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Information Bulletin

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Topic:	Educational Facilities				
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Author:		Date:	Approved:		Date:
Committee		11/16/09	S. Diaz, DFM		11/17/09

Purpose:

This standard has been developed to assist school officials, principals, and maintenance staff in determining the minimum requirements for an Educational Facilities Annual Inspection.

Scope:

This Information Bulletin is intended to ensure compliance with the appropriate requirements for Educational facilities. The regulations regarding Educational facilities are found in the California Code of Regulations, Title 19, as well as the 2007 California Fire Code (CFC) and 2007 California Building Code (CBC).

Contact Information:

Use this Information Bulletin to ensure that your site will have at least the minimum amount of requirements required to begin an inspection. It may be necessary to provide additional requirements beyond what is requested in this Information Bulletin depending on the project.

For additional information regarding Group E occupancies please call 951-955-4823

Occupancy Classifications:

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

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.

Codes and Standards:

1) Emergency Information:

Title 19, Division 1, Chapter 1, Subchapter 1, Article 3,

Section 3.13 (a)(1) – Fire Drills: Every person and public officer managing, controlling, or in charge of any public, private, or parochial school shall cause the fire alarm signal to be sounded upon the discover of fire. Every person and public officer managing, controlling, or in charge of any public, private or parochial school, other than a two-year community college, shall cause the fire alarm signal to be sounded not less than once every calendar month at the elementary and intermediate levels, and not less than twice yearly at the secondary level.

A fire alarm drill shall be held at the secondary level not less than twice every school year.

(2) Emergency Pre-Fire Planning. Each school principal, district superintendent or day nursery manager shall, in cooperation with the enforcing agency, prepare procedures to be followed in case of fire or other emergency. They should include the following:

- (A) Posting of the telephone number of the fire department in the office and/or at the main switchboard.
- (B) Assignment of a responsible person to call the fire department upon notification of any fire or activation of the alarm system for any reason other than fire drills.
- (C) Posting in a conspicuous place in each classroom or assembly area a plan showing paths of travel to evacuate the room in case of emergency and including an alternate route.
- (D) Posting in each classroom instructions to be followed by the teacher. These should include:
 - (1) Maintaining of order during evacuation.
 - (2) Removal of roll call book and calling of roll when designated evacuation area is reached.

2) Addressing:

- a) New and existing buildings shall have approved **address numbers, building numbers** or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Address numbers shall be Arabic numerals or alphabet letters. Numbers shall be a minimum of 12-inches high with a minimum stroke width of 1-inch. CFC 505.1

3) Fire Access:

Title 19, Division 1, Chapter 1, Subchapter 1, Article 3,

Section 3.16 – Gate Entrances to School Grounds: Every public and private school shall conform with Section 12081 of the Education Code which reads:

“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 entrances 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 building 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.”

- a) Knox Access
 - i) Where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the fire code official is authorized to require a key box to be installed in an approved location. The key box shall be of an approved type and shall contain keys to gain necessary access as required by the fire code official. CFC 506.1
 - ii) An approved lock shall be installed on gates or similar barriers when required by the fire code official. CFC 506.1.1
 - iii) See County of Riverside Standard (FPS #06-03) for Knox Boxes for more details.
- b) Locked Gates
 - i) School grounds may be fenced and gates therein may be equipped with locks, provided that safe dispersal areas based on 3-square feet per occupant are located between the school and the fence. Such required safe dispersal areas shall not be located less than 50-feet from school buildings. CFC 503.5.2

- c) In addition to CVC Section 22500, no person shall stop, park, or leave standing any vehicle, whether attended or unattended, except when necessary to avoid conflict with other traffic or in compliance with the directions of a peace officer or official traffic control device along the edge of any highway, at any curb, or in any location in a publicly or privately owned or operated off-street parking facility, designated as a fire lane by the fire department or fire district with jurisdiction over the area in which the place is located.
- d) The designation shall be indicated (1) by a sign posted immediately adjacent to, and visible from, the designated place clearly stating in letters not less than one inch in height that the place is a fire lane, (2) by outlining or painting the place in red and, in contrasting color, marking the place with the words "**FIRE LANE**", which are clearly visible from a vehicle, or (3) by a red curb or red paint on the edge of the roadway upon which is clearly marked the words "**FIRE LANE**". CVC 22500.1

