~310.16.3 [For SFM] 907.2.10.5.3~~—For purposes of clarification, Health and Safety Code section 13113.8 is repeated.

(a) On and after January 1, 1986, every single-family dwelling and factory-built housing, as defined in Section 19971, which is sold shall have an operable smoke detector. The detector shall be approved and listed by the State Fire Marshal and installed in accordance with the State Fire Marshal's regulations. Unless prohibited by local rules, regulations, or ordinances, a battery-operated smoke detector shall be deemed to satisfy the requirements of this section.

(b) On and after January 1, 1986, the transferor of any real property containing a single-family dwelling, as described in subdivision (a), whether the transfer is made by sale, exchange, or real property sales contract, as defined in Section 2985 of the Civil Code, shall deliver to the transferee a written statement indicating that the transferor is in compliance with this section. The disclosure statement shall be either included in the receipt for deposit in a real estate transaction, an addendum attached thereto, or a separate document.

(c) The transferor shall deliver the statement referred to in subdivision (b) as soon as practicable before the transfer of title in the case of a sale or exchange, or prior to execution of the contract where the transfer is by a real property sales contract, as defined in Section 2985. For purposes of this subdivision, "delivery" means delivery in person or by mail to the transferee or transferor, or to any person authorized to act for him or her in the transaction, or to additional transferees who have requested delivery from the transferor in writing. Delivery to the spouse of a transferee or transferor shall be deemed delivery to a transferee or transferor, unless the contract states otherwise.

(d) This section does not apply to any of the following:

(1) Transfers which are required to be preceded by the furnishing to a prospective transferee of a copy of a public report pursuant to Section 11018.1 of the Business and Professions Code.

(2) Transfers pursuant to court order, including, but not limited to, transfers ordered by a probate court in the administration of an estate, transfers pursuant to a writ of execution, transfers by a trustee in bankruptcy, transfers by eminent domain, or transfers resulting from a decree for specific performance.

(3) Transfers to a mortgagee by a mortgagor in default, transfers to a beneficiary of a deed of trust by a trustor in default, transfers by any foreclosure sale after default, transfers by any foreclosure sale after default in an obligation secured by a mortgage, or transfers by a sale under a power of sale after a default in an obligation secured by a deed of trust or secured by any other instrument containing a power of sale.

(4) Transfers by a fiduciary in the course of the administration of a decedent's estate, guardianship, conservatorship, or trust.

(5) Transfers from one co-owner to one or more co-owners.

(6) Transfers made to a spouse, or to a person or persons in the lineal line of consanguinity of one or more of the transferors.

(7) Transfers between spouses resulting from a decree of dissolution of a marriage, from a decree of legal separation, or from a property settlement agreement incidental to either of those decrees.

(8) Transfers by the Controller in the course of administering the Unclaimed Property Law provided for in Chapter 7 (commencing with Section 1500) of Title 10 of Part 3 of the Code of Civil Procedure.

(9) Transfers under the provisions of Chapter 7 (commencing with Section 3691) or Chapter 8 (commencing with Section 3771) of Part 6 of Division 1 of the Revenue and Taxation Code.

(e) No liability shall arise, nor any action be brought or maintained against, any agent of any party to a transfer of title, including any person or entity acting in the capacity of an escrow, for any error, inaccuracy, or omission relating to the disclosure required to be made by a transferor pursuant to this section.

However, this subdivision does not apply to a licensee, as defined in Section 10011 of the Business and Professions Code, where the licensee participates in the making of the disclosure required to be made pursuant to this section with actual knowledge of the falsity of the disclosure.

(f) Except as otherwise provided in this section, this section shall not be deemed to create or imply a duty upon a licensee, as defined in Section 10011 of the Business and Professions Code, or upon any agent of any party to a transfer of title, including any person or entity acting in the capacity of an escrow, to monitor or ensure compliance with this section.

(g) No transfer of title shall be invalidated on the basis of a failure to comply with this section, and the exclusive remedy for the failure to comply with this section is an award of actual damages not to exceed one hundred dollars (\$100), exclusive of any court costs and attorney's fees.

(h) Local ordinances requiring smoke detectors in single-family dwellings may be enacted or amended. However, the ordinances shall satisfy the minimum requirements of this section.

(i) For the purposes of this section, "single-family dwelling" does not include a manufactured home as defined in Section 18007, a mobile home as defined in Section 18008, or a commercial coach as defined in Section 18001.8.

(j) This section shall not apply to the installation of smoke detectors in dwellings intended for human occupancy, as defined in and regulated by Section 13113.7 of the Health and Safety Code, as added by Senate Bill No. 1448 in the 1983-84 Regular Session.

Authority: Health and Safety Code Sections 13113.7, 13113.8, 13143  
References: Health and Safety Code Sections 13143

**907.2.12 High-rise buildings.** ~~907.2.12 High-rise buildings. High-rise buildings with a floor used for human occupancy located more than 75 feet (22 860 mm) above the lowest level of fire department building access shall be provided with an automatic fire alarm system and an emergency voice/alarm communication system in accordance with Section 907.2.12.2.~~

- Exceptions:**
1. Airport traffic control towers in accordance with Section 907.2.22 and Section 412 of the ~~International California~~ Building Code.
  2. Open parking garages in accordance with Section 406.3 of the ~~International California~~ Building Code.
  3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1 of the ~~International California Building Code~~.
  4. Low-hazard special occupancies in accordance with Section 503.1.1 of the ~~International California Building Code~~.
  5. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415 of the ~~International California Building Code~~.

Authority Cited: Health and Safety Code Sections 13143, 13210 13211.  
References: Health and Safety Code Sections 13143.

**907.2.15 Delayed egress locks.** Where delayed egress locks or devices are installed on means of egress doors in accordance with Section 1008.1.8.6, an automatic smoke ~~or heat~~ detection-system shall be installed as required by that section.

*(Relocated from 2001 CFC 1006.2.12.5)*

~~[SFM] 1006.2.12.5~~ **907.2.15.1.** *In other than Group I Occupancies and Group R-4 Occupancies for single-story buildings smoke detectors shall be installed at ceilings throughout all occupied areas and mechanical/electrical spaces. For multiple-story buildings smoke detectors shall be installed throughout all occupied areas and mechanical/electrical spaces for the story where special delayed egress control devices are installed. Additional detectors are required on adjacent stories where occupants of those stories utilize the same exit means of egress.*

Authority Cited: Health and Safety Code Sections 1569.698, 13143.  
References: Health and Safety Code Sections 13143.

*(Relocated from 2001 CFC 1006.2.12.5.2)*

~~[SFM] 1006.2.12.5.2~~ **907.2.15.2** *For Group I, smoke detectors shall be installed at ceilings throughout all occupied areas, restrooms, closets, storage rooms and mechanical/electrical spaces of smoke compartments where delayed egress locks are installed. Heat detectors may be used in kitchens, laundry rooms and rooms of similar use. Additional detectors are required in adjacent smoke compartments where occupants of those compartments utilize the same exit means of egress.*

Authority Cited: Health and Safety Code Sections, 13143.  
References: Health and Safety Code Sections 13143.

**907.2.15.3** *For Group R-4 Occupancies licensed as residential care facilities for the elderly, and housing clients with Alzheimer's disease or dementia residential facilities, smoke detectors shall be installed at ceilings throughout all occupied areas, restrooms, closets, storage rooms and mechanical/electrical spaces. Heat detectors may be used in kitchens, laundry rooms and rooms of similar use.*

Authority Cited: Health and Safety Code Sections 1569.698, 13143.

References: Health and Safety Code Sections 13143.

**907.2.18 Underground buildings with smoke exhaust systems.** Where a smoke exhaust system is installed in an underground building in accordance with the ~~International California~~ Building Code, automatic fire detectors shall be provided in accordance with this section.

Authority Cited: Health and Safety Code Sections 1569.698, 13108, 13143.  
References: Health and Safety Code Sections 13143.

**907.2.21 Residential aircraft hangars.** A minimum of one listed smoke alarm shall be installed within a residential aircraft hangar as defined in the ~~International California Building Code~~ and shall be interconnected into the residential smoke alarm or other sounding device to provide an alarm which will be audible in all sleeping areas of the dwelling.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**907.2.24 Motion Picture and Television Production Studio Sound Stages and Approved Production Facilities**

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**Relocated from CFC [SFM] 4005 907.2.24.1 Sound Stages -Solid-ceiling Sets and Platforms.** All interior solid-ceiling sets over 600 square feet (55.7 m<sup>2</sup>) in area, and platforms (when provided) over 600 square feet (55.7 m<sup>2</sup>) in area and which exceed 3 feet (914 mm) in height shall be protected by one of the following:

1. An approved and listed heat detector system. Heat detectors shall be spaced 30 feet (9144 mm) on center or as required by the manufacturer's installation instructions. Detectors shall be connected to an approved and listed central, proprietary or remote station service or a local alarm which will give an audible signal at a constantly attended location. Such system shall be installed in accordance with this chapter.
2. The ceiling shall be positioned to allow for the operation of the building's automatic fire sprinkler system after rehearsal, videotaping, filming, or broadcasting of programs has been completed for the day.
3. An approved fire watch.
4. Special hazards shall be reviewed by the Fire Code Official (see Additional Fire Protection Systems, section 901.4.3).

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**907.2.24.2 Production Locations -Solid-Ceiling Sets and Platforms.** In buildings with existing fire protection systems and where production intends to construct solid-ceiling sets over 600 square feet (55.7 m<sup>2</sup>) in area, and platforms over 600 square feet (55.7 m<sup>2</sup>) in area and which exceed 3 feet (914 mm) in height shall be protected by one of the following:

1. An approved and listed heat detector system. Heat detectors shall be spaced 30 feet (9144 mm) on center or as required by the manufacturer's installation instructions. Detectors shall be connected to an approved and listed central, proprietary or remote station service or a local alarm which will give an audible signal at a constantly attended location. Such system shall be installed in accordance with this chapter.
2. The ceiling shall be positioned to allow for the operation of the building's automatic fire sprinkler system after rehearsal, videotaping, filming, or broadcasting of programs has been completed for the day.
3. An approved fire watch.
4. Special hazards shall be reviewed by the enforcing agency (see additional fire protection systems, Section 901.4.3.).

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**Relocated from CFC [SFM] 4006 907.2.24.3 Fire alarm panel control units.** *Fire panel alarm control units shall be California State Fire Marshal listed and shall be utilized in accordance with their listing. Control units may be temporarily supported by sets, platforms or pedestals.*

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**Relocated from CFC [SFM] 4006.2 907.2.24.4 Heat Detectors.** *Heat detection required by this article section shall be defined as a portable system as it is intended to be reinstalled when platforms or sets are changed.*

*Heat detectors shall be secured to standard outlet boxes which may be temporarily supported by sets, platforms or pedestals.*

*Heat detectors shall be provided for solid-ceiling sets and platforms where required by Section 4605.3 and 4611.14.*

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

#### **907.2.25 Group C Occupancies (Organized Camps).**

Authority Cited: Health and Safety Code Sections 13143, 18897.3.  
References: Health and Safety Code Sections 13143.

**Relocated from CBC [SFM] 431A.6.6 907.2.25.1 General.** *Every building and structure used or intended for sleeping purposes shall be provided with an automatic smoke-detection system. ~~Such systems shall conform to the California Fire Code, and shall be State Fire Marshal approved and listed.~~*

- Exception:**
- 1. Buildings and structures in existence and in operation prior to January 1, 1985.*
  - 2. Tents, tent structures and buildings and structures that do not exceed 25 ft (7620mm) in any lateral dimensions and where such building or structure is not more than one story.*

Authority Cited: Health and Safety Code Sections 13143, 18897.3.  
References: Health and Safety Code Sections 13143.

**Relocated from CBC [SFM] 431A.8 907.2.25.2 Camp Fire Alarm.** *Every organized camp shall provide and maintain a device or devices suitable for sounding a fire alarm. Such device or devices may be of any type acceptable to the enforcing agency provided they are distinctive in tone from all other signaling devices or systems and shall be audible throughout the camp premises. When an automatic fire alarm system is provided, as required by Section 440.6.6 of the California Building Code, all signaling devices required by this section shall be of the same type as that used in the automatic system.*

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**Relocated from CBC ~~[SFM] 414A.5-907.2.26~~ Fixed Guideway Transits Systems Fire Alarm and Communication Systems.**

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**Relocated from CBC ~~[SFM] 414A.5.4~~ 907.2.26.1 **General.** Every fixed guideway transit station shall be provided with an approved fire alarm system. The alarm and communication systems shall be proprietary, designed and installed so that damage to any one speaker will not render any paging zone of the system inoperative.**

**Exception: Open stations**

The voice alarm and public address system may be a combined system. When approved by the fire department, a communications system may be combined with the voice alarm system and the public address system. Such combined systems shall meet the requirements of the California Electric Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**Relocated from CBC ~~[SFM] 414A.5.1.1~~ 907.2.26.2 **System components.** Each station fire alarm system shall consist of:**

1. Fire alarm control ~~panel~~ unit at a location as permitted by the enforcing agency.
2. An alarm annunciator(s). The annunciator(s) shall be located at a point acceptable to the enforcing agency. The annunciator(s) shall indicate the type of device and general location of alarm. All alarm, supervisory and trouble signals shall be transmitted to the local annunciator(s) and the OCC.
3. Manual fire alarm ~~pull stations~~ boxes shall be provided throughout passenger platforms and stations.

**Exception:** Voice alarm reporting devices (emergency telephones) may be used in lieu of manual fire alarm ~~pull stations~~ boxes as permitted by the enforcing agency.

Such devices shall provide two-way communication between the OCC and each device. Such devices shall be located as required for manual fire alarm ~~pull~~ boxes, and shall be distinctly identified by signs, coloring, or other means acceptable to the enforcing agency.

4. Automatic smoke detectors in all ancillary spaces.

**Exceptions:** 1. Ancillary spaces protected by an approved fixed automatic extinguishing system; or  
2. Ancillary spaces protected by quick-response sprinklers.

5. Automatic control of exiting components.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**Relocated from CBC ~~[SFM] 414A.5.1.2~~ 907.2.26.3 **Combined voice alarm/public address system.** Each station shall be provided with a one-way paging system(s) capable of transmitting voice, tape or electronically generated messages to all areas of the station. The system(s) shall be configured such that the messages can be initiated from either the Emergency Management Panel (EMP) or the OCC.**

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**Relocated from CBC ~~[SFM] 414A.5.2 907.2.26.4~~ Emergency telephones.** A dedicated emergency phone system shall be provided in all underground stations to facilitate direct communications for emergency response between remote locations and the EMP.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**Relocated from CBC ~~[SFM] 414A.5.2.1 907.2.26.4.1~~** The remote phones shall be located at ends of station platforms, each hose outlet connection and station valve rooms.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**Relocated from CBC ~~[SFM] 414A.5.2.2 907.2.26.4.2~~** Provisions shall be made in the design of this system for extensions of the system to the next passenger station or guideway portal.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

(Relocated from 2001 CFC-4108)

**[SFM] 4108 907.2.27 Winery Caves.** An approved manual fire alarm system conforming to the provisions of Section 907.2.1 Article 10, Section 1007.2.2 shall be provided in all Type 3 winery caves.

Authority Cited: Health and Safety Code Sections, 13143.  
References: Health and Safety Code Sections 13143.

**907.3.1.3 Group I-2 & Group I-2.1** A fire alarm system shall be installed in existing Group I-2 & Group I-2.1 occupancies in accordance with Section 907.2.6.2.

Authority Cited: Health and Safety Code Sections, 13143.  
References: Health and Safety Code Sections 13143.

**907.3.1.3.1 Existing Group I Occupancies:** In projects requiring the Office of Statewide Health Planning and Development approval in existing Group I-2 and I-2.1 occupancies located in buildings defined as hospitals in Section 1250 of the Health and Safety Code, facilities not equipped with an automatic sprinkler system throughout shall be equipped with an automatic fire alarm system which responds to the products of combustion other than heat.

**Exception:** Heat detectors may be used in closets, unusable spaces under floor areas, storage rooms, bathrooms, and rooms of similar use.

Authority Cited: Health and Safety Code Sections 1250, 13143.  
References: Health and Safety Code Sections 13143.

(Relocated from 2001 CBC 403.25.3)

**[For SFM 403.25.3] 907.3.1.9 Existing Group R 1 and Group R 2 High-rise.** Notwithstanding the provisions of Section 403.20, every existing high-rise building used for the housing of a Group R-1 or Group R-2 Occupancies shall have installed therein a fire alarm system conforming to this subsection.

Authority Cited: Health and Safety Code Sections 13143, 13211.  
References: Health and Safety Code Sections 13143.

*(Relocated from 2001 CBC 403.25.3.1)*

**[For SFM 403.25.3.1] 907.3.1.9.1 General.** *Every apartment house and every hotel shall have installed therein an automatic or manually operated fire alarm system. Such fire alarm systems shall be so designed that all occupants of the building may be warned simultaneously.*

Authority Cited: Health and Safety Code Sections 13143, 13211.  
References: Health and Safety Code Sections 13143.

*(Relocated from 2001 CBC 403.25.3.2)*

**[For SFM 403.25.3.2] 907.3.1.9.2 Installation.** *The installation of all fire alarm equipment shall be in accordance with this Code.*

Authority Cited: Health and Safety Code Sections 13143, 13211.  
References: Health and Safety Code Sections 13143.

#### **907.3.1.10 Existing High-rise Buildings**

Authority Cited: Health and Safety Code Sections 13143, 13211.  
References: Health and Safety Code Sections 13143.

*(Relocated from 2001 CBC 403.16.1)*

**403.16.1 907.3.1.10.1 Fire alarm system.** *Every existing high-rise building shall be provided with an approved fire alarm system. In department stores, retail sales stores and similar occupancies where the general public is admitted, such systems shall be of a type capable of alerting staff and employees. In office buildings and all other high-rise buildings, such systems shall be of a type capable of alerting all occupants simultaneously.*

**Exceptions:** *1. In areas of public assemblage, the type and location of audible appliances shall be as determined by the enforcing agency.  
2. When acceptable to the enforcing agency, the occupant voice notification system required by California Building Code Section 3412.21 may be used in lieu of the fire-alarm system.*

Authority Cited: Health and Safety Code Sections 13143, 13211.  
References: Health and Safety Code Sections 13143.

*(Relocated from 2001 CBC 403.16.2)*

**403.16.2 907.3.1.10.2 Existing systems.** *Existing fire-alarm systems, when acceptable to the enforcing agency, shall be deemed as conforming to the provisions of these regulations.*

Authority Cited: Health and Safety Code Sections 13143, 13211.  
References: Health and Safety Code Sections 13143.

*(Relocated from 2001 CBC 403.16.3)*

**403.16.3 907.3.1.10.3 Annunciation.** *When a new fire alarm system is installed, it shall be connected to an annunciator panel installed in a location approved by the enforcing agency.*

For purposes of annunciation, zoning shall be in accordance with Section 907.9:

Authority Cited: Health and Safety Code Sections 13143, 13211.

References: Health and Safety Code Sections 13143.

(Relocated from 2001 CBC 403.16.4)

**403-16.4 907.3.1.10.4 Monitoring** *Shall be in accordance with section 907.15.*

Authority Cited: Health and Safety Code Sections 13143, 13211.

References: Health and Safety Code Sections 13143.

(Relocated from 2001 CBC 403.16.5)

**403-16.5 907.3.1.10.5 Systems Interconnection**. *When an automatic fire detection system or automatic extinguishing system is installed, activation of such system shall cause the sounding of the fire alarm notification appliances at locations designated by the enforcing agency.*

Authority Cited: Health and Safety Code Sections 13143, 13211.

References: Health and Safety Code Sections 13143.

(Relocated from 2001 CBC 403.16.6)

**403-16.6 907.3.1.10.6 Manual fire alarm boxes**. *A manual fire alarm box shall be provided in the locations designated by the enforcing agency. Such locations shall be where boxes are readily accessible and visible and in normal paths of daily travel by occupants of the building.*

Authority Cited: Health and Safety Code Sections 13143, 13211.

References: Health and Safety Code Sections 13143.

(\*Relocated from 2001 CBC 403.17)

**403-17 907.3.1.10.7 Emergency voice/alarm commutation system**. *An approved emergency voice/alarm commutation system shall be provided in every existing high-rise building which exceeds 150 feet (45720 mm) in height measured in the manner set forth in Section 403.2.1. Such system shall provide communication from a location available to and designated by the enforcing agency to not less than all public areas.*

*The emergency voice/alarm commutation system may be combined with a fire alarm system provide the combined system has been approved and listed by the State Fire Marshal. The sounding of a fire alarm signal in any given area or floor shall not prohibit voice communication to other areas of floors. Combination systems shall be designed to permit voice transmission to override the fire alarm signal, but the fire alarm signal shall not terminate in less than three minutes.*

Authority Cited: Health and Safety Code Sections 13143, 13211.

References: Health and Safety Code Sections 13143.

(Relocated from 2001 CBC 403.18)

**403-18 907.3.1.10.8 Fire department system**. *When it is determined by test that portable fire department communication equipment is ineffective, a communication system acceptable to the enforcing agency shall be installed within the building to permit emergency communication between fire-suppression personnel.*

Authority Cited: Health and Safety Code Sections 13143, 13211.

References: Health and Safety Code Sections 13143.

(Relocated from 2001 CBC 403.21)

**~~403-21~~ 907.3.1.10.9 Smoke control systems.** Existing air-circulation systems shall be provided with an override switch in a location approved by the enforcing agency which will allow for the manual control of shutdown of the systems.

**Exception:** Systems which serve only a single floor, or portion thereof, without any penetration by ducts or other means into adjacent floors.

Authority Cited: Health and Safety Code Sections 13143, 13211.

References: Health and Safety Code Sections 13143.

(Relocated from 2001 CBC 403.22)

**~~403-22~~ 907.3.1.10.10 Elevator recall smoke detection.** smoke detection for emergency operation of elevators shall be provided in accordance with Section 607.

Authority Cited: Health and Safety Code Sections 13143, 13211.

References: Health and Safety Code Sections 13143.

**907.3.2 Single- and multiple-station smoke alarms.** Single- and multiple-station smoke alarms shall be installed in existing Group R and Group I-1 occupancies in accordance with Sections 907.3.2.1 through 907.3.2.3.

Authority Cited: Health and Safety Code Sections 13143, 13113.7

References: Health and Safety Code Sections 13143.

**907.3.2.1 General.** Existing Group R and Group I-1 occupancies not already provided with single-station smoke alarms shall be provided with approved single-station smoke alarms. Installation shall be in accordance with Section 907.2.10, except as provided in Sections 907.3.2.2 and 907.3.2.3.

Authority Cited: Health and Safety Code Sections 13143, 13113.7

References: Health and Safety Code Sections 13143

**907.3.2.2 Interconnection.** Where more than one smoke alarm is required to be installed within an individual dwelling unit in Group R-2, R-3, R-3.1, or R-4, and Group I-1 or within an individual sleeping unit in Group R-1, the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

Exceptions:

1. Interconnection is not required in buildings that are not undergoing alterations, repairs or construction of any kind.
2. Smoke alarms in existing areas are not required to be interconnected where alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for interconnection without the removal of interior finishes.

Authority Cited: Health and Safety Code Sections 13143, 13113.7

References: Health and Safety Code Sections 13143

**907.3.2.3 Power source.** In Group R occupancies, single-station smoke alarms shall receive their primary power from the building wiring provided that such wiring is served from a commercial source and shall be equipped with a

battery backup. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

Exception: Smoke alarms are permitted to be solely battery operated: in existing buildings where no construction or construction, requiring a permit, not exceeding \$1000 has is taking place; in buildings that are not served from a commercial power source; and in existing areas of buildings undergoing alterations or repairs that do not result in the removal of interior walls or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for building wiring without the removal of interior finishes.

Authority Cited: Health and Safety Code Sections 13143, 13113.7

References: Health and Safety Code Sections 13143

(Relocated from CFC 1006.2.9.1.7)

~~[SFM] 1006.2.9.1.7~~ **907.3.2.4 Group R-3.1** *In all facilities housing a bedridden client, smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms shall be electrically interconnected so as to cause all smoke alarms to sound a distinctive alarm signal upon actuation of any single smoke alarm. Such alarm signal shall be audible throughout the facility at a minimal level of 15 db above ambient noise level. These devices need not be interconnected to any other fire alarm device, have a control panel, or be electrically supervised or provided with emergency power.*

Authority Cited: Health and Safety Code Sections 13143, 13113.7

References: Health and Safety Code Sections 13143

~~9102.1.2-8.2.4~~ **907.4.1 Location.** Manual fire alarm boxes shall be located not more than 5 feet (1524 mm) from the entrance to each exit. Additional manual fire alarm boxes shall be located so that travel distance to the nearest box does not exceed 200 feet (60 960 mm).

**Exception:** (Relocated from CFC 9102.1.2-8.2.4) *When individual dwelling units are served by a single exit stairway, additional boxes at other than the ground floor may be omitted.*

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**907.4.5 Operation.** *Manual fire alarm boxes shall be operable with one hand including boxes with protective covers.*

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**907.4.6 Protective covers.** The fire code official is authorized to require the installation of listed manual fire alarm box protective covers to prevent malicious false alarms or to provide the manual fire alarm box with protection from physical damage. The protective cover shall be transparent or red in color with a transparent face to permit visibility of the manual fire alarm box. Each cover shall include proper operating instructions. A protective cover that emits a local alarm signal shall not be installed unless approved. Each cover shall not exceed a combined projection over 4" from the surface of the wall into walks, halls, corridors, passageways or isles.

Authority Cited: Health and Safety Code Sections 13108, 13114, 13143.  
References: Health and Safety Code Sections 13143.

**907.6 Wiring.** Wiring shall comply with the requirements of this code or the ~~ICC~~-California Electrical Code and NFPA 72. Wireless protection systems utilizing radio-frequency transmitting devices shall comply with the special requirements for supervision of low-power wireless systems in NFPA 72.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**907.7 Activation.** Where an alarm notification system is required by another section of this code, it shall be activated by:

1. ~~Required~~ automatic fire alarm system.
2. Sprinkler water-flow devices.
3. ~~Required~~ manual fire alarm boxes.

Authority Cited: Health and Safety Code Sections 13108, 13143.  
References: Health and Safety Code Sections 13143.

(Relocated from CFC 1006.3.3.7)

~~1006.3.3.9~~ **907.9 Zones.** Fire alarm systems shall be divided into zones where required by this section. For the purposes of annunciation and notification, zoning shall be in accordance with the following:

1. *Where the fire-protective signaling system serves more than one building, each building shall be considered as a separate zone.*
2. *Each floor of a building shall be considered as a separate zone.*
3. *Each section of floor of a building that is separated by ~~area separation~~ fire walls or by horizontal exits shall be considered as a separate zone.*
4. *Each zone shall not exceed 22,500 square feet (2090 m<sup>2</sup>). The length of any zone shall not exceed 300 feet (91 440 mm) in any direction.*

**Exception:** Automatic sprinkler system zones shall not exceed the area permitted by NFPA 13.

5. *For Group I-3 Occupancies each cell complex shall be considered a separate zone.*
6. *Annunciation shall be further divided into zones where deemed necessary by the ~~enforcing agency~~ enforcing agency.*

Authority Cited: Health and Safety Code Sections 13108, 13143.  
References: Health and Safety Code Sections 13143.

(Relocated from CFC 1006.3.3.7(5))

~~1006.3.3.9~~ **907.9.1 Annunciation.** *Alarm, supervisory and trouble signals shall be annunciated in the main control unit by means of an audible signal and a visual display in accordance with NFPA 72. Identification of the type of alarm and supervisory initiating devices, such as manual, automatic, sprinkler waterflow, sprinkler valve supervisory, fire-pump supervisory, etc., shall be separately indicated.*

**Exception:** *Group R, ~~Division 3~~ Occupancies.*

Authority Cited: Health and Safety Code Sections 13108, 13143.  
References: Health and Safety Code Sections 13143.

(Relocated from CFC 1006.3.3.7)

**907.9.4 2 Zoning indicator Annunciator Panel** An annunciator zoning indicator panel *complying with 907.8.1* and the associated controls shall be provided in an *approved remote location where deemed necessary by the Enforcing Agency*. The visual zone indication shall lock in until the system is reset and shall not be canceled by the operation of an audible alarm-silencing switch.

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**907.9.2 3 High-rise buildings.** In *high-rise buildings with a floor used for human occupancy that is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle building access*, a separate zone by floor shall be provided for all of the following types of alarm-initiating devices where provided:

1. Smoke detectors.
2. Sprinkler water-flow devices.
3. Manual fire alarm boxes.
4. Other approved types of automatic fire detection devices or suppression systems.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210, 13211, .

References: Health and Safety Code Sections 13143.

**907.9.4 Notification Zoning.** Upon activation of initiating devices where occupant notification is required for evacuation, all notification zones shall operate simultaneously throughout the building.

**Exceptions:**

1. High-rise buildings as permitted in Section 907.2.12.2.

2. Hospitals and convalescent facilities with staff alerting notification appliances or voice/alarm communication, zoning shall be in accordance with the approved fire plan.

3. Detention facilities

4. Upon approval by the fire code official in buildings which are sprinklered throughout, specific notification zoning shall be permitted where the notification zones are separated by a minimum of a 2 hour fire barrier and 2 hour fire-resistive floor assembly. The system shall have the capability to activate all other notification zones by automatic and manual means.

5. Upon approval by the fire code official in buildings which are sprinklered throughout, specific notification zoning shall be permitted where the activated initiating device or fire extinguishing system is separated from any non-active notification zones by a minimum of 300 ft horizontal distance. The system shall have the capability to activate all other notification zones by automatic and manual means.

Authority Cited: Health and Safety Code Sections 13210, 13108, 13143.

References: Health and Safety Code Sections 13143.

**907.10.1 Visible alarms.** Visible alarm notification appliances shall be provided in accordance with Sections 907.10.1.1 through 907.10.1.4 ~~5~~.

**Exceptions:**

1. In other than Group I-2 and I-2.1, visible alarm notification appliances are not required in alterations, except where an existing fire alarm system is upgraded or replaced, or a new fire alarm system is installed.

2. Visible alarm notification appliances shall not be required in ~~exits as defined in Section 4002.4~~ enclosed exit stairways, exterior exit stairs, and exterior exit ramps.

Authority: Health and Safety Code Sections 13143, 13108

References: Health and Safety Code Sections 13143

**907.10.1.1 Public and common use areas.** Visible alarm notification appliances shall be provided in public use areas and common use areas including but not limited to:-  
(Relocated from CFC Article 9102.1.4-4.5 ) - ~~[SFM] 9102.1.4-4.5 Notification Appliances for the Hearing Impaired.~~  
~~Approved visible alarm notification appliances for the hearing impaired shall be installed in the following areas:~~

1. Sanitary facilities including Restrooms, bathrooms and shower rooms
2. Corridors
3. Music practice rooms
4. Band rooms
5. Gymnasiums
6. Multipurpose rooms
7. Occupational shops
8. Occupied rooms where ambient noise impairs hearing of the fire alarm
9. Lobbies
10. Meeting rooms
11. ~~Any other areas for common use~~ Classrooms

~~**Note:** This section is also adopted by the Division of the State Architect, Access Compliance, for buildings not regulated by the State Fire Marshal.~~

Authority: Health and Safety Code Sections 13108, 13143

References: Health and Safety Code Sections 13143

**907.10.1.4 Group R-2.** In Group R-2 occupancies required by Section 907 to have a fire alarm system, all dwelling units and sleeping units shall be provided with the capability to support visible alarm notification appliances in accordance with ICC A117.1 NFPA 72.

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**907.10.1.5 Group I-1, R-3.1 and R-4** Protective social care facilities which house persons which are hearing impaired. shall be provided with notification appliances for the hearing impaired installed in accordance with NFPA 72 and which shall activated upon initiation of the fire alarm system or the smoke alarms.

Authority: Health and Safety Code Section 13143

References: Health and Safety Code Section 13143

**907.10.2 Audible alarms.** Audible alarm notification appliances shall be provided and sound a distinctive sound that is not to be used for any purpose other than that of a fire alarm. The audible alarm notification appliances shall provide a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater, in every occupied space within the building. The minimum sound pressure levels shall be: ~~70~~ 75 dBA in occupancies in Groups R and I-1; 90 dBA in mechanical equipment rooms; and 60 dBA in other occupancies. The maximum sound pressure level for audible alarm notification appliances shall be ~~120~~ 110 dBA at the minimum hearing distance from the audible appliance. Where the average ambient noise is greater than ~~105~~ 95 dBA, visible alarm notification appliances shall be provided in accordance with NFPA 72 and audible alarm notification appliances shall not be required.

*In group I-2 occupancies, audible appliances placed in patient areas shall be only chimes or similar sounding devices for alerting staff.*

**Exception:** Visible alarm notification appliances shall be allowed in lieu of audible alarm notification appliances in ~~critical care~~ patient areas of Group I-2 occupancies.

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**(Relocated CBC 1006.3.3.3.2)**

~~[SFM] 1006.3.3.3.2~~ **907.10.2.1 Audible Alarm Signal.** *The audible signal shall be the standard fire alarm evacuation signal, ANSI S34.1 Audible Emergency Evacuation Signal, "three pulse temporal pattern", as described in NFPA 72.*

**Exception:** *The use of the existing evacuation signaling scheme shall be permitted where approved by the enforcing agency.*

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**907.11 Fire safety functions.** Automatic fire detectors utilized for the purpose of performing fire safety functions shall be connected to the building's fire alarm control ~~unit panel~~ where a fire alarm system is ~~required by Section 907.2 installed~~. Detectors shall, upon actuation, perform the intended function and activate the alarm notification appliances or a visible and audible supervisory signal at a constantly attended location. In buildings not required to be equipped with a fire alarm system, the automatic fire detector shall be powered by normal electrical service and, upon actuation, perform the intended function. The detectors shall be located in accordance with NFPA 72.

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**907.12 Duct smoke detectors.** Duct smoke detectors shall be connected to the building's fire alarm control ~~unit panel~~ when a fire alarm system is provided. Activation of a duct smoke detector shall initiate a visible and audible supervisory signal at a constantly attended location. Duct smoke detectors shall not be used as a substitute for required open area detection.

**Exceptions:** 1. The supervisory signal at a constantly attended location is not required where duct smoke detectors activate the building's alarm notification appliances.

2. In occupancies not required to be equipped with a fire alarm system, actuation of a smoke detector shall activate a visible and an audible signal in an approved location. Smoke detector trouble conditions shall activate a visible or audible signal in an approved location and shall be identified as air duct detector trouble.

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**907.15 Monitoring.** Fire alarm systems required by this chapter or the ~~International~~ *California Building Code* shall be monitored by an approved supervising station in accordance with NFPA 72.

**Exception:** Supervisory service is not required for:

1. Single- and multiple-station smoke alarms required by Section 907.2.10.

2. ~~Smoke detectors in~~ Group I-3 occupancies *shall be monitored in accordance with Section 907.2.6.3.4.*

3. Automatic sprinkler systems in one- and two-family dwellings.

Authority: Health and Safety Code Sections 13108, 13113, 13143.

References: Health and Safety Code Sections 13143

**907.17 Acceptance tests.** Upon completion of the installation of the fire alarm system, alarm notification appliances and circuits, alarm-initiating devices and circuits, supervisory-signal initiating devices and circuits, signaling line circuits, ~~and~~ primary and secondary power supplies, *fire safety function control devices and interfaces, and off-site*

monitoring equipment shall be tested in accordance with NFPA 72.

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**907.20.3 Detector sensitivity.** ~~Smoke Detector~~ detector sensitivity shall be checked within one year after installation and every alternate year thereafter. After the second calibration test, where sensitivity tests indicate that the detector has remained within its listed and marked sensitivity range (or 4-percent obscuration light grey smoke, if not marked), the length of time between calibration tests shall be permitted to be extended to a maximum of five years. Where the frequency is extended, records of detector-caused nuisance alarms and subsequent trends of these alarms shall be maintained. In zones or areas where nuisance alarms show any increase over the previous year, calibration tests shall be performed.

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**909.1 Scope and purpose.** This section applies to mechanical or passive smoke control systems when they are required for new buildings or portions thereof by provisions of the ~~International California Building Code~~ or this code. The purpose of this section is to establish minimum requirements for the design, installation and acceptance testing of smoke control systems that are intended to provide a tenable environment for the evacuation or relocation of occupants. These provisions are not intended for the preservation of contents, the timely restoration of operations, or for assistance in fire suppression or overhaul activities. Smoke control systems regulated by this section serve a different purpose than the smoke- and heat-venting provisions found in Section 910. Mechanical smoke control systems shall not be considered exhaust systems under Chapter 5 of the ~~International California Mechanical Code~~.

Authority Cited: Health and Safety Code Sections 13108, , 13143, 13210.

References: Health and Safety Code Sections 13143.

**909.2 General design requirements.** Buildings, structures, or parts thereof required by the ~~International California Building Code~~ or this code to have a smoke control system or systems shall have such systems designed in accordance with the applicable requirements of Section 909 and the generally accepted and well-established principles of engineering relevant to the design. The construction documents shall include sufficient information and detail to describe adequately the elements of the design necessary for the proper implementation of the smoke control systems. These documents shall be accompanied with sufficient information and analysis to demonstrate compliance with these provisions.

Authority Cited: Health and Safety Code Sections 13108, 13114, 13143, 13210.

References: Health and Safety Code Sections 13143.

**909.3 Special inspection and test requirements.** In addition to the ordinary inspection and test requirements to which buildings, structures and parts thereof are required to undergo, smoke control systems subject to the provisions of Section 909 shall undergo special inspections and tests sufficient to verify the proper commissioning of the smoke control design in its final installed condition. The design submission accompanying the construction documents shall clearly detail procedures and methods to be used and the items subject to such inspections and tests. Such commissioning shall be in accordance with generally accepted engineering practice and, where possible, based on published standards for the particular testing involved. The special inspections and tests required by this section shall be conducted under the same terms as in Section 1704 of the ~~International California Building Code~~.

Authority Cited: Health and Safety Code Sections 13108, 13114, 13143, 13210.

References: Health and Safety Code Sections 13143.

**909.4.3 Wind effect.** The design shall consider the adverse effects of wind. Such consideration shall be consistent with the wind-loading provisions of the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13108, 13114, 13143, 13210.

References: Health and Safety Code Sections 13143.

**909.5 Smoke barrier construction.** Smoke barriers shall comply with the ~~International~~ California Building Code. Smoke barriers shall be constructed and sealed to limit leakage areas exclusive of protected openings. The maximum allowable leakage area shall be the aggregate area calculated using the following leakage area ratios:

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**909.5.2 Opening protection.** Openings in smoke barriers shall be protected by self-closing devices or automatic-closing devices actuated by the required controls for the mechanical smoke control system. Door openings shall be protected by fire door assemblies complying with Section 715.4.3 ~~International~~ California Building Code.

**Exceptions:**

1. Passive smoke control systems with automatic-closing devices actuated by spot-type smoke detectors listed for releasing service installed in accordance with Section 907.40-11. When used in a Group I-2, such detectors shall activate the building fire alarm system and shall close all the smoke barrier doors within the effected zone.
2. Fixed openings between smoke zones that are protected utilizing the airflow method in other than Group I-2.
3. In Group I-2, where doors are installed across corridors, a pair of opposite-swinging doors without a center mullion or horizontal sliding doors that comply with section 1008.1.3.3. ~~Shall be installed having vision panels with fire protection rated glazing materials in fire protection rated frames, the area of which shall not exceed that tested.~~ Vision panels consisting of fire-rated glazing in approved frames shall be provided in each cross-corridor swinging door and at each cross-corridor horizontal-sliding door in a smoke barrier. The doors shall be close fitting within operational tolerances, and shall not have undercuts, louvers or grilles. ~~The Swinging doors shall have head and jamb stops, and astragals or rabbets at meeting edges, and Doors installed across corridors shall be automatic closing by smoke detection in accordance with Section 715.4.7.3 International California Building Code.~~ Positive-latching devices are ~~not~~ required. Doors installed across corridors shall comply with Section 1008.1.1.
4. Group I-3.
5. Openings between smoke zones with clear ceiling heights of 14 feet (4267 mm) or greater and bank-down capacity of greater than 20 minutes as determined by the design fire size.
6. In Group I-2, smoke damper activation may be accomplished by a fire alarm control unit provided that an open area smoke detection system is provided within all areas served by an HVAC system.

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**909.5.2.1 Ducts and air transfer openings.** Ducts and air transfer openings are required to be protected with a minimum Class II, 250°F (121°C) smoke damper complying with Section 716 of the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.

References: Health and Safety Code Sections 13143.

**909.10.2 Ducts.** Duct materials and joints shall be capable of withstanding the probable temperatures and pressures to which they are exposed as determined in accordance with Section 909.10.1. Ducts shall be constructed and supported in accordance with the ~~International~~ California Mechanical Code. Ducts shall be leak tested to 1.5 times the maximum design pressure in accordance with nationally accepted practices. Measured leakage shall not exceed

5 percent of design flow. Results of such testing shall be a part of the documentation procedure. Ducts shall be supported directly from fire-resistance-rated structural elements of the building by substantial, noncombustible supports.

**Exception:** Flexible connections (for the purpose of vibration isolation) complying with the International California Mechanical Code and which are constructed of approved fire-resistance-rated materials.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.  
References: Health and Safety Code Sections 13143.

**909.10.5 Fans.** In addition to other requirements, belt-driven fans shall have 1.5 times the number of belts required for the design duty with the minimum number of belts being two. Fans shall be selected for stable performance based on normal temperature and, where applicable, elevated temperature. Calculations and manufacturer's fan curves shall be part of the documentation procedures. Fans shall be supported and restrained by noncombustible devices in accordance with the structural design requirements of Chapter 16 of the International California Building Code. Motors driving fans shall not be operated beyond their nameplate horsepower (kilowatts) as determined from measurement of actual current draw and shall have a minimum service factor of 1.15.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.  
References: Health and Safety Code Sections 13143.

