

2016 Fire Code Adoption

Summary of Changes

Purpose

The 2016 California Fire Code has gone through modification since the last code adoption cycle for a number of reasons. First, some of the code language was removed from previous sections of the code and placed into other sections for increased efficiency and relevance. Some sections have been edited by the International Code Committee and the various California Code committees for greater clarity as to the applicability and intent of the code. Codes are modified to take into account improvements in industry practices and procedures and to provide consistency with revisions in state and federal law.

Code sections that were relocated elsewhere within the code for increased efficiency:

<u>2012 ICC Location</u>	<u>2015 ICC Location</u>
408.11.3	311.6
408	403
903.3.5.2	914.3.2
908.7	915
1014.3, 1015, 1021	1006
1015.2, 1021.3	1007
1009.3	1019
2311.8	2309.6

Summary of detailed Fire Code Changes:

105.6.17.6.1	Petroleum Facility Permit (Non-Producing) <i>New permit for temporarily non-producing wells</i>
105.6.31.1	Mobile Fueling Operations <i>New permit for mobile fueling service</i>
202	Definition: Congregate Living Health Facility <i>Change in definition to correlate with current California Law</i>
202	Definition: Persons with Intellectual Disabilities, Profoundly or Severely <i>Change in definition to correlate with current California Law</i>
202	Definition: Occupancy Classification Group E <i>Change in definition to allow certain day care facilities to operate during religious function</i>
202	Definition: Temporary Stage Canopy <i>Addition of definition</i>
312.3	Other Barriers -New Section <i>Allowances for vehicle impact barriers of alternative design or materials</i>
315.6	Storage in Plenums <i>Prohibits storage of abandoned material in air handling plenums</i>

- 403 Emergency Preparedness Requirements
Consolidation of previous Chapter 4 for consistency and clarity. Updates to fire safety plans, personnel training, emergency preparedness plans for different occupancy classes, schools, etc.
- 508.1.6 NFPA 72 Required Features
Correlated with 903.3.1.1.1 and requires detection in elevator machine rooms, control rooms and spaces
- 604.1 Emergency and Standby Systems
Additional requirements are from CBC to provide enforcement assistance to fire code official
- 604.2.6 Emergency and Standby Power Systems - Group I-2 Occupancies
Provides clarification for designer to comply with CBC Chapter 27 and NFPA 99
- 605.11 Solar Photovoltaic Power Systems
Requirements clarified and coordinated with the CBC and the California Electrical Code
- 605.12 Abandoned Wiring in Plenum
Unused or abandoned cables in air handling plenums shall be removed
- 606.12 Pressure Relief Devices for Mechanical Refrigeration
Clarifies code requirements for design and operation of ammonia refrigeration systems
- 607.6 Water Protection of Hoistway Enclosures
Requirement to ensure water infiltrating prevention devices for elevators are maintained
- 609.2 Commercial Hoods for Appliances Producing Low Grease-laden Vapor Volume
Brings consistency between the IFC and IMC and allows non-Type I hood installation
- 609.3.3.2 Grease Accumulation
New standard that addresses the cleaning of commercial cooking exhausts hoods and ducts
- 609.4 Appliance Connection to Building Piping
Allows for listed flexible connectors between fuel gas piping and cooking appliances
- 611 Hyperbaric Facilities -New Section
Introduces hyperbaric facilities and their inspection, testing and maintenance to CFC
- 807 Decorative Materials Other Than Decorative Vegetation in New and Existing Bldgs
Clarification and reorganization of decorative materials in rooms and spaces
- 901.4.1 Required Fire Protection Systems
Clarification for inspectors determining required vs. non-required systems
- 901.8.2 Removal of Existing Occupant-Use Hose
Provides fire code official authorization to permit removal of hose in cabinets for other methods of fire suppression
- 903.2.1 Fire Sprinklers in Group A Occupancies
Requires fire sprinklers in the floors between A Occupancy and the level of discharge, including the level of discharge. Also requires sprinklers throughout the story with an A Occupancy. (A1, A2, A3)
- 903.2.1.6 Assembly Occupancies on Roofs
Requires fire sprinklers on all floors below rooftop A Occupancies to the level of discharge