**909.11 Power systems.** The smoke control system shall be supplied with two sources of power. Primary power shall be from the normal building power system. Secondary power shall be from an approved standby source complying with this code or the ICC-California Electrical Code. The standby power source and its transfer switches shall be in a separate room from the normal power transformers and switch gear and shall be enclosed in a room constructed of not less than 1-hour fire barriers ventilated directly to and from the exterior. Power distribution from the two sources shall be by independent routes. Transfer to full standby power shall be automatic and within 60 seconds of failure of the primary power. The systems shall comply with this code or the ICC-California Electrical Code.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.  
References: Health and Safety Code Sections 13143.

**909.12.1 Wiring.** In addition to meeting requirements of this code or the ICC-California Electrical Code, all wiring, regardless of voltage, shall be fully enclosed within continuous raceways.

Authority Cited: Health and Safety Code Sections 13108, 13114, 13143, 13210, 13211.  
References: Health and Safety Code Sections 13143.

**909.16.1 Smoke control systems.** Fans within the building shall be shown on the fire-fighter's control panel. A clear indication of the direction of airflow and the relationship of components shall be displayed. Status indicators shall be provided for all smoke control equipment, annunciated by fan and zone, and by ~~pilot lamp type~~ approved indicators as follows:

1. Fans, dampers and other operating equipment in their normal status—WHITE.
2. Fans, dampers and other operating equipment in their off or closed status—RED.
3. Fans, dampers and other operating equipment in their on or open status—GREEN.
4. Fans, dampers and other operating equipment in a fault status—YELLOW/AMBER.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.  
References: Health and Safety Code Sections 13143.

**909.16.3 Control action and priorities.** The fire-fighter's control panel actions shall be as follows:

1. ON-OFF and OPEN-CLOSE control actions shall have the highest priority of any control point within the building. Once issued from the fire-fighter's control panel, no automatic or manual control from any other control point within the building shall contradict the control action. Where automatic means are provided to interrupt normal, nonemergency equipment operation or produce a specific result to safeguard the building or equipment (i.e., duct freeze stats, duct smoke detectors, high-temperature cutouts, temperature-actuated linkage and similar devices), such means shall be capable of being overridden by the fire-fighter's control panel. The last control action as indicated by each fire-fighter's control panel switch position shall prevail. In no case shall control actions require the smoke control system to assume more than one configuration at any one time.

**Exception:** Power disconnects required by this code or the ~~ICC-California~~ *Electrical Code*.

2. Only the AUTO position of each three-position fire-fighter's control panel switch shall allow automatic or manual control action from other control points within the building. The AUTO position shall be the NORMAL, nonemergency, building control position. Where a fire-fighter's control panel is in the AUTO position, the actual status of the device (on, off, open, closed) shall continue to be indicated by the status indicator described above. When directed by an automatic signal to assume an emergency condition, the NORMAL position shall become the emergency condition for that device or group of devices within the zone. In no case shall control actions require the smoke control system to assume more than one configuration at any one time.

Authority Cited: Health and Safety Code Sections 13108, 13114, 13143, 13210.

References: Health and Safety Code Sections 13143.

**911.2 Required deflagration venting.** Areas that are required to be provided with deflagration venting shall comply with the following:

1. Walls, ceilings and roofs exposing surrounding areas shall be designed to resist a minimum internal pressure of 100 pounds per square foot (psf) (4788 Pa). The minimum internal design pressure shall not be less than five times the maximum internal relief pressure specified in Section 911.2, Item 5.
2. Deflagration venting shall be provided only in exterior walls and roofs.

**Exception:** Where sufficient exterior wall and roof venting cannot be provided because of inadequate exterior wall or roof area, deflagration venting shall be allowed by specially designed shafts vented to the exterior of the building.

3. Deflagration venting shall be designed to prevent unacceptable structural damage. Where relieving a deflagration, vent closures shall not produce projectiles of sufficient velocity and mass to cause life threatening injuries to the occupants or other persons on the property or adjacent public ways.
4. The aggregate clear area of vents and venting devices shall be governed by the pressure resistance of the construction assemblies specified in Item 1 of this section and the maximum internal pressure allowed by Item 5 of this section.
5. Vents shall be designed to withstand loads in accordance with the ~~International-California~~ *Building Code*. Vents shall consist of any one or any combination of the following to relieve at a maximum internal pressure of 20 pounds per square foot (958 Pa), but not less than the loads required by the ~~International-California~~ *Building Code*:
  - 5.1. Exterior walls designed to release outward.
  - 5.2. Hatch covers.
  - 5.3. Outward swinging doors.
  - 5.4. Roofs designed to uplift.
  - 5.5. Venting devices listed for the purpose.
6. Vents designed to release from the exterior walls or roofs of the building when venting a deflagration shall discharge directly to the exterior of the building where an unoccupied space not less than 50 feet (15 240 mm) in width is provided between the exterior walls of the building and the property line.

**Exception:** Vents complying with Item 7 of this section.

7. Vents designed to remain attached to the building when venting a deflagration shall be so located that the discharge opening shall not be less than 10 feet (3048 mm) vertically from window openings and exits in the building and 20 feet (6096 mm) horizontally from exits in the building, from window openings and exits in

adjacent buildings on the same property, and from the property line.  
8. Discharge from vents shall not be into the interior of the building.

Authority Cited: Health and Safety Code Sections 13108, 13114, 13143, 13210.  
References: Health and Safety Code Sections 13143.

**912.3 Access.** Immediate access to fire department connections shall be maintained at all times and without obstruction by fences, bushes, trees, walls or any other object for a minimum of 3 feet (914 mm).

**Exception Relocated from CBC [SFM] 329A.4 912.3** *When acceptable to the fire enforcing agency, fire department connections for Group I-3 detention facilities may be located inside all security walls or fences on the property.*

Authority Cited: Health and Safety Code Sections 13108, 13143.  
References: Health and Safety Code Sections 13143.

**912.5 Backflow protection.** The potable water supply to automatic sprinkler and standpipe systems shall be protected against backflow as required by the ~~International~~ California Plumbing Code.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13114.7.  
References: Health and Safety Code Sections 13143.

**912.6 Inspection, testing and maintenance.** All fire department connections shall be periodically inspected, tested and maintained in accordance with ~~Title 19 California Code of Regulations, Chapter 5 NFPA-25~~.

Authority Cited: Health and Safety Code Sections 13195.  
References: Health and Safety Code Sections 13143.

**913.5 Testing and maintenance.** Fire pumps shall be inspected, tested and maintained in accordance with the requirements of this section and ~~Title 19 California Code of Regulations, Chapter 5 NFPA-25~~.

Authority Cited: Health and Safety Code Sections 13195.  
References: Health and Safety Code Sections 13143.

**914.1 General.** This section shall specify where fire protection systems are required based on the detailed requirements of use and occupancy of the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13108, 13143.  
References: Health and Safety Code Sections 13143.

**914.2.1 Automatic sprinkler system.** The covered mall building and buildings connected shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.1.1, which shall comply with the following:

1. The automatic sprinkler system shall be complete and operative throughout occupied space in the covered mall building prior to occupancy of any of the tenant spaces. Unoccupied tenant spaces shall be similarly protected unless provided with approved alternate protection.
2. Sprinkler protection for the mall shall be independent from that provided for tenant spaces or anchors. Where tenant spaces are supplied by the same system, they shall be independently controlled.

**Exception:** An automatic sprinkler system shall not be required in space or areas of open parking garages constructed in accordance with Section 406.2 of the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13108, 13143.

References: Health and Safety Code Sections 13143.

**914.3.1 Automatic sprinkler system.** Buildings and structures shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and a secondary water supply where required by Section 903.3.5.2. A sprinkler water-flow alarm-initiating device and a control valve with a supervisory signal-initiating device shall be provided at the lateral connection to the riser on each floor.

**Exception:** An automatic sprinkler system shall not be required in spaces or areas of:

1. Open parking garages in accordance with Section 406.3 of the ~~International~~ California Building Code.
2. Telecommunications equipment buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided that those spaces or areas are equipped throughout with an automatic fire detection system in accordance with Section 907.2 and are separated from the remainder of the building with fire barriers consisting of 1-hour fire-resistance-rated walls and 2-hour fire-resistance-rated floor/ceiling assemblies.

Authority Cited: Health and Safety Code Sections 13210, 13143.

References: Health and Safety Code Sections 13143.

#### **914.3.6 Smoke control.**

Authority Cited: Health and Safety Code Sections 13143, 13210, 13211

References: Health and Safety Code Sections 13143.

**914.3.6.1 Smoke Control System.** All portions of high-rise buildings shall be provided with a smoke control system in accordance with California Building Code, Section 909.

Authority Cited: Health and Safety Code Sections 13143, 13210, 13211

References: Health and Safety Code Sections 13143.

**914.3.6.2 Smokeproof exit enclosures.** Every exit enclosure shall comply with California Building Code, Sections 909.20 and 1020.1.7.

Authority Cited: Health and Safety Code Sections 13143, 13210, 13211

References: Health and Safety Code Sections 13143.

**914.5.3 Compartment smoke control system.** Where compartmentation is required by Section 405.4 of the ~~International~~ California Building Code, each compartment shall have an independent smoke-control system. The system shall be automatically activated and capable of manual operation in accordance with Section 907.2.18.

Authority Cited: Health and Safety Code Sections 13108, 13114, 13143, 13210.

References: Health and Safety Code Sections 13143.

**914.10 Drying rooms.** Drying rooms designed for high-hazard materials and processes, including special occupancies as provided for in Chapter 4 of the ~~International~~ California Building Code, shall be protected by an

approved automatic fire-extinguishing system complying with the provisions of Chapter 9.

Authority Cited: Health and Safety Code Sections 13108, 13114, 13143, 13143.9.

References: Health and Safety Code Sections 13143.

**914.11 Motion Picture and Television Production Studio Sound Stages, Approved Production Facilities and Production Locations.**

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**Relocated from CFC [SFM] 4005.1 914.11.1 Existing Sound Stages and Approved Production Facilities.** All existing sound stages and approved production facilities equipped with an automatic fire sprinkler system shall be maintained in accordance with the provisions in this chapter.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**Relocated from CFC [SFM] 4005.2 914.11.2 New Sound Stages.** All new sound stages shall be equipped with an approved automatic fire sprinkler system. The system shall be installed in accordance with the provisions in this chapter and shall meet the minimum design requirements of an Extra Hazard, Group 2 system.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

## CHAPTER 10

### MEANS OF EGRESS

**(Note: Adopt entire Chapter with amendments.)**

**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. Sections 1003 through 1026 shall apply to new construction. Sections 1027 and 1028 shall apply to existing buildings.

**Exception:** Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories above grade plane in height with a separate means of egress and their accessory structures shall comply with the International Residential Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

### SECTION 1002

**[B] PHOTOLUMINESCENT** is the property of emitting light as the result of absorption of visible light, which continues for a length time after excitation.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210, 13211.  
References: Health and Safety Code Sections 13143.

**[B] SELF-LUMINOUS** means powered continuously by a self-contained power source other than a battery or batteries, such as radioactive tritium gas. A self-luminous sign is independent of external power supplies or other energy for its operation.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210, 13211.  
References: Health and Safety Code Sections 13143.

**[B] 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.

**Exception:** Exiting requirements for Fixed Guideway Transit Systems shall be as per Section 433.3 of the California Building Code.

Authority Cited: Health and Safety Code Sections 13108, 13143.  
References: Health and Safety Code Sections 13143.

**[B] 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 of the ~~International~~ California Building Code.
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. In Group I-2 occupancies, the means of egress shall have a ceiling height of not less than 8 feet (2439mm).

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.  
References: Health and Safety Code Sections 13143.

**[B] 1003.3 Protruding objects.** Protruding objects shall comply with the requirements of Sections 1003.3.1 through 1003.3.4.

**Exception:** In Group I-2 and Group I-2.1 occupancies, protruding objects shall not extend more than 12 inches (305 mm) below the minimum ceiling height required by Section 1003.2.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1003.3.1 Horizontal projections for Group I-2 occupancies.** Structural elements, fixtures or furnishings shall not project horizontally from either side more than 1-1/2 inches (38 mm) into the required width of an exit access corridor serving any area caring for one or more non-ambulatory or bedridden persons.

**Exceptions:**

1. Handrails are permitted to protrude 3.5 inches (89 mm) from the wall.
2. Alcohol-based hand-rub dispensers are permitted to protrude 4 inches.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13143.9, 13210, 13211.  
References: Health and Safety Code Sections 13143.

**[B] 1003.3.4 Clear width.** Protruding objects shall not reduce the minimum clear width of accessible routes as required in Section 1104 of the ~~International~~ California Building Code

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.  
References: Health and Safety Code Sections 13143.

**[B] 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 and R-3 and Groups S and U at exterior doors not required to be accessible by Chapter 11 of the ~~International~~ California Building Code.
  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 of the ~~International~~ California Building Code, provided that the risers and treads comply with Section 1009.3, 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 of the ~~International~~ California Building Code, provided that the risers and treads comply with Section 1025.11 and the aisle is provided with a handrail complying with Section 1025.13.

Any change in elevation in a corridor or exit passageway serving non-ambulatory persons in Group I-2 and Group I-2.1 occupancies shall be by means of a ramp or sloped walkway.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**TABLE 1005.1 EGRESS WIDTH PER OCCUPANT SERVED**

OCCUPANCY	WITHOUT SPRINKLER SYSTEM		WITH SPRINKLER SYSTEM <sup>a</sup>	
	Stairways (inches per occupant)	Other egress components (inches per occupant)	Stairways (inches per occupant)	Other egress components (inches per occupant)
Occupancies other than those listed below <sup>2</sup>	0.3	0.2	0.2	0.15
Hazardous: H-1, H-2, H-3 and H-4	0.7 <u>NA</u>	0.4 <u>NA</u>	0.3 0.7	0.2 0.4
Institutional: I-2	NA	NA	0.3	0.2

For SI: 1 inch = 25.4 mm.

a. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

b. See Section 1025

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**[B] 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 *and Group R-4.*

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.

References: Health and Safety Code Sections 13143.

**[B] 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 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 and exit passageways in buildings required to have two or more exits.
3. Exterior egress components at other than the level 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 1024.1, in building required to have two or more exits.
5. Exterior landings, as required by Section 1008.1.5, for exit discharge doorways in buildings required to have two or more exits.

The emergency power system shall provide power for 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 Section 2702 of the ~~International~~ *California Building Code*.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**[B] 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 is required by Section 1015.1 or 1019.1 from any accessible space, each accessible portion of the space shall be served by ~~not less than two~~ accessible means of egress *in at least the same number as required by Section 1015.1 or 1019.1. In addition to the requirements of this chapter, means of egress, which provide access to, or egress from, buildings for persons with disabilities, shall also comply with the requirements of Chapters 11A or 11B of the California Building Code, as applicable.*

**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 spaces with sloped floors, one accessible means of egress is required from a space where the common path of travel of the accessible route for access to the wheelchair spaces meets the requirements in Section 1025.8.

Authority: Health and Safety Code Sections 13108, 13143

References: Health and Safety Code Sections 13143

**[B] 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 of the ~~International~~ Building Code.
2. Stairways within vertical exit enclosures complying with Sections 1007.3 and 1020.
3. Exterior exit stairways complying with Sections 1007.3 and 1023.
4. Elevators complying with Section 1007.4.
5. Platform lifts complying with Section 1007.5.
6. Horizontal exits complying with Section 1021.
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 1007.8.
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 1007.8.

Authority: Health and Safety Code Sections 13108, 13143

References: Health and Safety Code Sections 13143

**[B] 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 Section 604.2.5 of this code and Section 3003 of the ~~International~~ California Building Code. The elevator shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

**Exception:** Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.

Authority: Health and Safety Code Sections 13108, 13143

References: Health and Safety Code Sections 13143

**[B] 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, Items 1 through 9 of the ~~International~~ California Building Code. Standby power shall be provided in accordance with Section 604.2.6 for platform lifts permitted to serve as part of a means of egress.

Authority: Health and Safety Code Sections 13108, 13143

References: Health and Safety Code Sections 13143

**[B] 1007.6.1 Size.** Each area of refuge shall be sized to accommodate ~~one~~ **two** wheelchair spaces *that are not less than* of 30 inches by 48 inches (762 mm by 1219 mm). The total number of such 30-inch by 48-inch (762 mm by 1219 mm) spaces per story shall be not less than one for every 200 persons of calculated occupant load served by the area of rescue refuge. ~~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

Authority: Health and Safety Code Sections 13108, 13143

References: Health and Safety Code Sections 13143

**[B]1007.6.2 Separation.** Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 709 of the ~~International~~ California Building Code or a horizontal exit complying with Section 1021. Each area of refuge shall be designed to minimize the intrusion of smoke.

**Exception:** Areas of refuge located within a vertical exit enclosure.

Authority: Health and Safety Code Sections 13108, 13143

References: Health and Safety Code Sections 13143

**[B] 1007.8 Exterior area for assisted rescue.** 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 704 of the ~~International~~ *California Building Code* 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.

Authority: Health and Safety Code Sections 13108, 13143

References: Health and Safety Code Sections 13143

**[B]1007.9 Alarms/emergency warning systems/accessibility. If emergency warning systems are required, they shall activate a means of warning the hearing impaired. Emergency warning systems as part of the fire-alarm system shall be designed and installed in accordance with NFPA 72 as amended in Chapter 45.**

Authority: Health and Safety Code Sections 13108, 13114, 13143

References: Health and Safety Code Sections 13143

**[B] 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 not less than 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 and litter patients shall provide a clear width not less than ~~41.5~~ 44 inches (1054 mm). The height of doors 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 in Group I-3 occupancies shall have a clear width of not less than 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m<sup>2</sup>) in area shall not be limited by the minimum width.
4. Width of door leafs in revolving doors that comply with Section 1008.1.3.1 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 (806 mm) .

Authority: Health and Safety Code Sections 13108, 13143

References: Health and Safety Code Sections 13143

**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:** *In a Group I-2 occupancy, there shall be no projections into the clear width of means of egress doors used for the movement of beds and litter patients in the means of egress.*

Authority Cited: Health and Safety Code Sections 13108, 13143,  
References: Health and Safety Code Sections 13143.

**[B] 1008.1.2 Door swing.** Egress doors shall be side-hinged swinging.

- 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 1008.1.3.1.
  6. In other than Group H occupancies, horizontal sliding doors complying with Section 1008.1.3.3 are permitted in a means of egress.
  7. Power-operated doors in accordance with Section 1008.1.3.2.
  8. Doors serving a bathroom within an individual sleeping unit in Group R-1.  
Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons or a Group H occupancy.
  9. In a Group I-2 occupancy, all required exterior egress doors shall open in the direction of egress regardless of the occupant load served.
  10. In Group I-2 and I-2.1 occupancies, exit doors serving an occupant load of 10 or more, may be of the pivoted or balanced type.

The opening force for interior side-swinging doors without closers shall not exceed a 5-pound (22 N) force. For other side-swinging, 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. Forces shall be applied to the latch side.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.  
References: Health and Safety Code Sections 13143.

**[B] 1008.1.3.3 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 5 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 operable 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 operable 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 715.4.7.3 of the International California-Building Code, 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.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.  
References: Health and Safety Code Sections 13143.

**[B] 1008.1.3.4 Access-controlled egress doors.** The entrance doors in a means of egress in buildings with an occupancy in Group A, B, ~~E~~, M, R-1 or R-2 and entrance doors to tenant spaces in occupancies in Groups A, B, ~~E~~, 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.

Authority: Health and Safety Code Sections 13108, 13143  
References: Health and Safety Code Sections 13143

**[B] 1008.1.3.6 Special provisions.** School classrooms constructed after January 1, 1990, not equipped with automatic sprinkler systems, which have metal grilles or bars on all their windows and do not have at least two exit doors within 3 feet (914 mm) of each end of the classroom opening to the exterior of the building or to a common hallway used for evacuation purposes, shall have an inside release for the grilles or bars on at least one window farthest from the exit doors. The window or windows with the inside release shall be clearly marked as emergency exits.

Authority Cited: Health and Safety Code Sections 13143 and Education Code Section 17074.50.  
References: Health and Safety Code Sections 13143.

**[B] 1008.1.6 Thresholds.** Thresholds at doorways shall not exceed 0.75 inch (19.1 mm) in height for sliding doors serving dwelling units or 0.5 inch (12.7 mm) for other doors. Raised thresholds and floor level changes greater than 0.25 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 7.75 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 of the ~~International~~ *Building Code* and is not part of an Accessible unit, Type A unit or Type B unit.

Authority: Health and Safety Code Sections 13108, 13143  
References: Health and Safety Code Sections 13143

**[B] 1008.1.8.1 Hardware.** Door handles, pulls, latches, locks and other operating devices on doors required to be accessible by Chapter 11A or 11B of the ~~International~~ *California Building Code* shall not require tight grasping, tight

pinching or twisting of the wrist to operate.

Authority: Health and Safety Code Sections 13108, 13143

References: Health and Safety Code Sections 13143

**[B] 1008.1.8.6 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~~ and 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 ~~9~~ below. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit. Delayed egress devices shall conform to all of the following:

1. The doors unlock upon actuation of the automatic sprinkler system or automatic ~~fire~~ smoke detection system.
2. The doors unlock upon loss of electrical power controlling the lock or lock mechanism to any one of the following:
  - 2.1 The egress-control device itself.
  - 2.2 The smoke detection system.
  - 2.3 Means of egress illumination as required by Section 1006.
3. The door locks shall have the capability of being unlocked by a signal from ~~the fire command center~~ a switch located in an approved location.
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. The time delay established for each egress-control device shall not be field adjustable.

**Exception:** ~~Where approved,~~ In facilities housing Alzheimer's or dementia clients, 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] SECOMDS. "KEEP PUSHING. THIS DOOR WILL OPEN IN 15 [30] SECONDS. ALARM WILL SOUND"~~ Sign lettering shall be at least 1 inch (25mm) in height and shall have a stroke of not less than 1/8 inch (3.2 mm). (Relocated from 2001 CBC 1003.3.1.10) A tactile sign shall also be provided in Braille and raised characters, which complies with Section 1117B.5.1.1.
6. Emergency lighting shall be provided at the door.
7. Actuation of the panic bar or other door-latching hardware shall activate an audible signal at the door.
8. The unlatching shall not require more than one operation.
9. Regardless of the means of deactivation, relocking of the egress-control device shall be by manual means only at the door.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.

References: Health and Safety Code Sections 13143.

**[B] 1008.1.8.7 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 403.12 of the ~~International~~ California Building Code.
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.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.  
References: Health and Safety Code Sections 13143.

**[B] 1008.1.9 Panic and fire exit hardware.** Where panic and fire exit hardware is installed, it shall comply with the following:

1. The actuating portion of the releasing device shall extend at least one-half of the door leaf width.
2. The maximum unlatching force shall not exceed 15 pounds (67 N).

Each door in a means of egress from a Group A, or assembly area not classified as an assembly occupancy, E, I-2 or I-2.1 occupancy occupancies having an occupant load of 50 or more and any Group H 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 1008.1.8.3, 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 access doors must be equipped with panic hardware and doors must swing in the direction of egress.

Authority Cited: Health and Safety Code Sections 13108, 13143.  
References: Health and Safety Code Sections 13143.

**[B] 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 1009.8.
  3. Aisle stairs complying with Section 1025.
  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.

Means of egress stairs in a Group I-2 occupancy used for the movement of beds and litter patients shall provide a clear width not less than 44 inches (1118 mm).

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.  
References: Health and Safety Code Sections 13143.

**[B] 1009.4 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.

**Exceptions:**

1. Aisle stairs complying with Section 1025.
2. 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.
3. In Group R-3 occupancies a floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided a door does not swing over the stairs.

Authority: Health and Safety Code Sections 13143, 17921  
References: Health and Safety Code Sections 13143

**[B] 1009.10 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 of the ~~International~~ *California Building Code*.

**Exceptions:**

1. Aisle stairs complying with Section 1025 provided with a center handrail need not have additional handrails.
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~~ a continuous run of treads or flight of stairs with less than four risers does not require handrails.
5. Changes in room elevations of only one riser within dwelling units and sleeping units in Group R-2 and R-3 occupancies do not require handrails.

Authority: Health and Safety Code Sections 13143, 17921

References: Health and Safety Code Sections 13143

**[B] 1009.11.1 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 of the ~~International~~ *California Building Code*.

**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 m<sup>2</sup>) in area and having a minimum dimension of 2 feet (610 mm).

Authority Cited: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143.

(Relocated from 2001 CBC 1003.3.3.13.1)

**[B] 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. Access to exits shall be marked by readily visible exit signs in cases where the exit or the path of egress travel is not immediately visible to the occupants. Exit sign placement shall be such that no point in a corridor 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 ~~sleeping areas in occupancies in~~ Group I-3 occupancies where inmates are housed, or held.
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.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.

References: Health and Safety Code Sections 13143.

**[B] 1011.3 Tactile exit signs.** A tactile sign stating EXIT and complying with ICC A117.1 shall be provided adjacent to each door to an egress stairway, an exit passageway and the exit discharge.

~~1003.2.8.6 [For SFM] Tactile exit signage.~~ For the purposes of Section 1011.3, the term "tactile exit signs" shall mean those required signs that comply with Section 1117B.5.1.1

~~1003.2.8.6.1 [For SFM] Where required.~~ Tactile exit signs shall be required at the following locations:

Tactile exit signs shall be required at the following locations:

1. Each grade-level exterior exit door shall be identified by a tactile exit sign with the word, "EXIT".
2. Each exit door that leads directly to a grade-level exterior exit by means of a stairway or ramp shall be identified by a tactile exit sign with the following words as appropriate:
  - A. "EXIT STAIR DOWN"
  - B. "EXIT RAMP DOWN"
  - C. "EXIT STAIR UP"
  - D. "EXIT RAMP UP"
3. Each exit door that leads directly to a grade-level exterior exit by means of an exit enclosure that does not utilize a stair or ramp, or an exit passageway shall be identified by a tactile exit sign with the words, "EXIT ROUTE".
4. Each exit access door from an interior room or area that is required to have a visual exit sign, shall be identified by a tactile exit sign with the words, "EXIT ROUTE".
5. Each exit door through a horizontal exit shall be identified by a tactile exit sign with the words, 'TO EXIT'.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1011.4 Internally illuminated exit signs.** Internally illuminated exit signs shall be listed and labeled and shall be installed in accordance with the manufacturer's instructions and Section 2702 of the ~~International~~ California Building Code. Exit signs shall be illuminated at all times.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 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 Section 2702 of the ~~International~~ California Building Code.

**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.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1011.6 Floor-level exit signs.** Where exit signs are required by Chapter 10, additional approved low-level exit signs which are internally or externally illuminated photoluminescent or self-luminous, shall be provided in all interior corridors of Group A Occupancies, Group I Occupancies and in all interior rated exit corridors serving guest rooms of hotels in Group R, Division 1 occupancies.

**Exceptions:**

1. Group A Occupancies that are protected throughout by an approved supervised fire sprinkler system.
2. Group I occupancies which are provided with smoke barriers constructed in accordance with

Section 407.4

3. Group I, Division 3 occupancies.

The bottom of the sign shall not be less than 6 inches (152 mm) or more than 8 inches (203 mm) above the floor level and shall indicate the path of exit travel. For exit and exit-access doors, the sign shall be on the door or adjacent to the door with the closest edge of the sign or marker within 4 inches (102 mm) of the door frame.

**Note:** Pursuant to Health and Safety Code Section 13143, this California amendment applies to all newly constructed buildings or structures subject to this section for which a building permit is issued (or construction commenced, where no building permit is issued) on or after January 1, 1989.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**[B] 1011.7 Path marking.** When exit signs are required by Chapter 10, in addition to approved floor-level exit signs, approved path marking shall be installed at floor level or no higher than 8 inches (203 mm) above the floor level in all interior rated exit corridors of unsprinklered Group A Occupancies, and Group R-1 and R-2 Occupancies. Such marking shall be continuous except as interrupted by door-ways, corridors or other such architectural features in order to provide a visible delineation along the path of travel.

**Note:** Pursuant to Health and Safety Code Section 13143, the California amendments of this section shall apply to all newly constructed buildings or structures subject to this section for which a building permit is issued (or construction commenced, where no building permit is issued) on or after January 1, 1989.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**[B] 1012.1 Where required.** Handrails for stairways and ramps shall be adequate in strength and attachment in accordance with Section 1607.7 of the ~~International~~ California Building Code. Handrails required for stairways by Section 1009.10 shall comply with Sections 1012.2 through 1012.8. Handrails required for ramps by Section 1010.8 shall comply with Sections 1012.2 through 1012.7.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143.

**[B]1012.7 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 4.5 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.

**Exception:** In Group I-2 occupancy, on ramps and stairways used for the movement of bed and litter patients, the clear width between handrails shall be 44 inches (1118 mm) minimum.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.

References: Health and Safety Code Sections 13143.

**[B] 1013.1 Where required.** Guards shall be located along open-sided walking surfaces, mezzanines, industrial equipment platforms, stairways, ramps and landings that are located more than 30 inches (762 mm) above the floor or grade below. Guards shall be adequate in strength and attachment in accordance with Section 1607.7 of the ~~International~~ California Building Code. Where glass is used to provide a guard or as a portion of the guard system, the guard shall also comply with Section 2407 of the ~~International~~ California Building Code. Guards shall also be located along glazed sides of stairways, ramps and landings that are located more than 30 inches (762 mm) above the floor or grade below where the glazing provided does not meet the strength and attachment requirements in

Section 1607.7 of the ~~International~~ *California Building Code*. **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 1025.14 are permitted and provided.

Authority Cited: Health and Safety Code Sections 13108, 13143, 13210.

References: Health and Safety Code Sections 13143.

**[B] 1013.3 Opening limitations.** Open guards shall have balusters or ornamental patterns such that a 4-inch diameter (102 mm) sphere cannot pass through any opening ~~up to a height of 34 inches (864 mm). From a height of 34 inches (864 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, a sphere 8 inches (203 mm) in diameter shall not pass.~~

**Exceptions:**

1. The triangular openings formed by the riser, tread and bottom rail at the open side of a stairway shall be of a maximum size such that a sphere of 6 inches (152 mm) in diameter cannot pass through the opening.
2. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall have balusters or be of solid materials such that a sphere with a diameter of 21 inches (533 mm) cannot pass through any opening.
3. In areas that are not open to the public within occupancies in Group I-3, F, H or S, balusters, horizontal intermediate rails or other construction shall not permit a sphere with a diameter of 21 inches (533 mm) to pass through any opening.
4. In assembly seating areas, guards at the end of aisles where they terminate at a fascia of boxes, balconies and galleries shall have balusters or ornamental patterns such that a 4-inch-diameter (102 mm) sphere cannot pass through any opening 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, a sphere 8 inches (203 mm) in diameter shall not pass.
5. Within individual dwelling units and sleeping units in Group R-2 and R-3 occupancies, openings for required guards on the sides of stair treads shall not allow a sphere of 4.375 inches (111 mm) to pass through.

Authority: Health and Safety Code Sections 13143, 17921(b), 18949.2(b)

References: Health and Safety Code Sections 13143

**[B]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 are accessory to the area served, are not a high-hazard 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. 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.
3. An exit access shall not pass through a room that can be locked to prevent egress.
4. Means of egress from dwelling units or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms.

3. Exits shall not pass through any room subject to locking except in Group I-3 occupancies classified as detention facilities.

Authority: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143

**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.

**Exceptions:**

1. Rooms with exit doors opening directly to the outside at ground level.
2. Patient sleeping rooms are permitted to have one intervening room if the intervening room is not used as an exit access for more than eight patient beds.
3. Special nursing suites are permitted to have one intervening room where the arrangement allows for direct and constant visual supervision by nursing personnel.
4. For rooms other than patient sleeping rooms located within a suite, exit access travel from within the suite shall be permitted through one intervening room where the travel distance to the exit access door is not greater than 100 feet (30 480 mm).
5. 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).

Suites of sleeping rooms shall not exceed 5,000 square feet (465 m<sup>2</sup>). Suites of rooms other than patient sleeping rooms shall not exceed 10,000 square feet (929 m<sup>2</sup>). Any patient sleeping room, or any suite that includes patient sleeping rooms, of more than 1,000 square feet (93m<sup>2</sup>) shall have at least two exit access doors remotely located from each other. Any room or suite of rooms other than patient sleeping rooms of more than 2,500 square feet (232 m<sup>2</sup>) shall have at least two access doors remotely located from each other. The travel distance between any point in a Group I-2 occupancy and an exit access door in the room shall not exceed 50 feet (15 240 mm). 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).

Each suite of rooms shall be separated from the remainder of the building by not less than a one-hour fire barrier.

Egress for portions of the building outside the suite shall not require passage through the suite.

Authority: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143

**[B] 1014.2.2.1 Basement exits.** All rooms below grade shall have not less than one exit access that leads directly to an exterior exit door opening directly to an exit discharge at grade plane or the public way.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**[B] 1014.4.1 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 of the ~~International~~ California Building Code need not exceed 28 inches (711 mm) in width.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**[B] 1015.5 Refrigerated rooms or spaces.** Rooms or spaces having a floor area of 1,000 square feet (93 m<sup>2</sup>) or more, 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 ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**[B] 1015.7 General** Every story or basement of a large family day-care home shall be provided with two exits which are remotely located from each other. Every required exit shall be of a size to permit the installation of a door not less than 32 inches (813 mm) in clear width and not less than 6 feet 8 inches (2,032 mm) in height. A manually operated horizontal sliding door may be used as one of the two required exits.

Where basements are used for day-care purposes, one of the two required exits shall provide access directly to the exterior without entering the first story. The second exit from the basement may either pass through the story above or exit directly to the exterior.

Rooms used for day-care purposes shall not be located above the first story.

**Exception:** Buildings equipped with an automatic sprinkler system throughout and which have at least one of the required exits providing access directly to the exterior. NFPA 13R may be used in large family day-care homes. The sprinkler omissions of NFPA 13R shall not apply unless approved by the enforcing agency.

Exit doors, including manually operated horizontal sliding doors, shall be openable from the inside without use of a key or any special knowledge or effort.

Table 1019.1 and 1019.2 are not applicable to this occupancy classification.

Authority: Health and Safety Code Sections 1597.46, 1597.54, 13143 17921  
References: Health and Safety Code Sections 13143

**[B] TABLE 1016.1  
EXIT ACCESS TRAVEL DISTANCE<sub>a</sub>**

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

a. See the following sections for modifications to exit access travel distance requirements:

Section 402: For the distance limitation in malls.

Section 404: For the distance limitation through an atrium space.

Section 1016.2 For increased limitations in Groups F-1 and S-1.

Section 1025.7: For increased limitation in assembly seating.

Section 1025.7: For increased limitation for assembly open-air seating.

Section 1019.2: For buildings with one exit.

Chapter 31: For the limitation in temporary structures.

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 in accordance with Section 903.3.1.2 are permitted.

c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1

d. Not permitted in non-sprinklered Group I-2 and Group I-3 Occupancies.

Authority: Health and Safety Code Sections 13113, 13143

References: Health and Safety Code Sections 13143

**[B] 1017.1 Construction.** Corridors shall be fire-resistance rated in accordance with Table 1017.1. The corridor walls required to be fire-resistance rated shall comply with Section 708 of the ~~International~~ California Building Code 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 directly to the

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.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**[B] TABLE 1017.1 CORRIDOR FIRE-RESISTANCE RATING**

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		Without sprinkler system	With sprinkler system <sup>c</sup>

H-1, H-2, H-3, <u>L</u>	All	Not Permitted	1
H-4, H-5	Greater than 30	Not Permitted	1
A <sup>d</sup> , B, <u>E</u> , F, M, S, U	Greater than 30	1	0
R	Greater than 10	Not Permitted	<del>0.5</del> <u>1</u>
I-2 <sup>a</sup> , I-2.1, I-4	<del>All</del> <u>Greater than 6</u>	Not Permitted	<del>0</del> <u>1</u>
I-1, I-3	<del>All</del> <u>Greater than 6</u>	Not Permitted	1 <sup>b</sup>
<u>E</u>	<u>Greater than 10</u>	<u>1</u>	<u>1</u>

- a. For requirements for occupancies in Group I-2, see Section 407.3.
- b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.7.
- 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. See Section 1025

Authority: Health and Safety Code Sections 13108, 13113, 13143

References: Health and Safety Code Section 13143

**1017.2 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 serving surgical Group I, health care centers for ambulatory patients receiving 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.

(Relocated from 2001 CBC 1007.5.3)

7. Corridors serving any area caring for one or more nonambulatory persons shall not be less than 8 feet (2438 mm) in width.

Authority: Health and Safety Code Sections 13108, 13113, 13143

References: Health and Safety Code Sections 13143

**1017.4 Air movement in corridors.** Corridors shall not serve as supply, return, exhaust, relief or ventilation air ducts when required to be fire-resistive rated in accordance with Table 1017.1.

**Exceptions:**

1. Use of a corridor as a source of makeup air for exhaust systems in small rooms of 30 sq feet or less 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 m<sup>2</sup>) or less in area, utilization of corridors for conveying return air is permitted.
4. For health care facilities under the jurisdiction of the Office of Statewide Health Planning and Development (OSHPD), see the California Mechanical Code.

Authority: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143

**[B] 1017.4.1 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 California 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.

Authority: Health and Safety Code Sections 13143  
 References: Health and Safety Code Sections 13143

**[B] 1017.5 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.

**Exceptions:**

1. Foyers, lobbies or reception rooms constructed as required for corridors shall not be construed as intervening rooms.
2. In fully sprinklered office buildings, corridors may lead through enclosed elevator lobbies if all areas of the building have access to at least one required exit without passing through the elevator lobby

Authority: Health and Safety Code Sections 13143  
 References: Health and Safety Code Sections 13143

**[B] TABLE 1019.2 BUILDINGS WITH ONE EXIT**

OCCUPANCY	MAXIMUM HEIGHT OF BUILDING ABOVE GRADE PLANE	MAXIMUM OCCUPANTS (OR DWELLING UNITS) PER FLOOR AND TRAVEL DISTANCE
A, B <sup>d</sup> , E <sup>e</sup> , F, M, U	1 Story	49 occupants and 75 feet travel distance
H-2, H-3	1 Story	3 occupants and 25 feet travel distance
H-4, H-5, I, R	1 Story	10 occupants and 75 feet travel distance
<u>I-2</u>	<u>1 Story</u>	<u>8 occupants and 50 feet travel distance</u>
S <sup>a</sup>	1 Story	29 occupants and 100 feet travel distance
B <sup>b</sup> , F, M, S <sup>a</sup>	2 Stories	30 occupants and 75 feet travel distance
R-2	2 Stories <sup>c</sup>	4 dwelling units and 50 feet travel distance

For SI: 1 foot = 304.8 mm

- a. For the required number of exits for open parking structures, see Section 1019.1.1
- b. For the required number of exits for air traffic control towers, see Section 412.1 of the International California Building Code.
- 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 1026 shall have a maximum height of three stories above grade plane.

- d. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 with occupancy in Group B shall have a maximum travel distance of 100 feet.
- e. Day care maximum occupant load is 10.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1020.1 Enclosures required.** Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 706 of the *International California Building Code* or horizontal assemblies constructed in accordance with Section 711 of the *International California Building Code* 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. 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 the story at the level of exit discharge; or
  - 1.2. The stairway is open to not more than one story below the story at the 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 that are not a required means of egress element are not required to be enclosed where such stairways comply with Section 707.2 of the *International California Building Code*.
5. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
6. Stairways in Group I-3 occupancies, as provided for in Section 408.3.6.1 of the *International California Building Code* are not required to be enclosed.
7. Means of egress stairways as required by Section 410.5.3 of the *International California Building Code* are not required to be enclosed.
8. In other than Group H and I occupancies, a maximum of 50 percent of egress stairways serving one adjacent floor are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Any two such interconnected floors shall not be open to other floors. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.
9. In other than Group H and I occupancies, interior egress stairways serving only the first and second stories of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Such interconnected stories shall not be open to other stories. Unenclosed exit stairways shall be remotely located as required in Section 1015.2.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**1020.1.1 Openings and penetrations.** Exit enclosure opening protectives shall be in accordance with the requirements of Section 715 of the *International California Building Code*.

Except as permitted in Section 402.4.6 of the *International California Building Code*, 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.

Where interior exit enclosures are extended to the exterior of a building by an exit passageway, the door assembly from the exit enclosure to the exit passageway shall be protected by a fire door assembly conforming to the requirements in Section 715.4 of the *International California Building Code*. Fire door assemblies in exit enclosures shall comply with Section 715.4.4 of the *International California Building Code*.

Elevators shall not open into an exit enclosure.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**1020.1.2 Penetrations.** Penetrations into and openings through an exit enclosure are prohibited except for required exit doors, equipment and ductwork necessary for independent 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 m<sup>2</sup>). Such penetrations shall be protected in accordance with Section 712 of the International California Building Code. There shall be no penetrations or communication openings, whether protected or not, between adjacent exit enclosures.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**1020.1.3 Ventilation.** Equipment and ductwork for exit enclosure ventilation as permitted by Section 1020.1.2 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 of the International California Building Code for shaft enclosures.

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

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**1020.1.4 Exit enclosure exterior walls.** Exterior walls of an exit enclosure shall comply with the requirements of Section 704 of the International California Building Code 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 3/4 hour. This construction shall extend vertically from the ground to appoin 10 feet (3048mm) above the topmost landing of the stairway or to the roof line, whichever is lower.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1020.1.6.1 - Sign details.** *The provisions of this section shall apply to signs required by Section 1020.1.6*

**[B] 1020.1.6.1.1 Size.** *Signs shall be a minimum 12 inches (305mm) by 12 inches (305mm).*

**[B] 1020.1.6.1.2 Stairway location.** *The stairway location, such as STAIR NO. 1 or WEST STAIR, shall be placed at the top of the sign in 1-inch-high (25.4 mm) block lettering with ¼-inch (6.4mm) strokes.*

**[B] 1020.1.6.1.3 Upper terminus.** *The stairway's upper terminus, such as ROOF ACCESS or NO ROOF ACCESS, shall be placed under the stairway identification in 1-inch-high (25.4mm) block lettering with ¼-inch (6.4mm) strokes.*

**[B] 1020.1.6.1.4 Floor level numbering.** *The floor level number shall be placed in the middle of the sign in 5-inch-high (127mm) lettering with ¾-inch (19mm) strokes. The mezzanine levels shall have the letter "M" preceding the floor level. Basement levels shall have the letter "B" preceding the floor number.*

**[B] 1020.1.6.1.5 Lower terminus.** *The lower and upper terminus of the stairway shall be placed at the bottom of the sign in 1-inch-high (25.4mm) block lettering with ¼-inch (6.4mm) strokes.*

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1020.1.6.2 Tactile floor designation signs in stairways.** *When accessibility is required, tactile floor designation signs that comply with 1117B.5.1 Item 1 shall be located at the landing of each floor level, placed adjacent to the door on the latch side, in all enclosed stairways in buildings two or more stories in height to identify the floor level. At the exit discharge level, the sign shall include a raised five pointed star located to the left of the identifying floor level. The outside diameter of the star shall be the same as the height of the raised characters.*

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1020.1.7 Smokeproof enclosures.** In buildings required to comply with Section 403 or 405 of the *International California Building Code*, each of the exits enclosures of a building that serves stories where the floor surface is 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 level of exit discharge serving such floor levels shall be a smokeproof enclosure or pressurized stairway in accordance with Section 909.20.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**1020.1.7.1 Enclosure exit.** A smokeproof enclosure or pressurized stairway shall exit into a public way or into an exit passageway, yard or open space having direct access to a public way. The exit passageway shall be without other openings and shall be separated from the remainder of the building by 2-hour fire-resistance-rated construction.

**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.~~
- ~~3-2~~ A smokeproof enclosure or pressurized stairway shall be permitted to egress through areas on the level of discharge or vestibules as permitted by Section 1024.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1020.1.7.2 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.~~

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1021.2 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, when fully opened, and handrails, 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. Other nonstructural projections such as trim and similar decorative features are permitted to project into the required width 1.5 inches (38 mm) on each side.

*The clear width of exit passageways in a Group I-2 occupancy used for the movement of beds and litters shall be 44" (1118) minimum.*

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1021.3 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 706 of the *International California Building Code*.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1021.4 Openings and penetrations.** Exit passageway opening protectives shall be in accordance with the requirements of Section 715 of the *International California Building Code*.

Except as permitted in Section 402.4.6 of the *International California Building Code*., openings in exit passageways other than unexposed 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 interior exit enclosures are extended to the exterior of a building by an exit passageway, the door assembly from the exit enclosure to the exit passageway shall be protected by a fire door conforming to the requirements in Section 715.4 of the *International California Building Code*. Fire door assemblies in exit passageways shall comply with Section 715.4.4 of the *International California Building Code*.

Elevators shall not open into an exit passageway.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1021.5 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 m<sup>2</sup>). Such penetrations shall be protected in

accordance with Section 712 of the International California Building Code. There shall be no penetrations or communicating openings, whether protected or not, between adjacent exit passageways.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1022.2 Separation.** The separation between buildings or refuge areas connected by a horizontal exit shall be provided by a fire wall complying with Section 705 of the International California Building Code or a fire barrier complying with Section 706 of the International California Building Code and having a fire-resistance rating of not less than 2 hours. Opening protectives in horizontal exit walls shall also comply with Section 715 of the International California Building Code. 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 of the International California Building Code, provided that the distance between connected buildings is more than 20 feet (6096 mm).

Horizontal exit walls 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.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1022.3 Opening protectives.** Fire doors in horizontal exits shall be self-closing or automatic-closing when activated by a smoke detector in accordance with Section 715.4.7.3 of the International California Building Code. Doors, where located in a cross-corridor condition, shall be automatic-closing by activation of a smoke detector installed in accordance with Section 715.4.7.3 of the International California Building Code.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**1023.2 Use in a means of egress.** Exterior exit ramps and stairways shall not be used as an element of a required means of egress for Group I-2 occupancies. For occupancies in other than Group I-2, 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~~ buildings defined as a high-rise.

Authority: Health and Safety Code Sections 13143, 13210, 13108  
References: Health and Safety Code Sections 13143

**[B] 1024.3 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 704 of the International California Building Code based on fire separation distance.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1024.6 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 (0.28 m<sup>2</sup>) for each person.
2. For other than Group E buildings, the area shall be located on the same lot at least 50 feet (15 240 mm) away from the building requiring egress. For Group E buildings, the area shall be located on the same lot at least 50 feet (15 240 mm) away from any building.
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.

Authority: Health and Safety Code Sections 13143, Public Education Code 32020

References: Health and Safety Code Sections 13143

**[B] 1025.1 General.** All Occupancies in Group A including those which contain seats, tables, displays, equipment or other material shall comply with this section.

Authority: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143

**[B] 1025.2 Assembly main exit.** Group A 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)~~ 20 feet (6096 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. At least one exit shall discharge on a street or an unoccupied space of not less than 20 feet (6096 mm) in width that adjoins a street or public way.

Group A occupancies that have an occupant load greater than 300 shall be provided with at least 0.20 inch (5.1 mm) total exit width for each occupant served.

**Exception:** Smoke-protected seating complying with Section 1025.6.2

Authority: Health and Safety Code Sections 13143

References: Health and Safety Code Sections 13143

**[B] 1025.3 Assembly other exits.** In addition to having access to a main exit, each level in a Group A occupancy 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. At least one-half of the additional means of egress required by this section shall be directly to an exit, or through a lobby, that is not used to access the main exit, to an exit, or to a one hour rated corridor to an exit.

**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. At least one exit shall discharge on a street or an unoccupied space of not less than 20 feet (6096 mm) in width that adjoins a street or public way.

Group A occupancies that have an occupant load greater than 300 shall be provided with at least .20 inch (5.1 mm) total exit width for each occupant served.

**Exception: Smoke-protected seating complying with Section 1025.6.2**

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1025.3.1 Occupant loads less than 300.** *For Group A occupancies, at least one exit shall discharge on a street or an unoccupied space of not less than 20 feet (6096 mm) in width that adjoins a street or public way. Group A occupancies that have an occupant load of 100 or more and less than 300, shall have at least one of the required means of egress directly to an exit, or through a lobby, that is not used to access the main exit, to an exit, or to a one hour rated corridor to an exit or continuous through a one hour rated lobby to an exit.*

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**1025.6.1 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 (2.5mm) 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.
5. Group A occupancies that have an occupant load greater than 300 shall be provided with at least 0.20 inch (5.1 mm) total exit width for each occupant served.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B] 1025.6.4 Public address system.** *See section 907.2.1.3.*

Authority: Health and Safety Code Sections 13108.9  
References: Health and Safety Code Sections 13143

**1025.9.1 Minimum aisle width.** The minimum clear width for aisles shall be as shown:

1. 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.
2. Thirty-six inches (914 mm) for aisle stairs having seating on only one side.
3. 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.

6. Libraries with open book stacks shall have main aisles not less than 44 inches (1118 mm) in width, and side, range and end aisles not less than 36 inches (914 mm) in width.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**[B]1025.10 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 (305mm) 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 down.

**EXCEPTION** When tablet arm chairs are used, the minimum clear width of 12 inches (305 mm) between rows may be measured with tablet arms in the stored position only where all tablet arms are raised manually in one motion to a vertical position and fall to the stored position by force of gravity.

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**1026.1 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 egress 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.~~
  13. The emergency escape and rescue opening is permitted to open onto a balcony within an atrium in accordance with the requirements of Section 404, of the International California Building Code, 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.
  24. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue windows.
  - ~~35.~~ High-rise buildings in accordance with Section 403 of the International California Building Code, door or exit access door that opens directly into a public way or to a yard, court or exterior exit balcony that ~~opens~~ provides access to a public way.
  - ~~57.~~ Basements without habitable spaces and having no more than 200 square feet (18.6 m<sup>2</sup>) in floor area shall not be required to have emergency escape windows.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

**[B] 1026.4 Operational constraints.** Emergency escape and rescue openings and any exit doors shall be maintained free of any obstructions other than those allowed by this section and 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 1026.2 and such devices shall be releasable or removable from the inside without the use of a key, tool, special knowledge or effort 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 Sections 907.2.10 regardless of the valuation of the alteration. The release mechanism shall be maintained operable at all times.

Such bars, grilles, grates or any similar devices shall be equipped with an approved exterior release device for use by the fire department only when required by the enforcing agency.

Where security bars (burglar bars) are installed on emergency egress and rescue windows or doors, on or after July 1, 2000, such devices shall comply with the standards of the California Building Standards Code, Part 12, Chapter 12-3 and other applicable provisions of Part 2.

Group R-1 occupancies provided with a monitored fire sprinkler system in accordance with section 903.2.7 and designed in accordance with NFPA 13 may have openable windows permanently restricted to a maximum 4-inch (102mm) open position.

Authority Cited: Health and Safety Code Sections 13113.9, 13114.1, 13114.2, 13114.3.

References: Health and Safety Code Sections 13143.

**1027.5 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, illumination shall be automatically provided from an emergency system for the following occupancies where such occupancies require two or more means of egress:

1. Group A having 50 or more occupants.  
**Exception:** Assembly occupancies used exclusively as a place of worship and having an occupant load of less than 300.
2. Group B buildings three or more stories in height, buildings with 100 or more occupants above or below the level of exit discharge, or buildings with 1,000 or more total occupants.
3. Group E in interior stairs, corridors, windowless areas with student occupancy, shops and laboratories.
4. Group F having more than 100 occupants.  
**Exception:** Buildings used only during daylight hours which are provided with windows for natural light in accordance with the ~~International~~ California Building Code.
5. Group I
6. Group M  
**Exception:** Buildings less than 3,000 square feet (279 m<sup>2</sup>) in gross sales area on one story only, excluding mezzanines.
7. Group R-1  
**Exception:** Where each sleeping unit has direct access to the outside of the building at grade.
8. Group R-2  
**Exception:** Where each dwelling unit or sleeping unit has direct access to the outside of the building at grade
9. Group R-4.  
**Exception:** Where each sleeping unit has direct access to the outside of the building at ground level  
The emergency power system shall provide power for not less than 60 minutes and consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 604.

Authority Cited: Health and Safety Code Sections 13143  
 References: Health and Safety Code Sections 13143.

**1027.17 Corridors.** Corridors serving an occupant load greater than 30 and the openings therein shall provide an effective barrier to resist the movement of smoke. Transoms, louvers, doors and other openings shall be closed or be self-closing.

**Exceptions:**

1. Corridors in occupancies other than in Group H, which are equipped throughout with an approved automatic sprinkler system.
2. Patient room doors in corridors in occupancies in Group I-2 where smoke barriers are provided in accordance with the International California Building Code.
3. Corridors in occupancies in Group E where each room utilized for instruction or assembly has at least one-half of the required means of egress doors opening directly to the exterior of the building at ground level.
4. Corridors that are in accordance with the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143  
 References: Health and Safety Code Sections 13143.

**1027.17.1 Corridor openings.** Openings in corridor walls shall comply with the requirements of the International California Building Code.

**Exceptions:**

1. Where 20-minute fire door assemblies are required, solid wood doors at least 1.75 inches (44 mm) thick or insulated steel doors are allowed.
2. Openings protected with fixed wire glass set in steel frames.
3. Openings covered with 0.5-inch (12.7 mm) gypsum wallboard or 0.75-inch (19.1 mm) plywood on the room side.
4. Opening protection is not required when the building is equipped throughout with an approved automatic sprinkler system.

**TABLE 1027.17.2 COMMON PATH, DEAD-END AND TRAVEL DISTANCE LIMITS (by occupancy)**

OCCUPANCY	COMMON PATH LIMIT		DEAD-END LIMIT		TRAVEL DISTANCE LIMIT	
	Unsprinklered (feet)	Sprinklered (feet)	Unsprinklered (feet)	Sprinklered (feet)	Unsprinklered (feet)	Sprinklered (feet)
Group A	20/75 <sup>a</sup>	20/75 <sup>a</sup>	20 <sup>b</sup>	20 <sup>b</sup>	200	250
Group B	75	100	50	50	200	250
Group E	75	75	20	20	200	250
Groups F-1, S-1 <sup>d</sup>	75	100	50	50	200	250
Groups F-2, S-2 <sup>d</sup>	75	100	50	50	300	400
Group H-1	25	25	0	0	75	75
Group H-2	50	100	0	0	75	100
Group H-3	50	100	20	20	100	150
Group H-4	75	75	20	20	150	175
Group H-5	75	75	20	50	150	200
Group I-1	75	75	20	20	200	250
Group I-2 (Health Care)	NR	NR	<u>NR-20</u>	<u>NR-20</u>	150	200 <sup>c</sup>
Group I-3 (Detention and Correctional Use Conditions II, III, IV, V)	100	100	NR	NR	150 <sup>c</sup>	200 <sup>c</sup>
Group I-4 (Day Care Centers)	NR	NR	20	20	200	250
Group M (Covered Mall)	75	100	50	50	200	400
Group M (Mercantile)	75	100	50	50	200	250

Group R-1 (Hotels)	75	75	50	50	200	250
Group R-2 (Apartments)	75	75	50	50	200	250
Group R-3 (One- and Two-Family); Group R-4 (Residential Care/Assisted Living)	NR	NR	NR	NR	NR	NR
Group U	75	75	20	20	200	250

For SI: 1 foot = 304.8 mm.

- a. 20 feet for common path serving 50 or more persons; 75 feet for common path serving less than 50 persons.
  - b. See Section 1025.9.5 for dead-end aisles in Group A occupancies.
  - c. This dimension is for the total travel distance, assuming incremental portions have fully utilized their allowable maximums. For travel distance within the room, and from the room exit access door to the exit, see the appropriate occupancy chapter.
  - d. See the ~~International~~ *California Building Code* for special requirements on spacing of doors in aircraft hangars.
- NR = No requirements.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

## CHAPTER 11

### AVIATION FACILITIES

**(Note: Adopt entire Chapter without amendments.)**

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

## CHAPTER 12

### DRY CLEANING

**(Note: Adopt entire Chapter without amendments.)**

**1207.1 General equipment requirements.** Dry cleaning systems, including dry cleaning units, washing machines, stills, drying cabinets, tumblers, and their appurtenances, including pumps, piping, valves, filters and solvent coolers, shall be installed and maintained in accordance with NFPA 32. The construction of buildings in which such systems are located shall comply with the requirements of this section and the ~~International~~ *California Building Code*. B:C portable fire extinguishers shall be provided near the doors inside dry cleaning rooms containing Type II, Type III-A and Type III-B dry cleaning systems.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

## CHAPTER 13

### COMBUSTIBLE DUST-PRODUCING OPERATIONS

(Note: Adopt entire chapter without amendments.)

**TABLE 1304.1  
EXPLOSION PROTECTION STANDARDS  
STANDARD SUBJECT**

STANDARD	SUBJECT
NFPA 61	Agricultural and Food Products
NFPA 69	Explosion Prevention
NFPA 85	Boiler and Combustion System Hazards
NFPA 120	Coal Preparation Plants
NFPA 484	Combustible Metals, Metal Powders and Metal Dusts
NFPA 654	Manufacturing, Processing and Handling of Combustible Particulate Solids
NFPA 655	Prevention of Sulfur Fires and Explosions
NFPA 664	Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities
<del>ICC California</del> Electrical Code	Electrical Installations

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

## CHAPTER 14

### FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION

(Note: Adopt entire chapter without amendments.)

**1403.1 Listed.** Temporary heating devices shall be listed and labeled in accordance with the ~~International California Mechanical Code~~ or the ~~International Fuel Gas Mechanical Code~~. Installation, maintenance and use of temporary heating devices shall be in accordance with the terms of the listing.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**1403.3 LP-gas heaters.** Fuel supplies for liquefied-petroleum gas-fired heaters shall comply with Chapter 38 and the ~~International Fuel Gas~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**1404.7 Electrical.** Temporary wiring for electrical power and lighting installations used in connection with the construction, alteration or demolition of buildings, structures, equipment or similar activities shall comply with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1414.1 Completion before occupancy.** In buildings where an automatic sprinkler system is required by this code or the ~~International~~ California Building Code, it shall be unlawful to occupy any portion of a building or structure until the automatic sprinkler system installation has been tested and approved, except as provided in Section 105.3.3.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

## CHAPTER 15

### FLAMMABLE FINISHES

**(Note: Adopt entire chapter without amendments.)**

#### 1502

**SPRAY ROOM.** A room designed to accommodate spraying operations constructed in accordance with the ~~International~~ California Building Code and separated from the remainder of the building by a minimum 1-hour fire barrier.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1503.2.1 Electrical wiring and equipment.** Electrical wiring and equipment shall comply with this chapter and the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1503.2.1.1 Flammable vapor areas.** Electrical wiring and equipment in flammable vapor areas shall be of an explosion proof type approved for use in such hazardous locations. Such areas shall be considered to be Class I, Division 1 or Class II, Division 1 hazardous locations in accordance with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1503.2.1.4 Areas subject to overspray deposits.** Electrical equipment in flammable vapor areas located such that deposits of combustible residues could readily accumulate thereon shall be specifically approved for locations containing deposits of readily ignitable residue and explosive vapors in accordance with the ~~ICC~~ California Electrical Code.

#### **Exceptions:**

1. Wiring in rigid conduit.

2. Boxes or fittings not containing taps, splices or terminal connections.
3. Equipment allowed by Sections 1504 and 1507 and Chapter 21.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**1503.2.5 Grounding.** Metal parts of spray booths, exhaust ducts and piping systems conveying Class I or II liquids shall be electrically grounded in accordance with the ~~ICC~~ *California Electrical Code*. Metallic parts located in resin application areas, including but not limited to exhaust ducts, ventilation fans, spray application equipment, workpieces and piping, shall be electrically grounded.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**1504.2 Location of spray-finishing operations.** Spray finishing operations conducted in buildings used for Group A, E, I or R occupancies shall be located in a spray room protected with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 and separated vertically and horizontally from other areas in accordance with the ~~International~~ *California Building Code*. In other occupancies, spray-finishing operations shall be conducted in a spray room, spray booth or spraying space approved for such use.

**Exceptions:**

1. Automobile undercoating spray operations and spray-on automotive lining operations conducted in areas with approved natural or mechanical ventilation shall be exempt from the provisions of Section 1504 when approved and where utilizing Class IIIA or IIIB combustible liquids.
2. In buildings other than Group A, E, I or R occupancies, approved limited spraying space in accordance with Section 1504.9.
3. Resin application areas used for manufacturing of reinforced plastics complying with Section 1509 shall not be required to be located in a spray room, spray booth or spraying space.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**1504.3.1 Spray rooms.** Spray rooms shall be constructed and designed in accordance with this section and the ~~International~~ *California Building Code*, and shall comply with Sections 1504.4 through 1504.8.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**1504.3.2.6 Size.** The aggregate area of spray booths in a building shall not exceed the lesser of 10 percent of the area of any floor of a building or the basic area allowed for a Group H-2 occupancy without area increases, as set forth in the ~~International~~ *California Building Code*. The area of an individual spray booth in a building shall not exceed the lesser of the aggregate size limit or 1,500 square feet (139 m<sup>2</sup>).

**Exception:** One individual booth not exceeding 500 square feet (46 m<sup>2</sup>).

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**1504.3.3 Spraying spaces.** Spraying spaces shall be designed and constructed in accordance with the ~~International~~ *California Building Code* and Sections 1504.3.3.1 and 1504.4 and through 1504.8 of this code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1504.6.1.2.2 Portable infrared apparatus.** When a portable infrared drying apparatus is used, electrical wiring and portable infrared drying equipment shall comply with the ~~ICC~~ California Electrical Code. Electrical equipment located within 18 inches (457 mm) of floor level shall be approved for Class I, Division 2 hazardous locations. Metallic parts of drying apparatus shall be electrically bonded and grounded. During spraying operations, portable drying apparatus and electrical connections and wiring thereto shall not be located within spray booths, spray rooms or other areas where spray residue would be deposited thereon.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1504.7 Ventilation.** Mechanical ventilation of flammable vapor areas shall be provided in accordance with ~~Section 510 of the~~ International California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1504.7.2 Recirculation.** Air exhausted from spraying operations shall not be recirculated.

**Exceptions:**

1. Air exhausted from spraying operations is allowed to be recirculated as makeup air for unmanned spray operations, provided that:
  - 1.1. The solid particulate has been removed.
  - 1.2. The vapor concentration is less than 25 percent of the LFL.
  - 1.3. Approved equipment is used to monitor the vapor concentration.
  - 1.4. When the vapor concentration exceeds 25 percent of the LFL, the following shall occur:
    - a. An alarm shall sound; and
    - b. Spray operations shall automatically shut down.
  - 1.5. In the event of shutdown of the vapor concentration monitor, 100 percent of the air volume specified in ~~Section 510 of the~~ International California Mechanical Code is automatically exhausted.
2. Air exhausted from spraying operations is allowed to be recirculated as makeup air to manned spraying operations where all of the conditions provided in Exception 1 are included in the installation and documents have been prepared to show that the installation does not pose a life safety hazard to personnel inside the spray booth, spraying space or spray room.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1504.9.4 Electrical wiring.** Electrical wiring within 10 feet (3048 mm) of the floor and 20 feet (6096 mm) horizontally of the limited spraying space shall be designed for Class I, Division 2 locations in accordance with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1505.2 Location of dip-tank operations.** Dip-tank operations conducted in buildings used for Group A, I or R occupancies shall be located in a room designed for that purpose, equipped with an approved automatic sprinkler system and separated vertically and horizontally from other areas in accordance with the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**CHAPTER 16**  
**FRUIT AND CROP RIPENING**

**(Note: This entire Chapter is not adopted.)**

Authority: Health and Safety Code Sections 13143  
References: Health and Safety Code Sections 13143

**CHAPTER 17**  
**FUMIGATION AND THERMAL INSECTICIDAL FOGGING**

**(Note: This entire Chapter is not adopted.)**

Authority: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**CHAPTER 18**  
**SEMICONDUCTOR FABRICATION FACILITIES**

**(Note: Adopt entire Chapter without amendments.)**

**1801.1 Scope.** Semiconductor fabrication facilities and comparable research and development areas classified as Group H-5 shall comply with this chapter and the ~~International~~ California Building Code. The use, storage and handling of hazardous materials in Group H-5 shall comply with this chapter, other applicable provisions of this code and the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1801.4 Existing buildings and existing fabrication areas.** Existing buildings and existing fabrication areas shall comply with this chapter, except that transportation and handling of HPM in exit access corridors and exit enclosures shall be allowed when in compliance with Section 1805.3.2 and the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1803.2.2 General requirements.** In addition to the requirements in Section 1803.2, systems, equipment and processes shall also comply with Section 2703.2, other applicable provisions of this code, the ~~International~~ California Building Code and the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1803.3.1 Fabrication areas.** Construction and location of fabrication areas shall comply with the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1803.3.2 Pass-throughs in exit access corridors.** Pass-throughs in exit access corridors shall be constructed in accordance with the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1803.3.3 Liquid storage rooms.** Liquid storage rooms shall comply with Chapter 34 and the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1803.3.4 HPM rooms.** HPM rooms shall comply with the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1803.3.8 Service corridors.** Service corridors shall comply with Section 1805.3 and the ~~International~~ Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1803.7.1 Fabrication areas.** Electrical wiring and equipment in fabrication areas shall comply with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1803.7.2 Workstations.** Electrical equipment and devices within 5 feet (1524 mm) of workstations in which flammable or pyrophoric gases or flammable liquids are used shall comply with the ~~ICC~~ California Electrical Code for Class I, Division 2 hazardous locations. Workstations shall not be energized without adequate exhaust ventilation in accordance with Section 1803.14.

**Exception:** Class I, Division 2 hazardous electrical equipment is not required when the air removal from the workstation or dilution will prevent the accumulation of flammable vapors and fumes on a continuous basis.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1803.7.3 Hazardous production material (HPM) rooms, gas rooms and liquid storage rooms.** Electrical wiring and equipment in HPM rooms, gas rooms and liquid storage rooms shall comply with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1803.10.4 Exhaust ducts for HPM.** An approved automatic sprinkler system shall be provided in exhaust ducts conveying gases, vapors, fumes, mists or dusts generated from HPM in accordance with this section and the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1803.14 Exhaust ventilation systems for HPM.** Exhaust ventilation systems and materials for exhaust ducts utilized for the exhaust of HPM shall comply with Sections 1803.14.1 through 1803.14.3, other applicable provisions of this code, the ~~International~~ California Building Code and the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1803.14.1 Where required.** Exhaust ventilation systems shall be provided in the following locations in accordance with the requirements of this section and the ~~International~~ California Building Code:

1. Fabrication areas: Exhaust ventilation for fabrication areas shall comply with the ~~International~~ California Building Code. The fire code official is authorized to require additional manual control switches.
2. Workstations: A ventilation system shall be provided to capture and exhaust gases, fumes and vapors at workstations.
3. Liquid storage rooms: Exhaust ventilation for liquid storage rooms shall comply with Section 2704.3.1 and the ~~International~~ California Building Code.
4. HPM rooms: Exhaust ventilation for HPM rooms shall comply with Section 2704.3.1 and the ~~International~~ California Building Code.
5. Gas cabinets: Exhaust ventilation for gas cabinets shall comply with Section 2703.8.6.2. The gas cabinet ventilation system is allowed to connect to a workstation ventilation system. Exhaust ventilation for gas cabinets containing highly toxic or toxic gases shall also comply with Chapter 37.
6. Exhausted enclosures: Exhaust ventilation for exhausted enclosures shall comply with Section 2703.8.5.2. Exhaust ventilation for exhausted enclosures containing highly toxic or toxic gases shall also comply with Chapter 37.
7. Gas rooms: Exhaust ventilation for gas rooms shall comply with Section 2703.8.4.2. Exhaust ventilation for gas cabinets containing highly toxic or toxic gases shall also comply with Chapter 37.
8. Cabinets containing pyrophoric liquids or Class 3 water-reactive liquids: Exhaust ventilation for cabinets in fabrication areas containing pyrophoric liquids or Class 3 water-reactive liquids shall be as required in Section 1805.2.3.5.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1803.15.1 Required electrical systems.** Emergency power shall be provided for electrically operated equipment and connected control circuits for the following systems:

1. HPM exhaust ventilation systems.
2. HPM gas cabinet ventilation systems.
3. HPM exhausted enclosure ventilation systems.
4. HPM gas room ventilation systems.
5. HPM gas detection systems.
6. Emergency alarm systems.
7. Manual fire alarm systems.
8. Automatic sprinkler system monitoring and alarm systems.
9. Automatic alarm and detection systems for pyrophoric liquids and Class 3 water-reactive liquids required in Section 1805.2.3.5.
10. Flow alarm switches for pyrophoric liquids and Class 3 water-reactive liquids cabinet exhaust ventilation systems required in Section 1805.2.3.5.
11. Electrically operated systems required elsewhere in this code or in the International California Building Code applicable to the use, storage or handling of HPM.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**1804.3.1 HPM storage.** The indoor storage of HPM in quantities greater than those listed in Section 2703.1.1 and 3404.3.4 shall be in a room complying with the requirements of the International California Building Code and this code for a liquid storage room, HPM room or gas room as appropriate for the materials stored.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**1805.2.2.1 Protection of vessels.** Vessels containing HPM located in or connected to a workstation shall be protected from physical damage and shall not project from the workstation. Hazardous gas and liquid vessels located within a workstation shall be protected from seismic forces in an approved manner in accordance with the International California Building Code. Protection for HPM compressed gases shall also comply with Chapter 30.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**1805.2.3.2 Protection of vessels.** Vessels containing hazardous materials located in or connected to a workstation shall be protected as follows:

1. HPM: Vessels containing HPM shall be protected from physical damage and shall not project from the workstation.
2. Hazardous cryogenic fluids, gases and liquids:  
Hazardous cryogenic fluid, gas and liquid vessels located within a workstation shall be protected from seismic forces in an approved manner in accordance with the International California Building Code.
3. Compressed gases: Protection for compressed gas vessels shall also comply with Section 3003.5.
4. Cryogenic fluids: Protection for cryogenic fluid vessels shall also comply with Section 3203.3.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**1805.3.1 Exit corridors access and exit enclosures.** Exit access corridors and exit enclosures in new buildings or serving new fabrication areas shall not contain HPM except as permitted for exit access corridors by Section 415.8.6.3 of the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1805.3.2 Transport in existing exit access corridors.** When existing fabrication areas are altered or modified in existing buildings, HPM is allowed to be transported in existing exit access corridors when such exit access corridors comply with the ~~International~~ California Building Code. Transportation in exit access corridors shall comply with Section 2703.10.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1805.3.3 Service corridors.** When a new fabrication area is constructed, a service corridor shall be provided where it is necessary to transport HPM from a liquid storage room, HPM room, gas room or from the outside of a building to the perimeter wall of a fabrication area. Service corridors shall be designed and constructed in accordance with the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

## CHAPTER 19

### LUMBER YARDS AND WOODWORKING FACILITIES

**(Note: Adopt the entire chapter without amendments.)**

**1903.1 Open yards.** Open yards required by the ~~International~~ California Building Code shall be maintained around structures.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1903.2 Dust control.** Equipment or machinery located inside buildings which generates or emits combustible dust shall be provided with an approved dust collection and exhaust system installed in accordance with Chapter 13 and the ~~International~~ California Mechanical Code. Equipment or systems that are used to collect, process or convey combustible dusts shall be provided with an approved explosion control system.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1903.3 Waste removal.** Sawmills, planing mills and other woodworking plants shall be equipped with a waste removal system that will collect and remove sawdust and shavings. Such systems shall be installed in accordance with Chapter 13 and the ~~International~~ California Mechanical Code.

**Exception:** Manual waste removal when approved.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**1903.4 Electrical equipment.** Electrical wiring and equipment shall comply with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

## CHAPTER 20

### MANUFACTURE OF ORGANIC COATINGS

**(Note: Adopt the entire chapter without amendments.)**

**2004.1 Wiring and equipment.** Electrical wiring and equipment shall comply with this chapter and shall be installed in accordance with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**2005.1 Design.** Process structures shall be designed and constructed in accordance with the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**2009.2 Tank storage.** Tank storage for flammable and combustible liquids located inside of structures shall be limited to storage areas at or above grade which are separated from the processing area in accordance with the ~~International~~ California Building Code. Processing equipment containing flammable and combustible liquids and storage in quantities essential to the continuity of the operations shall not be prohibited in the processing area.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**2009.4 Nitrocellulose storage.** Nitrocellulose storage shall be located on a detached pad or in a separate structure or a room enclosed in accordance with the ~~International~~ California Building Code. The nitrocellulose storage area shall not be utilized for any other purpose. Electrical wiring and equipment installed in storage areas adjacent to process areas shall comply with Section 2004.2.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**2009.6 Finished products.** Finished products that are flammable or combustible liquids shall be stored outside of structures, in a separate structure, or in a room separated from the processing area in accordance with the ~~International~~ California Building Code. The storage of finished products shall be in tanks or closed containers in accordance with Chapter 34.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**CHAPTER 21**  
**INDUSTRIAL OVENS**

**(Note: Adopt the entire Chapter with amendments.)**

**2101.1 Scope.** This chapter shall apply to the installation and operation of industrial ovens and furnaces. Industrial ovens and furnaces shall comply with the applicable provisions of NFPA 86, ~~the International Fuel Gas Code, International California Mechanical Code~~ and this chapter. The terms “ovens” and “furnaces” are used interchangeably in this chapter.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2103.1 Ventilation.** Enclosed rooms or basements containing industrial ovens or furnaces shall be provided with combustion air in accordance with the ~~International California Mechanical Code and the International Fuel Gas Code,~~ and with ventilation air in accordance with the ~~International California Mechanical Code.~~

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2104.1 Fuel-gas piping.** Fuel-gas piping serving industrial ovens shall comply with the ~~International Fuel Gas California Mechanical Code.~~ Piping for other fuel sources shall comply with this section.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2104.2 Shutoff valves.** Each industrial oven or furnace shall be provided with an approved manual fuel shutoff valve in accordance with the ~~International California Mechanical Code or the International Fuel Gas Code.~~

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2106.3 Fire extinguishers.** Portable fire extinguishers complying with Section 906 shall be provided not closer than 15 feet (4572 mm) or a maximum of 50 feet (15 240 mm) ~~or in accordance with NFPA 10.~~ This shall apply to the oven and related equipment.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**CHAPTER 22**  
**MOTOR FUEL-DISPENSING FACILITIES AND REPAIR GARAGES**

**(Note: Adopt the entire Chapter with amendments.)**

**2201.1 Scope.** Automotive motor fuel-dispensing facilities, marine motor fuel-dispensing facilities, fleet vehicle motor fuel-dispensing facilities and repair garages shall be in accordance with this chapter and the ~~International California Building Code~~, ~~International Fuel Gas Code~~ ~~California Plumbing Code~~ and the ~~International California Mechanical Code~~. Such operations shall include both operations that are accessible to the public and private operations.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2201.4 Indoor motor fuel-dispensing facilities.** Motor fuel-dispensing facilities located inside buildings shall comply with the ~~International California Building Code~~ and NFPA 30A.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2201.5 Electrical.** Electrical wiring and equipment shall be suitable for the locations in which they are installed and shall comply with Section 605, NFPA 30A and the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2201.6 Heat-producing appliances.** Heat-producing appliances shall be suitable for the locations in which they are installed and shall comply with NFPA 30A and the ~~International Fuel Gas Code~~ ~~California Plumbing Code~~ or the ~~International California Mechanical Code~~.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2203.1 Location of dispensing devices.** Dispensing devices shall be located as follows:

1. Ten feet (3048 mm) or more from lot lines.
2. Ten feet (3048 mm) or more from buildings having combustible exterior wall surfaces or buildings having noncombustible exterior wall surfaces that are not part of a 1-hour fire-resistance-rated assembly or buildings having combustible overhangs.

**Exception:** Canopies constructed in accordance with the ~~International California Building Code~~ providing weather protection for the fuel islands.

3. Such that all portions of the vehicle being fueled will be on the premises of the motor fuel-dispensing facility.
4. Such that the nozzle, when the hose is fully extended, will not reach within 5 feet (1524 mm) of building openings.
5. Twenty feet (6096 mm) or more from fixed sources of ignition.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2203.1.1 Protection of dispensing devices** of Where dispensing devices are mounted at grade, they shall be protected at each end with a minimum of two concrete filled steel posts, 6 inches (152mm) in diameter, having a

minimum 3 feet (914 mm) deep footing not less than 15 inches (381 mm) in diameter and projecting above grade at a minimum of 3 feet (914 mm) and be located not less than 4 feet (1219 mm) nor more than 5 feet (1524 mm) from fuel dispensers or point-of-sale devices, or equivalent means approved by the chief.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2205.4 Sources of ignition.** Smoking and open flames shall be prohibited in areas where fuel is dispensed. The engines of vehicles being fueled shall be shut off during fueling. Electrical equipment shall be in accordance with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2208.3 Location of dispensing operations and equipment.** Compression, storage and dispensing equipment shall be located above ground, outside.

**Exceptions:**

1. Compression, storage or dispensing equipment shall be allowed in buildings of noncombustible construction, as set forth in the ~~International~~ California Building Code, which are unenclosed for three quarters or more of the perimeter.
2. Compression, storage and dispensing equipment shall be allowed indoors or in vaults in accordance with Chapter 30.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2208.3.1 Location on property.** In addition to the requirements of Section 2203.1, compression, storage and dispensing equipment not located in vaults complying with Chapter 30 shall be installed as follows:

1. Not beneath power lines.
2. Ten feet (3048 mm) or more from the nearest building or lot line that could be built on, public street, sidewalk or source of ignition.

**Exception:** Dispensing equipment need not be separated from canopies that are constructed in accordance with the ~~International~~ California Building Code and that provide weather protection for the dispensing equipment.

3. Twenty-five feet (7620 mm) or more from the nearest rail of any railroad track and 50 feet (15 240 mm) or more from the nearest rail of any railroad main track or any railroad or transit line where power for train propulsion is provided by an outside electrical source, such as third rail or overhead catenary.
4. Fifty feet (15 240 mm) or more from the vertical plane below the nearest overhead wire of a trolley bus line.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2208.8.1.2.4 Grounding and bonding.** The structure or appurtenance used for supporting the cylinder shall be grounded in accordance with the ~~ICC~~ California Electrical Code. The cylinder valve shall be bonded prior to the commencement of venting operations.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2209.2.3 Electrical equipment.** Electrical installations shall be in accordance with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**TABLE 2209.3.1** (footnotes)

For SI: 1 foot = 304.8 mm. 1 cubic foot = 0.02832m<sup>3</sup>.

- a. The applicability of tabular distance is in terms of a radius that defines a hemisphere from the source when not interrupted by an intervening fire barrier without through penetrations.
- b. See Section 2209.3.1.1.
- c. The dispenser and point of transfer for dispensing need not be separated from canopies constructed in accordance with Section 406.5 of the ~~International Fuel Gas Code~~ International California Building Code and constructed in a manner that prevents the accumulation of hydrogen gas.
- d. Measured along the natural and unobstructed line of travel (e.g., around protective walls, around corners of buildings).
- e. Ignition sources include appliance burner igniters, hotwork and hot surfaces capable of igniting flammable vapors.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2209.3.2.3 Indoors.** Generation, compression, storage and dispensing equipment shall be located in indoor rooms or areas constructed in accordance with the requirements of the ~~International Fuel Gas Code~~ International California Building Code, the ~~International Fuel Gas Code~~ and the ~~International California Mechanical Code~~ and one of the following:

1. Inside a building in a hydrogen cutoff room designed and constructed in accordance with Section 420 of the ~~International California Building Code~~.
2. Inside a building not in a hydrogen cutoff room where the gaseous hydrogen system is listed and labeled for indoor installation and installed in accordance with the manufacturer's installation instructions.
3. Inside a building in a dedicated hydrogen fuel dispensing area having an aggregate hydrogen delivery capacity no greater than 12 standard cubic feet per minute (SCFM) and designed and constructed in accordance with Section 703.1 of the ~~International Fuel Gas Code~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2209.3.2.6 Canopy tops.** Gaseous hydrogen compression and storage equipment located on top of motorfuel-dispensing facility canopies shall be in accordance with Sections 2209.3.2.6.1 through 2209.3.2.6.3, Chapters 30 and 35 and the ~~International Fuel Gas Code~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2209.3.2.6.1 Construction.** Canopies shall be constructed in accordance with the motor fuel-dispensing facility canopy requirements of Section 406 of the ~~International Fuel Gas Code~~ International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2209.3.3 Canopies.** Dispensing equipment need not be separated from canopies of Type I or II construction that are constructed in a manner that prevents the accumulation of hydrogen gas and in accordance with Section 406.5 of the ~~International Fuel Gas Code~~ International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2210.1 General.** The construction of marine motor fuel-dispensing facilities shall be in accordance with the ~~International~~ *Building Code* and NFPA30A. The storage of Class I, II or IIIA liquids at marine motor fuel-dispensing facilities shall be in accordance with this chapter and Chapter 34.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2211.1 General.** Repair garages shall comply with this section and the ~~International~~ *California Building Code*. Repair garages for vehicles that use more than one type of fuel shall comply with the applicable provisions of this section for each type of fuel used. Where a repair garage also includes a motor fuel-dispensing facility, the fuel-dispensing operation shall comply with the requirements of this chapter for motor fuel-dispensing facilities.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2211.2.3 Drainage and disposal of liquids and oil-soaked waste.** Garage floor drains, where provided, shall drain to approved oil separators or traps discharging to a sewer in accordance with the ~~International~~ *California Plumbing Code*. Contents of oil separators, traps and floor drainage systems shall be collected at sufficiently frequent intervals and removed from the premises to prevent oil from being carried into the sewers

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2211.3.1 Equipment.** Appliances and equipment installed in a repair garage shall comply with the provisions of the ~~International~~ *California Building Code*, the ~~International~~ *California Mechanical Code* and the ~~ICC~~ *California Electrical Code*.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2211.4.1 Construction.** Pits and below-grade work areas shall be constructed in accordance with the ~~International~~ *Building Code*.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2211.4.3 Ventilation.** Where Class I liquids or LP-gas are stored or used within a building having a basement or pit wherein flammable vapors could accumulate, the basement or pit shall be provided with mechanical ventilation in accordance with the ~~International~~ *California Mechanical Code*, at a minimum rate of 1.5 cubic feet per minute per square foot (cfm/ft<sup>2</sup>) [0.008 m<sup>3</sup>/(s ⊕ m<sup>2</sup>)] to prevent the accumulation of flammable vapors.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**2211.7.1 Ventilation.** Repair garages used for the repair of natural gas- or hydrogen-fueled vehicles shall be provided with an approved mechanical ventilation system. The mechanical ventilation system shall be in accordance with the International California Mechanical Code and Sections 2211.7.1.1 and 2211.7.1.2.