- 903.2.1.7 Multiple Group A Fire Areas
Determination of fire sprinkler requirement shall be made by combined occupant loads of multiple A Occupancies which share egress paths.
- 903.2.9 Commercial Motor Vehicle Storage – Sprinkler Requirements (large areas)
Sprinkler requirements in specific occupancies containing defined commercial vehicles
- 903.2.11.3 Buildings 55 feet or More in Height - Clarification
Requires sprinklers in buildings over 55 feet to finished floor and occupant load over 30
- 903.3.1.1.1 NFPA 13 Sprinkler System – Exempt Locations
Sprinkler exemptions for Machine Room-Less elevators with automatic fire detection system
- 903.3.1.1.2 Bathrooms – Exempt Locations
Allows for omission of sprinklers in apartment bathrooms under 55 SF
- 903.3.1.2 NFPA 13R Sprinkler Systems (<60 feet high and 4 stories or less)
Clarifies limitations for use of 13R in terms of stories and height
- 903.3.1.2.2 Open-Ended Corridors – (for exiting safety)
Requires sprinkler heads in open-ended corridors (breezeways)
- 903.3.8 Limited Area Sprinkler Systems
Reduces the number of sprinklers from 20 to 6 with additional criteria
- 904.2 & 904.11 Automatic Water Mist Systems
Recognizes water mist systems as an alternative on a limited basis
- 907.1.2 Fire Alarm Shop Drawings
Fire alarm designer is now required to design minimum audibility level drawing
- 907.2.3 Group E Manual Fire Alarm System
Manual fire alarm threshold raised from 30 to 50. Emergency voice/alarm raised to 100
- 907.2.6 & 907.5.2.1 Fire Alarm and Detection Systems in Group I-2 Occupancies
Guidelines for the use of “private mode” in these occupancies
- 907.2.6.4 Fire Alarm and Detection Systems in Large-Family Day Care
Modifies contradicting provisions and allows enforcing agency choice of manual alarm
- 907.2.9.3 Fire Alarm and Detection Systems for R-2 College and University Buildings
Introduces “occupancies operated by a college or university” for alarm requirements
- 907.2.11.7 Smoke Detection System
Allows the option to use smoke detection system in lieu of single- and multi- station alarms in certain Group R occupancies
- 907.2.14 Fire Alarm and Detection Systems for Atriums
Allows for 909.4 for rational analysis for the installation of smoke detection
- 907.2.22.1 & 907.2.22.2 Smoke Detection for Airport Traffic Control Towers
New criteria for smoke detector locations in control towers
- 907.5.2.2.4 Emergency Voice/Alarm Communication Captions
Requires pre-recorded or real time captions in stadiums, arenas, etc. (Fixed seating of 15K+)

- 907.4.7 Smoke Control System Interaction
Requires analysis of multiple mechanical smoke control systems in large buildings
- 907.6.3 Pressurized Stairways and Elevator Hoistways
Modifies language for responsibility and authority between fire and building official
- 909.12.1 & 909.20.6 Verification
Allows fire official to bypass individual components for testing
- 907.21 Elevator Hoistway Pressurization Alternative
Allows for option to pressurize hoistway in lieu of enclosing elevator lobby
- 910 Smoke and Heat Removal
Provides direction in F-1 and S-1 occupancies greater than 50,000 SF for smoke and heat removal
- 913.2.2 Circuits Supplying Fire Pumps
References UL Standard 2196 for survivability of fire pump power-supply wiring
- 915 Carbon Monoxide Detection
Rewritten requirements for carbon monoxide detection (focus on classrooms in "E" Occupancies)
- Chapter 10 Means of Egress
Reformatted, condensed and consolidated for clarification
- 1004.1.1.1 Intervening Spaces or Accessory Areas
Combines occupancy loads of adjacent rooms sharing means of egress
- 1004.1.1.2 Adjacent Levels for Mezzanines
Combines occupancy load of mezzanines with adjacent rooms sharing means of egress
- 1004.1.1.3 Adjacent Stories
Combines occupancy load of adjacent stories for means of egress purposes ONLY
- 1004.1.2 Occupancy Load Factors
Revise all mercantile multi-story load factors to 60 SF per occupant, eliminates confusion between 30 SF and 60 SF factors
- 1006 & 1007 Number of Exits and Exit Access Doorways
Consolidates number of exit requirements and path of travel requirements into two chapters
- 1006.2.1 Means of Egress Based on Occupant Load and Common Path of Egress Distance
Two exits required when specific Occupancy Class Loads exceeded
- 1006.3 Egress from Stories or Occupied Roofs
Requirements for number of exits in multi-story occupancies
- 1007 Exit and Exit Access Doorway Configuration
Addresses arrangement or separation of required means of egress
- 1007.1.1.1 Measurement Point
Clarifies points where exit separation shall be measured
- 1007.1.2 Three or More Exits or Exit Access Door
Ensures adequate separation and arrangement when three or more means of egress are required