**Exception:** Repair garages with natural ventilation when approved.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**2211.8.1.2.3 Stability of cylinders, containers and tanks.** A method of rigidly supporting cylinders, containers or tanks used during the closed transfer system discharge or defueling of hydrogen shall be provided. The method shall provide not less than two points of support and shall be designed to resist lateral movement of the receiving cylinder, container or tank. The system shall be designed to resist movement of the receiver based on the highest gas-release velocity through valve orifices at the receiver's rated service pressure and volume. Supporting structure or appurtenance used to support receivers shall be constructed of noncombustible materials in accordance with the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**2211.8.1.2.4 Grounding and bonding.** Cylinders, containers or tanks and piping systems used for defueling shall be bonded and grounded. Structures or appurtenances used for supporting the cylinders, containers or tanks shall be grounded in accordance with the ICC California Electrical Code. The valve of the vehicle storage tank shall be bonded with the defueling system prior to the commencement of discharge or defueling operations.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

## CHAPTER 23

### HIGH-PILED COMBUSTIBLE STORAGE

**(Note: Adopt the entire Chapter without amendments.)**

**2301.3 Construction documents.** At the time of building permit application for new structures designed to accommodate high-piled storage or for requesting a change of occupancy/use, and at the time of application for a storage permit, plans and specifications shall be submitted for review and approval. In addition to the information required by the International California Building Code, the storage permit submittal shall include the information specified in this section. Following approval of the plans, a copy of the approved plans shall be maintained on the premises in an approved location. The plans shall include the following:

1. Floor plan of the building showing locations and dimensions of high-piled storage areas.
2. Usable storage height for each storage area.
3. Number of tiers within each rack, if applicable.
4. Commodity clearance between top of storage and the sprinkler deflector for each storage arrangement.
5. Aisle dimensions between each storage array.
6. Maximum pile volume for each storage array.
7. Location and classification of commodities in accordance with Section 2303.
8. Location of commodities which are banded or encapsulated.
9. Location of required fire department access doors.
10. Type of fire suppression and fire detection systems.
11. Location of valves controlling the water supply of ceiling and in-rack sprinklers.
12. Type, location and specifications of smoke removal and curtain board systems

13. Dimension and location of transverse and longitudinal flue spaces.

14. Additional information regarding required design features, commodities, storage arrangement and fire protection features within the high-piled storage area shall be provided at the time of permit, when required by the fire code official.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**TABLE 2306.2** (footnotes)

For SI: 1 foot = 304.8 mm, 1 cubic foot = 0.02832m<sup>3</sup>, 1 square foot = 0.0929m<sup>2</sup>.

a. When automatic sprinklers are required for reasons other than those in Chapter 23, the portion of the sprinkler system protecting the high-piled storage area shall be designed and installed in accordance with Sections 2307 and 2308.

b. For aisles, see Section 2306.9.

c. Piles shall be separated by aisles complying with Section 2306.9.

d. For storage in excess of the height indicated, special fire protection shall be provided in accordance with Note g when required by the fire code official. See also

Chapters 28 and 34 for special limitations for aerosols and flammable and combustible liquids, respectively.

e. Section 503 shall apply for fire apparatus access.

f. For storage exceeding 30 feet in height, Option 1 shall be used.

g. Special fire protection provisions including, but not limited to, fire protection of exposed steel columns; increased sprinkler density; additional in-rack sprinklers, without associated reductions in ceiling sprinkler density; or additional fire department hose connections shall be provided when required by the fire code official.

h. High-piled storage areas shall not exceed 500,000 square feet. A 2-hour fire wall constructed in accordance with the International California Building Code shall be used to divide high-piled storage exceeding 500,000 square feet in area.

i. Not required when an automatic fire-extinguishing system is designed and installed to protect the high-piled storage area in accordance with Sections 2307 and 2308.

j. Not required when storage areas are protected by early suppression fast response (ESFR) sprinkler systems installed in accordance with NFPA 13.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2306.3.1 Separation from other uses.** Mixed occupancies shall be separated in accordance with the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2306.3.2.1 Aggregate area.** The aggregate of all high-piled storage areas within a building shall be used for the application of Table 2306.2 unless such areas are separated from each other by 1-hour fire barrier walls constructed in accordance with the International California Building Code. Openings in such walls shall be protected by opening protective assemblies having a 1-hour fire protection rating.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2306.3.2.2 Multiclass high-piled storage areas.** High-piled storage areas classified as Class I through IV not separated from high-piled storage areas classified as high hazard shall utilize the aggregate of all high-piled storage areas as high hazard for the purposes of the application of Table 2306.2. To be considered as separated, 1-hour fire

barrier walls shall be constructed in accordance with the International California Building Code. Openings in such walls shall be protected by opening protective assemblies having a 1-hour fire protection rating.

**Exception:** As provided for in Section 2304.2.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2306.8 Fire department hose connections.** Where exit passageways are required by the International California Building Code for egress, a Class I standpipe system shall be provided in accordance with Section 905.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2307.2 Fire protection.** Where automatic sprinklers are required by Table 2306.2, an approved automatic sprinkler system shall be installed throughout the building or to 1-hour fire barrier walls constructed in accordance with the International California Building Code. Openings in such walls shall be protected by opening protective assemblies having 1-hour fire protection ratings. The design and installation of the automatic sprinkler system and other applicable fire protection shall be in accordance with the International California Building Code and NFPA 13.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2308.2 Fire protection.** Where automatic sprinklers are required by Table 2306.2, an approved automatic sprinkler system shall be installed throughout the building or to 1-hour fire barrier walls constructed in accordance with the International California Building Code. Openings in such walls shall be protected by opening protective assemblies having 1-hour fire protection ratings. The design and installation of the automatic sprinkler system and other applicable fire protection shall be in accordance with Section 903.3.1.1 and the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

## CHAPTER 24

### TENTS, CANOPIES AND OTHER MEMBRANE STRUCTURES

**(Note: Adopt the entire chapter with amendments.)**

**2403.8.2 Location.** Tents, canopies or membrane structures shall not be located within 20 feet (6096 mm) of lot lines, buildings, other tents, canopies or membrane structures, parked vehicles or internal combustion engines. For the purpose of determining required distances, support ropes and guy wires shall be considered as part of the temporary membrane structure, tent or canopy.

**Exceptions:**

1. Separation distance between membrane structures, tents and canopies not used for cooking, is not required when the aggregate floor area does not exceed 15,000 square feet (1394 m<sup>2</sup>).
2. Membrane structures, tents or canopies need not be separated from buildings when all of the following conditions are met:

- 2.1. The aggregate floor area of the membrane structure, tent or canopy shall not exceed 10,000 square feet (929 m<sup>2</sup>).
- 2.2. The aggregate floor area of the building and membrane structure, tent or canopy shall not exceed the allowable floor area including increases as indicated in the ~~International~~ California Building Code.
- 2.3. Required means of egress provisions are provided for both the building and the membrane structure, tent or canopy, including travel distances.
- 2.4. Fire apparatus access roads are provided in accordance with Section 503.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2403.12.6.1 Exit sign illumination.** Exit signs shall be of an approved self-luminous type or shall be internally or externally illuminated by luminaires supplied in the following manner:

1. Two separate circuits, one of which shall be separate from all other circuits, for occupant loads of 300 or less; or
2. Two separate sources of power, one of which shall be an approved emergency system, shall be provided when the occupant load exceeds 300. Emergency systems shall be supplied from storage batteries or from the on-site generator set, and the system shall be installed in accordance with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2404.1 General.** All tents, canopies and membrane structures, both temporary and permanent, shall be in accordance with this section. Permanent tents, canopies and membrane structures shall also comply with the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2404.15.1 Installation.** Heating or cooking equipment, tanks, piping, hoses, fittings, valves, tubing and other related components shall be installed as specified in the ~~International~~ California Mechanical Code ~~and the International Fuel Gas Code~~, and shall be approved by the fire code official.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2404.15.2 Venting.** Gas, liquid and solid fuel-burning equipment designed to be vented shall be vented to the outside air as specified in the ~~International Fuel Gas Code and the International~~ California Mechanical Code. Such vents shall be equipped with approved spark arresters when required. Where vents or flues are used, all portions of the tent, canopy or membrane structure shall be not less than 12 inches (305 mm) from the flue or vent.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2404.15.7 Electrical heating and cooking equipment.** Electrical cooking and heating equipment shall comply with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2404.16.1 General.** LP-gas equipment such as tanks, piping, hoses, fittings, valves, tubing and other related components shall be approved and in accordance with Chapter 38 ~~and with the International Fuel Gas California Mechanical Code.~~

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2404.23 Obstructions.** *Exits, aisles and passageways shall not be blocked or have their minimum clear width obstructed in any manner by ticket offices, turnstiles, concessions, chairs, equipment, animal chutes, poles or guy ropes, or anything whatsoever, nor shall they be blocked by persons for whom no seats are available.*

*In occupancies having fixed seating, and on request of the owner or manager, the enforcing agency may permit modifications from the provisions of this code to accommodate seating for handicapped persons using mechanical aids such as, but not limited to, walkers and wheelchairs.*

Authority Cited: Health and Safety Code Sections 13143, 13108.  
References: Health and Safety Code Sections 13143

## CHAPTER 25

### TIRE REBUILDING AND TIRE STORAGE

**(Note: This entire Chapter is not adopted.)**

Authority: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

## CHAPTER 26

### WELDING AND OTHER HOT WORK

**(Note: Adopt the entire chapter without amendments.)**

**2606.4 Emergency disconnect.** A switch or circuit breaker shall be provided so that fixed electric welders and control equipment can be disconnected from the supply circuit. The disconnect shall be installed in accordance with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

Authority: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143.

## CHAPTER 27

### HAZARDOUS MATERIALS—GENERAL PROVISIONS

(Note: Adopt entire Chapter with amendments.)

**2701.5.1 Hazardous Materials Management Plan.** Where required by the fire code official, each application for a permit shall include a Hazardous Materials Management Plan (HMMP). The HMMP shall include a facility site plan designating the following:

1. Storage and use areas.
2. Maximum amount of each material stored or used in each area.
3. Range of container sizes.
4. Locations of emergency isolation and mitigation valves and devices.
5. Product conveying piping containing liquids or gases, other than utility-owned fuel gas lines and low-pressure fuel gas lines.
6. On and off positions of valves for valves that are of the self-indicating type.
7. Storage plan showing the intended storage arrangement, including the location and dimensions of aisles.
8. The location and type of emergency equipment. The plans shall be legible and drawn approximately to scale. Separate distribution systems are allowed to be shown on separate pages.

**[For SFM] The HMMP shall comply with Health and Safety Code, Chapter 6.95, Sections 25500 through 25545, and Title 19, Division 2, Chapter 3.**

Authority Cited: Health and Safety Code Sections 13143.9.

References: Health and Safety Code Sections 13143

**2701.5.2 Hazardous Materials Inventory Statement (HMIS).** Where required by the fire code official, an applicant for a permit shall include an HMIS, such as SARA (Superfund Amendments and Reauthorization Act of 1986), Title III, Tier II Report, or other approved statement. The HMIS shall include the following information:

1. Manufacturer's name.
2. Chemical name, trade names, hazardous ingredients.
3. Hazard classification.
4. MSDS or equivalent.
5. United Nations (UN), North America (NA), or the Chemical Abstract Service (CAS) identification number.
6. Maximum quantity stored or used on-site at one time.
7. Storage conditions related to the storage type, temperature and pressure.

**[For SFM] The HMIS shall comply with Health and Safety Code, Chapter 6.95, Sections 25500 through 25545, and Title 19, Division 2, Chapter 4.**

Authority Cited: Health and Safety Code Sections 13143.9.

References: Health and Safety Code Sections 13143

**Table 2703.1.1(1)** (footnotes)

For SI: 1 cubic foot = 0.02832 m<sup>3</sup>, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

a. For use of control areas, see Section 2703.8.3.

b. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.

c. The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited providing the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs, consumer or industrial products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not

being flammable shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.

d. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.

e. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, day boxes, gas cabinets, exhausted enclosures or safety cans. Where Note d also applies, the increase for both notes shall be applied accumulatively.

f. Quantities shall not be limited in a building equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.

g. Allowed only in buildings equipped throughout with an approved automatic sprinkler system.

h. Containing not more than the maximum allowable quantity per control area of Class IA, Class IB or Class IC flammable liquids.

i. Inside a building, the maximum capacity of a combustible liquid storage system that is connected to a fuel-oil piping system shall be 660 gallons provided such system complies with this code.

j. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.

k. A maximum quantity of 200 pounds of solid or 20 gallons of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purposes, operation or sanitation of equipment when the storage containers and the manner of storage are approved.

l. Net weight of pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 percent of the gross weight of the fireworks including packaging shall be used.

m. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 2703.1.2.

n. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 2703.11, see Table 2703.11.1.

o. Densely-packed baled cotton that complies with the packing requirements of ISO 8115 shall not be included in this material class.

p. The following shall not be included in determining the maximum allowable quantities:

1. Liquid or gaseous fuel in fuel tanks on vehicles.

2. Liquid or gaseous fuel in fuel tanks on motorized equipment operated in accordance with this code.

3. Gaseous fuels in piping systems and fixed appliances regulated by the ~~International Fuel Gas~~ California Mechanical Code.

4. Liquid fuels in piping systems and fixed appliances, regulated by the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2703.2.2.2 Additional regulations for supply piping for health-hazard materials.** Supply piping and tubing for gases and liquids having a health-hazard ranking of 3 or 4 in accordance with NFPA704 shall be in accordance with ASME B31.3 and the following:

1. Piping and tubing utilized for the transmission of highly toxic, toxic or highly volatile corrosive liquids and gases shall have welded, threaded or flanged connections throughout except for connections located within a ventilated enclosure if the material is a gas, or an approved method of drainage or containment is provided for connections if the material is a liquid.

2. Piping and tubing shall not be located within corridors, within any portion of a means of egress required to be enclosed in fire-resistance-rated construction or in concealed spaces in areas not classified as Group H occupancies.

**Exception:** Piping and tubing within the space defined by the walls of corridors and the floor or roof above or in concealed spaces above other occupancies when installed in accordance with Section 415.8.6.3 of the ~~International~~ California Building Code for Group H-5 occupancies.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2703.2.8 Seismic protection.** Machinery and equipment utilizing hazardous materials shall be braced and anchored in accordance with the seismic design requirements of the ~~International~~ California Building Code for the seismic design category in which the machinery or equipment is classified.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2703.7.3 Industrial trucks.** Powered industrial trucks used in areas designated as hazardous (classified) locations in accordance with the ~~ICC~~ California Electrical Code shall be listed and labeled for use in the environment intended in accordance with NFPA 505.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2703.8.1 Buildings.** Buildings, or portions thereof, in which hazardous materials are stored, handled or used shall be constructed in accordance with the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**Table 2703.8.2** (footnotes)

For SI: 1 pound = 0.454 kg, 1 cubic foot = 0.02832m<sup>3</sup>, 1 ton = 2000 lbs. = 907.2 kg.

a. For materials which are detonable, the distance to other buildings or lot lines shall be as specified in the ~~International~~ California Building Code. For materials classified as explosives, the required separation distances shall be as specified in Chapter 33.

b. "Maximum Allowable Quantity" means the maximum allowable quantity per control area set forth in Table 2703.1.1(1).

c. Limited to Division 1.4 materials and articles, including articles packaged for shipment, that are not regulated as an explosive under Bureau of Alcohol, Tobacco and Firearms regulations, or unpackaged articles used in process operations that do not propagate a detonation or deflagration between articles, providing the net explosive weight of individual articles does not exceed 1 pound.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2703.8.3.1 Construction requirements.** Control areas shall be separated from each other by fire barriers constructed in accordance with Section 706 of the ~~International~~ California Building Code or horizontal assemblies constructed in accordance with Section 711 of the ~~International~~ California Building Code, or both.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2703.8.4.1 Construction.** Gas rooms shall be protected with an automatic sprinkler system. Gas rooms shall be separated from the remainder of the building in accordance with the requirements of the ~~International~~ California Building Code based on the occupancy group into which it has been classified.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2703.8.4.2 Ventilation system.** The ventilation system for gas rooms shall be designed to operate at a negative pressure in relation to the surrounding area. Highly toxic and toxic gases shall also comply with Section 3704.2.2.6. The ventilation system shall be installed in accordance with the International California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2703.8.5.2 Ventilation.** The ventilation system for exhausted enclosures shall be designed to operate at a negative pressure in relation to the surrounding area. Ventilation systems used for highly toxic and toxic gases shall also comply with Items 1, 2 and 3 of Section 3704.1.2. The ventilation system shall be installed in accordance with the International California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2703.8.6.2 Ventilation.** The ventilation system for gas cabinets shall be designed to operate at a negative pressure in relation to the surrounding area. Ventilation systems used for highly toxic and toxic gases shall also comply with Items 1, 2 and 3 of Section 3704.1.2. The ventilation system shall be installed in accordance with the International California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2703.8.7.1 Construction.** The interior of cabinets shall be treated, coated or constructed of materials that are nonreactive with the hazardous material stored. Such treatment, coating or construction shall include the entire interior of the cabinet. Cabinets shall either be listed in accordance with UL 1275 as suitable for the intended storage or constructed in accordance with the following:

1. Cabinets shall be of steel having a thickness of not less than 0.0478 inch (1.2 mm) (No. 18 gage). The cabinet, including the door, shall be double walled with a 1.5-inch (38 mm) airspace between the walls. Joints shall be riveted or welded and shall be tight fitting. Doors shall be well fitted, self-closing and equipped with a self-latching device.
2. The bottoms of cabinets utilized for the storage of liquids shall be liquid tight to a minimum height of 2 inches (51 mm).

Electrical equipment and devices within cabinets used for the storage of hazardous gases or liquids shall be in accordance with the ICC California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2703.9.4 Electrical wiring and equipment.** Electrical wiring and equipment shall be installed and maintained in accordance with the ICC California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**2703.9.9 Shelf storage.** Shelving shall be of substantial construction, and shall be braced and anchored in accordance with the seismic design requirements of the International California Building Code for the seismic zone in which the material is located. Shelving shall be treated, coated or constructed of materials that are compatible with the hazardous materials stored. Shelves shall be provided with a lip or guard when used for the storage of individual containers.

**Exceptions:**

1. Storage in hazardous material storage cabinets or laboratory furniture specifically designed for such use.
2. Storage of hazardous materials in amounts not requiring a permit in accordance with Section 2701.5.

Shelf storage of hazardous materials shall be maintained in an orderly manner.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2704.2.2.6 Drainage system design.** Drainage systems shall be in accordance with the ~~International~~ California *Plumbing Code* and all of the following:

1. The slope of floors to drains in indoor locations, or similar areas in outdoor locations shall not be less than 1 percent.
2. Drains from indoor storage areas shall be sized to carry the volume of the fire protection water as determined by the design density discharged from the automatic fire-extinguishing system over the minimum required system design area or area of the room or area in which the storage is located, whichever is smaller.
3. Drains from outdoor storage areas shall be sized to carry the volume of the fire flow and the volume of a 24-hour rainfall as determined by a 25-year storm.
4. Materials of construction for drainage systems shall be compatible with the materials stored.
5. Incompatible materials used in open systems shall be separated from each other in the drainage system.
6. Drains shall terminate in an approved location away from buildings, valves, means of egress, fire access roadways, adjoining property and storm drains.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2704.3.1 System Requirements.** Exhaust ventilation systems shall comply with all of the following:

1. Installation shall be in accordance with the ~~International~~ California *Mechanical Code*.
2. Mechanical ventilation shall be at a rate of not less than 1 cubic foot per minute per square foot [0.00508 m<sup>3</sup>/(sm<sup>2</sup>)] of floor area over the storage area.
3. Systems shall operate continuously unless alternative designs are approved.
4. A manual shutoff control shall be provided outside of the room in a position adjacent to the access door to the room or in an approved location. The switch shall be a break-glass or other approved type and shall be labeled "VENTILATION SYSTEM EMERGENCY SHUTOFF".

**Exception:** *[For SFM] When exhaust systems containing explosive, corrosive, combustible, flammable or highly toxic dusts, mists, fumes, vapors, or gases are 100 percent exhausted to the outside, an emergency ventilation system shutoff is not required.*

5. Exhaust ventilation shall be designed to consider the density of the potential fumes or vapors released. For fumes or vapors that are heavier than air, exhaust shall be taken from a point within 12 inches (305 mm) of the floor. For fumes or vapors that are lighter than air, exhaust shall be taken from a point within 12 inches (305 mm) of the highest point of the room.
6. The location of both the exhaust and inlet air openings shall be designed to provide air movement across all portions of the floor or room to prevent the accumulation of vapors.
7. Exhaust air shall not be recirculated to occupied areas if the materials stored are capable of emitting hazardous vapors and contaminants have not been removed. Air-contaminated with explosive or flammable vapors, fumes, or dusts; flammable, highly toxic or toxic gases; or radioactive materials shall not be recirculated.

Authority Cited: Health and Safety Code Sections 13143.9.

References: Health and Safety Code Sections 13143

**2704.7 Standby or emergency power.** Where mechanical ventilation, treatment systems, temperature control, alarm, detection or other electrically operated systems are required, such systems shall be provided with an emergency or standby power system in accordance with the ~~ICC~~ California Electrical Code and Section 604.

**Exceptions:**

1. Storage areas for Class 1 and 2 oxidizers.
2. Storage areas for Class III, IV and V organic peroxides.
3. For storage areas for highly toxic or toxic materials, see Sections 3704.2.2.8 and 3704.3.2.6.
4. Standby power for mechanical ventilation, treatment systems and temperature control systems shall not be required where an approved fail-safe engineered system is installed.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2704.13 Weather protection.** Where overhead noncombustible construction is provided for sheltering outdoor hazardous material storage areas, such storage shall not be considered indoor storage when the area is constructed in accordance with the requirements for weather protection as required by the ~~International~~ California Building Code.

**Exception:** Storage of explosive materials shall be considered as indoor storage.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2705.1.5 Standby or emergency power.** Where mechanical ventilation, treatment systems, temperature control, manual alarm, detection or other electrically operated systems are required, such systems shall be provided with an emergency or standby power system in accordance with the ~~ICC~~ California Electrical Code and Section 604.

**Exceptions:**

1. Standby power for mechanical ventilation, treatment systems and temperature control systems shall not be required where an approved fail-safe engineered system is installed.
2. Systems for highly toxic or toxic gases shall be provided with emergency power in accordance with Sections 3704.2.2.8 and 3704.3.2.6.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2705.2 Indoor dispensing and use.** Indoor dispensing and use of hazardous materials shall be in buildings complying with the ~~International~~ California Building Code and in accordance with Section 2705.1 and Sections 2705.2.1 through 2705.2.2.5.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2705.3.9 Weather protection.** Where overhead noncombustible construction is provided for sheltering outdoor hazardous material use areas, such use shall not be considered indoor use when the area is constructed in accordance with the requirements for weather protection as required in the ~~International~~ California Building Code.

**Exception:** Use of explosive materials shall be considered as indoor use.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

## CHAPTER 28

### AEROSOLS

**(Note: Adopt entire Chapter without amendments.)**

**2801.1 Scope.** The provisions of this chapter, the ~~International~~ *California Building Code* and NFPA 30B shall apply to the manufacturing, storage and display of aerosol products. Manufacturing of aerosol products using hazardous materials shall also comply with Chapter 27.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

## CHAPTER 29

### COMBUSTIBLE FIBERS

**(Note: Adopt entire Chapter with amendments.)**

**2903.5 Dust collection.** Where located within a building, equipment or machinery which generates or emits combustible fibers shall be provided with an approved dust-collecting and exhaust system. Such systems shall comply with ~~Chapter 13 and Section 511 of the~~ *International California Mechanical Code*.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**2904.3 Storage of more than 100 cubic feet to 500 cubic feet.** Loose combustible fibers in quantities exceeding 100 cubic feet (3 m<sup>3</sup>) but not exceeding 500 cubic feet (14 m<sup>3</sup>) shall be stored in rooms enclosed with 1-hour fire-resistance-rated fire barriers, with openings protected by an approved opening protective assembly having a fire protection rating of 3/4 hour, constructed in accordance with the *International California Building Code*.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2904.4 Storage of more than 500 cubic feet to 1,000 cubic feet.** Loose combustible fibers in quantities exceeding 500 cubic feet (14 m<sup>3</sup>) but not exceeding 1,000 cubic feet (28 m<sup>3</sup>) shall be stored in rooms enclosed with 2-hour fire-resistance-rated fire barriers, with openings protected by an approved opening protective assembly having a fire protection rating of 1 1/2 hours, and constructed in accordance with the *International California Building Code*.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**2904.5 Storage of more than 1,000 cubic feet.** Loose combustible fibers in quantities exceeding 1,000 cubic feet (28 m<sup>3</sup>) shall be stored in rooms enclosed with 2-hour fire-resistance-rated fire barriers, with openings protected by

an approved opening protective assembly having a fire protection rating of 1 1/2 hours, and constructed in accordance with the ~~International~~ California Building Code. The storage room shall be protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

## CHAPTER 30

### COMPRESSED GASES

**(Note: Adopt entire Chapter without amendments.)**

**3001.1 Scope.** Storage, use and handling of compressed gases in compressed gas containers, cylinders, tanks and systems shall comply with this chapter, including those gases regulated elsewhere in this code. Partially full compressed gas containers, cylinders or tanks containing residual gases shall be considered as full for the purposes of the controls required.

**Exceptions:**

1. Gases used as refrigerants in refrigeration systems (see Section 606).
2. Compressed natural gas (CNG) for use as a vehicular fuel shall comply with Chapter 22, NFPA 52 and the ~~International Fuel Gas~~ California Mechanical Code.

Cutting and welding gases shall also comply with Chapter 26.

Cryogenic fluids shall also comply with Chapter 32. Liquefied natural gas for use as a vehicular fuel shall also comply with NFPA 57 and NFPA 59A.

Compressed gases classified as hazardous materials shall also comply with Chapter 27 for general requirements and chapters addressing specific hazards, including Chapters 35 (Flammable Gases), 37 (Highly Toxic and Toxic Materials), 40 (Oxidizers) and 41 (Pyrophoric).

LP-gas shall also comply with Chapter 38 and the ~~International Fuel Gas~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3003.7.6 Heating.** Compressed gas containers, cylinders and tanks, whether full or partially full, shall not be heated by devices which could raise the surface temperature of the container, cylinder or tank to above 125°F (52°C). Heating devices shall comply with the ~~International~~ California Mechanical Code and the ~~ICC~~ California Electrical Code Approved heating methods involving temperatures of less than 125°F (52°C) are allowed to be used by trained personnel. Devices designed to maintain individual compressed gas containers, cylinders or tanks at constant temperature shall be approved and shall be designed to be fail safe.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3003.8 Wiring and equipment.** Electrical wiring and equipment shall comply with the ~~ICC~~ California Electrical Code. Compressed gas containers, cylinders, tanks and systems shall not be located where they could become part of an electrical circuit. Compressed gas containers, cylinders, tanks and systems shall not be used for electrical grounding.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3003.16.1 Listing required.** Vaults shall be listed by a nationally recognized testing laboratory.

**Exception:** Where approved by the fire code official, below-grade vaults are allowed to be constructed on site, provided that the design is in accordance with the *International Building Code* and that special inspections are conducted to verify structural strength and compliance of the installation with the approved design in accordance with Section 1707 of the *International California Building Code*. Installation plans for below-grade vaults that are constructed on site shall be prepared by, and the design shall bear the stamp of, a professional engineer. Consideration shall be given to soil and hydrostatic loading on the floors, walls and lid; anticipated seismic forces; uplifting by ground water or flooding; and to loads imposed from above, such as traffic and equipment loading on the vault lid.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3003.16.2 Design and construction.** The vault shall completely enclose generation, compression, storage or dispensing equipment located in the vault. There shall be no openings in the vault enclosure except those necessary for vault ventilation and access, inspection, filling, emptying or venting of equipment in the vault. The walls and floor of the vault shall be constructed of reinforced concrete at least 6 inches (152 mm) thick. The top of an above-grade vault shall be constructed of noncombustible material and shall be designed to be weaker than the walls of the vault to ensure that the thrust of any explosion occurring inside the vault is directed upward.

The top of an at- or below-grade vault shall be designed to relieve safely or contain the force of an explosion occurring inside the vault. The top and floor of the vault and the tank foundation shall be designed to withstand the anticipated loading, including loading from vehicular traffic, where applicable. The walls and floor of a vault installed below grade shall be designed to withstand anticipated soil and hydrostatic loading. Vaults shall be designed to be wind and earthquake resistant, in accordance with the *International California Building Code*.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3003.16.9 Ventilation.** Vaults shall be provided with an exhaust ventilation system installed in accordance with Section 2704.3. The ventilation system shall operate continuously or be designed to operate upon activation of the vapor or liquid detection system. The system shall provide ventilation at a rate of not less than 1 cubic foot per minute (cfm) per square foot of floor area [0.00508 m<sup>3</sup>/(s ⊕ m<sup>2</sup>)], but not less than 150 cfm [0.071 m<sup>3</sup>/(s ⊕ m<sup>2</sup>)]. The exhaust system shall be designed to provide air movement across all parts of the vault floor for gases having a density greater than air and across all parts of the vault ceiling for gases having a density less than air. Supply ducts shall extend to within 3 inches (76 mm), but not more than 12 inches (305 mm), of the floor. Exhaust ducts shall extend to within 3 inches (76 mm), but not more than 12 inches (305 mm) of the floor or ceiling, for heavier-than-air or lighter-than-air gases, respectively. The exhaust system shall be installed in accordance with the *International California Mechanical Code*.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3003.16.11 Liquid removal.** Means shall be provided to recover liquid from the vault. Where a pump is used to meet this requirement, it shall not be permanently installed in the vault. Electric-powered portable pumps shall be suitable for use in Class I, Division 1 locations, as defined in the *ICC California Electrical Code*.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3003.16.14 Classified area.** The interior of a vault containing a flammable gas shall be designated a Class I, Division 1 location, as defined in the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3005.5 Venting.** Venting of gases shall be directed to an approved location. Venting shall comply with the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3006.2.2 One-hour interior room.** When an exterior wall cannot be provided for the room, automatic sprinklers shall be installed within the room. The room shall be exhausted through a duct to the exterior. Supply and exhaust ducts shall be enclosed in a 1-hour-rated shaft enclosure from the room to the exterior. Approved mechanical ventilation shall comply with the ~~International~~ California Mechanical Code and be provided at a minimum rate of 1 cubic foot per minute per square foot [0.00508 m<sup>3</sup>/(s ⊕ m<sup>2</sup>)] of the area of the room.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

## CHAPTER 31

### CORROSIVE MATERIALS

(Note: Adopt entire Chapter with amendments.)

**3104.2.1 Above-ground outside storage tanks.** ~~When required by Section 2704.2.2~~ above-ground outside storage tanks ~~exceeding an aggregate quantity of 1,000 gallons (3785 L)~~ of corrosive liquids shall be provided with secondary containment ~~in accordance with Section 2704.2.2.~~

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

## CHAPTER 32

### CRYOGENIC FLUIDS

(Note: Adopt entire Chapter without amendments.)

**3203.1.2 Concrete containers.** Concrete containers shall be built in accordance with the ~~International~~ California Building Code. Barrier materials and membranes used in connection with concrete, but not functioning structurally, shall be compatible with the materials contained.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3203.5.2 Securing of containers.** Stationary containers shall be secured to foundations in accordance with the ~~International~~ California Building Code. Portable containers subject to shifting or upset shall be secured. Nesting shall be an acceptable means of securing containers.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3203.7 Electrical wiring and equipment.** Electrical wiring and equipment shall comply with the ~~ICC~~ California Electrical Code and Sections 3203.7.1 and 3203.7.2.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3203.7.2 Electrical grounding and bonding.** Containers and systems shall not be used for electrical grounding. When electrical grounding and bonding is required, the system shall comply with the ~~ICC~~ California Electrical Code. The grounding system shall be protected against corrosion, including corrosion caused by stray electric currents.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3204.2.1.2 Construction of indoor areas.** Cryogenic fluids in stationary containers stored indoors shall be located in buildings, rooms or areas constructed in accordance with the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3204.2.1.3 Ventilation.** Storage areas for stationary containers shall be ventilated in accordance with the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3204.2.2.2 Construction of indoor areas.** Cryogenic fluids in portable containers stored indoors shall be stored in buildings, rooms or areas constructed in accordance with the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3204.2.2.3 Ventilation.** Storage areas shall be ventilated in accordance with the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3204.3.1.1 Location.** Stationary containers shall be located in accordance with Section 3203.6. Containers of cryogenic fluids shall not be located within diked areas containing other hazardous materials. Storage of flammable cryogenic fluids in stationary containers outside of buildings is prohibited within the limits established by law as the limits of districts in which such storage is prohibited (see Section 3 of the Sample Ordinance for Adoption of the International California Fire Code on page v).

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3204.4.3 Depth, cover and fill.** The tank shall be buried such that the top of the vacuum jacket is covered with a minimum of 1 foot (305 mm) of earth and with concrete a minimum of 4 inches (102 mm) thick placed over the earthen cover. The concrete shall extend a minimum of 1 foot (305 mm) horizontally beyond the footprint of the tank in all directions. Underground tanks shall be set on firm foundations constructed in accordance with the International California Building Code and surrounded with at least 6 inches (152 mm) of noncorrosive inert material, such as sand.

**Exception:** The vertical extension of the vacuum jacket as required for service connections.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3205.4.1 Dispensing areas.** Dispensing of cryogenic fluids with physical or health hazards shall be conducted in approved locations. Dispensing indoors shall be conducted in areas constructed in accordance with the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3205.4.1.1 Ventilation.** Indoor areas where cryogenic fluids are dispensed shall be ventilated in accordance with the requirements of the International California Mechanical Code in a manner that captures any vapor at the point of generation.

**Exception:** Cryogenic fluids that can be demonstrated not to create harmful vapors.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

## CHAPTER 33

### EXPLOSIVES AND FIREWORKS

**(Note: Adopt this entire Chapter with amendments.)**

**3301.1 Scope.** ~~The provisions of this chapter shall govern the possession, manufacture, storage, handling, sale and use of explosives, explosive materials, fireworks and small arms ammunition. For explosives requirements see Title 19 California Code of Regulations Chapter 10. For fireworks requirements see Title 19 California Code of Regulations Chapter 6~~

**Exceptions:**

1. The Armed Forces of the United States, Coast Guard or National Guard.

2. Explosives in forms prescribed by the official United States Pharmacopoeia.
3. The possession, storage and use of small arms ammunition when packaged in accordance with DOTn packaging requirements.
4. The possession, storage, and use of not more than 1 pound (0.454 kg) of commercially manufactured sporting black powder, 20 pounds (9 kg) of smokeless powder and 10,000 small arms primers for hand loading of small arms ammunition for personal consumption.
- 5 4. The use of explosive materials by federal, state and local regulatory, law enforcement and fire agencies acting in their official capacities.
6. Special industrial explosive devices which in the aggregate contain less than 50 pounds (23 kg) of explosive materials.
7. The possession, storage and use of blank industrial power load cartridges when packaged in accordance with DOTn packaging regulations.
8. Transportation in accordance with DOTn 49 CFR Parts 100-178.
- 9 5. Items preempted by federal regulations.

Authority Cited: Health and Safety Code Sections 12081.  
References: Health and Safety Code Sections 12000 thru 12401

**3301.1.1 Explosive material standard.** In addition to the requirements of this chapter, NFPA 495 shall govern the manufacture, transportation, storage, sale, handling and use of explosive materials.

**3301.1.2 Explosive material terminals.** In addition to the requirements of this chapter, the operation of explosive material terminals shall conform to the provisions of NFPA 498.

**3301.1.3 Fireworks.** The possession, manufacture, storage, sale, handling and use of fireworks are prohibited.

**Exceptions:**

1. Storage and handling of fireworks as allowed in Section 3304.
2. Manufacture, assembly and testing of fireworks as allowed in Section 3305.
3. The use of fireworks for display as allowed in Section 3308.
4. The possession, storage, sale, handling and use of specific types of Division 1.4G fireworks where allowed by applicable laws, ordinances and regulations, provided such fireworks comply with, CPSC 16 CFR, Parts 1500 and 1507, and DOTn 49 CFR, Parts 100-178, for consumer fireworks.

**3301.1.4 Rocketry.** The storage, handling and use of model and high power rockets shall comply with the requirements of NFPA 1122, NFPA 1125, and NFPA 1127.

**3301.1.5 Ammonium nitrate.** The storage and handling of ammonium nitrate shall comply with the requirements of NFPA 490 and Chapter 40.

**Exception:** Storage of ammonium nitrate in magazines with blasting agents shall comply with the requirements of NFPA 495.

**3301.2 Permit required.** Permits shall be required as set forth in Section 105.6 and regulated in accordance with this section.

**3301.2.1 Residential uses.** No person shall keep or store, nor shall any permit be issued to keep or store, any explosives at any place of habitation, or within 100 feet (30 480 mm) thereof.

**Exception:** Storage of smokeless propellant, black powder, and small arms primers for personal use and not for resale in accordance with Section 3306.

**3301.2.2 Sale and retail display.** No person shall construct a retail display nor offer for sale explosives, explosive materials, or fireworks upon highways, sidewalks, public property, or in Group A or E occupancies.

**3301.2.3 Permit restrictions.** The fire code official is authorized to limit the quantity of explosives, explosive materials, or fireworks permitted at a given location. No person, possessing a permit for storage of explosives at any place, shall keep or store an amount greater than authorized in such permit. Only the kind of explosive specified in such a permit shall be kept or stored.

**3301.2.4 Financial responsibility.** Before a permit is issued, as required by Section 3301.2, the applicant shall file with the jurisdiction a corporate surety bond in the principal sum of \$100,000 or a public liability insurance policy for the same amount, for the purpose of the payment of all damages to persons or property which arise from, or are caused by, the conduct of any act authorized by the permit upon which any judicial judgment results. The fire code official is authorized to specify a greater or lesser amount when, in his or her opinion, conditions at the location of use indicate a greater or lesser amount is required. Government entities shall be exempt from this bond requirement.

**3301.2.4.1 Blasting.** Before approval to do blasting is issued, the applicant for approval shall file a bond or submit a certificate of insurance in such form, amount and coverage as determined by the legal department of the jurisdiction to be adequate in each case to indemnify the jurisdiction against any and all damages arising from permitted blasting.

**3301.2.4.2 Fireworks display.** The permit holder shall furnish a bond or certificate of insurance in an amount deemed adequate by the fire code official for the payment of all potential damages to a person or persons or to property by reason of the permitted display, and arising from any acts of the permit holder, the agent, employees or subcontractors.

**3301.3 Prohibited explosives.** Permits shall not be issued or renewed for possession, manufacture, storage, handling, sale or use of the following materials and such materials currently in storage or use shall be disposed of in an approved manner:

1. Liquid nitroglycerin.
  2. Dynamite containing more than 60 percent liquid explosive ingredient.
  3. Dynamite having an unsatisfactory absorbent or one that permits leakage of a liquid explosive ingredient under any conditions liable to exist during storage.
  4. Nitrocellulose in a dry and uncompressed condition in a quantity greater than 10 pounds (4.54 kg) of net weight in one package.
  5. Fulminate of mercury in a dry condition and fulminate of all other metals in any condition except as a component of manufactured articles not hereinafter forbidden.
  6. Explosive compositions that ignite spontaneously or undergo marked decomposition, rendering the products of their use more hazardous, when subjected for 48 consecutive hours or less to a temperature of 167°F (75°C).
  7. New explosive materials until approved by DOTn, except that permits are allowed to be issued to educational, governmental or industrial laboratories for instructional or research purposes.
  8. Explosive materials condemned by DOTn.
  9. Explosive materials containing an ammonium salt and a chlorate.
  10. Explosives not packed or marked as required by DOTn
- 49 CFR, Parts 100-178.

**Exception:** Gelatin dynamite.

**3301.4 Qualifications.** Persons in charge of magazines, blasting, fireworks display, or pyrotechnic special effect operations shall not be under the influence of alcohol or drugs which impair sensory or motor skills, shall be at least 21 years of age, and shall demonstrate knowledge of all safety precautions related to the storage, handling or use of explosives, explosive materials or fireworks.

**3301.5 Supervision.** The fire code official is authorized to require operations permitted under the provisions of Section 3301.2 to be supervised at any time by the fire code official in order to determine compliance with all safety and fire regulations.

**3301.6 Notification.** Whenever a new explosive material storage or manufacturing site is established, including a temporary job site, the local law enforcement agency, fire department, and local emergency planning committee shall be notified 48 hours in advance, not including Saturdays, Sundays and holidays, of the type, quantity and location of explosive materials at the site.

**3301.7 Seizure.** The fire code official is authorized to remove or cause to be removed or disposed of in an approved manner, at the expense of the owner, explosives, explosive materials or fireworks offered or exposed for sale, stored, possessed or used in violation of this chapter.

**3301.8 Establishment of quantity of explosives and distances.** The quantity of explosives and distances shall be in accordance with Sections 3301.8.1 and 3301.8.1.1.

**3301.8.1 Quantity of explosives.** The quantity distance (Q-D) tables in Sections 3304.5 and 3305.3 shall be used to provide the minimum separation distances from potential explosion sites as set forth in Tables 3301.8.1(1) through 3301.8.1(3). The classification and the weight of the explosives are primary characteristics governing the use of these tables. The net explosive weight shall be determined in accordance with Sections 3301.8.1.1 through 3301.8.1.4.

**3301.8.1.1 Mass-detonating explosives.** The total net explosive weight of Division 1.1, 1.2 or 1.5 explosives shall be used. See Table 3304.5.2(2) or Table 3305.3 as appropriate.

**Exception:** When the TNT equivalence of the explosive material has been determined, the equivalence is allowed to be used to establish the net explosive weight.

**3301.8.1.2 Nonmass-detonating explosives (excluding Division 1.4).** Nonmass-detonating explosives shall be as follows:

1. Division 1.3 propellants. The total weight of the propellants alone shall be the net explosive weight. The net weight of propellant shall be used. See Table 3304.5.2(3).
2. Combinations of bulk metal powder and pyrotechnic compositions. The sum of the net weights of metal powders and pyrotechnic compositions in the containers shall be the net explosive weight. See Table 3304.5.2(3).

#### **TABLE 3301.8.1(1)**

#### **TABLE 3301.8.1(2)**

#### **TABLE 3301.8.1(3)**

**3301.8.1.3 Combinations of mass-detonating and nonmass-detonating explosives (excluding Division**

**1.4).** Combination of mass-detonating and nonmass-detonating explosives shall be as follows:

1. When Division 1.1 and 1.2 explosives are located in the same site, determine the distance for the total quantity considered first as 1.1 and then as 1.2. The required distance is the greater of the two. When the Division 1.1 requirements are controlling and the TNT equivalence of the 1.2 is known, the TNT equivalent weight of the 1.2 items shall be allowed to be added to the total explosive weight of Division 1.1 items to determine the net explosive weight for Division 1.1 distance determination. See Table 3304.5.2(3) or Table 3305.3 as appropriate.
2. When Division 1.1 and 1.3 explosives are located in the same site, determine the distances for the total quantity considered first as 1.1 and then as 1.3. The required distance is the greater of the two. When the Division 1.1 requirements are controlling and the TNT equivalence of the 1.3 is known, the TNT equivalent weight of the 1.3 items shall be allowed to be added to the total explosive weight of Division 1.1 items to determine the net explosive weight for Division 1.1 distance determination. See Table 3304.5.2(2), 3304.5.2(3) or 3305.3, as appropriate.
3. When Division 1.1, 1.2 and 1.3 explosives are located in the same site, determine the distances for the total quantity considered first as 1.1, next as 1.2 and finally as 1.3. The required distance is the greatest of the three. As allowed by paragraphs 1 and 2 above, TNT equivalent weights for 1.2 and 1.3 items are allowed to be used to determine the net weight of explosives for Division 1.1 distance determination. Table 3304.5.2(2) or 3305.3 shall be used when TNT equivalency is used to establish the net explosive weight.
4. For composite pyrotechnic items Division 1.1 and Division 1.3, the sum of the net weights of the pyrotechnic composition and the explosives involved shall be used. See Tables 3304.5.2(2) and 3304.5.2(3).

**3301.8.1.4 Moderate fire — no blast hazards.** Division 1.4 explosives. The total weight of the explosive material alone is the net weight. The net weight of the explosive material shall be used.

### **SECTION 3302 DEFINITIONS**

**3302.1 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.

**AMMONIUM NITRATE.** A chemical compound represented by the formula  $NH_4NO_3$ .

**BARRICADE.** A structure that consists of a combination of walls, floor and roof, which is designed to withstand the rapid release of energy in an explosion and which is fully confined, partially vented or fully vented; or other effective method of shielding from explosive materials by a natural or artificial barrier.

**Artificial barricade.** An artificial mound or revetment a minimum thickness of 3 feet (914 mm).

**Natural barricade.** Natural features of the ground, such as hills, or timber of sufficient density that the surrounding exposures that require protection cannot be seen from the magazine or building containing explosives when the trees are bare of leaves.

**BARRICADED.** The effective screening of a building containing explosive materials from the magazine or other building, railway, or highway by a natural or an artificial barrier. A straight line from the top of any sidewall of the building containing explosive materials to the eave line of any magazine or other building or to a point 12 feet (3658 mm) above the center of a railway or highway shall pass through such barrier.

**BLAST AREA.** The area including the blast site and the immediate adjacent area within the influence of flying rock, missiles and concussion.

**BLASTSITE.** The area in which explosive materials are being or have been loaded and which includes all holes loaded or to be loaded for the same blast and a distance of 50 feet (15 240 mm) in all directions.

**BLASTER.** A person qualified in accordance with Section 3301.4 to be in charge of and responsible for the loading and firing of a blast.

**BLASTINGAGENT.** A material or mixture consisting of fuel and oxidizer, intended for blasting provided that the finished product, as mixed for use or shipment, cannot be detonated by means of a No. 8 test detonator when unconfined. Blasting agents are labeled and placarded as Class 1.5 material by US DOTn.

**BULLET RESISTANT.** Constructed so as to resist penetration of a bullet of 150 grain M2ball ammunition having a nominal muzzle velocity of 2,700 feet per second (fps) (824 mps) when fired from a 30 caliber rifle at a distance of 100 feet (30 480 mm), measured perpendicular to the target.

**DETONATING CORD.** A flexible cord containing a center core of high explosive used to initiate other explosives.

**DETONATION.** An exothermic reaction characterized by the presence of a shock wave in the material which establishes and maintains the reaction. The reaction zone progresses through the material at a rate greater than the velocity of sound. The principal heating mechanism is one of shock compression. Detonations have an explosive effect.

**DETONATOR.** A device containing any initiating or primary explosive that is used for initiating detonation. A detonator shall not contain more than 154.32 grains (10 grams) of total explosives by weight, excluding ignition or delay charges. The term includes, but is not limited to, electric blasting caps of instantaneous and delay types, blasting caps for use with safety fuses, detonating cord delay connectors, and noninstantaneous and delay blasting caps which use detonating cord, shock tube or any other replacement for electric leg wires. All types of detonators in strengths through No. 8 cap should be rated at 1.5 pounds (0.68 kg) of explosives per 1,000 caps. For strengths higher than No. 8 cap, consult the manufacturer.

**DISCHARGE SITE.** The immediate area surrounding the fireworks mortars used for an outdoor fireworks display.

**DISPLAY SITE.** The immediate area where a fireworks display is conducted. The display area includes the discharge site, the fallout area, and the required separation distance from the mortars to spectator viewing areas. The display area does not include spectator viewing areas or vehicle parking areas.

**EXPLOSIVE.** A chemical compound, mixture or device, the primary or common purpose of which is to function by explosion. The term includes, but is not limited to, dynamite, black powder, pellet powder, initiating explosives, detonators, safety fuses, squibs, detonating cord, igniter cord, igniters and display fireworks, 1.3G (Class B, Special). The term "explosive" includes any material determined to be within the scope of USC Title 18: Chapter 40 and also includes any material classified as an explosive other than consumer fireworks, 1.4G (Class C, Common) by the hazardous materials regulations of DOTn 49 CFR.

**High explosive.** Explosive material, such as dynamite, which can be caused to detonate by means of a No. 8 test blasting cap when unconfined.

**Low explosive.** Explosive material that will burn or deflagrate when ignited. It is characterized by a rate of reaction that is less than the speed of sound. Examples of low explosives include, but are not limited to, black powder, safety fuse, igniters, igniter cord, fuse lighters, fireworks, 1.3G (Class B special) and propellants, 1.3C.

**Mass-detonating explosives.** Division 1.1, 1.2 and 1.5 explosives alone or in combination, or loaded into various types of ammunition or containers, most of which can be expected to explode virtually instantaneously when a small portion is subjected to fire, severe concussion, impact, the impulse of an initiating agent, or the effect of a considerable discharge of energy from without. Materials that react in this manner represent a mass explosion hazard. Such an explosive will normally cause severe structural damage to adjacent objects. Explosive propagation could occur immediately to other items of ammunition and explosives stored sufficiently close to and not adequately protected from the initially exploding pile with a time interval short enough so that two or more quantities must be considered as one for quantity distance purposes.

**UN/DOtn Class 1 explosives.** The former classification system used by DOtn included the terms "high" and "low" explosives as defined herein. The following terms further define explosives under the current system applied by DOtn for all explosive materials defined as hazard Class 1 materials. Compatibility group letters are used in concert with the Division to specify further limitations on each division noted, (i.e., the letter identifies the material as a pyrotechnic substance or article containing a pyrotechnic substance and similar materials).

**Division 1.1.** Explosives that have a mass explosion hazard. A mass explosion is one which affects almost the entire load instantaneously.

**Division 1.2.** Explosives that have a projection hazard but not a mass explosion hazard.

**Division 1.3.** Explosives that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.

**Division 1.4.** Explosives that pose a minor explosion hazard. The explosive effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package.

**Division 1.5.** Very insensitive explosives. This division is comprised of substances that have a mass explosion hazard but which are so insensitive that there is very little probability of initiation or of transition from burning to detonation under normal conditions of transport.

**Division 1.6.** Extremely insensitive articles which do not have a mass explosion hazard. This division is comprised of articles that contain only extremely insensitive detonating substances and which demonstrate a negligible probability of accidental initiation or propagation.

**EXPLOSIVE MATERIAL.** The term "explosive" material means explosives, blasting agents, and detonators.

**FALLOUT AREA.** The area over which aerial shells are fired. The shells burst over the area, and unsafe debris and malfunctioning aerial shells fall into this area. The fallout area is the location where a typical aerial shell dud falls to the ground depending on the wind and the angle of mortar placement.

**FIREWORKS.** Any composition or device for the purpose of producing a visible or an audible effect for entertainment purposes by combustion, deflagration or detonation that meets the definition of 1.4G fireworks or 1.3G fireworks as set forth herein.

**Fireworks, 1.4G.** (Formerly known as Class C, Common Fireworks.) Small fireworks devices containing restricted amounts of pyrotechnic composition designed primarily to produce visible or audible effects by combustion. Such 1.4G fireworks which comply with the construction, chemical composition and labeling regulations of the DOtn for Fireworks, UN 0336, and the U.S. Consumer Product Safety Commission as set forth in CPSC 16 CFR: Parts 1500 and 1507, are not explosive materials for the purpose of this code.

**Fireworks, 1.3G.** (Formerly Class B, Special Fireworks.) Large fireworks devices, which are explosive materials, intended for use in fireworks displays and designed to produce audible or visible effects by combustion, deflagration or detonation. Such 1.3G fireworks include, but are not limited to, firecrackers containing more than 130 milligrams (2 grains) of explosive composition, aerial shells containing more than 40 grams of pyrotechnic composition, and other display pieces which exceed the limits for classification as 1.4G fireworks. Such 1.3G fireworks, are also described as Fireworks, UN0335 by the DOtn.

**FIREWORKS DISPLAY.** A presentation of fireworks for a public or private gathering.

**HIGHWAY.** A public street, public alley or public road.

**INHABITED BUILDING.** A building regularly occupied in whole or in part as a habitation for people, or any place of religious worship, schoolhouse, railroad station, store or other structure where people are accustomed to assemble, except any building or structure occupied in connection with the manufacture, transportation, storage or use of explosive materials.

**MAGAZINE.** A building, structure or container, other than an operating building, approved for storage of explosive materials.

**Indoor.** A portable structure, such as a box, bin or other container, constructed as required for Type 2, 4 or 5 magazines in accordance with NFPA 495, NFPA 1124 or DOTy 27 CFR Part 55 so as to be fire resistant and theft resistant.

**Type 1.** A permanent structure, such as a building or igloo, that is bullet resistant, fire resistant, theft resistant, weather resistant and ventilated in accordance with the requirements of NFPA 495, NFPA 1124, or DOTy 27 CFR Part 55.

**Type 2.** A portable or mobile structure, such as a box, skid magazine, trailer or semitrailer, constructed in accordance with the requirements of NFPA 495, NFPA 1124 or DOTy 27 CFR, Part 55 that is fire resistant, theft resistant, weather resistant and ventilated. If used outdoors, a Type 2 magazine is also bullet resistant.

**Type 3.** A fire resistant, theft resistant and weather resistant "day box" or portable structure constructed in accordance with NFPA 495, NFPA 1124, or DOTy 27 CFR Part 55 used for the temporary storage of explosive materials.

**Type 4.** A permanent, portable or mobile structure such as a building, igloo, box, semitrailer or other mobile container that is fire resistant, theft resistant and weather resistant and constructed in accordance with NFPA 495, NFPA 1124, or DOTy 27 CFR, Part 55.

**Type 5.** A permanent, portable or mobile structure such as a building, igloo, box, bin, tank, semitrailer, bulk trailer, tank trailer, bulk truck, tank truck or other mobile container that is theft resistant, which is constructed in accordance with NFPA 495, NFPA 1124, or DOTy 27 CFR, Part 55.

**MORTAR.** A tube from which fireworks shells are fired into the air.

**NET EXPLOSIVE WEIGHT (net weight).** The weight of explosive material expressed in pounds. The net explosive weight is the aggregate amount of explosive material contained within buildings, magazines, structures or portions thereof, used to establish quantity distance relationships.

**OPERATING BUILDING.** A building occupied in conjunction with the manufacture, transportation, or use of explosive materials. Operating buildings are separated from one another with the use of intraplant or intraline distances.

**OPERATING LINE.** A group of buildings, facilities or workstations so arranged as to permit performance of the steps in the manufacture of an explosive or in the loading, assembly, modification and maintenance of ammunition or devices containing explosive materials.

**PLOSOPHORIC MATERIAL.** Two or more unmixed, commercially manufactured, prepackaged chemical substances including oxidizers, flammable liquids or solids, or similar substances that are not independently classified as explosives but which, when mixed or combined, form an explosive that is intended for blasting.

**PROXIMATE AUDIENCE.** An audience closer to pyrotechnic devices than allowed by NFPA 1123.

**PUBLIC TRAFFIC ROUTE (PTR).** Any public street, road, highway, navigable stream or passenger railroad that is used for through traffic by the general public.

**PYROTECHNIC COMPOSITION.** A chemical mixture that produces visible light displays or sounds through a self-propagating, heat-releasing chemical reaction which is initiated by ignition.

**PYROTECHNIC SPECIAL EFFECT.** A visible or audible effect for entertainment created through the use of pyrotechnic materials and devices.

**PYROTECHNIC SPECIAL-EFFECT MATERIAL.** A chemical mixture used in the entertainment industry, to produce visible or audible effects by combustion, deflagration or detonation. Such a chemical mixture predominantly consists

of solids capable of producing a controlled, self-sustaining and self-contained exothermic chemical reaction that results in heat, gas sound, light or a combination of these effects. The chemical reaction functions without external oxygen.

**QUANTITY-DISTANCE (Q-D).** The quantity of explosive material and separation distance relationships providing protection. These relationships are based on levels of risk considered acceptable for the stipulated exposures and are tabulated in the appropriate Q-D tables. The separation distances specified afford less than absolute safety:

**Minimum separation distance (Do).** The minimum separation distance between adjacent buildings occupied in conjunction with the manufacture, transportation, storage or use of explosive materials where one of the buildings contains explosive materials and the other building does not.

**Intraline distance (ILD) or Intraplant distance (IPD).** The distance to be maintained between any two operating buildings on an explosives manufacturing site when at least one contains or is designed to contain explosives, or the distance between a magazine and an operating building.

**Inhabited building distance (IBD).** The minimum separation distance between an operating building or magazine containing explosive materials and an inhabited building or site boundary.

**Intermagazine distance (IMD).** The minimum separation distance between magazines.

**RAILWAY.** A steam, electric or other railroad or railway that carries passengers for hire.

**READY BOX.** A weather resistant container with a self closing or automatic closing cover that protects fireworks shells from burning debris. Tarpaulins shall not be considered as ready boxes.

**SMALL ARMS AMMUNITION.** A shotgun, rifle or pistol cartridge and any cartridge for propellant actuated devices. This definition does not include military ammunition containing bursting charges or incendiary, trace, spotting or pyrotechnic projectiles.

**SMALL ARMS PRIMERS.** Small percussion sensitive explosive charges, encased in a cap, used to ignite propellant powder.

**SMOKELESS PROPELLANTS.** Solid propellants, commonly referred to as smokeless powders, used in small arms ammunition, cannons, rockets, propellant actuated devices and similar articles.

**SPECIAL INDUSTRIAL EXPLOSIVE DEVICE.** An explosive power pack containing an explosive charge in the form of a cartridge or construction device. The term includes but is not limited to explosive rivets, explosive bolts, explosive charges for driving pins or studs, cartridges for explosive actuated power tools and charges of explosives used in automotive air bag inflators, jet tapping of open hearth furnaces and jet perforation of oil well casings.

**THEFT RESISTANT.** Construction designed to deter illegal entry into facilities for the storage of explosive materials.

## **SECTION 3303**

### **RECORD KEEPING AND REPORTING**

**3303.1 General.** Records of the receipt, handling, use or disposal of explosive materials, and reports of any accidents, thefts, or unauthorized activities involving explosive materials shall conform to the requirements of this section.

**3303.2 Transaction record.** The permittee shall maintain a record of all transactions involving receipt, removal, use or disposal of explosive materials. Such a record shall be maintained for a period of five years, and shall be furnished to the fire code official for inspection upon request.

**Exception:** Where only Division 1.4G (consumer fireworks) are handled, records need only be maintained for a period of three years.

**3303.3 Loss, theft or unauthorized removal.** The loss, theft or unauthorized removal of explosive materials from a magazine or permitted facility shall be reported to the fire code official, local law enforcement authorities, and the U.S. Department of Treasury, Bureau of Alcohol, Tobacco and Firearms within 24 hours.

**Exception:** Loss of Division 1.4G (consumer fireworks) need not be reported to the Bureau of Alcohol, Tobacco and Firearms.

**3303.4 Accidents.** Accidents involving the use of explosives, explosive materials and fireworks, which result in injuries or property damage, shall be reported to the fire code official immediately.

**3303.5 Misfires.** The pyrotechnic display operator or blaster in charge shall keep a record of all aerial shells that fail to fire or charges that fail to detonate.

**3303.6 Hazard communication.** Manufacturers of explosive materials and fireworks shall maintain records of chemicals, chemical compounds and mixtures required by DOL 29 CFR, Part 1910.1200, and Section 407.

**3303.7 Safety rules.** Current safety rules covering the operation of magazines, as described in Section 3304.7, shall be posted on the interior of the magazine in a visible location.

## **SECTION 3304 EXPLOSIVE MATERIALS STORAGE AND HANDLING**

**3304.1 General.** Storage of explosives and explosive materials, small arms ammunition, small arms primers, propellant actuated cartridges and smokeless propellants in magazines, shall comply with the provisions of this section.

**3304.2 Magazine required.** Explosives and explosive materials, and Division 1.3G fireworks shall be stored in magazines constructed, located, operated and maintained in accordance with the provisions of Section 3304 and NFPA 495 or NFPA 1124.

### **Exceptions:**

1. Storage of fireworks at display sites in accordance with Section 3308.5 and NFPA 1123 or NFPA 1126.
2. Portable or mobile magazines not exceeding 120 square feet (11 m<sup>2</sup>) in area shall not be required to comply with the requirements of the *International Building Code*.

## **TABLE 3304.3**

**3304.3 Magazines.** The storage of explosives and explosive materials in magazines shall comply with Table 3304.3.

**3304.3.1 High explosives.** Explosive materials classified as Division 1.1 or 1.2 or formerly classified as Class A by the U.S. Department of Transportation shall be stored in Type 1, 2 or 3 magazines.

### **Exceptions:**

1. Black powder shall be stored in a Type 1, 2, 3 or 4 magazine.
2. Cap sensitive explosive material that is demonstrated not to be bullet sensitive, shall be stored in a Type 1, 2, 3, 4 or 5 magazine.

**3304.3.2 Low explosives.** Explosive materials that are not cap sensitive shall be stored in a Type 1, 2, 3, 4 or 5 magazine.

**3304.3.3 Detonating cord.** For quantity and distance purposes, detonating cord of 50 grains per foot shall be calculated as equivalent to 8 pounds (4 kg) of high explosives per 1,000 feet (305 m). Heavier or lighter core loads shall be rated proportionally.

**3304.4 Prohibited storage.** Detonators shall be stored in a separate magazine for blasting supplies and shall not be stored in a magazine with other explosive materials.

**3304.5 Location.** The use of magazines for storage of explosives and explosive materials shall comply with Sections 3304.5.1 through 3304.5.3.3.

**3304.5.1 Indoor magazines.** The use of indoor magazines for storage of explosives and explosive materials shall comply with the requirements of this section.

~~3304.5.1.1 Use. The use of indoor magazines for storage of explosives and explosive materials shall be limited to occupancies of Group F, H, M or S, and research and development laboratories.~~

~~3304.5.1.2 Construction. Indoor magazines shall comply with the following construction requirements:~~

- ~~1. Construction shall be fire resistant and theft resistant.~~
- ~~2. Exterior shall be painted red.~~
- ~~3. Base shall be fitted with wheels, casters or rollers to facilitate removal from the building in an emergency.~~
- ~~4. Lid or door shall be marked with conspicuous white lettering not less than 3 inches (76 mm) high and minimum 1/2 inch (12.7 mm) stroke, reading~~

~~EXPLOSIVES — KEEP FIRE AWAY.~~

- ~~5. The least horizontal dimension shall not exceed the clear width of the entrance door.~~

~~3304.5.1.3 Quantity limit. Not more than 50 pounds (23 kg) of explosives or explosive materials shall be stored within an indoor magazine.~~

~~Exception: Day boxes used for the storage of in-process material in accordance with Section 3305.6.4.1.~~

~~3304.5.1.4 Prohibited use. Indoor magazines shall not be used within buildings containing Group R occupancies.~~

~~3304.5.1.5 Location. Indoor magazines shall be located within 10 feet (3048 mm) of an entrance and only on floors at or having ramp access to the exterior grade level.~~

~~3304.5.1.6 Number. Not more than two indoor magazines shall be located in the same building. Where two such magazines are located in the same building, one magazine shall be used solely for the storage of not more than 5,000 detonators.~~

~~3304.5.1.7 Separation distance. When two magazines are located in the same building, they shall be separated by a distance of not less than 10 feet (3048 mm).~~

~~3304.5.2 Outdoor magazines. All outdoor magazines other than Type 3 shall be located so as to comply with Table 3304.5.2(2) or Table 3304.5.2(3) as set forth in Tables 3301.8.1(1) through 3301.8.1(3). Where a magazine or group of magazines, as described in Section 3304.5.2.2, contains different classes of explosive materials, and Division 1.1 materials are present, the required separations for the magazine or magazine group as a whole shall comply with Table 3304.5.2(2).~~

~~TABLE 3304.5.2(1)~~

~~TABLE 3304.5.2(2)~~

~~TABLE 3304.5.2(3)~~

~~3304.5.2.1 Separation. Where two or more storage magazines are located on the same property, each magazine shall comply with the minimum distances specified from inhabited buildings, public transportation routes and operating buildings. Magazines shall be separated from each other by not less than the intermagazine distances (IMD) shown for the separation of magazines.~~

~~3304.5.2.2 Grouped magazines. Where two or more magazines are separated from each other by less than the intermagazine distances (IMD), such magazines as a group shall be considered as one magazine and the total quantity of explosive materials stored in the group shall be treated as if stored in a single magazine. The location of the group of magazines shall comply with the intermagazine distances (IMD) specified from other magazines or magazine groups, inhabited buildings (IBD), public transportation routes (PTR) and operating buildings (ILD or IPD) as required.~~

~~3304.5.3 Special requirements for Type 3 magazines. Type 3 magazines shall comply with Sections 3304.5.3.1 through 3304.5.3.3.~~

~~3304.5.3.1 Location. Wherever practicable, Type 3 magazines shall be located away from neighboring inhabited buildings, railways, highways, and other magazines in accordance with Table 3304.5.2(2) or 3304.5.2(3) as applicable.~~

**3304.5.3.2 Supervision.** Type 3 magazines shall be attended when explosive materials are stored within. Explosive materials shall be removed to appropriate storage magazines for unattended storage at the end of the work day.

**3304.5.3.3 Use.** Not more than two Type 3 magazines shall be located at the same blasting site. Where two Type 3 magazines are located at the same blasting site, one magazine shall be used solely for the storage of detonators.

**3304.6 Construction.** Magazines shall be constructed in accordance with Sections 3304.6.1 through 3304.6.5.2.

**3304.6.1 Drainage.** The ground around a magazine shall be graded so that water drains away from the magazine.

**3304.6.2 Heating.** Magazines requiring heat shall be heated as prescribed in NFPA 495 by either hot water radiant heating within the magazine or by indirect warm air heating.

**3304.6.3 Lighting.** When lighting is necessary within a magazine, electric safety flashlights or electric safety lanterns shall be used, except as provided in NFPA 495.

**3304.6.4 Nonsparking materials.** In other than Type 5 magazines, there shall be no exposed ferrous metal on the interior of a magazine containing packages of explosives.

**3304.6.5 Signs and placards.** Property upon which Type 1 magazines and outdoor magazines of Types 2, 4 and 5 are located shall be posted with signs stating:  
EXPLOSIVES — KEEP OFF.

These signs shall be of contrasting colors with a minimum letter height of 3 inches (76 mm) with a minimum brush stroke of 0.5 inch (12.7 mm). The signs shall be located to minimize the possibility of a bullet shot at the sign hitting the magazine.

**3304.6.5.1 Access road signs.** At the entrance to explosive material manufacturing and storage sites, all access roads shall be posted with the following warning sign or other approved sign:

**DANGER!**  
NEVER FIGHT EXPLOSIVE FIRES.  
EXPLOSIVES ARE STORED ON THIS SITE  
CALL \_\_\_\_\_

The sign shall be weather resistant with a reflective surface and have lettering at least 2 inches (51 mm) high.

**3304.6.5.2 Placards.** Type 5 magazines containing Division 1.5 blasting agents shall be prominently placarded as required during transportation by DOTn 49 CFR, Part 172 and DOTy 27 CFR, Part 55.

**3304.7 Operation.** Magazines shall be operated in accordance with Sections 3304.7.1 through 3304.7.9.

**3304.7.1 Security.** Magazines shall be kept locked in the manner prescribed in NFPA 495 at all times except during placement or removal of explosives or inspection.

**3304.7.2 Open flames and lights.** Smoking, matches, flame-producing devices, open flames, firearms and firearms cartridges shall not be allowed inside of or within 50 feet (15 240 mm) of magazines.

**3304.7.3 Brush.** The area located around a magazine shall be kept clear of brush, dried grass, leaves, trash, debris, and similar combustible materials for a distance of 25 feet (7620 mm).

**3304.7.4 Combustible storage.** Combustible materials shall not be stored within 50 feet (15 240 mm) of magazines.

**3304.7.5 Unpacking and repacking explosive materials.** Containers of explosive materials, except fiberboard containers, and packages of damaged or deteriorated explosive materials or fireworks shall not be unpacked or repacked inside or within 50 feet (15 240 mm) of a magazine or in close proximity to other explosive materials.

**3304.7.5.1 Storage of opened packages.** Packages of explosive materials that have been opened shall be closed before being placed in a magazine.

**3304.7.5.2 Nonsparking tools.** Tools used for the opening and closing of packages of explosive materials, other than metal slitters for opening paper, plastic or fiberboard containers, shall be made of nonsparking materials.

**3304.7.5.3 Disposal of packaging.** Empty containers and paper and fiber packaging materials that previously contained explosive materials shall be disposed of or reused in an approved manner.

**3304.7.6 Tools and equipment.** Metal tools, other than nonferrous transfer conveyors and ferrous metal conveyor stands protected by a coat of paint, shall not be stored in a magazine containing explosive materials or detonators.

**3304.7.7 Contents.** Magazines shall be used exclusively for the storage of explosive materials, blasting materials and blasting accessories.

**3304.7.8 Compatibility.** Corresponding grades and brands of explosive materials shall be stored together and in such a manner that the grade and brand marks are visible. Stocks shall be stored so as to be easily counted and checked. Packages of explosive materials shall be stacked in a stable manner not exceeding 8 feet (2438 mm) in height.

**3304.7.9 Stock rotation.** When explosive material is removed from a magazine for use, the oldest usable stocks shall be removed first.

**3304.8 Maintenance.** Maintenance of magazines shall comply with Sections 3304.8.1 through 3304.8.3.

**3304.8.1 Housekeeping.** Magazine floors shall be regularly swept and be kept clean, dry and free of grit, paper, empty packages and rubbish. Brooms and other cleaning utensils shall not have any spark producing metal parts. Sweepings from magazine floors shall be disposed of in accordance with the manufacturers' approved instructions.

**3304.8.2 Repairs.** Explosive materials shall be removed from the magazine before making repairs to the interior of a magazine. Explosive materials shall be removed from the magazine before making repairs to the exterior of the magazine where there is a possibility of causing a fire. Explosive materials removed from a magazine under repair shall either be placed in another magazine or placed a safe distance from the magazine, where they shall be properly guarded and protected until repairs have been completed. Upon completion of repairs, the explosive materials shall be promptly returned to the magazine. Floors shall be cleaned before and after repairs.

**3304.8.3 Floors.** Magazine floors stained with liquid shall be dealt with according to instructions obtained from the manufacturer of the explosive material stored in the magazine.

**3304.9 Inspection.** Magazines containing explosive materials shall be opened and inspected at maximum seven-day intervals. The inspection shall determine whether there has been an unauthorized or attempted entry into a magazine or an unauthorized removal of a magazine or its contents.

**3304.10 Disposal of explosive materials.** Explosive materials shall be disposed of in accordance with Sections 3304.10.1 through 3304.10.7.

**3304.10.1 Notification.** The fire code official shall be notified immediately when deteriorated or leaking explosive materials are determined to be dangerous or unstable and in need of disposal.

**3304.10.2 Deteriorated materials.** When an explosive material has deteriorated to an extent that it is in an unstable or dangerous condition, or when a liquid has leaked from an explosive material, the person in possession of such material shall immediately contact the material's manufacturer to obtain disposal and handling instructions.

**3304.10.3 Qualified person.** The work of destroying explosive materials shall be directed by persons experienced in the destruction of explosive materials.

**3304.10.4 Storage of misfires.** Explosive materials and fireworks recovered from blasting or display misfires shall be placed in a magazine until an experienced person has determined the proper method for disposal.

**3304.10.5 Disposal sites.** Sites for the destruction of explosive materials and fireworks shall be approved and located at the maximum practicable safe distance from inhabited buildings, public highways, operating buildings, and all other exposures to ensure keeping air blast and ground vibration to a minimum. The location of disposal sites shall be no closer to magazines, inhabited buildings, railways, highways and other rights-of-way than is allowed by Tables 3304.5.2(1), 3304.5.2(2) and 3304.5.2(3). When possible, barricades shall be utilized between the destruction site and inhabited buildings. Areas where explosives are detonated or burned shall be posted with adequate warning signs.

**3304.10.6 Reuse of site.** Unless an approved burning site has been thoroughly saturated with water and has passed a safety inspection, 48 hours shall elapse between the completion of a burn and the placement of scrap explosive materials for a subsequent burn.

**3304.10.7 Personnel safeguards.** Once an explosive burn operation has been started, personnel shall relocate to a safe location where adequate protection from air blast and flying debris is provided. Personnel shall not return to the burn area until the person in charge has inspected the burn site and determined that it is safe for personnel to return.

## **SECTION 3305**

### **MANUFACTURE, ASSEMBLY AND TESTING OF EXPLOSIVES, EXPLOSIVE MATERIALS AND FIREWORKS**

**3305.1 General.** The manufacture, assembly and testing of explosives, ammunition, blasting agents and fireworks shall comply with the requirements of this section and NFPA 495 or NFPA 1124.

#### **Exceptions:**

1. The hand loading of small arms ammunition prepared for personal use and not offered for resale.
2. The mixing and loading of blasting agents at blasting sites in accordance with NFPA 495.
3. The use of binary explosives or phosphoric materials in blasting or pyrotechnic special effects applications in accordance with NFPA 495 or NFPA 1126.

**3305.2 Emergency planning and preparedness.** Emergency plans, emergency drills, employee training and hazard communication shall conform to the provisions of this section and Sections 404, 405, 406 and 407.

**3305.2.1 Hazardous Materials Management Plans and Inventory Statements required.** Detailed Hazardous Materials Management Plans (HMMP) and Hazardous Materials Inventory Statements (HMIS) complying with the requirements of Section 407 shall be prepared and submitted to the local emergency planning committee, the fire code official, and the local fire department.

**3305.2.2 Maintenance of plans.** A copy of the required HMMP and HMIS shall be maintained on site and furnished to the fire code official on request.

**3305.2.3 Employee training.** Workers who handle explosives or explosive charges or dispose of explosives shall be trained in the hazards of the materials and processes in which they are to be engaged and with the safety rules governing such materials and processes.

**3305.2.4 Emergency procedures.** Approved emergency procedures shall be formulated for each plant which will include personal instruction in any emergency that may be anticipated. All personnel shall be made aware of an emergency warning signal.

**3305.3 Intraplant separation of operating buildings.** Explosives manufacturing buildings and fireworks manufacturing buildings, including those where explosive charges are assembled, manufactured, prepared or loaded utilizing Division 1.1, 1.2, 1.3, 1.4 or 1.5 explosives, shall be separated from all other buildings, including magazines, within the confines of the manufacturing plant, at a distance not less than those shown in Table 3305.3 or 3304.5.2(3), as appropriate.

**Exception:** Fireworks manufacturing buildings separated in accordance with NFPA 1124. The quantity of explosives in an operating building shall be the net weight of all explosives contained therein. Distances shall be based on the hazard division requiring the greatest separation, unless the aggregate explosive weight is divided by approved walls or shields designed for that purpose. When dividing a quantity of explosives into smaller stacks, a suitable barrier or adequate separation distance shall be provided to prevent propagation from one stack to another. When distance is used as the sole means of separation within a building, such distance shall be established by testing. Testing shall demonstrate that propagation between stacks will not result. Barriers provided to protect against explosive effects shall be designed and installed in accordance with approved standards.

**3305.4 Separation of manufacturing operating buildings from inhabited buildings, public traffic routes and magazines.** When an operating building on an explosive materials plant site is designed to contain explosive materials, such a building shall be located away from inhabited buildings, public traffic routes and magazines in accordance with Table 3304.5.2(2) or 3304.5.2(3) as appropriate, based on the maximum quantity of explosive materials permitted to be in the building at one time (see Section 3301.8).

**Exception:** Fireworks manufacturing buildings constructed and operated in accordance with NFPA 1124.

~~**3305.4.1 Determination of net explosive weight for operating buildings.** In addition to the requirements of Section 3301.8 to determine the net explosive weight for materials stored or used in operating buildings, quantities of explosive materials stored in magazines located at distances less than intraline distances from the operating building shall be added to the contents of the operating building to determine the net explosive weight for the operating building.~~

~~**3305.4.1.1 Indoor magazines.** The storage of explosive materials located in indoor magazines in operating buildings shall be limited to a net explosive weight not to exceed 50 pounds (23 kg).~~

~~**3305.4.1.2 Outdoor magazines with a net explosive weight less than 50 pounds.** The storage of explosive materials in outdoor magazines located at less than intraline distances from operating buildings shall be limited to a net explosive weight not to exceed 50 pounds (23 kg).~~

~~**3305.4.1.3 Outdoor magazines with a net explosive weight greater than 50 pounds.** The storage of explosive materials in outdoor magazines in quantities exceeding 50 pounds (23 kg) net explosive weight shall be limited to storage in outdoor magazines located not less than intraline distances from the operating building in accordance with Section 3304.5.2.~~

~~**3305.4.1.4 Net explosive weight of materials stored in combination indoor and outdoor magazines.** The aggregate quantity of explosive materials stored in any combination of indoor magazines or outdoor magazines located at less than the intraline distances from an operating building shall not exceed 50 pounds (23 kg).~~

~~**3305.5 Buildings and equipment.** Buildings or rooms that exceed the maximum allowable quantity per control area of explosive materials shall be operated in accordance with this section and constructed in accordance with the requirements of the *International Building Code* for Group H occupancies.~~

**Exception:** Fireworks manufacturing buildings constructed and operated in accordance with NFPA 1124.

~~**3305.5.1 Explosives dust.** Explosives dust shall not be exhausted to the atmosphere.~~

~~**3305.5.1.1 Wet collector.** When collecting explosives dust, a wet collector system shall be used. Wetting agents shall be compatible with the explosives. Collector systems shall be interlocked with process power supplies so that the process cannot continue without the collector systems also operating.~~

~~**3305.5.1.2 Waste disposal and maintenance.** Explosives dust shall be removed from the collection chamber as often as necessary to prevent overloading. The entire system shall be cleaned at a frequency that will eliminate hazardous concentrations of explosives dust in pipes, tubing and ducts.~~

~~**3305.5.2 Exhaust fans.** Squirrel-cage blowers shall not be used for exhausting hazardous fumes, vapors or gases. Only nonferrous fan blades shall be used for fans located within the ductwork and through which hazardous materials are exhausted. Motors shall be located outside the duct.~~

### **TABLE 3305.3**

~~**3305.5.3 Work stations.** Work stations shall be separated by distance, barrier or other approved alternatives so that fire in one station will not ignite material in another work station. Where necessary, the operator shall be protected by a personnel shield located between the operator and the explosive device or explosive material being processed. This shield and its support shall be capable of withstanding a blast from the maximum amount of explosives allowed behind it.~~

~~**3305.6 Operations.** Operations involving explosives shall comply with Sections 3305.6.1 through 3305.6.10.~~

~~**3305.6.1 Isolation of operations.** When the type of material and processing warrants, mechanical operations involving explosives in excess of 1 pound (0.454 kg) shall be carried on at isolated stations or at intraplant distances, and machinery shall be controlled from remote locations behind barricades or at separations so that workers will be at a safe distance while machinery is operating.~~

~~**3305.6.2 Static controls.** The work area where the screening, grinding, blending and other processing of static-sensitive explosives or pyrotechnic materials is done shall be provided with approved static controls.~~

~~**3305.6.3 Approved containers.** Bulk explosives shall be kept in approved, nonsparking containers when not being used or processed. Explosives shall not be stored or transported in open containers.~~

~~**3305.6.4 Quantity limits.** The quantity of explosives at any particular work station shall be limited to that posted on the load limit signs for the individual work station. The total quantity of explosives for multiple workstations shall not exceed that established by the intraplant distances in Table 3305.3 or 3304.5.2(3), as appropriate.~~

~~**3305.6.4.1 Magazines.** Magazines used for storage in processing areas shall be in accordance with the requirements of Section 3304.5.1. All explosive materials shall be removed to appropriate storage magazines for unattended storage at the end of the work day. The contents of indoor magazines shall be added to the quantity of explosives contained at individual workstations and the total quantity of material stored, processed or used shall be utilized to establish the intraplant separation distances indicated by Table 3305.3 or 3304.5.2(3), as appropriate.~~

~~**3305.6.5 Waste disposal.** Approved receptacles with covers shall be provided for each location for disposing of waste material and debris. These waste receptacles shall be emptied and cleaned as often as necessary but not less than once each day or at the end of each shift.~~

~~**3305.6.6 Safety rules.** General safety rules and operating instructions governing the particular operation or process conducted at that location shall be available at each location.~~

~~**3305.6.7 Personnel limits.** The number of occupants in each process building and in each magazine shall not exceed the number necessary for proper conduct of production operations.~~

~~**3305.6.8 Pyrotechnic and explosive composition quantity limits.** Not more than 500 pounds (227 kg) of pyrotechnic or explosive composition, including not more than 10 pounds (5 kg) of salute powder shall be allowed at one time in any process building or area. All compositions not in current use shall be kept in covered nonferrous containers.~~

~~**Exception:** Composition that has been loaded or pressed into tubes or other containers as consumer fireworks.~~

~~**3305.6.9 Posting limits.** The maximum number of occupants and maximum weight of pyrotechnic and explosive composition permitted in each process building shall be posted in a conspicuous location in each process building or magazine.~~

~~**3305.6.10 Heat sources.** Fireworks, explosives or explosive charges in explosive materials manufacturing, assembly or testing shall not be stored near any source of heat.~~

~~**Exception:** Approved drying or curing operations.~~

~~**3305.7 Maintenance.** Maintenance and repair of explosives manufacturing facilities and areas shall comply with Section 3304.8.~~

~~**3305.8 Explosive materials testing sites.** Detonation of explosive materials or ignition of fireworks for testing purposes shall be done only in isolated areas at sites where distance, protection from missiles, shrapnel or flyrock, and other safeguards provides protection against injury to personnel or damage to property.~~

~~**3305.8.1 Protective clothing and equipment.** Protective clothing and equipment shall be provided to protect persons engaged in the testing, ignition or detonation of explosive materials.~~

~~**3305.8.2 Site security.** When tests are being conducted or explosives are being detonated, only authorized persons shall be present. Areas where explosives are regularly or frequently detonated or burned shall be approved and posted with adequate warning signs. Warning devices shall be activated before burning or detonating explosives to alert persons approaching from any direction that they are approaching a danger zone.~~

~~**3305.9 Waste disposal.** Disposal of explosive materials waste from manufacturing, assembly or testing operations shall be in accordance with Section 3304.10.~~

## **SECTION 3306 SMALL ARMS AMMUNITION**

~~**3306.1 General.** Indoor storage and display of black powder, smokeless propellants and small arms ammunition shall comply with this section and NFPA 495.~~

~~**3306.2 Prohibited storage.** Small arms ammunition shall not be stored together with Division 1.1, Division 1.2 or Division 1.3 explosives unless the storage facility is suitable for the storage of explosive materials.~~

~~**3306.3 Packages.** Smokeless propellants shall be stored in approved shipping containers conforming to DOTn 49 CFR, Part 173.~~

~~**3306.3.1 Repackaging.** The bulk repackaging of smokeless propellants, black powder, and small arms primers shall not be performed in retail establishments.~~

~~**3306.3.2 Damaged packages.** Damaged containers shall not be repackaged.~~

~~**Exception:** Approved repackaging of damaged containers of smokeless propellant into containers of the same type and size as the original container.~~

~~**3306.4 Storage in Group R occupancies.** The storage of small arms ammunition in Group R occupancies shall comply with Sections 3306.4.1 and 3306.4.2.~~

~~**3306.4.1 Black powder and smokeless propellants.** Propellants for personal use in quantities not exceeding 20 pounds (9 kg) of black powder or 20 pounds (9 kg) of smokeless powder shall be stored in original containers in occupancies limited to Group R-3. Smokeless powder in quantities exceeding 20 pounds (9 kg) but not exceeding 50 pounds (23 kg) kept in a wooden box or cabinet having walls of at least 1 inch (25 mm) nominal thickness shall be allowed to be stored in occupancies limited to Group R-3. Quantities exceeding these amounts shall not be stored in any Group R occupancy.~~

~~**3306.4.2 Small arms primers.** No more than 10,000 small arms primers shall be stored in occupancies limited to Group R-3.~~

~~**3306.5 Display and storage in Group M occupancies.** The display and storage of small arms ammunition in Group M occupancies shall comply with this section.~~

~~**3306.5.1 Display.** Display of small arms ammunition in Group M occupancies shall comply with Sections 3306.5.1.1 through 3306.5.1.3.~~

~~**3306.5.1.1 Smokeless propellant.** No more than 20 pounds (9 kg) of smokeless propellants, each in containers of 1 pound (0.454 kg) or less capacity, shall be displayed in Group M occupancies.~~

~~**3306.5.1.2 Black powder.** No more than 1 pound (0.454 kg) of black powder shall be displayed in Group M occupancies.~~

~~**3306.5.1.3 Small arms primers.** No more than 10,000 small arms primers shall be displayed in Group M occupancies.~~

~~**3306.5.2 Storage.** Storage of small arms ammunition shall comply with Sections 3306.5.2.1 through 3306.5.2.3.~~

~~**3306.5.2.1 Smokeless propellant.** Commercial stocks of smokeless propellants shall be stored as follows:~~

~~1. Quantities exceeding 20 pounds (9 kg), but not exceeding 100 pounds (45 kg) shall be stored in portable wooden boxes having walls of at least 1 inch (25 mm) nominal thickness~~

~~2. Quantities exceeding 100 pounds (45 kg), but not exceeding 800 pounds (363 kg), shall be stored in nonportable storage cabinets having walls at least 1 inch (25 mm) nominal thickness. Not more than 400 pounds (182 kg) shall be stored in any one cabinet, and cabinets shall be separated by a distance of at least 25 feet (7620 mm) or by a fire partition having a fire resistance rating of at least 1 hour.~~

~~3. Storage of quantities exceeding 800 pounds (363 kg), but not exceeding 5,000 pounds (2270 kg) in a building shall comply with all of the following:~~

~~3.1. The warehouse or storage room is inaccessible to unauthorized personnel.~~

~~3.2. Smokeless propellant shall be stored in nonportable storage cabinets having wood walls at least 1 inch (25 mm) nominal thickness and having shelves with no more than 3 feet (914 mm) of separation between shelves.~~

~~3.3. No more than 400 pounds (182 kg) is stored in any one cabinet.~~

3.4. Cabinets shall be located against walls of the storage room or warehouse with at least 40 feet (12 192 mm) between cabinets.