- 1007.1.3 Remoteness of Exit Access Stairways or Ramps
Ensures adequate separation and arrangement are maintained when in occupancies with stairways and ramps
- 1007.1.3.1 Three or More Exit Access Stairways or Ramps
Ensures adequate separation and arrangement are maintained when in occupancies when more than two stairways and ramps are required
- 1007.1.3 Remoteness of Exit Access Stairways or Ramps
Ensures adequate separation and arrangement are maintained when in occupancies with stairways and ramps
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- 1009.8 Two-Way Communication
Clarifies that one communication system may serve multiple elevators, service elevators are not required to have a system
- 1010.1.9 Door Operations
Consolidated, except when permitted egress doors shall be openable from egress side w/o special knowledge
- 1010.1.9.3 Locks and Latches
Consolidated, requirements for use of locks and latches when certain conditions exist (e.g. Signs – THIS DOOR TO REMAIN UNLOCKED DURING BUSINESS HOURS)
- 1007.1.3 Remoteness of Exit Access Stairways or Ramps
Ensures adequate separation and arrangement are maintained when in occupancies with stairways and ramps
- 1010.1.9.7 - 1010.1.9.9 Delayed Egress, Sensor Release of Electrically or Electromagnetically Locked Egress Doors
Simplifies and clarifies use of delayed egress locks and approved types. Revised to simplify for installers
- 1011.16 Ladders
Defines use of ladders within buildings, not allowed as permanent means of egress
- 1014.8 Handrail Projections
Revised to clarify maximum projection from wall and minimum width between intermediate handrails. Further clarifies width of stairwell
- 1017.2.2 Group F-1 and S-1 Increase
Increases exit access travel distance from 200 to 400 feet in single story, less than 24 foot F-1 and S-1 structures
- 1018.3 Aisles in Groups B and M
Simplifies and provides consistent guidance for minimum corridor widths in 1020.2
- 1018.5 Aisles in other than Assembly Spaces and Groups B and M
Also simplifies and provides consistent guidance for minimum corridor widths in 1020.2
- 1020.2 Corridor Width and Capacity
Simplifies corridor width requirements in Table 1020.2 and provides fire code official leeway in I-2 occupancies for reduced width in some areas, e.g. Assembly in I-2 (72" versus 96")

- 1020.6 Corridor Continuity
Fire-resistance-rated corridors shall be continuous from point of entry to an exit and shall have no intervening rooms. Correlates with CBC 3007.6 and 3008.6
- 1023.3.1 Extension
An interior exit stairway is now permitted to continue into an exit passageway with the need for a fire door
- 1103.4.1 Vertical Openings in Existing Group I-2 and I-3 Occupancies
Requires retroactive construction of 1-hour fire resistance-rated separation in existing vertical openings. Provides alternatives
- 1103.7.6 Manual Fire Alarm Systems in Existing Group R-2 Occupancies
Provides alternative of interconnected smoke alarms to retroactive installation of interconnected manual fire alarm stations
- 1105 Construction Requirements for Existing Group I-2 Occupancies
Changes in this Chapter have been revised with collaboration with the CMS (Center for Medicaid and Medicare Services) to provide more clear and consistent direction for existing I-2 occupancies. Revisions provide minimum construction requirement for fire and life safety
- 2307.4 Location of LP-gas Dispensing Operations and Equipment
Revised to reflect and correlate with other industrial safety standards and allows public fueling stations (self-service requirements)
- 2307.5 Additional Requirements for LP-gas Dispensers and Equipment
Installation requirements for LP-gas dispensers and related equipment
- 2307.6 Installation of LP-gas Dispensing Devices and Equipment
Revised to mirror 2307.6.1 through 2307.6.4
- 2307.6.1 Product Control Valves
Installation and product requirements (self-service requirements)
- 2307.6.2 Hoses
Installation and product requirements (self-service requirements)
- 2307.6.3 Emergency Breakaway Devices
Installation and product requirements (self-service requirements)
- 2307.6.4 Vehicle Impact Protection
Installation and product requirements (self-service requirements)
- 2307.7 Public Fueling of Motor Vehicles
Construction and operation guidelines for public LP-gas fueling stations (self-service requirements)
- 2307.8 Overfilling
Guidelines preventing overfilling of LP-gas containers (self-service requirements)
- 3103.9.1 Tents and Membrane Structures Exceeding One Story
Compliance with CBC for the construction of multi-story tents or membrane structures