3.5. The minimum required separation between cabinets shall be 20 feet (6096 mm) provided that barricades twice the height of the cabinets are attached to the wall, midway between each cabinet. The barricades must extend a minimum of 10 feet (3048 mm) outward, be firmly attached to the wall, and be constructed of steel not less than 0.25 inch thick (6.4 mm), 2 inch (51 mm) nominal thickness wood, brick, or concrete block.

3.6. Smokeless propellant shall be separated from materials classified as combustible liquids, flammable liquids, flammable solids, or oxidizing materials by a distance of 25 feet (7620 mm) or by a fire partition having a fire-resistance rating of 1 hour.

3.7. The building shall be equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

4. Smokeless propellants not stored according to Item 1, 2, or 3 above shall be stored in a Type 2 or 4 magazine in accordance with Section 3304 and NFPA 495.

**3306.5.2.2 Black powder.** Commercial stocks of black powder in quantities less than 50 pounds (23 kg) shall be allowed to be stored in Type 2 or 4 indoor or outdoor magazines. Quantities greater than 50 pounds (23 kg) shall be stored in outdoor Type 2 or 4 magazines. When black powder and smokeless propellants are stored together in the same magazine, the total quantity shall not exceed that permitted for black powder.

**3306.5.2.3 Small arms primers.** Commercial stocks of small arms primers shall be stored as follows:

1. Quantities exceeding 20 pounds (9 kg), but not exceeding 100 pounds (45 kg) shall be stored in portable wooden boxes having walls of at least 1 inch (25 mm) nominal thickness.

2. Quantities exceeding 750,000 small arms primers stored in a building shall comply with all of the following:

2.1. The warehouse or storage building shall not be accessible to unauthorized personnel.

2.2. Small arms primers shall be stored in cabinets. No more than 200,000 small arms primers shall be stored in any one cabinet.

2.3. Shelves in cabinets shall have vertical separation of at least 2 feet (610 mm).

2.4. Cabinets shall be located against walls of the warehouse or storage room with at least 40 feet (12 192 mm) between cabinets. The minimum required separation between cabinets shall be allowed to be reduced to 20 feet (6096 mm) provided that barricades twice the height of the cabinets are attached to the wall, midway between each cabinet. The barricades shall be firmly attached to the wall and shall be constructed of steel not less than 1/4 inch thick (6.4 mm), 2 inch (51 mm) nominal thickness wood, brick or concrete block.

2.5. Small arms primers shall be separated from materials classified as combustible liquids, flammable liquids, flammable solids or oxidizing materials by a distance of 25 feet (7620 mm) by a fire partition having a fire resistance rating of 1 hour.

2.6. The building shall be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

3. Small arms primers not stored in accordance with Item 1 or 2 of this section shall be stored in a magazine meeting the requirements of Section 3304 and NFPA 495.

## **SECTION 3307 BLASTING**

**3307.1 General.** Blasting operations shall be conducted only by approved, competent operators familiar with the required safety precautions and the hazards involved and in accordance with the provisions of NFPA 495.

**3307.2 Manufacturer's instructions.** Blasting operations shall be performed in accordance with the instructions of the manufacturer of the explosive materials being used.

**3307.3 Blasting in congested areas.** When blasting is done in a congested area or in close proximity to a structure, railway or highway, or any other installation, precautions shall be taken to minimize earth vibrations and air blast effects. Blasting mats or other protective means shall be used to prevent fragments from being thrown.

**3307.4 Restricted hours.** Surface blasting operations shall only be conducted during daylight hours. Other blasting shall be performed during daylight hours unless otherwise approved by the fire code official.

**3307.5 Utility notification.** Whenever blasting is being conducted in the vicinity of utility lines or rights of way, the blaster shall notify the appropriate representatives of the utilities at least 24 hours in advance of blasting, specifying the location and intended time of such blasting. Verbal notices shall be confirmed with written notice.

**Exception:** In an emergency situation, the time limit shall not apply when approved.

~~3307.6 Electric detonator precautions.~~ Precautions shall be taken to prevent accidental discharge of electric detonators from currents induced by radar and radio transmitters, lightning, adjacent power lines, dust and snow storms, or other sources of extraneous electricity.

~~3307.7 Nonelectric detonator precautions.~~ Precautions shall be taken to prevent accidental initiation of nonelectric detonators from stray currents induced by lightning or static electricity.

~~3307.8 Blasting area security.~~ During the time that holes are being loaded or are loaded with explosive materials, blasting agents or detonators, only authorized persons engaged in drilling and loading operations or otherwise authorized to enter the site shall be allowed at the blast site. The blast site shall be guarded or barricaded and posted. Blast site security shall be maintained until after the post blast inspection has been completed.

~~3307.9 Drill holes.~~ Holes drilled for the loading of explosive charges shall be made and loaded in accordance with NFPA 495.

~~3307.10 Removal of excess explosive materials.~~ After loading for a blast is completed and before firing, excess explosive materials shall be removed from the area and returned to the proper storage facilities.

~~3307.11 Initiation means.~~ The initiation of blasts shall be by means conforming to the provisions of NFPA 495.

~~3307.12 Connections.~~ The blaster shall supervise the connecting of the blastholes and the connection of the loadline to the power source or initiation point. Connections shall be made progressively from the blasthole back to the initiation point. Blasting lead lines shall remain shunted (shorted) and shall not be connected to the blasting machine or other source of current until the blast is to be fired.

~~3307.13 Firing control.~~ No blast shall be fired until the blaster has made certain that all surplus explosive materials are in a safe place in accordance with Section 3307.10, all persons and equipment are at a safe distance or under sufficient cover, and that an adequate warning signal has been given.

~~3307.14 Post blast procedures.~~ After the blast, the following procedures shall be observed.

- ~~1. No person shall return to the blast area until allowed to do so by the blaster in charge.~~
- ~~2. The blaster shall allow sufficient time for smoke and fumes to dissipate and for dust to settle before returning to or approaching the blast area.~~
- ~~3. The blaster shall inspect the entire blast site for misfires before allowing other personnel to return to the blast area.~~

~~3307.15 Misfires.~~ Where a misfire is suspected, all initiating circuits shall be traced and a search made for unexploded charges. Where a misfire is found, the blaster shall provide proper safeguards for excluding all personnel from the blast area. Misfires shall be reported to the blasting supervisor immediately. Misfires shall be handled under the direction of the person in charge of the blasting operation in accordance with NFPA 495.

Authority Cited: Health and Safety Code Sections 12552, 12553, 13108

References: Health and Safety Code Sections 12500 thru 12725

## **SECTION 3308 FIREWORKS DISPLAY**

~~3308.1 General.~~ The Display of fireworks, including proximate audience displays and pyrotechnic special effects in motion picture, television, theatrical, and group entertainment productions, shall comply with this chapter and ~~NFPA 1123 or NFPA 1126.~~ Title 19 California Code of Regulations, Chapter 6 - Fireworks.

Authority Cited: Health and Safety Code Sections 12552, 12553, 13108

References: Health and Safety Code Sections 12500 thru 12725

~~3308.1.1 Scope.~~ Fireworks and temporary storage, use, and handling of pyrotechnic special effects material used in motion pictures, television, and theatrical and group entertainment productions shall be in accordance with Title 19, California Code of Regulations, Chapter 6 – Fireworks.

**3308.2 Permit application.** Prior to issuing permits for a fireworks display, plans for the display, inspections of the display site and demonstrations of the display operations shall be approved. A plan establishing procedures to follow and actions to be taken in the event that a shell fails to ignite in, or discharge from, a mortar or fails to function over the fallout area or other malfunctions shall be provided to the fire code official.

**3308.2.1 Outdoor displays.** In addition to the requirements of Section 403, permit applications for outdoor fireworks displays using Division 1.3G fireworks shall include a diagram of the location at which the display will be conducted, including the site from which fireworks will be discharged; the location of buildings, highways, overhead obstructions and utilities; and the lines behind which the audience will be restrained.

**3308.2.2 Proximate audience displays.** Where the separation distances required by Section 3308.4 and NFPA 1123 are unavailable or cannot be secured, only proximate audience displays conducted in accordance with NFPA 1126 shall be allowed. Applications for proximate audience displays shall include plans indicating the required clearances for spectators and combustibles, crowd control measures, smoke control measures, and requirements for standby personnel and equipment when provision of such personnel or equipment is required by the fire code official.

**3308.3 Approved displays.** Approved displays shall include only the approved Division 1.3G, Division 1.4G, and Division 1.4S fireworks, shall be handled by an approved competent operator, and the fireworks shall be arranged, located, discharged and fired in a manner that will not pose a hazard to property or endanger any person.

**3308.4 Clearance.** Spectators, spectator parking areas, and dwellings, buildings or structures shall not be located within the display site.

**Exceptions:**

1. This provision shall not apply to pyrotechnic special effects and displays using Division 1.4G materials before a proximate audience in accordance with NFPA 1126.
2. This provision shall not apply to unoccupied dwellings, buildings and structures with the approval of the building owner and the fire code official.

**3308.5 Storage of fireworks at display site.** The storage of fireworks at the display site shall comply with the requirements of this section and NFPA 1123 or NFPA 1126.

**3308.5.1 Supervision and weather protection.** Beginning as soon as fireworks have been delivered to the display site, they shall not be left unattended.

**3308.5.2 Weather protection.** Fireworks shall be kept dry after delivery to the display site.

**3308.5.3 Inspection.** Shells shall be inspected by the operator or assistants after delivery to the display site. Shells having tears, leaks, broken fuses or signs of having been wet shall be set aside and shall not be fired. Aerial shells shall be checked for proper fit in mortars prior to discharge. Aerial shells that do not fit properly shall not be fired. After the display, damaged, deteriorated or dud shells shall either be returned to the supplier or destroyed in accordance with the supplier's instructions and Section 3304.10.

**Exception:** Minor repairs to fuses shall be allowed. For electrically ignited displays, attachment of electric matches and similar tasks shall be allowed.

**3308.5.4 Sorting and separation.** After delivery to the display site and prior to the display, all shells shall be separated according to size and their designation as salutes.

**Exception:** For electrically fired displays, or displays where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to size or their designation as salutes.

**3308.5.5 Ready boxes.** Display fireworks (Division 1.3G) that will be temporarily stored at the site during the fireworks display shall be stored in ready boxes located upwind and at least 25 feet (7620 mm) from the mortar placement and separated according to size and their designation as salutes.

**Exception:** For electrically fired displays, or displays where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to size, their designation as salutes, or for the use of ready boxes.

**3308.6 Installation of mortars.** Mortars for firing fireworks shells shall be installed in accordance with NFPA 1123 and shall be positioned so that shells are propelled away from spectators and over the fallout area. Under no circumstances shall mortars be angled toward the spectator viewing area. Prior to placement, mortars shall be inspected for defects, such as dents, bent ends, damaged interiors and damaged plugs. Defective mortars shall not be used.

**3308.7 Handling.** Aerial shells shall be carried to mortars by the shell body. For the purpose of loading mortars, aerial shells shall be held by the thick portion of the fuse and carefully loaded into mortars.

**3308.8 Display supervision.** Whenever in the opinion of the fire code official or the operator a hazardous condition exists, the fireworks display shall be discontinued immediately until such time as the dangerous situation is corrected.

**3308.9 Post display inspection.** After the display, the firing crew shall conduct an inspection of the fallout area for the purpose of locating unexploded aerial shells or live components. This inspection shall be conducted before public access to the site shall be allowed. Where fireworks are displayed at night and it is not possible to inspect the site thoroughly, the operator or designated assistant shall inspect the entire site at first light. A report identifying any shells that fail to ignite in, or discharge from, a mortar or fail to function over the fallout area or otherwise malfunction shall be filed with the fire code official.

**3308.10 Disposal.** Any shells found during the inspection required in Section 3308.9 shall not be handled until at least 15 minutes have elapsed from the time the shells were fired. The fireworks shall then be doused with water and allowed to remain for at least 5 additional minutes before being placed in a plastic bucket or fiberboard box. The disposal instructions of the manufacturer as provided by the fireworks supplier shall then be followed in disposing of the fireworks in accordance with Section 3304.10.

**3308.11 Retail display and sale.** Fireworks displayed for retail sale shall not be made readily accessible to the public. A minimum of one pressurized water portable fire extinguisher complying with Section 906 shall be located not more than 15 feet (4572 mm) and not less than 10 feet (3048 mm) from the hazard. "No Smoking" signs complying with Section 310 shall be conspicuously posted in areas where fireworks are stored or displayed for retail sale.

Authority Cited: Health and Safety Code Sections 12552, 12553, 13108  
References: Health and Safety Code Sections 12500 thru 12725

## CHAPTER 34

### FLAMMABLE AND COMBUSTIBLE LIQUIDS

(Note: Adopt entire Chapter with amendments.)

**3401.3 Referenced documents.** The applicable requirements of Chapter 27, other chapters of this code, the International California Building Code and the International California Mechanical Code pertaining to flammable liquids shall apply.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3403.1 Electrical.** Electrical wiring and equipment shall be installed and maintained in accordance with the ICC California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**Table 3403.1.1** (footnotes)

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

- a. Locations as classified in the ~~ICC~~ California Electrical Code.
- b. When classifying extent of area, consideration shall be given to the fact that tank cars or tank vehicles can be spotted at varying points. Therefore, the extremities of the loading or unloading positions shall be used.
- c. The release of Class I liquids can generate vapors to the extent that the entire building, and possibly a zone surrounding it, are considered a Class I, Division 2 location.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3403.1.3 Other applications.** The fire code official is authorized to determine the extent of the Class I electrical equipment and wiring location when a condition is not specifically covered by these requirements or the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3403.6.1 Nonapplicability.** The provisions of Section 3403.6 shall not apply to gas or oil well installations; piping that is integral to stationary or portable engines, including aircraft, watercraft and motor vehicles; and piping in connection with boilers and pressure vessels regulated by the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3404.2.1 Change of tank contents.** Tanks subject to change in contents shall be in accordance with 3404.2.7. Prior to change in contents, the fire code official is authorized to require testing of a tank.

Tanks that have previously contained Class I liquids shall not be loaded with Class II or Class III liquids until such vehicles and all piping, pumps, hoses and meters connected thereto have been completely drained and flushed.

**Exception:** *When approved by the Enforcing Agency the procedures prescribed in API (API-RP-2003) Recommended Practices 2003 entitled; Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents may be used for changing tank contents.*

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**3404.2.7.7 Design of supports.** The design of the supporting structure for tanks shall be in accordance with the ~~International~~ California Building Code and NFPA 30.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3404.2.8.1 Listing required.** Vaults shall be listed in accordance with UL 2245.

**Exception:** Where approved by the fire code official, below-grade vaults are allowed to be constructed on site, provided that the design is in accordance with the International California Building Code and that special inspections are conducted to verify structural strength and compliance of the installation with the approved design in accordance with Section 1707 of the International California Building Code. Installation plans for below-grade vaults that are constructed on site shall be prepared by, and the design shall bear the stamp of, a professional engineer. Consideration shall be given to soil and hydrostatic loading on the floors, walls and lid; anticipated seismic forces; uplifting by ground water or flooding; and to loads imposed from above such as traffic and equipment loading on the vault lid.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3404.2.8.2 Design and construction.** The vault shall completely enclose each tank. There shall be no openings in the vault enclosure except those necessary for access to, inspection of, and filling, emptying and venting of the tank. The walls and floor of the vault shall be constructed of reinforced concrete at least 6 inches (152 mm) thick. The top of an above-grade vault shall be constructed of noncombustible material and shall be designed to be weaker than the walls of the vault, to ensure that the thrust of an explosion occurring inside the vault is directed upward before significantly high pressure can develop within the vault. The top of an at-grade or below-grade vault shall be designed to relieve safely or contain the force of an explosion occurring inside the vault. The top and floor of the vault and the tank foundation shall be designed to withstand the anticipated loading, including loading from vehicular traffic, where applicable. The walls and floor of a vault installed below grade shall be designed to withstand anticipated soil and hydrostatic loading. Vaults shall be designed to be wind and earthquake resistant, in accordance with the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3404.2.8.9 Ventilation.** Vaults that contain tanks of Class I liquids shall be provided with an exhaust ventilation system installed in accordance with Section 2704.3. The ventilation system shall operate continuously or be designed to operate upon activation of the vapor or liquid detection system. The system shall provide ventilation at a rate of not less than 1 cubic foot per minute (cfm) per square foot of floor area [0.00508 m<sup>3</sup>/(s × m<sup>2</sup>)], but not less than 150 cfm (0.071m<sup>3</sup>/s). The exhaust system shall be designed to provide air movement across all parts of the vault floor. Supply and exhaust ducts shall extend to within 3 inches (76 mm), but not more than 12 inches (305 mm), of the floor. The exhaust system shall be installed in accordance with the International California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3404.2.8.12 Liquid removal.** Means shall be provided to recover liquid from the vault. Where a pump is used to meet this requirement, the pump shall not be permanently installed in the vault. Electric-powered portable pumps shall be suitable for use in Class I, Division 1 locations, as defined in the ICC California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3404.2.8.17 Classified area.** The interior of a vault containing a tank that stores a Class I liquid shall be designated a Class I, Division 1 location, as defined in the ICC California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3404.2.9.1.2 Foam fire protection system installations.** Foam fire protection system installation. Where foam fire protection is required, it shall be installed in accordance with NFPA-11 (Section 4.8) and NFPA-11A.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**3404.2.9.2 Supports, foundations and anchorage.** Supports, foundations and anchorages for above-ground tanks shall be designed and constructed in accordance with NFPA 30 and the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3404.2.9.3 Stairs, platforms and walkways.** Stairs, platforms and walkways shall be of noncombustible construction and shall be designed and constructed in accordance with NFPA 30 and the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3404.2.9.5.1 Locations where above-ground tanks are prohibited.** Storage of Class I and II liquids in above-ground tanks outside of buildings is prohibited within the limits established by law as the limits of districts in which such storage is prohibited (see Section 3 of the Sample Ordinance for Adoption of the International California Fire Code on page v).

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3404.3.3.5 Shelf storage.** Shelving shall be of approved construction, adequately braced and anchored. Seismic requirements shall be in accordance with the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3404.3.7.1 General.** Quantities of liquids exceeding those set forth in Section 3404.3.4.1 for storage in control areas shall be stored in a liquid storage room complying with this section and constructed and separated as required by the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3404.3.8 Liquid storage warehouses.** Buildings used for storage of flammable or combustible liquids in quantities exceeding those set forth in Section 3404.3.4 for control areas and Section 3404.3.7 for liquid storage rooms shall comply with Sections 3404.3.8.1 through 3404.3.8.5 and shall be constructed and separated as required by the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3405.3.4 Location of processing vessels.** Processing vessels shall be located with respect to distances to lot lines of adjoining property which can be built on, in accordance with Tables 3405.3.4(1) and 3405.3.4(2).

**Exception:** Where the exterior wall facing the adjoining lot line is a blank wall having a fire-resistance rating of not less than 4 hours, the fire code official is authorized to modify the distances. The distance shall not be less than that set forth in the ~~International California Building Code~~, and when Class IA or unstable liquids are involved, explosion control shall be provided in accordance with Section 911.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3405.3.5.3 Quantities exceeding limits for control areas.** Quantities exceeding the maximum allowable quantity per control area indicated in Sections 3405.3.5.1 and 3405.3.5.2 shall be in accordance with the following:

1. For open systems, indoor use, dispensing and mixing of flammable and combustible liquids shall be within a room or building complying with the ~~International California Building Code~~ and Sections 3405.3.7.1 through 3405.3.7.5.
2. For closed systems, indoor use, dispensing and mixing of flammable and combustible liquids shall be within a room or building complying with the ~~International California Building Code~~ and Sections 3405.3.7 through 3405.3.7.4 and 3405.3.7.6.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3405.3.7.1 Construction, location and fire protection.** Rooms or buildings classified in accordance with the ~~International California Building Code~~ as Group H-2 or H-3 occupancies based on use, dispensing or mixing of flammable or combustible liquids shall be constructed in accordance with the *International Building Code*.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3405.3.7.2 Basements.** In rooms or buildings classified in accordance with the ~~International California Building Code~~ as Group H-2 or H-3, dispensing or mixing of flammable or combustible liquids shall not be conducted in basements.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3405.3.7.3 Fire protection.** Rooms or buildings classified in accordance with the ~~International California Building Code~~ as Group H-2 or H-3 occupancies shall be equipped with an approved automatic fire-extinguishing system in accordance with Chapter 9.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3405.3.7.4 Doors.** Interior doors to rooms or portions of such buildings shall be self-closing fire doors in accordance with the ~~International California Building Code~~.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3405.3.7.5.1 Ventilation.** Continuous mechanical ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot [0.00508m<sup>3</sup>/(s ×m<sup>2</sup>)] of floor area over the design area. Provisions shall be made for introduction of makeup air in such a manner to include all floor areas or pits where vapor can collect. Local or spot

ventilation shall be provided when needed to prevent the accumulation of hazardous vapors. Ventilation system design shall comply with the ~~International~~ California Building Code and ~~International~~ California Mechanical Code.

**Exception:** Where natural ventilation can be shown to be effective for the materials used, dispensed or mixed.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3406.2 Storage and dispensing of flammable and combustible liquids on farms and construction sites.** Permanent and temporary storage and dispensing of Class I and II liquids for private use on farms and rural areas and at construction sites, earth-moving projects, gravel pits or borrow pits shall be in accordance with Sections 3406.2.1 through 3406.2.8.1.

**Exception:** Storage and use of fuel oil and containers connected with oil-burning equipment regulated by Section 603 and the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3406.2.3 Containers for storage and use.** Metal containers used for storage of Class I or II liquids shall be in accordance with DOTn requirements or shall be of an approved design.

Discharge devices shall be of a type that do not develop an internal pressure on the container. Pumping devices or approved self-closing faucets used for dispensing liquids shall not leak and shall be well-maintained. Individual containers shall not be interconnected and shall be kept closed when not in use.

Containers stored outside of buildings shall be in accordance with Section 3404 and the ~~International~~ California Building Code.

**3406.2.4.4 Locations where above-ground tanks are prohibited.** The storage of Class I and II liquids in above-ground tanks is prohibited within the limits established by law as the limits of districts in which such storage is prohibited (see Section 3 of the Sample Ordinance for Adoption of the ~~International~~ California Fire Code on page v).

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3406.2.8 Dispensing from tank vehicles.** Where approved, liquids used as fuels are allowed to be transferred from tank vehicles into the tanks of motor vehicles or special equipment, provided:

1. The tank vehicle's specific function is that of supplying fuel to motor vehicle fuel tanks.
2. The dispensing hose does not exceed 100 feet (30 480mm) in length.
3. The dispensing nozzle is an approved type.
4. The dispensing hose is properly placed on an approved reel or in a compartment provided before the tank vehicle is moved.
5. Signs prohibiting smoking or open flames within 25 feet (7620 mm) of the vehicle or the point of refueling are prominently posted on the tank vehicle.
6. Electrical devices and wiring in areas where fuel dispensing is conducted are in accordance with the ~~ICC~~ California Electrical Code.
7. Tank vehicle-dispensing equipment is operated only by designated personnel who are trained to handle and dispense motor fuels.
8. Provisions are made for controlling and mitigating unauthorized discharges.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3406.4.1 Building construction.** Buildings shall be constructed in accordance with the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3406.4.4 Ventilation.** Ventilation shall be provided for rooms, buildings and enclosures in which Class I liquids are pumped, used or transferred. Design of ventilation systems shall consider the relatively high specific gravity of the vapors. When natural ventilation is used, adequate openings in outside walls at floor level, unobstructed except by louvers or coarse screens, shall be provided. When natural ventilation is inadequate, mechanical ventilation shall be provided in accordance with the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3406.5.1.11 Switch loading.** Tank vehicles or tank cars which have previously contained Class I liquids shall not be loaded with Class II or Class III liquids until such vehicles and all piping, pumps, hoses and meters connected thereto have been completely drained and flushed.

*Exception: When approved by the Enforcing Agency the procedures prescribed in API (API-RP-2003) Recommended Practices 2003 entitled; Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents may be used for changing tank contents.*

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

## CHAPTER 35

### FLAMMABLE GASES

**(Note: Adopt entire Chapter without amendments.)**

**3501.1 Scope.** The storage and use of flammable gases shall be in accordance with this chapter. Compressed gases shall also comply with Chapter 30 and gaseous hydrogen systems shall also comply with NFPA 55.

**Exceptions:**

1. Gases used as refrigerants in refrigeration systems (see Section 606).
2. Liquefied petroleum gases and natural gases regulated by Chapter 38.
3. Fuel-gas systems and appliances regulated under the ~~International Fuel Gas~~ California Mechanical Code or the California Plumbing Code.
4. Hydrogen motor fuel-dispensing stations and repair garages designed and constructed in accordance with Chapter 22.
5. Pyrophoric gases in accordance with Chapter 41.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3503.1.4 Ignition source control.** Ignition sources in areas containing flammable gases in storage or in use shall be controlled in accordance with Section 2703.7.

**Exception:** Fuel gas systems connected to building service utilities in accordance with the ~~International Fuel-Gas~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3503.1.5 Electrical.** Electrical wiring and equipment shall be installed and maintained in accordance with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3503.1.5.1 Bonding of electrically conductive materials and equipment.** Exposed noncurrent-carrying metal parts, including metal gas piping systems, that are part of flammable gas supply systems located in a hazardous (electrically classified) location shall be bonded to a grounded conductor in accordance with the provisions of the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

## CHAPTER 36

### FLAMMABLE SOLIDS

**(Note: Adopt entire Chapter without amendments.)**

**3606.2.2 Storage of greater than 1,000 cubic feet.** Magnesium storage in quantities greater than 1,000 cubic feet (28 m<sup>3</sup>) shall be separated into piles not larger than 1,000 cubic feet (28 m<sup>3</sup>) each. Piles shall be separated by aisles with a minimum width of not less than the pile height. Such storage shall not be located in nonsprinklered buildings of Type III, IV or V construction, as defined in the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3606.2.3 Storage in combustible containers or within 30 feet of other combustibles.** Where in nonsprinklered buildings of Type III, IV or V construction, as defined in the ~~International~~ California Building Code, magnesium shall not be stored in combustible containers or within 30 feet (9144 mm) of other combustibles.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3606.4.2 Storage of 50 to 1,000 cubic feet.** Storage of fine magnesium scrap in quantities greater than 50 cubic feet (1.4 m<sup>3</sup>) [six 55-gallon (208 L) steel drums] shall be separated from other occupancies by an open space of at least 50 feet (15 240 mm) or by a fire barrier constructed in accordance with the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3606.5.5 Electrical equipment.** Electric wiring, fixtures and equipment in the immediate vicinity of and attached to dust-producing machines, including those used in connection with separator equipment, shall be of approved types and shall be approved for use in Class II, Division 1 hazardous locations in accordance with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3606.5.6 Grounding.** Equipment shall be securely grounded by permanent ground wires in accordance with the ~~ICC~~ California Electrical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

## CHAPTER 37

### HIGHLY TOXIC AND TOXIC MATERIALS

**(Note: Adopt entire Chapter with amendments.)**

**3703.1.3 Treatment system—highly toxic liquids.** Exhaust scrubbers or other systems for processing vapors of highly toxic liquids shall be provided where a spill or accidental release of such liquids can be expected to release highly toxic vapors at normal temperature and pressure. Treatment systems and other processing systems shall be installed in accordance with the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3703.1.4.2 Separation—highly toxic solids and liquids.** In addition to the requirements set forth in Section 2703.9.8, highly toxic solids and liquids in storage shall be located in approved hazardous material storage cabinets or isolated from other hazardous material storage by construction in accordance with the ~~International~~ California Building Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3703.2.3.2 Treatment system—highly toxic liquids.** Exhaust scrubbers or other systems for processing vapors of highly toxic liquid shall be provided where a spill or accidental release of such liquids can be expected to release highly toxic vapors at normal temperature and pressure (NTP). Treatment systems and other processing systems shall be installed in accordance with the ~~International~~ California Mechanical Code.

Authority Cited: Health and Safety Code Sections 13143.  
Reference: Health and Safety Code Sections 13143

**3704.2.2.7 Treatment systems.** The exhaust ventilation from gas cabinets, exhausted enclosures and gas rooms, and local exhaust systems required in Sections 3704.2.2.4 and 3704.2.2.5 shall be directed to a treatment system. The treatment system shall be utilized to handle the accidental release of gas and to process exhaust ventilation. The

treatment system shall be designed in accordance with Sections 3704.2.2.7.1 through 3704.2.2.7.5 and Section 505 of the ~~International~~ California Mechanical Code.

**Exceptions:** 1. Highly toxic and toxic gases-storage. A treatment system is not required for cylinders, containers and tanks in storage when all of the following controls are provided:

- 1.1. Valve outlets are equipped with gas-tight outlet plugs or caps.
- 1.2. Handwheel-operated valves have handles secured to prevent movement.
- 1.3. Approved containment vessels or containment systems are provided in accordance with Section 3704.2.2.3.

2. Toxic gases—use. Treatment systems are not required for toxic gases supplied by cylinders or portable tanks not exceeding 660 gallons (2 498 L) liquid capacity when the following are provided:

- 2.1. A listed or approved gas detection system with a sensing interval not exceeding 5 minutes.
- 2.2. An listed or approved automatic-closing fail-safe valve located immediately adjacent to cylinder valves. The fail-safe valve shall close when gas is detected at the permissible exposure limit (PEL) by a gas detection system monitoring the exhaust system at the point of discharge from the gas cabinet, exhausted enclosure, ventilated enclosure or gas room. The gas detection shall comply with Section 3704.2.2.10.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**3704.2.2.8 Emergency power.** Emergency power in accordance with the ~~ICC~~ California Electrical Code shall be provided in lieu of standby power where any of the following systems are required:

1. Exhaust ventilation system.
2. Treatment system.
3. Gas detection system.
4. Smoke detection system.
5. Temperature control system.
6. Fire alarm system.
7. Emergency alarm system.

**Exception:** Emergency power is not required for mechanical exhaust ventilation, treatment systems and temperature control systems where approved fail-safe engineered systems are installed.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3705.3.1 Cabinets.** Ozone cabinets shall be constructed of approved materials and compatible with ozone. Cabinets shall display an approved sign stating: OZONE GAS GENERATOR— HIGHLY TOXIC—OXIDIZER. Cabinets shall be braced for seismic activity in accordance with the ~~International~~ California Building Code. Cabinets shall be mechanically ventilated in accordance with the ~~International~~ California Mechanical Code with a minimum of six air changes per hour. The average velocity of ventilation at makeup air openings with cabinet doors closed shall not be less than 200 feet per minute (1.02 m/s).

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

**3705.3.2 Ozone gas generator rooms.** Ozone gas generator rooms shall be mechanically ventilated in accordance with the ~~International~~ Mechanical Code with a minimum of six air changes per hour. Ozone gas generator rooms shall be equipped with a continuous gas detection system which will shut off the generator and sound a local alarm when concentrations above the permissible exposure limit occur. Ozone gas-generator rooms shall not be normally

occupied, and such rooms shall be kept free of combustible and hazardous material storage. Room access doors shall display an approved sign stating: OZONE GAS GENERATOR—HIGHLY TOXIC—OXIDIZER.

Authority Cited: Health and Safety Code Sections 13143.

Reference: Health and Safety Code Sections 13143

## CHAPTER 38

### LIQUEFIED PETROLEUM GASES

**(Note: Adopt entire Chapter without amendments.)**

**3803.1 General.** LP-gas equipment shall be installed in accordance with the ~~International Fuel Gas~~ California Mechanical Code and NFPA 58, except as otherwise provided in this chapter.

**3803.2.1.7 Use for food preparation.** Where approved, listed LP-gas commercial food service appliances are allowed to be used for food-preparation within restaurants and in attended commercial food-catering operations in accordance with the ~~International Fuel Gas, the International~~ California Mechanical Code and NFPA58.

**3803.3 Location of equipment and piping.** Equipment and piping shall not be installed in locations where such equipment and piping is prohibited by the ~~International Fuel Gas~~ California Mechanical Code.

**3804.2 Maximum capacity within established limits.** Within the limits established by law restricting the storage of liquefied petroleum gas for the protection of heavily populated or congested areas, the aggregate capacity of any one installation shall not exceed a water capacity of 2,000 gallons (7570 L) (see Section 3 of the Sample Ordinance for Adoption of the ~~International~~ California Fire Code on page v).

**Exception:** In particular installations, this capacity limit shall be determined by the fire code official, after consideration of special features such as topographical conditions, nature of occupancy, and proximity to buildings, capacity of proposed containers, degree of fire protection to be provided and capabilities of the local fire department.

**3809.11.2 Construction.** The construction of such buildings and rooms shall comply with requirements for Group H occupancies in the ~~International~~ California Building Code; Chapter 10 of NFPA 58, and both of the following:

1. Adequate vents shall be provided to the outside at both top and bottom, located at least 5 feet (1524 mm) from building openings.
2. The entire area shall be classified for the purposes of ignition source control in accordance with Section 6.20 of NFPA 58.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

## CHAPTER 39

### ORGANIC PEROXIDES

**(Note: Adopt entire Chapter without amendments.)**

**3904.1.2 Distance from detached storage buildings to exposures.** In addition to the requirements of the International California Building Code, detached storage buildings shall be located in accordance with Table 3904.1.2.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

## CHAPTER 40

### OXIDIZERS

**(Note: Adopt entire Chapter without amendments.)**

**4004.1.2 Distance from detached storage buildings to exposures.** In addition to the requirements of the International California Building Code, detached storage buildings shall be located in accordance with Table 4004.1.2.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

## CHAPTER 41

### PYROPHORIC MATERIALS

**(Note: Adopt entire chapter without amendments.)**

**4104.1.4 Separation from incompatible materials.** In addition to the requirements of Section 2703.9.8, indoor storage of pyrophoric materials shall be isolated from incompatible hazardous materials by 1-hour fire barriers with openings protected in accordance with the International California Building Code.

**Exception:** Storage in approved hazardous materials storage cabinets constructed in accordance with Section 2703.8.7.

**4106.1.1 Building construction.** Indoor storage and use of silane gas shall be within a room or building conforming to the International California Building Code.

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

## CHAPTER 42

### PYROXYLIN (CELLULOSE NITRATE) PLASTICS

**(Note: Adopt entire Chapter without amendments.)**

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

## CHAPTER 43

### UNSTABLE (REACTIVE) MATERIALS

**(Note: Adopt entire Chapter without amendments.)**

**4304.1 Indoor storage.** Indoor storage of unstable (reactive) materials in amounts exceeding the maximum allowable quantity per control area indicated in Table 2703.1.1(1) shall be in accordance with Sections 2701, 2703, 2704 and this chapter. In addition, Class 3 and 4 unstable (reactive) detonable materials shall be stored in accordance with the ~~International~~ California Building Code requirements for explosives.

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

## CHAPTER 44

### WATER-REACTIVE SOLIDS AND LIQUIDS

**(Note: Adopt entire Chapter without amendments.)**

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

## CHAPTER 45

### REFERENCED STANDARDS

**(Note: Adopt entire Chapter with amendments.)**

*This chapter lists the standards that are referenced in various sections of this document. The standards are listed herein by the promulgating agency of the standard, the standard identification, the effective date and title, and the section or sections of this document that reference the standard. The application of the referenced standards shall be as specified in Sections ~~102.6~~ 101.5 and 101.7.*

**ASTM**

ASTM International  
100 Barr Harbor Drive  
West Conshohocken, PA 19428-2959

Standard reference number	Title	Referenced in code section number
<u>ASTM D2898-94</u>	<u>Test Methods for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing</u>	

ASTM D3201-94  
ASTM E648-04

Test Method for Hygroscopic Properties of Fire-Retardant Treated Wood and Wood-Based Products  
Standard Test Method for Critical Radiant Flux of Floor  
Covering Systems Using a Radiant Heat Energy Source

ASTM E2010  
ASTM E2074

Fire Resistive Rating for Exterior Glazing  
Fire Resistive Rating for Exterior Door Assemblies



Factory Mutual  
Standards Laboratories Department  
1151 Boston-Providence Turnpike  
Norwood, MA 02062

Standard reference number	Title	Referenced in code section number
<u>3260-00</u>	<u>Radiant Energy-Sensing Fire Detectors for Automatic Fire Alarm Signaling.</u>	
<u>3011-99</u>	<u>Approval Standard for Central Station Service for Fire Alarm and Protective Equipment Supervision.</u>	



International Code Council  
5203 Leesburg Pike, Suite 600  
Falls Church, VA 22041

Standard reference number	Title	Referenced in code section number
<u>ICC/ANSI A117.1-03</u>	<u>Accessible and Usable Buildings and Facilities . . . . .</u>	<u>907.10.1.4, 1007.6.5, 1010.1, 1010.6.5, 1010.9, 1011.3</u>
<u>ICC 300-02</u>	<u>Standard on Bleachers, Folding and Telescopic Seating and Grandstands . . . . .</u>	<u>1025.1.1</u>
<u>ICC EC-06</u>	<u>ICC Electrical Code® . . . . .</u>	<u>603.1.3, 603.1.7, 603.5.2, 604.2.16.1, 604.2.16.2, 605.1, 605.3, 605.4, 605.9, 606.16, 904.3.1, 907.6, 909.11, 909.12.1, 909.16.3, 1106.3.4, 1204.2.3, Table 1304.1, 1404.7, 1503.2.1, 1503.2.1.1, 1503.2.1.4, 1503.2.5, 1504.6.1.2.2, 1504.9.4, 1604.5, 1703.2.1, 1803.7.1, 1803.7.2, 1803.7.3, 1903.4, 2004.1, 2201.5, 2205.4, 2208.8.1.2.4, 2209.2.3, 2211.3.1, 2211.8.1.2.4, 2403.12.6.1, 2404.15.7, 2606.4, 2703.7.3, 2703.8.7.1, 2703.9.4, 2704.7, 2705.1.5, 3003.7.6, 3003.8, 3003.16.11, 3003.16.14, 3203.7, 3203.7.2, 3403.1, Table 3403.1.1, 3403.1.3, 3404.2.8.12, 3404.2.8.17, 3406.2.8, 3503.1.5, 3503.1.5.1, 3606.5.5, 3606.5.6, 3704.2.2.8</u>
<u>IBC-06</u>	<u>International Building Code® . . . . .</u>	<u>102.3, 102.4, 201.3, 202, 304.1.3, 306.1, 311.1.1, 311.3, 313.1, 313.2, 408.7.2, 504.1, 509.1, 603.2, 603.3.2, 603.5.2, 603.6.1, 603.8, 604.1, 604.2.9, 604.2.15.1.3, 604.2.16, 604.2.16.1.1, 604.2.17, 608.4, 608.8, 701.1, 803.1, Table 803.3, 803.7.1, 803.7.2, 805.3.1.2, 807.1.2, 807.4.2.2, 901.4.1, 901.4.2, 903.2.4.2, 903.2.8.1, 903.2.9, 903.3.2, 903.3.5.2, 903.6, 907.2.6.2, 907.2.7, 907.2.12, 907.2.18, 907.2.21, 907.15, 909.1, 909.2, 909.3, 909.4.3, 909.5, 909.5.2, 909.5.2.1, 909.10.5, 911.2, 914.1, 914.2.1, 914.3.1, 914.5.3, 914.10, 1003.2, 1003.3.4, 1003.5, 1006.3, 1007.2, 1007.4, 1007.5, 1007.6.2, 1007.8, 1008.1.3.3, 1008.1.6, 1008.1.8.1, 1008.1.8.7, 1009.10, 1009.11.1, 1010.1, 1011.4, 1011.5.3, 1012.1, 1013.1, 1014.4.1, Table 1016.1, 1017.1, Table 1017.1, Table 1019.2, 1020.1, 1020.1.1, 1020.1.2, 1020.1.3, 1020.1.4, 1020.1.7, 1021.3, 1021.4, 1021.5, 1022.2, 1022.3, 1024.3, 1026.1, 1027.5, 1027.17, 1027.17.1, Table 1027.17.2, 1104.6, 1106.17, 1107.1, 1107.4, 1203.3, 1207.1, 1414.1, 1502.1, 1504.2, 1504.3.1, 1504.3.2.6, 1504.3.3, 1505.2, 1801.1, 1801.4, 1803.2.2, 1803.3.1, 1803.3.2, 1803.3.3, 1803.3.4, 1803.3.8, 1803.14, 1803.14.1, 1803.15.1, 1804.3.1, 1805.2.2.1, 1805.2.3.2, 1805.3.1, 1805.3.2, 1805.3.3, 1903.1, 2005.1, 2009.2, 2009.4, 2009.6, 2201.1, 2201.4, 2203.1, 2207.4, 2208.3, 2208.3.1, Table 2209.3.1, 2209.3.2.3, 2209.3.2.6.1, 2209.3.3, 2210.1, 2211.1, 2211.3.1, 2211.4.1, 2211.8.1.2.3, 2301.3, Table 2306.2, 2306.3.1, 2306.3.2.1, 2306.3.2.2, 2306.8, 2307.2, 2308.2, 2402.1, 2403.8.2, 2404.1, 2503.1, 2703.2.2.2, 2703.2.8, 2703.8.1, Table 2703.8.2, 2703.8.3.1, 2703.8.4.1, 2703.9.9, 2704.13, 2705.2,</u>

	2705.3.9, 2801.1, 2904.3, 2904.4, 2904.5, 3003.16.1, 3003.16.2, 3203.1.2, 3203.5.2, 3204.2, 3204.2.2.2, 3204.4.3, 3205.4.1, 3304.2, Table 3304.5.2.3, 3305.5, 3401.3, 3404.2.7.7, 3404.2.8.1, 3404.2.8.2, 3404.2.9.2, 3404.2.9.3, 3404.3.3.5, 3404.3.7.1, 3404.3.8, 3405.3.4, 3405.3.5.3, 3405.3.7.1, 3405.3.7.2, 3405.3.7.3, 3405.3.7.4, 3405.3.7.5.1, 3406.2.3, 3406.4.1, 3606.2.2, 3606.2.3, 3606.4.2, 3703.1.4.2, 3705.3.1, 3809.11.2, 3904.1.2, 4004.1.2, 4104.1.4, 4106.1.1, 4304.1
IFGC—06	International Fuel Gas Code® . . . . . 201.3, 603.1, 603.1.2, 603.5.2, 603.8, 1403.1, 1403.3, 1604.5, 2101.1, 2103.1, 2104.1, 2104.2, 2201.1, 2201.6, 2209.3.2.3, 2209.3.2.6, 2404.15.1, 2404.15.2, 2404.16.1, Table 2703.1.1(1), 3001.1, 3501.1, 3503.1.4, 3803.1, 3803.2.1.7, 3803.3
IMC—06	International Mechanical Code® . . . . . 201.3, 202, 308.3.7, 603.1, 603.1.2, 603.2, 603.3, 603.5.2, 603.8, 606.1, 606.2, 606.3, 606.4, 606.7, 606.8, 606.16, 608.6.1, 609.1, 903.2.12.1, 904.11, 909.1, 909.10.2, 1015.5, 1017.4.1, 1204.2.1, 1205.3, 1403.1, 1504.7, 1504.7.2, 1604.5, 1803.2.2, 1803.10.4, 1803.14, 1903.2, 1903.3, 2101.1, 2103.1, 2104.2, 2201.1, 2201.6, 2209.3.2.3, 2211.3.1, 2211.4.3, 2211.7.1, 2404.15.1, Table 2703.1.1(1), 2404.15.2, 2703.8.4.2, 2703.8.5.2, 2703.8.6.2, 2704.3.1, 2903.5, 3003.7.6, 3003.16.9, 3005.5, 3006.2.2, 3204.2.1.3, 3204.2.2.3, 3205.4.1.1, 3401.3, 3403.6.1, 3404.2.8.9, 3405.3.7.5.1, 3406.2, 3406.4.4, 3703.1.3, 3703.2.3.2, 3704.2.2.7, 3705.3.1, 3705.3.2, 3803.2.1.7
IPC—06	International Plumbing Code® . . . . . 201.3, 903.3.5, 912.5, 2211.2.3, 2704.2.2.6
IPMC—06	International Property Maintenance Code® . . . . . 311.1.1
IRC—06	International Residential Code® . . . . . 202, 1001.1
IWUIC—06	International Wildland-Urban Interface Code™ . . . . . 304.1.2



National Fire Protection Association  
 1 Batterymarch Park  
 Quincy, MA 02269-9101

Standard reference number	Title	Referenced in code section number
11-0205	Low-, <i>Medium</i> -, <i>High</i> -expansion Foam . . . . .	904.7, 3404.2.9.1.2
11A-99	<del>Medium and High expansion Foam Systems . . . . .</del>	<del>904.7, 3404.2.9.1.2</del>
12-0005	Carbon Dioxide Extinguishing Systems . . . . .	Table 901.6.1, 904.8, 904.11
12A-04	Halon 1301 Fire Extinguishing Systems . . . . .	Table 901.6.1, 904.9
13-02	Installation of Sprinkler Systems <u>as amended</u> * . . . . .	Table 704.1, 903.3.1.1, 903.3.2, 903.3.5.1.1, 903.3.5.2, 904.11, 905.3.4, 907.9, 2301.1, 2304.2, Table 2306.2, 2306.9, 2307.2, 2307.2.1, 2308.2.2, 2308.2.2.1, 2310.1, 2501.1, 2804.1, 2806.5.7, 3404.3.3.9, Table 3404.3.6.3(7), 3404.3.7.5.1, 3404.3.8.4

**\*Add a sentence to the beginning of Section 9.3.5.8.9 as follows:**  
*Where pipe is used for sway bracing, it shall have a wall thickness of not less than Schedule 40.*

**Replace Section 9.3.5.9.4 as follows:**  
*Lag screws or powder-driven fasteners shall not be used to attach braces to the building structure.*

32-0004	Dry Cleaning Plants . . . . .	1207.1, 1207.3
35-9905	Manufacture of Organic Coatings . . . . .	2001.3, 2005.4
<i>NFPA 37, 2002 Edition, 37-02 Installation and Use of Stationary Combustion Engines and Gas Turbines</i>		
51A-01	Acetylene Cylinder Charging Plants . . . . .	2608.1
52-0206	Compressed Natural Gas (CNG) Vehicular Fuel System Code . . . . .	3001.1
<i>NFPA 54, 2002 Edition, 54-05 National Fuel Gas Code</i>		
59A-0106	Production, Storage and Handling of Liquefied Natural Gas (LNG) . . . . .	3001.1, 3201.1
72-02	National Fire Alarm Code, <u>as amended</u> * . . . . .	509.1, Table 901.6.1, 903.4.1, 904.3.5, 907.2, 907.2.1.1, 907.2.10,

907.2.10.4, 907.2.11.2, 907.2.11.3, 907.2.12.2.3, 907.2.12.3,  
907.3, 907.5, 907.6, 907.10.2, 907.11, 907.15, 907.17, 907.18,  
907.20, 907.20.2, 907.20.5

*NFPA 72, 2002 Edition, National Fire Alarm Code, as amended. \*NFPA 72, Amended Sections as follows:*

**4.4.4.4. Wiring.** The installation of all wiring, cable and equipment shall be in accordance with ~~NFPA 70 California National~~ Electrical Code, and specifically with Article 760, 770 and 800, where applicable. Optical fiber cables shall be protected against mechanical injury in accordance with Article 760.

**5.12.4** The operable part of each manual fire alarm box shall be not less than 1.1 m (3 1/2 ft) and not more than ~~1.37m (4 1/2 ft)~~ 1.22 m (4 ft) above floor level.

**5.12.8** Additional fire alarm boxes shall be provided so that the travel distance to the nearest fire alarm box shall not be in excess of 61m (200 ft) measured horizontally on the same floor.

*Exception: When individual dwelling units are served by a single exit stairway, additional boxes at other than the ground floor may be omitted.*

**6.4.2.2.2**

*Exception: (4) Where the vertically run conductors are contained in a 2-hour rated cable assembly, or enclosed (installed) in a 2-hour rated enclosure or a listed circuit integrity (C.I.) cable, which meets or exceeds a 2-hour fire resistive rating.*

**6.8.5.4.1 (2)** A smoke detector that is continuously subjected to a smoke concentration above alarm threshold does not delay the system within functions of 4.4.3, 6.8.1.1, or 6.15.2.1 by more than ~~1 minute~~ 30 seconds.

**6.8.5.4.1 (5)** *Operation of a patient room smoke detector in Group I-1 and I-2 Occupancies shall not include an alarm verification feature.*

**7.4.1.2.** *The total sound pressure level produced by combining the ambient sound pressure level with all audible notification appliances operation shall not exceed ~~120~~ 110 dBA anywhere in the occupied area.*

**7.4.3.1.** *Audible notification appliances intended for operation in the private mode shall have a sound level of not less than 45dBA at 10 feet (3m) or more than ~~120~~ 110 dBA at the minimum hearing distance from the audible appliance.*

**11.7.2.1** *The alarm verification feature shall not be used for household fire warning equipment.*

**11.7.5.7.1** *The alarm verification feature shall not be used for household fire warning equipment.*

*NFPA 92 A, 2000 Edition, 92A-00 Recommended Practice for Smoke-Control Systems*

92B-05	Smoke Management Systems in Malls, Atria and Large Spaces . . . . .	909.8
99-02-05	Health Care Facilities . . . . .	3006.4
101-03-06	Life Safety Code. . . . .	1025.6.2
110-02-05	Emergency and Standby Power Systems . . . . .	604.1, 604.3, 604.4, 913.5.2, 913.5.3
111-01-05	Stored Electrical Energy Emergency and Standby Power Systems. . . . .	604.1, 604.3, 604.4
120-99-04	Coal Preparation Plants . . . . .	Table 1304.1
160-01-06	Flame Effects Before an Audience.. . . .	308.3.6
241-00-04	Safeguarding Construction, Alteration, and Demolition Operations. . . . .	1401.1
286-00-06	Standard Method of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth . . . . .	803.1, 803.1.2, 803.1.2.1, 803.5.1
303-00-06	Fire Protection Standard for Marinas and Boatyards . . . . .	905.3.7
409-01-04	Aircraft Hangars . . . . .	914.8.2, 914.8.5
430-00-04	Storage of Liquid and Solid Oxidizers. . . . .	4004.1.4
484-02-06	Combustible Metals, Metal Powders, and Metal Dusts . . . . .	Table 1304.1

495—01-06	Explosive Materials Code . . . . .	911.1, 911.4, 3301.1.1, 3301.1.5, 3302.1, 3304.2, 3304.6.2, 3304.6.3, 3304.7.1, 3305.1, 3306.1, 3306.5.2.1, 3306.5.2.3, 3307.1, 3307.9, 3307.11, 3307.15
498—01-06	Safe Havens and Interchange Lots for Vehicles Transporting Explosives. . . . .	3301.1.2
505—02-06	Powered Industrial Trucks, Including Type Designations, Areas of Use, Maintenance, and Operation . . . . .	2703.7.3
654—00-06	Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids . . . . .	Table 1304.1
701—99-04	Methods of Fire Tests for Flame-propagation of Textiles and Films. . . . .	806.2, 807.1, 807.1.2, 807.2, 807.4.2.2, 1703.5
703—00-06	Fire Retardant Impregnated Wood and Fire Retardant Coatings for Building Materials. . . . .	803.4
1123—00-06	Fireworks Display . . . . .	3302.1, 3304.2, 3308.1, 3308.2.2, 3308.5, 3308.6
1124—03-06	Manufacture, Transportation, Storage, and Retail Sales of Fireworks and Pyrotechnic Articles . . . . .	3302.1, 3304.2, 3305.1, 3305.3, 3305.4, 3305.5
1126—01-06	Use of Pyrotechnics Before a Proximate Audience . . . . .	3304.2, 3305.1, 3308.1, 3308.2.2, 3308.4, 3308.5

**SFM**  
 State of California  
 Department of Forestry and Fire Protection  
 Office of the State Fire Marshal  
 P.O. Box 944246  
 Sacramento, CA 944246-2460

<u>Standard reference number</u>	<u>Title</u>	<u>Referenced in code section number</u>
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~~3504.1.2 (For SFM)~~ (SFM STANDARDS from 2001 CFC) *California State Fire Marshal Standards are found in the California Code of Regulations, Title 24, Part 12.*

- ~~SFM 12-3, Releasing Systems for Security Bars in Dwellings~~
- ~~SFM 12-4-1, Smoke or Heat Ventilators.~~
- ~~SFM 12-7-1, Fire Tests of Building Construction and Materials~~
- ~~SFM 12-7-2, Fire Dampers~~
- ~~SFM 12-7-3, Fire-testing Furnaces~~
- ~~SFM 12-7A-1, Exterior Wall Siding and Sheathing~~
- ~~SFM 12-7A-2, Exterior Window~~
- ~~SFM 12-7A-3, Under Eave~~
- ~~SFM 12-7A-4, Decking~~
- ~~SFM 12-8-100, Room Fire Tests for Wall and Ceiling Materials.~~
- ~~SFM 12-8-1A, Calculation of the Total Rate of Heat and Carbon Monoxide or Carbon Dioxide Production~~
- ~~SFM 12-8-1B, Mounting Techniques for Wall and Ceiling Interior Finish Material~~
- ~~SFM 12-10-1, Power Operated Exit Doors~~
- ~~SFM 12-10-2, Single Point Latching or Locking Devices~~
- ~~SFM 12-10-3, Emergency Exit and Panic Hardware~~
- ~~SFM 12-72-1, Protective Signaling Systems~~
- ~~SFM 12-72-2, Single and Multiple Station Fire Alarm Devices~~
- ~~SFM 12-73-3, Smoke Detectors, Combustion Products Type~~

*(The Office of the State Fire Marshal standards referred to above are found in the California Code of Regulations, Title 24, Part 12.)*



Standard reference number	Title	Referenced in code section number
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- ~~27. UL 13-96 Power-limited Circuit Cables, Second Edition February 29, 1996~~  
~~28. UL 38-99 Manually Actuated Signaling Boxes, Seventh Edition, March 26, 1999, with revisions through June 12, 2001 February 2, 2005 as amended.\*~~

**\*Amend Section 14.1.5 as follows:**

14.1.5 A signaling box having a glass panel, disc, rod, or similar part that must be broken to operate it for a signal or for access to its actuating means shall satisfactorily complete five part-breaking operations using the means provided with the box, without jamming of the mechanism or other interference by broken particles. It shall be practicable to remove and replace the broken parts. A signaling box shall not have a glass panel, disc, rod, or similar part requiring a striking action by grasping a tool to operate it for a signal. The force required to activate controls shall be no greater than 5 pounds (22.N) of force.

**\*Add Appendix B Chapter to UL 38 (1999) as follows:**

**Appendix B, Section 4.1.5**

4.1.5 Operation. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.

- ~~29. UL 193-04 Alarm Valves for Fire-Protection Service, Tenth Edition, January 12, 2004~~  
~~30. UL 199-95 Automatic Sprinklers for Fire Protection Service, Edition with revisions through August 19, 2005~~  
~~31. UL 199 E Fire Test of sprinklers and Water Spray Nozzles for the Protection of Deep Fat Fryers, May 2004~~  
~~32. UL 217-97 Single- and Multiple-Station Smoke Alarm, Fifth Edition, February 21, 1997 with revisions through June 15, 2004 August 15, 2005~~

**Amend Section 34.2.1 as follows:**

Each single and multiple station smoke alarm may be provided with an automatically resettable alarm silencing means that has a fixed or variable time setting which silences the smoke alarm for a maximum of 15 minutes. Alarm silencing shall not disable the smoke alarm. It may reduce the sensitivity to no more than 4 percent obscuration (0.0177 O.D. per foot). Each device shall operate a distinctive audible trouble signal while in the silence mode. This may be done with a short beep similar to the low-battery signal or by visible indication. Following the silenced period, the alarm shall restore automatically to its intended operation. Silencing of one alarm of a multiple station system shall not prevent an alarm operation from the other alarms in the system. See 34.2.1 and 34.2.2.

- ~~33. UL 228-97 Door Closers/ Holders, with or without Integral Smoke Detectors, Fourth Edition, April 29, 1997, with revisions through January 21, 1999 January 26, 2006~~  
~~34. UL 260-04 Dry Pipe and Deluge Valves for Fire Protection Service, Seventh Edition, March 17, 2004~~  
~~35. UL 262-04 Gate Valves for Fire Protection Service, Eighth Edition, February 26, 2004~~  
~~36. UL 268-96 Smoke Detectors for Fire Protective Signaling Systems, Fourth Edition, December 30, 1996, with revisions through October 22, 2003~~  
~~37. UL 268A-98 Smoke Detectors for Duct Application, Third Edition, May 15, 1998 with revisions through April 10, 2003 October 22, 2003~~  
~~38. UL 312-04 Check Valves for Fire-Protection Service, Ninth Edition, January 8, 2004~~  
~~39. UL 346-05 Waterflow Indicators for Fire Protective Signaling Systems Fourth Edition, May 27, 1994~~  
~~40. UL 464-03 Audible Signal Appliances, Eighth Edition, April 28, 2003, with revisions through October 10, 2003~~  
~~41. UL 497B-04 Protectors for Data Communication and Fire Alarm Circuits, Fourth Edition, June 14, 2004~~  
~~42. UL 521-99 Heat Detectors for Fire Protective Signaling Systems, Seventh Edition, February 19, 1999 with revisions through October 3, 2002 July 20, 2005~~  
~~43. UL 539-00 Single- and Multiple-Station Heat Detectors, Fifth January 21, 2000, with revisions through August 15, 2005~~  
~~44. UL 632-00 Electrically Actuated Transmitters Seventh Edition, March 29, 2000~~  
~~45. UL 753-04 Alarm Accessories for Automatic Water Supply Valves for Fire Protection Service, Ninth Edition, May 7, 2004~~  
~~46. UL 813-96 Commercial Audio Equipment, Seventh Edition, December 13, 1996, with revisions through December 7, 1999~~  
~~47. UL 864-03 Control Units for Fire Protective Signaling Systems, as amended\*, Ninth Edition, September 30, 2003 with revisions through October 29, 2003 July 14, 2005~~

**\*Amend No. 55.1 as follows:**

**RETARD-RESET-RESTART PERIOD – MAXIMUM 30 SECONDS** - No alarm obtained from control unit. Maximum permissible time is ~~60~~ 30 seconds.

**\*Amend Section 55.2.2 as follows:**

Where an alarm verification feature is provided, the maximum retard-reset-restart period before an alarm signal can be confirmed and indicated at the control unit, including any control unit reset time and the power-up time for the detector to become operational for alarm, shall not exceed 30 seconds. (The balance of the section text is to remain unchanged).

**\*Add a Section 55.2.9 as follows:**

Smoke detectors connected to an alarm verification feature shall not be used as releasing devices.

**Exception:** Smoke detectors which operate their releasing function immediately upon alarm actuation independent of alarm verification feature.

**\*Amend Section 89.1.10 as follows:**

The existing text of this section is to remain as printed with one editorial amendment as follows:

**THE TOTAL DELAY (CONTROL UNIT PLUS SMOKE DETECTORS) SHALL NOT EXCEED 30 SECONDS.**

(The balance ~~of~~ of the section text is to remain unchanged).

~~48. UL-884-05 Underfloor Electric Raceways and Fittings, Tenth Edition, 1987 November 30, 1998~~

~~49. UL-913-02 Intrinsically Safe Apparatus for Use in Class I, II, and III, Division 1, Hazardous Locations, Sixth Edition, August 8, 2002 with revisions through August 9, 2004~~

~~50. UL-916-98 Energy Management Equipment, Third Edition, December 23, 1998 with revisions through February 10, 2004~~

~~51. UL-924-95 Emergency Lighting and Power Equipment, Eighth Edition, March 29, 1995 with revisions through and including July 11, 2001~~

~~52. UL-985-00 Household Fire Warning System Units, Fifth Edition, May 26, 2000 with revisions through April 29, 2004~~

~~53. UL-1091-04 Butterfly Valves for Fire Protection Service Sixth Edition, June 3, 2004 with revisions through August 5, 2005~~

~~54. UL-1424-05 Cables for Power-limited Fire Protective Signaling Circuits, Second Edition, April 29, 1996~~

~~55. UL-1480-03 Speakers for Fire Protective Signaling Systems Fifth Edition, January 31, 2003 with revisions through April 8, 2005~~

~~56. UL-1481-99 Power Supplies for Fire Protective Signaling Systems, Fourth Edition, April 9, 1999~~

~~61. UL-1484-00 Residential Gas Detectors Fourth Edition, December 28, 2000~~

~~57. UL-1626-01 Residential Sprinklers for Fire Protection Service, 1.2 revised September 6, 2000 with revisions through December 8, 2003~~

~~58. UL-1711-99 Amplifiers for Fire Protective Signaling Systems, Third Edition, February 18, 1999~~

~~59. UL-1730-98 Smoke Detector Monitors and Accessories (annunciators) for Individual Living Units of Multifamily Residences and Hotel/Motel Rooms, Third Edition, September 18, 1998, with revisions through May 17, 1999~~

~~60. UL-1971-02 Signaling Devices for the Hearing Impaired, Third Edition, , November 29, 2002, with revisions through May 3, 2004 July 20, 2004~~

~~62. UL-1994-04 Low Level Path Marking and Lighting Systems, Third Edition, January 30, 2004 with revisions through February 14, 2005~~

~~63. UL-2034-96 Single and Multiple Station Carbon Monoxide Alarms, Second Edition, October 29, 1996, with revisions through June 28, 2002 March 8, 2005~~

~~64. UL-2079-04, Tests for Fire Resistance of Building Joint Systems, Third Edition, July 31, 1998 as amended~~

Authority: Health and Safety Code Sections 13108, 13108.5(a), 13143, 13143.6, 13210, 17920(b), 18949.2(b) 18949.2(c), Government Code Section 51189 and Public Education Code 17074.50.

References: Health and Safety Code Sections 13143 and Government Code Sections 51176, 51177, 51178 and 51179 and Public Resources Code Sections 4201 through 4204

(Entire Chapter relocated from 2001 CFC Article 40)

## **CHAPTER 46**

### **MOTION PICTURE AND TELEVISION PRODUCTION STUDIO SOUND STAGES, APPROVED PRODUCTION FACILITIES, AND PRODUCTION LOCATIONS**

**(Note: Adopt entire Chapter with amendments.)**

#### **4601 GENERAL**

**4601.1 Scope.** *Production studios, sound stages, approved production facilities, and production locations used by the entertainment industry for the purpose of motion picture, television and commercial production shall be in accordance with the provisions of this article.*

**4601.2 Purpose.** *The purpose of this article is to establish minimum requirements that will provide a reasonable degree of safety from fire, panic and explosion. Buildings and structures defined herein shall be in accordance with this article.*

#### **4601.3 DEFINITIONS.**

**APPROVED FIRE WATCH** *are individuals provided with at least one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires.*

**APPROVED PRODUCTION FACILITY** *is an existing building, or portion of a building, or a group of buildings altered for use by the entertainment industry for the purpose of motion picture, television and commercial production.*

**PLATFORM** *is part of a set, which is a floor or horizontal surface raised above stage floor level.*

**PRODUCTION LOCATION** *is any area or facility outside a production studio, approved production facility or sound stage used by the entertainment industry for the purpose of motion picture, television and commercial production.*

**PRODUCTION STUDIO** *is a building, portion of a building, or a group of buildings designed and constructed for use by the entertainment industry for the purpose of motion picture, television and commercial production.*

**SET** *is a structure built or assembled for the purpose of motion picture, television and commercial production.*

**SOUND STAGE** *is a building or portion of a building usually insulated from outside noise and natural light for use by the entertainment industry for the purpose of motion picture, television and commercial production.*

#### **4602 OCCUPANCY CLASSIFICATION**

**4602.1 Live Audience Stages.** *Production facilities, sound stages and approved production studios with live audience stages shall be classified as Group A 1 Occupancies in accordance with the California Building Code.*

**4602.2 All Other Stages.** *Production studios, sound stages and approved production facilities without live audience stages shall be classified as Group F 1 Occupancies in accordance with the California Building Code.*

**Note:** Sections 4603 through 4610 apply only to Studio Sound Stages and Approved Production Facilities

#### **4603 REQUIRED PERMITS**

**4603.1 Change in Use.** *A permit from the Fire Code Official shall be obtained any time a change in use or occupancy is intended by the owner (e.g., for live audience shows, wrap parties).*

**4603.2 Additional Permits.** *A permit shall be required for:*

- a) Use of pyrotechnic special effects.*
- b) Open flames.*
- c) Flammable or combustible liquids, gases and dust.*
- d) Hot work.*
- e) Presence of motor vehicles within a building.*

f) Any additional permits as required by the Fire Code Official.

**4603.3 Live Audiences.** A permit shall be required for seating arrangements of all live audience stages.

#### **4604 GENERAL REQUIREMENTS**

**4604.1 Housekeeping.** Provisions of this part shall maintain proper housekeeping in accordance with Chapter 3.

**4604.2 Aisles.** Perimeter aisles within the sound stage and approved production facility shall be provided. Aisles required by this section shall have a minimum width of 4 feet (1219 mm). See Chapter 10 for maintenance requirements. Aisles required by this section shall have a minimum clear unobstructed height of 7 feet (2134 mm).

**4604.3 Travel Distance.** The maximum travel distance to any exit within the sound stage and approved production facility shall be 150 feet (45,720 mm).

**4604.4 Exit Doors.** Exit doors shall be equipped with panic hardware and swing in the direction of exit travel.

**4604.5 Exit Signs.** Illuminated exit signs shall be installed in accordance with the California Building Code.

**4604.6 Exit Illumination.** Exit illumination shall be provided in accordance with the California Building Code. In the event of power failure, exit path illumination shall be automatically provided by an approved emergency back-up system.

**4604.7 Exit Obstructions.** All means of egress shall be maintained in accordance with the provisions of Chapter 10, Section 1005.1.

**4604.8 Foam Plastics.** All foam plastics shall meet the requirements of Chapter 8, Sections 807.4.2.4 and 807.4.5.

**4604.9 Decorative Materials.** Drapes, drops, cut greens, etc., shall meet the flame retardant requirements of Title 19 GGR-California Code of Regulations, Chapter 5, and Chapter 8, Sections 807.4.2.4 and 807.4.5.

#### **4605 FIRE-EXTINGUISHING SYSTEMS**

**4605.1 Existing Sound Stages and Approved Production Facilities.** All existing sound stages and approved production facilities equipped with an automatic fire sprinkler system shall be maintained in accordance with the provisions in Chapter 9.

**4605.2 New Sound Stages.** All new sound stages shall be equipped with an approved automatic fire sprinkler system. The system shall be installed in accordance with the provisions in Chapter 9 and shall meet the minimum design requirements of an Extra Hazard, Group 2 system.

**4605.3 Solid-ceiling Sets and Platforms.** All interior solid-ceiling sets over 600 square feet (55.7 m<sup>2</sup>) in area, and platforms (when provided) over 600 square feet (55.7 m<sup>2</sup>) in area and which exceed 3 feet (914 mm) in height shall be protected by one of the following:

1. An approved and listed heat detector system. Heat detectors shall be spaced 30 feet (9144 mm) on center or as required by the manufacturer's installation instructions. Detectors shall be connected to an approved and listed central, proprietary or remote station service or a local alarm, which will give an audible signal at a constantly attended location. Such system shall be installed in accordance with Chapter 9.
2. The ceiling shall be positioned to allow for the operation of the building's automatic fire sprinkler system after rehearsal, videotaping, filming, or broadcasting of programs has been completed for the day.
3. An approved fire watch.
4. Special hazards shall be reviewed by the Fire Code Official (see Additional Fire Protection Systems, Section 901.4.3).

#### **4606 FIRE-DETECTION EQUIPMENT**

**4606.1 Fire Alarm Control Units.** Fire alarm control units shall be California State Fire Marshal listed and shall be utilized in accordance with their listing. Control Units may be temporarily supported by sets, platforms or pedestals.

**4606.2 Heat Detectors.** Heat detection required by this article shall be defined as a portable system as it is intended to be reinstalled when platforms or sets are changed.

Heat detectors may be secured to standard outlet boxes which may be temporarily supported by sets, platforms or pedestals.

Heat detectors shall be provided for solid-ceiling sets and platforms where required by 4605.3 and 4611.14.

**4607 FIRE SAFETY OFFICERS.** Where permits are required by the Fire Code, a requirement for standby fire safety officers shall be determined by the Fire Code Official on a case-by-case basis. Standby fire safety officers shall not be required when the provisions of this article are met.

#### **4608 ELECTRICAL REQUIREMENTS**

**4608.1 General.** All electrical equipment including lighting, cabling and temporary power, such as portable generators, shall be maintained in good working order and shall comply with the provisions of the California Electrical Code.

**4608.2 Lighting and Power Requirements.** A studio sound stage and approved production facility shall be provided with a minimum of 35 watts per square foot of permanently installed power dedicated for the distribution of production lighting and power. Mobile generators may be utilized for auxiliary power.

**4608.3 Distribution.** Distribution equipment shall be designed for sound stage use. The wiring to such equipment shall be considered permanent and shall comply with applicable provisions of the California Electrical Code. Temporary feeders shall not be tapped from panelboards and switchboards where deadfront covers have to be removed.

**4608.4 Installations.** Permanent or temporary electrical installations shall be installed in accordance with the California Electrical Code and this code. Such equipment shall not obstruct exits, means of egress or fire department access, unless approved by the Fire Code Official.

**4608.5 Generators.** Portable, mobile or stationary power-generating equipment may be used to supplement building electrical power for temporary use. Equipment shall be located at a pre-designated location as approved by the Fire Code Official.

Temporary auxiliary power cables supplied from mobile generators or adjacent buildings may pass through exterior walls and interior fire-resistive assemblies provided an approved through-penetration fire-stop system is utilized for protection of the opening.

#### **4609 MECHANICAL EQUIPMENT**

**4609.1 Existing Equipment.** All mechanical equipment used as part of the building ventilation system shall be maintained in good working order and shall comply with the provisions of the California Mechanical Code.

**4609.2 Auxiliary Equipment.** All auxiliary heating, ventilation and air-conditioning equipment shall be approved and listed for the intended use. Flexible duct, if utilized, shall be noncombustible. Such auxiliary equipment shall not obstruct exits, means of egress or fire department access.

**4610 DESIGN REQUIREMENTS** The Fire Code Official shall be provided with certification that approved production facilities and studio sound stages will sustain the anticipated loads of sets, props or other temporary modifications.

Where the anticipated loads exceed the design criteria for an approved production facility and studio sound stage, the building or portions thereof shall be modified for the additional loads.

#### **4611 PRODUCTION LOCATIONS**

**4611.1 General.** This chapter shall apply to Production Locations.

**4611.2 Permits.** A permit shall be obtained, unless waived by the Fire Code Official for any of the activities that follow:

- a) Use of pyrotechnic special effects, see Section 3308.1.1 and Title 19, CCR-California Code of Regulations, Chapter 6.
- b) Open flames.
- c) Flammable or combustible liquids, gases and dust.
- d) Hot work.
- e) Presence of motor vehicles within a building.
- f) Tents and canopies, see Chapter 24.
- g) Any additional permits as required by the AHJ.

**4611.3 Pyrotechnic Special Effects and Open Flames.** The use of pyrotechnic special effects and open flames shall be subject to the approval of the Fire Code Official.

**4611.4 Standby Fire Personnel.** A requirement for standby fire safety officers shall be determined by the Fire Code Official on a case-by-case basis.

**4611.5 Foamed Plastic Materials.** All foam plastics shall meet the requirements of Chapter 8, Sections 807.4.2.4 and 807.4.5.

**4611.6 Smoking.** When the Fire Code Official determines that hazardous conditions necessitate controlled use of smoking materials, smoking may be prohibited or limited to designated smoking areas.

**4611.7 Structural Loads.** Sets, scenery and other equipment shall not impact the structural integrity of a building or structure. Consultation with a building official or structural engineer may be required.

**4611.8 Electrical Requirements.**

**4611.8.1 General.** All electrical equipment including lighting, cabling and temporary power, such as portable generators, shall be maintained in good working order and shall comply with the provisions of the California Electrical Code.

**4611.8.2 Distribution.** Temporary feeders shall not be tapped from panelboards and switchboards where deadfront covers have to be removed.

**4611.8.3 Installations.** Electrical installations shall be installed in accordance with the California Electrical Code. Such equipment shall not obstruct exits, means of egress or fire department access, unless approved by the Fire Code Official.

**4611.8.4 Generators.** Portable, mobile or stationary power-generating equipment may be used to supplement building electrical power for temporary use. Equipment shall be placed in a location acceptable to the Fire Code Official.

**4611.9 Fire Department Access.** Required emergency vehicle access shall be maintained. Any deviations are subject to approval by the Fire Code Official.

**4611.10 Means of Egress.** The production location shall be provided with means of egress appropriate for the intended use as approved by the Fire Code Official.

**4611.11 Fire Protection Systems and Equipment.** Functional fire protection systems and equipment shall be maintained in an operable condition, unless approved by the Fire Code Official. Disconnecting or altering of fire protection systems and/or equipment shall be prohibited, unless otherwise approved by the Fire Code Official with alternate means of protection provided.

**4611.12 Fire Hydrants and Fire Appliances.** Hydrants, standpipes and Fire Department Connections (FDC) shall not be obstructed, blocked or rendered inoperable in accordance with Chapter 9, unless approved by the Fire Code Official.

**4611.13 Fire Extinguishers.** Approved fire extinguishers shall be provided as required by the Fire Code Official.

**4611.14 Solid-Ceiling Sets and Platforms.** In buildings with existing fire protection systems and where production intends to construct solid-ceiling sets over 600 square feet (55.7 m<sup>2</sup>) in area, and platforms over 600 square feet (55.7 m<sup>2</sup>) in area and which exceed 3 feet (914 mm) in height shall be protected by one of the following:

1. An approved and listed heat detector system. Heat detectors shall be spaced 30 feet (9144 mm) on center or as required by the manufacturer's installation instructions. Detectors shall be connected to an approved and listed central, proprietary or remote station service or a local alarm, which will give an audible signal at a constantly attended location. Such system shall be installed in accordance with Chapter 9.
2. The ceiling shall be positioned to allow for the operation of the building's automatic fire sprinkler system after rehearsal, videotaping, filming, or broadcasting of programs has been completed for the day.
3. An approved fire watch.
4. Special hazards shall be reviewed by the enforcing agency (see additional fire protection systems, Section 901.4.3.).

**4611.15 Buildings Without Fire Protection Systems.** Special hazards shall be reviewed by the Fire Code Official (see special hazards Section 901.4.3).

Authority: Health and Safety Code Sections 13143, 18949  
References: Health and Safety Code Sections 13143

(Entire Chapter relocated from 2001 CFC Articles 86A and 86B)

#### **CHAPTER 47**

### **REQUIREMENTS FOR WILDLAND-URBAN INTERFACE FIRE AREAS**

**(Note: Adopt entire Chapter with amendments.)**

#### **4701 GENERAL**

**4701.1 Scope.** The mitigation of conditions where a wildfire burning in vegetative fuels may readily transmit fire to buildings and threaten to destroy life, overwhelm fire suppression capabilities, or result in large property losses shall comply with this chapter.

**4701.2 Purpose.** The purpose of this code is to provide minimum standards to increase the ability of a building to resist the intrusion of flame or burning embers being projected by a vegetation fire and contributes to a systematic reduction in conflagration losses through the use of performance and prescriptive requirements.

#### **4702. DEFINITIONS.**

**4702.1 General.** For the purpose of this chapter, certain terms are defined as follows:

**CDF DIRECTOR** means the Director of the California Department of Forestry and Fire Protection.

**FIRE PROTECTION PLAN** is a document prepared for a specific project or development proposed for a Wildland-Urban Interface Fire Area. It describes ways to minimize and mitigate potential for loss from wildfire exposure.

The Fire Protection Plan shall be in accordance with this Article. When required by the enforcing agency for the purposes of granting modifications, a fire protection plan shall be submitted. Only locally adopted ordinances that have been filed with the California Building Standards Commission in accordance with Section 101.14 or the Department of Housing and Community Development in accordance with Section 101.15 shall apply.

**FIRE HAZARD SEVERITY ZONES** are geographical areas designated pursuant to California Public Resources Codes Sections 4201 through 4204 and classified as Very High, High, or Moderate in State Responsibility Areas or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code Sections 51175 through 51189.

The California Code of Regulations, Title 14, section 1280 entitles the maps of these geographical areas as "Maps of the Fire Hazard Severity Zones in the State Responsibility Area of California."

**LOCAL AGENCY VERY HIGH FIRE HAZARD SEVERITY ZONE** means an area designated by a local agency upon the recommendation of the CDF Director pursuant to Government Code Sections 51177(c), 51178 and 5118 that is not a state responsibility area and where a local agency, city, county, city and county, or district is responsible for fire protection.

**STATE RESPONSIBILITY AREA** means lands that are classified by the Board of Forestry pursuant to Public Resources Code Section 4125 where the financial responsibility of preventing and suppressing forest fires is primarily the responsibility of the state.

**WILDFIRE** is any uncontrolled fire spreading through vegetative fuels that threatens to destroy life, property, or resources as defined in Public Resources Code Sections 4103 and 4104.

**WILDFIRE EXPOSURE** is one or a combination of radiant heat, convective heat, direct flame contact and burning embers being projected by vegetation fire to a structure and its immediate environment.

**WILDLAND-URBAN INTERFACE FIRE AREA** is a geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. See Article 86B for the applicable referenced Sections of the Government Code and the Public Resources Code.

#### **4703 PLANS [RESERVED]**

#### **4704 FIRE HAZARD SEVERITY ZONES**

**4704.1 General.** Lands in the state are classified by the CDF Director in accordance with the severity of wildfire hazard expected to prevail in those areas and the responsibility for fire protection, so that measures may be identified which will reduce the potential for losses to life, property, and resources from wildfire.

**4704.2 Classifications.** The CDF Director classifies lands into fire hazard severity zones in accordance with California Public Resources Code Sections 4201 through 4204 for State Responsibility Areas and accordance with Government Code Sections 5117 through 51189 for areas where a local agency is responsible for fire protection.

#### **4705 WILDLAND-URBAN INTERFACE FIRE AREA**

**4705.1 General.** Construction methods and requirements to mitigate wildfire exposure shall be applied within geographical areas where a wildfire burning in vegetative fuels may readily transmit fire to buildings and threaten to destroy life, overwhelm fire suppression capabilities, or result in large property losses.

##### **4705.2 Construction Methods and Requirements within Established Limits.**

Within the limits established by law, construction methods intended to mitigate wildfire exposure shall comply with the California Building Code Chapter 7A, and this chapter.

**4705.3 Establishment of Limits.** The establishment of limits for the Wildland-Urban Interface Fire Area's required construction methods shall be designated pursuant to the California Public Resources Code for State Responsibility areas or by a local agency following a finding supported by substantial evidence in the record that the requirements of this Section are necessary for effective fire protection within the area.

#### **SECTION 4706 VEGETATION MANAGEMENT [RESERVED]**

#### **SECTION 4707 DEFENSIBLE SPACE [RESERVED]**

#### **SECTION 4708 MATERIALS AND CONSTRUCTION METHODS FOR EXTERIOR WILDFIRE EXPOSURE**

##### **4708.1 SCOPE, PURPOSE AND APPLICATION**

**4708.1.1 Scope.** This Article applies to building materials, systems and or assemblies used in the exterior design and construction of new buildings located within a Wildland- Urban Interface Fire Area as defined in this chapter.

**4708.1.2 Purpose.** The purpose of this Article is to establish minimum standards for the protection of life and property by increasing the ability of a building located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area to resist the intrusion of flame or burning embers projected by a vegetation fire and contributes to a systematic reduction in conflagration losses.

**4708.1.3 Application.** New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted on or after December 1, 2005, shall comply with the following Sections:

1. 4710.1 Roofing
2. 4710.2 Attic Ventilation

**4708.2 Alternates for materials, design, tests, and methods of construction.** The enforcing agency is permitted to modify the provisions of this chapter for site-specific conditions in accordance with the California Building Code Section 104.10. When required by the enforcing agency for the purposes of granting modifications, a fire protection plan shall be submitted in accordance with the Chapter 47.

## **SECTION 4709 STANDARDS OF QUALITY [RESERVED]**

## **SECTION 4710 MATERIALS, SYSTEMS AND METHODS OF CONSTRUCTION**

### **4710.1 ROOFING**

**4710.1.1 General.** Roofs shall comply with the requirements this chapter and the California Building Code, Chapter 15. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions.

**4710.1.2 Roof Coverings.** Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to prevent the intrusion of flames and embers, be fire-stopped with approved materials or have one layer of No. 72 ASTM cap sheet installed over the combustible decking.

**4710.1.3 Roof Valleys.** When provided, valley flashings shall be not less ~~0.046~~ 0.019- inch (~~0.44~~ 0.48 mm) (No. ~~2826~~ galvanized sheet gage) corrosion-resistant metal installed over a minimum 36 inches (914 mm) wide underlayment consisting of one layer of No. 72 ASTM cap sheet running the full length of the valley.

**4710.1.4 Roof Gutters.** Roof gutters shall be provided with the means to prevent the accumulation of leaves and debris in the gutter.

### **4710.2 Attic Ventilation.**

**4710.2.1 General.** When required by the California Building Code, Chapter 15, roof and attic vents shall resist the intrusion of flame and embers into the attic area of the structure, or shall be protected by corrosion resistant, non-combustible wire mesh with ¼ inch (6 mm) openings or its equivalent.

**4710.2.2 Eave or Cornice Vents.** Vents shall not be installed in eaves and cornices. Exception: Eave and cornice vents may be used provided they resist the intrusion of flame and burning embers into the attic area of the structure.