- 3105 Temporary Stage Canopies
Temporary stage canopies must meet construction requirements. Fire and building official approvals must be obtained with applicable permits. Referenced ANSI E1.21
- 3203.2 Class I Commodities
Buildings containing Class I commodities (e.g. large cans of food products) on PLASTIC PALLETS shall be sprinklered due to high occurrences of pallet fires in recent years
- 3206.4.1 Plastic Pallets
Further defines the need for sprinklers when plastic pallets are used. References NFPA 13, and UL 2335 or FM 4996 pallet listings
- 3206.9.3 Dead-End
Restricts dead end aisles where high-piled combustible storage exists. 20 feet in Group M and not to exceed 50 feet in all other occupancies
- 3306.2 Cleaning with Flammable Gas

Flammable gases shall not be used to clean piping open to the atmosphere. Cleaning requirements shall meet FPA 56
- 3504.1.7 Precautions in Hot Work
Prohibits hot work on flammable gas, liquid or solid containers or equipment until containers or equipment are empty and cleaned
- 5003.1.1(1) Maximum Allowable Quantities of Hazardous Materials
Table
Table is revised to mirror IBC Table 307.1.1(1) for consistency
- 5101.4 & Containers
5104
Now allows plastic aerosol containers up to 33.8 fluid ounces, other criteria if exceeded
- 5307 Carbon Dioxide Systems Used in Beverage Dispensing Systems
Carbon Dioxide Beverage System present a life safety hazard. This section provides guidance, permitting, protection and ventilation requirements for public and first responder safety (focus on O₂ deficient atmospheres)
- Chapter 56 Explosives and Fireworks
California's initial adoption and amendment of Chapter 56. Significant modifications were made to correlate with state and federal laws, ATF, CCR Title 18 and other national standards
- 5704.2.9.7.3 Flame Arresters
Section was removed for ALL tanks and liquid types. Protected tanks must already meet UL 2085 and conflicted with UL 142. More specific requirements for product requiring flame arresters has been clarified
- 5808 Hydrogen Fuel Gas Rooms
Requirements for hydrogen fuel gas rooms have been included to meet other industry standards
- 5808.1 General: Hydrogen Fuel Gas Rooms
Requirements now mirror CBC
- 5808.2 Hydrogen Fuel Gas Rooms Location
Shall not be below grade
- 5808.3 Hydrogen Fuel Gas Rooms Design and Construction
Requires separation from other areas of building in accordance with CBC 509.1

- 5808.3.1 Hydrogen Fuel Gas Rooms Pressure Control
Requires ventilation system
- 5808.3.2 Hydrogen Fuel Gas Rooms Windows
Fixed window installation shall meet CBC Section 716
- 5808.5 Hydrogen Fuel Gas Rooms Detection System
Requires detection system for hydrogen fuel leaks
- 5808.5.1 & Hydrogen Fuel Gas Rooms Design, Components and Operation
5808.5.2 & *Guidance for construction and operation of hydrogen fuel gas rooms*
5808.5.3
- 5808.5.4 & Hydrogen Fuel Gas Rooms Failure of Detection System and Explosion Control
5808.6 *Requirements for detection system failure and explosion control*
- 5808.7 Hydrogen Fuel Gas Rooms Standby Power
Requirement for standby power
- 5808.3.4 Hydrogen Fuel Gas Rooms Ventilation
Requires mechanical exhaust systems