## **4711 EXTERIOR WALLS . [RESERVED]**

## **4712 DECKING, FLOORS AND UNDERFLOOR PROTECTION. [RESERVED]**

## **4713 ANCILLARY BUILDINGS AND STRUCTURES [RESERVED]**

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

## **APPENDIX CHAPTER 1 ADMINISTRATION**

**IFC Chapter 1 Administration relocated here as an Appendix**

**(Note: Adopt only those Sections listed the matrix adoption table.)**

Authority: Health and Safety Code Sections 13143, 18949

References: Health and Safety Code Sections 13143

**Table 105.6.8**

Add a permit to Table 105.6.21 for Pyrophoric Compressed Gas as currently required by CFC Section 105 Table 105-A

**TABLE 105.6.8  
PERMIT AMOUNTS FOR COMPRESSED GASES**

TYPE OF GAS	AMOUNT (cubic feet at NTP)
Corrosive	200
Flammable (except cryogenic fluids and liquefied petroleum gases)	200
Highly toxic	Any Amount
Inert and simple asphyxiant	6,000
Oxidizing (including oxygen)	504
<u>Pyrophoric</u>	<u>Any Amount</u>
Toxic	Any Amount

**TABLE 105.6.20  
PERMIT AMOUNTS FOR HAZARDOUS MATERIALS**

TYPE OF MATERIAL	AMOUNT
Combustible liquids	See Section 105.6.17
Corrosive materials	
Gases	See Section 105.6.9
Liquids	55 gallons
Solids	<del>1000 pounds</del> <u>500 pounds</u>

Authority Cited: Health and Safety Code Sections 13108, 13143, 13143.9

References: Health and Safety Code Sections 13143

~~105.8.1~~ **105.6.47** (Relocated from 2001 CFC 105.8.1) ~~[For SFM]~~ **Additional Permits.** In addition to the permits required by Section ~~405.8, 105.6,~~ the following permits shall be obtained from the Bureau of Fire Prevention prior to engaging in the following activities, operations, practices or functions:

- 1. Production facilities.** To change use or occupancy, or allow the attendance of a live audience, or for wrap parties.
- 2. Pyrotechnics and special effects.** To use pyrotechnic special effects, open flame, use of flammable or combustible liquids and gases, welding, and the parking of motor vehicles in any building or location used for the purpose of motion picture, television and commercial production.
- 3. Live audiences.** To install seating arrangements for live audiences in approved production facilities, production studios and sound stages. See Article 25.

Authority: Health and Safety Code Sections 13143, 18949.2(b)

**[B] APPENDIX CHAPTER 4**  
**SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY**

(Note: Adopt entire Chapter with amendments.)

**SECTION [B] 425**  
**SPECIAL PROVISIONS FOR LICENSED 24-HOUR CARE FACILITIES IN A GROUP I-1, R-3.1, R-4**

**[B] 425.1 Scope.** *The provisions of this chapter shall apply to 24-hour care facilities in a Group 1-1, R-3.1, or R-4 occupancy licensed by a governmental agency.*

**[B] 425.2 General.** *The provisions in this chapter shall apply in addition to general requirements in this code and the California Building Code.*

**[B] 425.2.1** *Restraint shall not be practiced in a Group I-1, R-3.1, or R-4 Occupancies.*

**Exception:** *Occupancies which meet all the requirements for a Group I-3 Occupancy.*

**[B] 425.2.2** *Pursuant to Health and Safety Code Section 13133, regulations of the state fire marshal pertaining to Occupancies classified as Residential Facilities (RF) and Residential-care Facilities for the Elderly (RCFE) shall apply uniformly throughout the state and no city, county, city and county, including a charter city or charter county, or fire protection district shall adopt or enforce any ordinance or local rule or regulation relating to fire and panic safety which is inconsistent with these regulations. A city, county, city and county, including a charter city or charter county may pursuant to Health and Safety Code Section 13143.5, or a fire protection district may pursuant to Health and Safety Code Section 13869.7, adopt standards more stringent than those adopted by the state fire marshal that are reasonably necessary to accommodate local climate, geological, or topographical conditions relating to roof coverings for Residential-care Facilities for the Elderly.*

**Exception:** *Local regulations relating to roof coverings in facilities licensed as a Residential Care Facility for the Elderly (RCFE) per Health and Safety Code Section 13133.*

**[B] 425.2.3 Temporarily bedridden clients.** *Clients who become temporarily bedridden as defined in Health and Safety Code Section 1569.72, as enforced by the Department of Social Services, may continue to be housed on any story in Group I-1, R-3.1, or R-4 Occupancies classified as Residential-care Facilities for the Elderly (RCFE). Every Residential-care Facility for the Elderly (RCFE) admitting or retaining a bedridden resident shall, within 48 hours of the resident's admission or retention in the facility, notify the local fire authority with jurisdiction of the estimated length of time the resident will retain his or her bedridden status in the facility.*

**[B] 425.3 Building Height and Area Provisions.**

**[B] 425.3.1 One or two stories.** *Group I-1 occupancies licensed as a Residential Care Facility for the Elderly (RCFE) one or two stories in height where more than six nonambulatory clients are housed shall be constructed of a minimum one-hour fire-resistance-rated construction throughout.*

**[B] 425.3.2 Three to five stories.** *Group I-1 occupancies licensed as a Residential Care Facility for the Elderly (RCFE) three to five stories in height where more than six nonambulatory clients are housed above the first floor shall be constructed of a minimum Type IIA construction.*

**[B] 425.3.3 Six or more stories** *Group I-1 occupancies licensed as a Residential Care Facility for the Elderly (RCFE) exceeding five stories in height where more than six nonambulatory clients are housed above the fifth floor shall be constructed of a minimum Type IA construction.*

**[B] 425.3.4 Limitations six or less clients.** *Group R-3.1 occupancies where clients are housed above the first story, having more than two stories in height or having more than 3,000 square feet (279 m<sup>2</sup>) of floor area above the first story shall not be of less than one-hour fire-resistance-rated construction throughout.*

In Group R-3.1 Occupancies housing a bedridden client, the client sleeping room shall not be located above or below the first story.

**EXCEPTION: Clients who become bedridden as a result of a temporary illness as defined in Health and Safety Code Sections 1566.45, 1568.0832, and 1569.72. A temporary illness is an illness, which persists for 14 days or less. A bedridden client may be retained in excess of the 14 days upon approval by the Department of Social Services and may continue to be housed on any story in a Group R, Division 2 3.1 Occupancy classified as a licensed residential facility.**

Every licensee admitting or retaining a bedridden resident shall, within 48 hours of the resident's admission or retention in the facility, notify the local fire authority with jurisdiction of the estimated length of time the resident will retain his or her bedridden status in the facility.

**[B] 425.3.5 Limitations seven or more clients.** Group R-4 occupancies where nonambulatory clients are housed above the first story and there is more than 3,000 square feet (279 m<sup>2</sup>) of floor area above the first story or housing more than 16 clients above the first story shall be constructed of not less than one-hour fire-resistance-rated construction throughout.

**[B] 425.3.6 Nonambulatory elderly clients.** Group R-4 occupancies housing nonambulatory elderly clients shall be of not less than one-hour fire-resistance-rated construction throughout.

**[B] 425.4 Type of Construction Provisions.**

**[B] 425.4.1** Group I-1 occupancies are not permitted in non-fire-resistance-rated construction, see Health and Safety Code Section 13131.5.

**[B] 425.5 Fire-Resistance-Rated Construction Provisions.**

**[B] 425.5.1 Smoke barriers required.** Group I-1 and R-4 occupancies licensed as a Residential Care Facility (RCF) with individual floor areas over 6000 square feet (557 m<sup>2</sup>) per floor, shall be provided with smoke barriers, constructed in accordance with Section 709.

When smoke barriers are required, the area within a smoke compartment shall not exceed 22,500 square feet (2090 m<sup>2</sup>) nor shall its travel distance exceed 200 feet (60 960 mm). Such smoke barriers shall divide the floor as equally as possible.

**[B] 425.5.2 Smoke partitions.** Group I-1 and R-4 occupancies where smoke partitions are required, framing shall be covered with noncombustible materials having an approved thermal barrier with an index of not less than 15 in accordance with FM 4880, UL 1040, NFPA 286 or UL 1715.

**[B] 425.6 Interior Finish Provisions.**

**[B] 425.6.1 Interior wall and ceiling finish.** Group R-3.1 occupancies housing a bedridden client shall comply with Interior Wall and Ceiling Finish requirements specified for Group I-2 occupancies in Table 803.5.

**[B] 425.7 Fire Protection System Provisions.**

**[B] 425.7.1 Automatic sprinkler systems in Group I-1, R-3.1 and R-4 occupancies.** An automatic sprinkler system shall be installed where required in Section 903.

**[B] 425.7.2 Fire alarm systems in Group I-1 and R-4 occupancies.** An approved fire alarm system shall be installed where required in Section 907.

**[B] 425.7.3 Smoke alarms in Groups I-1, R-3.1, and R-4 occupancies.** Smoke alarms shall be installed where required in Section 907.2.10

**[B] 425.7.4 Hearing impaired.** See Section 907.9.1.

**[B] 425.8 Means of Egress Provisions.**

**[B] 425.8.1 General.** *In addition to the general means of egress requirements of Chapter 10, this section shall apply to Group I-1, R-3.1, and R-4 occupancies.*

**[B] 425.8.2 Number of exits.**

**[B] 425.8.2.1 Group I-1, R-3.1, and R-4 occupancies shall have a minimum of two exits.**

**Exception.** *Ancillary use areas or occupancies shall have egress as required by Section 1019.*

**[B] 425.8.3 Egress arrangements.**

**[B] 425.8.3.1 Egress through adjoining dwelling units shall not be permitted.**

**[B] 425.8.3.2 Group R-3.1 occupancies housing nonambulatory clients.** *In a Group R-3.1 occupancy, bedrooms used by nonambulatory clients shall have access to at least one of the required exits which shall conform to one of the following:*

*1. Egress through a hallway or area into a bedroom in the immediate area which has an exit directly to the exterior and the corridor/hallway is constructed consistent with the dwelling unit interior walls. The hallway shall be separated from common areas by a solid wood door not less than 1 $\frac{3}{8}$  inch (35 mm) in thickness, maintained self-closing or shall be automatic closing by actuation of a smoke detector installed in accordance with Section 715.4.7.*

*2. Egress through a hallway which has an exit directly to the exterior. The hallway shall be separated from the rest of the house by a wall constructed consistent with the dwelling unit interior walls and opening protected by a solid wood door not less than 1 $\frac{3}{8}$  inch (35 mm) in thickness, maintained self-closing or shall be automatic closing by actuation of a smoke detector installed in accordance with Section 715.4.7.*

*3. Direct exit from the bedroom to the exterior.*

*4. Egress through an adjoining bedroom which exits to the exterior.*

**[B] 425.8.3.3 Group R-3.1 occupancies housing bedridden clients .** *In Group R-3.1 occupancies housing a bedridden client, all of the following shall apply:*

*1. In Group R-3.1 Occupancies housing a bedridden client, a direct exit to the exterior of the residence shall be provided from the client sleeping room.*

*2. Doors to a bedridden client's sleeping room shall be of a self-closing, positive latching 1 $\frac{3}{4}$  inch solid wood door. Such doors shall be provided with a gasket so installed as to provide a seal where the door meets the jam on both sides and across the top. Doors shall be maintained self-closing or shall be automatic closing by actuation of a smoke alarm in accordance with California Building Code Section 715.4.7.*

*3. Group R-3.1 Occupancies housing a bedridden client, shall not have a night latch, dead bolt, security chain or any similar locking device installed on any interior door leading from a bedridden client's sleeping room to any interior area such as a corridor, hallway and or general use areas of the residence in accordance with Chapter 10.*

*4. The exterior exit door to a bedridden client's sleeping room shall be operable from both the interior and exterior of the residence.*

*5. Every required exit doorway from a bedridden client sleeping room shall be of a size as to permit the installation of a door not less than 3 feet (914 mm) in width and not less than 6 feet 8 inches (2032 mm) in height. When installed in exit doorways, exit doors shall be capable of opening at least 90 degrees and shall be so mounted that the clear width of the exit way is not less than 32 inches (813 mm).*

**[B] 425.8.3.4 Intervening rooms.** *A means of exit shall not pass through more than one intervening room. A means of egress shall not pass through kitchens, storerooms, closets, garages or spaces used for similar purposes.*

**Exception:** *Kitchens which do not form separate rooms by construction.*

**[B] 425.8.4 Corridors.**

**[B] 425.8.4.1** Unless specified by Section 425.8.4, corridors serving Group I-1 and Group R-4 occupancies shall comply with Section 1017.1.

**[B] 425.8.4.2** The minimum clear width of a corridor shall be as follows:

1. Group I-1 occupancies shall have sixty inches (1524 mm) on floors housing nonambulatory clients and forty-four inches (1118 mm) on floors housing only ambulatory clients.

2. Group R-4 occupancies shall have forty-four inches (1118 mm) on floors housing clients.

**EXCEPTIONS:**

1. Corridors serving an occupant load of 10 or less shall not be less than 36 inches (914 mm) in width.

2. Corridors serving ambulatory persons only and having an occupant load of 49 or less shall not be less than 36 inches (914 mm) in width.

3. Group R-3.1 occupancies shall have thirty-six inches (914 mm) on floors housing clients.

In Group I-1 occupancies provided with fire sprinklers throughout and which are required to have rated corridors, door closers need not be installed on doors to client sleeping rooms.

**[B] 425.8.4.3** In a Group I-1 and Group R-3.1 occupancies having smoke barriers, cross-corridor doors in corridors 6 feet (1829 mm) or less in width shall have, as a minimum, a door 36 inches (914 mm) in width.

**[B] 425.8.5 Changes in level.** Group R-3.1 occupancies housing nonambulatory clients changes in level up to 0.25 inch (6 mm) may be vertical and without edge treatment. Changes in level between 0.25 inch (6 mm) and 0.5 inch (12.7 mm) shall be beveled with a slope no greater than 1 unit vertical in 2 units horizontal (50% slope). Changes in level greater than 0.5 inch (12.7 mm) shall be accomplished by means of a ramp.

**[B] 425.8.6 Stairways.**

**[B] 425.8.6.1** Group I-1 and Group R-4 occupancies housing more than six non-ambulatory clients above the first floor shall be provided with two vertical exit enclosures. Stairway enclosures shall be in compliance with Section 1020. Exceptions to Section 1020 shall not apply in facilities licensed as a 24-hour care facility.

**[B] 425.8.6.2** Group R-3.1 occupancies may continue to use existing stairways (except for winding and spiral stairways which are not permitted as a required means of egress) provided the stairs have a maximum rise of 8 inches (203 mm) with a minimum run of 9 inches (229 mm). The minimum stairway width may be 30 inches (762 mm).

**[B] 425.8.7 Floor separation.** Group R-3.1 occupancies shall be provided with a non-fire resistance constructed floor separation at stairs which will prevent smoke migration between floors. Such floor separation shall have equivalent construction of 0.5 inch (12.7 mm) gypsum wallboard on one side of wall framing.

**Exceptions:**

1. Occupancies with at least one exterior exit from floors occupied by clients.

2. Occupancies provided with automatic fire sprinkler systems complying with chapter 9.

**[B] 425.8.7.1 Doors within floor separations.** Doors within such floor separations shall be tight fitting solid wood at least 1 3/8 inches (35 mm) in thickness. Door glazing shall not exceed 1296 inches (32 918 mm) with no dimension greater than 54 inches (1372 mm). Such doors shall be positive latching, smoke gasketed and shall be automatic-closing by smoke detection.

**[B] 425.8.8 Fences and gates.** Grounds of a Residential Care for the Elderly facility serving Alzheimer clients may be fenced and gates therein equipped with locks, provided safe dispersal areas are located not less than 50 feet (15 240 mm) from the buildings. Dispersal areas shall be sized to provide an area of not less than 3 square feet (0.28<sup>2</sup>) per occupant. Gates shall not be installed across corridors or passageways leading to such dispersal areas unless they comply with egress requirements.

**[B] 425.8.9 Basement exits.** One exit is required to grade level when the basement is accessible to clients.

**[B] 425.8.10 Delayed egress locks. See Section 1008.1.8.6.**

**[B] 425.9 Request for alternate means of protection for facilities housing bedridden clients. Request for alternate means of protection shall apply to Sections 425 through 425.9. Request for approval to use an alternative material, assembly or materials, equipment, method of construction, method of installation of equipment, or means of protection shall be made in writing to the local fire enforcing agency by the facility, client or the client's authorized representative. Sufficient evidence shall be submitted to substantiate the need for an alternate means of protection.**

The facility, client or the client's representative or the local fire enforcing agency may request a written opinion from the State Fire Marshal concerning the interpretation of the regulations promulgated by the State Fire Marshal for a particular factual dispute. The State Fire Marshal shall issue the written opinion within 45 days following the request.

Approval of a request for use of an alternative material, assembly or materials, equipment, method of construction, method of installation of equipment, or means of protection made pursuant to this section shall be limited to Group R, 3.1 Occupancies housing a bedridden client.

Approvals made by the local fire enforcing agency and the written opinion by the State Fire Marshal shall be applicable only to the requesting facility and shall not be construed as establishing any precedent for any future request by that facility or any other facility.

Authority: Health and Safety Code Sections 1250, 1502, 1568.02, 1569.72, 1569.78, 11159.2, 13131.5, 13133, 13143, 13143.6

References: Health and Safety Code Sections 13143

#### **APPENDIX A**

#### **BOARD OF APPEALS**

**(Note: This appendix is not adopted.)**

#### **APPENDIX B**

#### **FIRE-FLOW REQUIREMENTS FOR BUILDINGS**

**(Note: Adopt entire Appendix without amendments.)**

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

#### **APPENDIX C**

#### **FIRE HYDRANT LOCATIONS AND DISTRIBUTION**

**(Note: Adopt entire Appendix without amendments.)**

Authority Cited: Health and Safety Code Sections 13143.

References: Health and Safety Code Sections 13143

**APPENDIX D**

**FIRE APPARATUS ACCESS ROADS**

**(Note: This appendix is not adopted.)**

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**APPENDIX E**

**HAZARD CATEGORIES**

**(Note: This appendix is not adopted.)**

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**APPENDIX F**

**HAZARD RANKING**

**(Note: This appendix is not adopted.)**

Authority Cited: Health and Safety Code Sections 13143.  
References: Health and Safety Code Sections 13143

**APPENDIX G**

**CRYOGENIC FLUIDS—WEIGHT AND VOLUME EQUIVALENTS**

**(Note: This appendix is not adopted.)**

Authority: Health and Safety Code Sections 13143, 18949  
References: Health and Safety Code Sections 13143

**APPENDIX H**

**HAZARDOUS MATERIALS MANAGEMENT PLANS AND  
HAZARDOUS MATERIALS INVENTORY STATEMENTS**  
**(See Sections 2701.5.1 and 2701.5.2)**

(Note: Adopt this entire New Appendix.)

## **SECTION 1 SCOPE**

Hazardous materials inventory statements (HMIS) and hazardous materials management plans (HMMP) which are required by the chief pursuant to Chapter 27 shall be provided for hazardous materials in accordance with Appendix H.

Exceptions: 1. Materials which have been satisfactorily demonstrated not to present a potential danger to public health, safety or welfare, based upon the quantity or condition of storage, when approved.

2. Chromium, copper, lead, nickel and silver need not be considered hazardous materials for the purposes of Appendix H unless they are stored in a friable, powdered or finely divided state.

Proprietary and trade secret information shall be protected under the laws of the state or jurisdiction having authority.

## **SECTION 2 HAZARDOUS MATERIALS INVENTORY STATEMENTS (HMIS)**

2.1 When Required. A separate HMIS shall be provided for each building, including its appurtenant structures, and each exterior facility in which hazardous materials are stored.

The hazardous materials inventory statement shall list by hazard class all hazardous materials stored. The hazardous materials inventory statement shall include the following information for each hazardous material listed:

1. Hazard class.

2. Common or trade name.

3. Chemical name, major constituents and concentrations if a mixture. If a waste, the waste category.

4. Chemical Abstract Service number (CAS number) found in 29 Code of Federal Regulations (C.F.R.).

5. Whether the material is pure or a mixture, and whether the material is a solid, liquid or gas.

6. Maximum aggregate quantity stored at any one time.

7. Storage conditions related to the storage type, temperature and pressure.

2.2 Changes to HMIS. An amended HMIS shall be provided within 30 days of the storage of any hazardous materials which changes or adds a hazard class or which is sufficient in quantity to cause an increase in the quantity which exceeds 5 percent for any hazard class.

## **SECTION 3 HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP)**

3.1 General. Applications for a permit to store hazardous materials shall include an HMMP standard form or short form in accordance with Section 3.3 and shall provide a narrative description of the operations and processes taking place at the facility. See Figure A-H-1.

3.2 Information Required. The HMMP standard form shall include the information detailed in Section 3.2.

3.2.1 General Information. General information, including business name and address, emergency contacts, business activity, business owner or operator, SIC code, number of employees and hours, Dunn and Bradstreet number, and signature of owner, operator or designated representative.

3.2.2 General site plan. A general site plan drawn at a legible scale which shall include, but not be limited to, the location of buildings, exterior storage facilities, permanent access ways, evacuation routes, parking lots, internal roads, chemical loading areas, equipment cleaning areas, storm and sanitary sewer accesses, emergency equipment and adjacent property uses. The exterior storage areas shall be identified with the hazard class and the maximum quantities per hazard class of hazardous materials stored. When required by the chief, information regarding the location of wells, flood plains, earthquake faults, surface water bodies and general land uses within 1 mile (1.609 km) of the facility boundaries shall be included.

3.2.3 Building floor plan. A building floor plan drawn to a legible scale which shall include, but not be limited to, hazardous materials storage areas within the building and shall indicate rooms, doorways, corridors, means of egress and evacuation routes. Each hazardous materials storage facility shall be identified by a map key which lists the individual hazardous materials, their hazard class and quantity present for each area.

**3.2.4 Hazardous materials handling.** Information showing that activities involving the handling of hazardous materials between the storage areas and manufacturing processes on site are conducted in a manner to prevent the accidental release of such materials.

**3.2.5 Chemical capability and separation.** Information showing procedures, controls, signs or other methods used to ensure separation and protection of stored materials from factors which could cause accidental ignition or reaction of ignitable, reactive or incompatible materials in each area.

**3.2.6 Monitoring program.** Information including, but not limited to, the location, type, manufacturer's specifications, if applicable, and suitability of monitoring methods for each storage facility when required.

**3.2.7 Inspection and recording keeping.** Schedules and procedures for inspecting safety and monitoring and emergency equipment. The permittee shall develop and follow a written inspection procedure acceptable to the chief for inspecting the facility for events or practices which could lead to unauthorized discharges of hazardous materials. Inspections shall be conducted at a frequency appropriate to detect problems prior to a discharge. An inspection check sheet shall be developed to be used in conjunction with routine inspections. The check sheet shall provide for the date, time and location of inspection; note problems and dates and times of corrective actions taken; and include the name of the inspector and the countersignature of the designated safety manager for the facility.

**3.2.8 Employee training.** A training program appropriate to the types and quantities of materials stored or used shall be conducted to prepare employees to safely handle hazardous materials on a daily basis and during emergencies. The training program shall include:

1. Instruction in safe storage and handling of hazardous materials, including maintenance of monitoring records.
2. Instruction in emergency procedures for leaks, spills, fires or explosions, including shutdown of operations and evacuation procedures, and
3. Record-keeping procedures for documenting training given to employees.

**3.2.9 Emergency response.** A description of facility emergency procedures is to be provided.

**3.3 HMMP Short Form—(Minimal Storage Site).** A facility shall qualify as a minimal storage site if the quantity of each hazardous material stored in one or more facilities in an aggregate quantity for the facility is 500 pounds (227 kg) or less for solids, 55 gallons (208.2 L) or less for liquids, or 200 cubic feet (5.7 m<sup>3</sup>) or less at NTP for compressed gases and does not exceed the threshold planning quantity as listed in 40 C.F.R., Part 355, Sections 302 and 304. The applicant for a permit for a facility which qualifies as a minimal storage site is allowed to file the short form HMMP. Such plan shall include the following components:

1. General facility information,
2. A simple line drawing of the facility showing the location of storage facilities and indicating the hazard class or classes and physical state of the hazardous materials being stored,
3. Information describing that the hazardous materials will be stored and handled in a safe manner and will be appropriately contained, separated and monitored, and
4. Assurance that security precautions have been taken, employees have been appropriately trained to handle the hazardous materials and react to emergency situations, adequate labeling and warning signs are posted, adequate emergency equipment is maintained, and the disposal of hazardous materials will be in an appropriate manner.

## **SECTION 4 MAINTENANCE OF RECORDS**

Hazardous materials inventory statements and hazardous materials management plans shall be maintained by the permittee for a period of not less than three years after submittal of updated or revised versions. Such records shall be made available to the chief upon request.

### **FIGURE A-H-1** **SAMPLE FORMAT** **HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP) INSTRUCTIONS**

#### **SECTION I—FACILITY DESCRIPTION**

##### **1.1 Part A**

1. Fill out Items 1 through 11 and sign the declaration.
2. Only Part A of this section is required to be updated and submitted annually, or within 30 days of a change.

##### **1.2 Part B—General Facility Description (Site Plan)**

1. Provide a site plan on 8 ½-by 11-inch (215 mm by 279 mm) paper, using letters on the top and bottom margins and numbers on the right and left side margins, showing the location of all buildings, structures, chemical loading areas, parking lots, internal roads, storm and sanitary sewers, wells, and adjacent property uses. Indicate the approximate scale, northern direction and date the drawing was completed.
2. List all special land uses within 1 mile (1.609 km).

### **1.3 Part C—Facility Storage Map (Confidential Information)**

1. Provide a floor plan of each building on 8 ½- by 11-inch (215 mm by 279 mm) paper, using letters on the top and bottom margins and numbers on the right and left side margins, with approximate scale and northern direction, showing the location of each storage area. Mark map clearly “Confidential—Do not disclose” for trade-secret information as specified by federal, state and local laws.
2. Identify each storage area with an identification number, letter, name or symbol.
3. Show the following:
  - 3.1 Accesses to each storage area.
  - 3.2 Location of emergency equipment.
  - 3.3 The general purpose of other areas within the facility.
  - 3.4 Location of all aboveground and underground tanks to include sumps, vaults, below-grade treatment systems, piping, etc.
4. Map key. Provide the following on the map or in a map key or legend for each storage area:
  - 4.1 A list of hazardous materials, including wastes.
  - 4.2 Hazard class of each hazardous waste.
  - 4.3 The maximum quantity for hazardous materials.
  - 4.4 Include the contents and capacity limit of all tanks at each area and indicate whether they are above or below ground.
  - 4.5 List separately any radioactives, cryogenes and compressed gases for each facility.
  - 4.6 Trade-secret information shall be listed as specified by federal, state and local laws.

## **SECTION II—HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS)**

### **2.1 Part A—Declaration**

Fill out all appropriate information.

### **2.2 Part B—Inventory Statement**

1. You must complete a separate inventory statement for all waste and nonwaste hazardous materials. List all hazardous materials in alphabetical order by hazard class.

#### **2. Inventory Statement Instructions:**

<b><u>Column</u></b>	<b><u>Information Required</u></b>
----------------------	------------------------------------

- |   |   |
|---|---|
| 1 | <u>Provide hazard class for each material.</u>  |
| 2 | <u>Nonwaste. Provide the common or trade name of the regulated material.</u><br><u>Waste. In lieu of trade names, you may provide the waste category.</u>   |
| 3 | <u>Provide the chemical name and major constituents and concentrations, if a mixture.</u>   |
| 4 | <u>Enter the chemical abstract service number (CAS number) found in 29 C.F.R. For mixtures, enter the CAS number of the mixture as a whole if it has been assigned a number distinct from its constituents. For a mixture that has no CAS number, leave this item blank or report the CAS numbers of as many constituent chemicals as possible.</u> |
| 5 | <u>Enter the following descriptive codes as they apply to each material. You may list more than one code, if applicable.</u><br><u>P = Pure</u><br><u>M = Mixture</u><br><u>S = Solid</u><br><u>L = Liquid</u><br><u>G = Gas</u>  |
| 6 | <u>6.1 Provide the maximum aggregate quantity of each material handled at any one time by the business. For underground tanks, list the maximum volume [in gallons (liters)] of the tank..</u><br><u>6.2 Enter the estimated average daily amount on site during the past year.</u>   |
| 7 | <u>Enter the units used in Column 6 as:</u><br><u>LB = Pounds</u><br><u>GA = Gallons</u><br><u>CF = Cubic Feet</u>  |

8 Enter the number of days that the material was present on site (during the last year).

9 Enter the storage codes below for type, temperature and pressure.

**Type**

A = Aboveground Tank  
B = Belowground Tank  
C = Tank inside Building  
D = Steel Drum  
E = Plastic or Nonmetallic Drum  
F = Can  
G = Carboy  
H = Silo  
I = Fiber Drum  
J = Bag  
K = Box  
L = Cylinder  
M = Glass Bottle or Jug  
N = Plastic Bottles or Jugs  
O = Tote Bin  
P = Tank Wagon  
Q = Rail Car  
R = Other

**Temperature**

4 = Ambient  
5 = Greater than Ambient  
6 = Less than Ambient.  
but not Cryogenic [less than -150°F (-101.1°C)]  
7 = Cryogenic conditions [less than -150°F (-101.1°C)]

**Pressure**

1 = Ambient (Atmospheric)  
2 = Greater than Ambient (Atmospheric)  
3 = Less than Ambient (Atmospheric)

10 For each material listed, provide the SARA hazard class as listed below. You may list more than one class. These categories are defined in 40 C.F.R. 370.3.

**Physical Hazards**

F = Fire  
P = Sudden Release of Pressure  
R = Reactivity

**Health Hazards**

I = Immediate (Acute)  
D = Delayed (Chronic)

11 **Waste Only.** For each waste, provide the total estimated amount of hazardous waste handled throughout the course of the year.

**SECTION III—SEPARATION AND MONITORING**

**3.1 Part A—Aboveground**

Fill out Items 1 through 6, or provide similar information for each storage area shown on the facility map. Use additional sheets as necessary.

**3.2 Part B—Underground**

1. Complete a separate page for each underground tank, sump, vault, below-grade treatment system, etc.
2. Check the type of tank and method(s) that applies to your tank(s) and piping, and answer the appropriate questions. Provide any additional information in the space provided or on a separate sheet.

**SECTION IV—WASTE DISPOSAL**

Check all that apply and list the associated wastes for each method checked.

**SECTION V—RECORDING KEEPING**

Include a brief description of your inspection procedures. You are also required to keep an inspection log and recordable discharge log, which are designed to be used in conjunction with routine inspections for all storage facilities or areas. Place a check in each box that describes your forms. If you do not use the sample forms, provide copies of your forms for review and approval.

**SECTION VI—EMERGENCY-RESPONSE PLAN**

1. This plan should describe the personnel, procedures and equipment available for responding to a release or threatened release of hazardous materials that are stored, handled or used on site.
2. A check or a response under each item indicates that a specific procedure is followed at the facility, or that the equipment specified is maintained on site.
3. If the facility maintains a more detailed emergency-response plan on site, indicate this in Item 5. This plan shall be made available for review by the inspecting jurisdiction.

**SECTION VII—EMERGENCY RESPONSE TRAINING PLAN**

1. This plan should describe the basic training plan used at the facility.
2. A check in the appropriate box indicates the training is provided or the records are maintained.
3. If the facility maintains a more detailed emergency-response training plan, indicate this in Item 4. This plan shall be made available for review by the inspecting jurisdiction.

**FIGURE A-H-1—(Continued)**  
**HAZARDOUS MATERIALS MANAGEMENT PLAN**  
**SECTION I: FACILITY DESCRIPTION**

**PART A—GENERAL INFORMATION**

1. Business Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_

2. Person Responsible for the Business:

<u>Name</u>	<u>Title</u>	<u>Phone</u>
_____	_____	_____

3. Emergency Contacts:

<u>Name</u>	<u>Title</u>	<u>Home</u>	<u>Work</u>
<u>Number</u>	<u>Number</u>		
_____	_____	_____	_____
_____	_____	_____	_____

4. Person Responsible for the Application/Principal Contact:

<u>Name</u>	<u>Title</u>	<u>Phone</u>
_____	_____	_____

5. Property Owner:

<u>Name</u>	<u>Address</u>	<u>Phone</u>
_____	_____	_____

6. Principal Business Activity: \_\_\_\_\_

7. Number of Employees: \_\_\_\_\_

8. Number of Shifts: \_\_\_\_\_

9. Hours of Operation: \_\_\_\_\_

10. SIC Code: \_\_\_\_\_

11. Dunn and Bradstreet Number: \_\_\_\_\_

12. Declaration

*I certify that the information above and on the following parts is true and correct to the best of my knowledge.*

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name: \_\_\_\_\_ Title: \_\_\_\_\_

*(Must be signed by owner/operator or designated representative)*

**PART B—GENERAL FACILITY**

**DESCRIPTION/SITE PLAN**

*(Use grid format below.)*

Special land uses within 1 mile (1.609 km): \_\_\_\_\_

**PART C—FACILITY MAP**

*(Use grid format below.)*

	A	B	C	D	E	F	G	H	I	J	K	L	M	N		
1															1	
2															2	
3															3	
4															4	
5															5	
6															6	
7															7	
8															8	
9															9	
10															10	
11															11	
12															12	
13															13	
14															14	
15															15	
16															16	
17															17	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N		
BUSINESS NAME													DATE			
ADDRESS													CITY		PAGE _____ OF _____	

**SECTION II: HAZARDOUS MATERIALS INVENTORY STATEMENT**  
**PART A—DECLARATION**

1. *Business Name:* \_\_\_\_\_

2. *Address:* \_\_\_\_\_

3. *Declaration:*

*Under penalty of perjury, I declare the above and subsequent information, provided as part of the hazardous materials*

*inventory statement, is true and correct.*

*Signature:* \_\_\_\_\_ *Date:* \_\_\_\_\_

*Print Name:* \_\_\_\_\_ *Title:* \_\_\_\_\_

*(Must be signed by owner/operator or designated representative)*

**FIGURE A-II-E-1—(Continued)**  
**PART B—HAZARDOUS MATERIALS INVENTORY STATEMENT**

(1) HAZARD CLASS	(2) COMMON/ TRADE NAME	(3) CHEMICAL NAME, COMPONE NTS AND CONCENT RATION	(4) CHEMICAL ABSTRACT SERVICE NO.	(5) PHYSICA L STATE	(6) MAXIMUM QUANTITY ON HAND AT ANY TIME	(7) UNITS	(8) DAYS ON SITE	(9) STORAGE CODE (TYPE, PRES., TEMP.)	(10) SARA CLASS	(11) ANNUAL WASTE THROUGHPUT

**SECTION III: SEPARATION, SECONDARY CONTAINMENT AND MONITORING**  
**PART A—ABOVEGROUND STORAGE AREAS**

*Storage Area Identification (as shown on facility map):* \_\_\_\_\_

1. *Storage Type:*

_____ <i>Original Containers</i>	_____ <i>Safety Cans</i>
_____ <i>Inside Machinery</i>	_____ <i>Bulk Tank</i>
_____ <i>55-gallon (208.2 L)</i>	_____ <i>Outside Barrels</i>
_____ <i>Drums or Storage Shed</i>	
_____ <i>Pressurized Vessel</i>	
_____ <i>Other:</i>	

2. *Storage Location:*

_____ <i>Inside Building</i>	_____ <i>Outside Building</i>
_____ <i>Secured</i>	

3. *Separation:*

_____ <i>All Materials</i>	_____ <i>One-hour Separation</i>
_____ <i>Compatible Wall/Partition</i>	
_____ <i>Separated by 20 Feet (6096 mm)</i>	_____ <i>Approved Cabinets</i>
_____ <i>Other:</i>	

4. *Secondary Containment:*

_____ <i>Approved Cabinet</i>	_____ <i>Secondary Drums</i>
_____ <i>Tray</i>	_____ <i>Bermed, Coated Floor</i>
_____ <i>Vaulted Tank</i>	_____ <i>Double-wall Tank</i>
_____ <i>Other:</i>	

5. Monitoring: Visual \_\_\_\_\_ Continuous \_\_\_\_\_  
Other: \_\_\_\_\_  
Attach specifications if necessary \_\_\_\_\_

6. Monitoring Frequency: Daily \_\_\_\_\_ Weekly \_\_\_\_\_  
Other: \_\_\_\_\_  
Attach specifications if necessary \_\_\_\_\_

**APPENDIX H**  
**FIGURE A-II-E-1—(Continued)**

**SECTION III: SEPARATION, CONTAINMENT AND MONITORING**  
**PART B—UNDERGROUND**

**SINGLE-WALL TANKS AND PIPING**

Tank Area Identification (as shown on facility map): \_\_\_\_\_

1. \_\_\_\_\_ Backfill Vapor Wells—  
Model and Manufacturer: \_\_\_\_\_

Continuous or Monthly Testing: \_\_\_\_\_

2. \_\_\_\_\_ Groundwater Monitoring Wells

3. \_\_\_\_\_ Monthly Precision Tank Test

4. \_\_\_\_\_ Piping—  
Monitoring Method: \_\_\_\_\_  
Frequency: \_\_\_\_\_

5. \_\_\_\_\_ Other: \_\_\_\_\_

**DOUBLE-WALL TANKS AND PIPING**

Tank Area Identification (as shown on facility map): \_\_\_\_\_

1. Method of monitoring the annular space: \_\_\_\_\_

2. Frequency: \_\_\_\_\_  
\_\_\_\_\_ Continuous \_\_\_\_\_ Daily \_\_\_\_\_ Weekly  
Other: \_\_\_\_\_

3. List the type of secondary containment for piping: \_\_\_\_\_

4. List the method of monitoring the secondary containment for piping: \_\_\_\_\_

5. Are there incompatible materials within the same vault?  
\_\_\_\_\_ Yes \_\_\_\_\_ No

If yes, how is separate secondary containment provided?  
\_\_\_\_\_

**Note:** If you have continuous monitoring equipment, you shall maintain copies of all service and maintenance work. Such reports shall be made available for review on site, and shall be submitted to the fire prevention bureau upon request.  
Attach additional sheets as necessary.

**SECTION IV: WASTE DISPOSAL**

\_\_\_\_\_ Discharge to the Sanitary \_\_\_\_\_ Pretreatment—  
Sewer—Wastes: \_\_\_\_\_ Wastes: \_\_\_\_\_

\_\_\_\_\_ Licensed Waste Hauler— \_\_\_\_\_ Recycle—  
Wastes: \_\_\_\_\_ Wastes: \_\_\_\_\_

\_\_\_\_\_ Other—  
Describe Method: \_\_\_\_\_  
Wastes: \_\_\_\_\_

\_\_\_\_\_ No Waste

**SECTION V: RECORD KEEPING**

Description of our inspection program: \_\_\_\_\_

\_\_\_\_\_ We will use the attached sample forms in our inspection program.  
\_\_\_\_\_ We will not use the sample forms. We have attached a copy of our own forms.

**SECTION VI: EMERGENCY RESPONSE PLAN**

1. In the event of an emergency, the following shall be notified:

A. On-site Responders:

<u>Name</u>	<u>Title</u>	<u>Phone</u>
_____	_____	_____
_____	_____	_____

B. Method of Notification to Responder:

\_\_\_\_\_ Automatic Alarm \_\_\_\_\_ Phone  
\_\_\_\_\_ Manual Alarm \_\_\_\_\_ Verbal  
\_\_\_\_\_ Other: \_\_\_\_\_

C. Agency Phone Number

Fire Department:

State Office of Emergency:

Services:

Other:

2. Designated Local Emergency Medical Facility:

<u>Name</u>	<u>Address</u>	<u>Phone (24 hours)</u>
_____	_____	_____

3. Mitigation Equipment:

A. Monitoring Devices:

\_\_\_\_\_ Toxic or flammable gas detection  
\_\_\_\_\_ Fluid detection  
\_\_\_\_\_ Other: \_\_\_\_\_

B. Spill Containment:

\_\_\_\_\_ Absorbants \_\_\_\_\_ Other: \_\_\_\_\_

C. Spill Control and Treatment:

\_\_\_\_\_ Vapor Scrubber \_\_\_\_\_ Mechanical Ventilation  
\_\_\_\_\_ Pumps/vacuums \_\_\_\_\_ Secondary Containment  
\_\_\_\_\_ Neutralizer \_\_\_\_\_ Other: \_\_\_\_\_

4. Evacuation:

\_\_\_\_\_ Immediate area evacuation routes posted  
\_\_\_\_\_ Entire building evacuation procedures developed  
\_\_\_\_\_ Assembly areas preplanned  
\_\_\_\_\_ Evacuation maps posted  
\_\_\_\_\_ Other: \_\_\_\_\_

5. Supplemental hazardous materials emergency response plan on site.

Location: \_\_\_\_\_

Responsible Person: \_\_\_\_\_

Phone: \_\_\_\_\_

**SECTION VII: EMERGENCY-RESPONSE TRAINING PLAN**

1. Person responsible for the emergency-response training plan:

<u>Name</u>	<u>Title</u>	<u>Phone</u>
_____	_____	_____

2. Training Requirements:

A. All employees trained in the following as indicated:

\_\_\_\_\_ Procedures for internal alarm/notification  
\_\_\_\_\_ Procedures for notification of external emergency-response organization  
\_\_\_\_\_ Location and content of the emergency-response plan

B. Chemical handlers are trained in the following as indicated:

\_\_\_\_\_ Safe methods for handling and storage of hazardous materials  
\_\_\_\_\_ Proper use of personal protective equipment  
\_\_\_\_\_ Locations and proper use of fire- and spill-control equipment  
\_\_\_\_\_ Specific hazards of each chemical to which they may be exposed

C. Emergency-response team members are trained in the following:

\_\_\_\_\_ Procedures for shutdown of operations  
\_\_\_\_\_ Procedures for using, maintaining and replacing facility emergency and monitoring equipment

3. The following records are maintained for all employees:

\_\_\_\_\_ Verification that training was completed by the employee  
\_\_\_\_\_ Description of the type and amount of introductory and continuing training  
\_\_\_\_\_ Documentation on and description of emergency-response drills conducted at the facility

4. A more comprehensive and detailed emergency-response training plan is maintained on site.

Location: \_\_\_\_\_

Responsible Person: \_\_\_\_\_

Phone: \_\_\_\_\_

Authority: Health and Safety Code Sections 13143, 25500 thru 25545

References: Health and Safety Code Sections 13143, 25500 thru 25545 Chapter 6.95 and Title19, Division 2, Chapter 4