California Fire Code Amendments to Appendices

- 435.8.7 Floor Separation
Amended so that nonfire-resistance floor separation at stairs shall be required only when non-ambulatory patients are housed above the first floor
- 436 & Group I-4 special provisions
452 & School Facilities for Kindergarten through 12th Grade and Group E Day Care
455 Large-Family Day Care Homes
All amended to reflect CBC so no regulatory changes. Amendments made to aid in enforcement for fire official
- B105.1 One- and Two- Family Dwellings, Group R-3 and R-4 Buildings and Townhomes *Amended clarify amount of reduction available for each type of fire sprinkler systems*
- B105.2 Buildings Other Than One- and Two- Family Dwellings, Group R-3 and R-4 Buildings and Townhomes
Amended clarify amount of reduction available for each type of fire sprinkler systems
- B105.3 One- and Two- Family Dwellings, Group R-3 and R-4 Buildings and Townhomes *Amended to clarify fire-flow to reflect "the great of" demand or required flows*
- C101 Fire Hydrant Locations and Distribution
Refinement of fire hydrant requirements and spacing
- C102.1 Minimum Number of Fire Hydrants for a Building
Amended to clarify number of hydrants specified in Table C.102.1
- C103.1 Hydrant Spacing
Language amended from "distribution" to "spacing." Clarifies spacing requirements
- C104.1 Existing Fire Hydrants
Amended to clarify existing hydrants as allowable to meet requirements of C102 and C103

Status of California Fire Code Appendices

Appendix A	Board of Appeals	<i>(Adopted by Chapter 15)</i>
Appendix B	Fire flow requirements for buildings	<i>(Adopted by 2016 CFC)</i>
Appendix BB	Fire flow requirements for buildings	<i>(Adopted by 2016 CFC)</i>
Appendix C	Fire Hydrant Spacing	<i>(Adopted by 2016 CFC)</i>
Appendix CC	Fire Hydrant Spacing	<i>(Adopted by 2016 CFC)</i>
Appendix D	Fire Apparatus Access Roads (D105, Aerial Access)	<i>(Adopted by Chapter 15)</i>
Appendix E	Hazard Categories	<i>(Not adopted by CFC or Chapter 15)</i>
Appendix F	Hazard Ranking	<i>(Not adopted by CFC or Chapter 15)</i>
Appendix G	Cryogenic Fluids – Weight and Volume Equivalents	<i>(Not adopted by CFC or Chapter 15)</i>
Appendix H	Hazardous Materials Management Plans	<i>(Adopted by 2016 CFC)</i>
Appendix I	Fire Protection Systems – Noncompliant Conditions	<i>(Not adopted by CFC or Chapter 15)</i>
Appendix J	Building Sign Information	<i>(Not adopted by CFC or Chapter 15)</i>
Appendix K	Construction Requirements for Existing Ambulatory Care Facilities	<i>(Not adopted by CFC or Chapter 15)</i>
Appendix L	Requirements for Fire Fighter Air Replenishment Systems	<i>(Not adopted by CFC or Chapter 15)</i>
Appendix M	High-Rise – Retroactive Automatic Sprinkler Requirement	<i>(Not adopted by CFC or Chapter 15)</i>
Appendix N	Temporary Haunted Houses, Ghost Walks and Similar Amusement Uses	<i>(Not adopted by CFC or Chapter 15)</i>

Not Adopted in California Fire Code but Adopted through Chapter 15 of SB County Code

101	General	<i>(Same as 2013)</i>
102	Applicability	<i>(Same as 2013)</i>
103	Fire Prevention	<i>(New this year)</i>
104	Authority and Responsibility	<i>(Same as 2013)</i>
105	Permits (Some Sections)	<i>(Same as 2013)</i>
106	Inspections	<i>(Same as 2013)</i>
107	Maintenance	<i>(New this year)</i>
109	Violations (Some Sections)	<i>(Same as 2013)</i>
111	Stop Work Orders	<i>(Same as 2013)</i>
305	Ignition Sources	<i>(Same as 2013)</i>
306	Motion Picture Projection Rooms	<i>(Same as 2013)</i>
307	Open Burning, Recreational Fires, Outdoor Fireplaces	<i>(Same as 2013)</i>
308	Open Flames (BBQ's on Balconies)	<i>(Same as 2013)</i>
311	Vacant Premises	<i>(Same as 2013)</i>
503	Fire Apparatus Access Roads	<i>(Same as 2013)</i>
505	Mixed Use Buildings*	<i>(Same as 2013)</i>
507	Fire Protection Water Supplies	<i>(Same as 2013)</i>
808	Furnishings Other than Upholstered Furniture and Mattresses or Decorative Materials	<i>(Same as 2013)</i>
1103	Existing Buildings Fire Safety Requirements (CFC adopted 1103.7 Fire Alarm Systems)	<i>(Same as 2013)</i>
2500	Fruit and Crop Ripening	<i>(Same as 2013)</i>
2600	Fumigation and Insecticidal Fogging	<i>(Same as 2013)</i>