4) Electrical:

- a) 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 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. CFC 605.5.1
- b) Extension cords and flexible cords shall not be a substitute for permanent wiring. Extension cords and flexible cords shall not be affixed to structures, extended through walls, ceilings or floors, under doors or floor coverings, nor shall such cords be subject to environmental damage or physical impact. Extension cords shall be used only with portable appliances. CFC 605.5
- c) Multiplug adapters, such as cube adapters, unfused plug strips or any other device not complying with the California Electrical Code shall be prohibited. CFC 605.4
- d) Relocatable power taps shall be directly connected to a permanently installed receptacle. CFC 605.4.2
- e) Doors into electrical control panel rooms shall be marked with a plainly visible and legible sign stating "**ELECTRICAL ROOM**" or similar approved wording. The disconnecting means for each service, feeder or branch circuit originating on a switchboard or panelboard shall be legibly and durably marked to indicate its purpose unless such purpose is clearly evident. CFC 605.3.1
- f) A working space of not less than 30-inches in width, 36-inches in depth and 78-inches in height shall be provided in front of electrical service equipment. Where the electrical service equipment is wider than 30-inches, 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. CFC 605.3

Exceptions:

- i) Where other dimensions are required or allowed by the California Electrical Code.
- ii) Access openings into attics or under-floor areas which provide a minimum clear opening of 22-inches by 30-inches.

5) Fire Alarms:

- a) The building owner shall be responsible for ensuring that the fire and life safety systems are maintained in an operable condition at all times. Service personnel shall meet the qualification requirements of NFPA 72 for maintaining, inspecting and testing such systems. A written record shall be maintained and shall be made available to the fire code official. CFC 907.20.5
- b) The maintenance and testing schedules and procedures for fire alarm and fire detection systems shall be in accordance with this section (CFC Chapter 9) and Chapter 10 of NFPA 72, 2002 edition. CFC 907.20

- c) Smoke 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 test shall be performed. CFC 907.20.3.
- d) A record of all inspections, testing, and maintenance shall be provided that includes the following information regarding tests and all the applicable information requested in NFPA 72, 2002 edition 10.6.2.3
- i) Date
 - ii) Test frequency
 - iii) Name of property
 - iv) Address
 - v) Name of person performing inspection, maintenance, tests or combination thereof, and affiliation, business address, and telephone number.
 - vi) Name, address, and representative of approving agency(ies).
 - vii) Designation of the detector(s) tested, for example, "Tests performed in accordance with Section _____".
 - viii) Functional test of detectors.
 - ix) Functional test of required sequence of operations.
 - x) Check of all smoke detectors.
 - xi) Loop resistance for all fixed-temperature, line-type heat detectors.
 - xii) Other tests as required by equipment manufactures.
 - xiii) Other tests as required by the authority having jurisdiction.
 - xiv) Signatures of tester and approved authority representative.
 - xv) Disposition of problems identified during test (e.g., owner notified, problem corrected/successfully retested, device abandoned in place).
- e) When more than one fire alarm control unit is used at the school campus, they shall be interconnected and shall operate all notification appliances. CFC 907.2.3.1

Exception: Interconnection of fire alarm control units is not required when:

- i) Buildings that are separated a minimum of 20 feet and in accordance with the California Building Code.
 - ii) There is a method of communication between each classroom and the school administrative office approved by the fire enforcing agency.
- f) Where a required fire protection system is out of service, the fire department and the fire code official shall be notified immediately and, where required by the fire code official, the building shall either be evacuated or an approved fire watch shall be provided for all occupants left unprotected by the shut down until the fire protection system has been returned to service.

- g) Where utilized, fire watches shall be 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. CFC 901.7
- h) An approved sign to identify the **Fire Alarm Control Panel / FACP** shall be placed on the exterior of the door, constructed of durable materials, permanently installed and readily visible. CFC 510.1
- i) The dedicated (fire alarm) branch circuit(s) and connections shall be mechanically protected. NFPA 72 4.4.1.4.2.1
 - i) Circuit disconnecting means shall have a red marking, shall be accessible only to authorized personnel, and shall be identified as "Fire Alarm Circuit". NFPA 72 4.4.1.4.2.2
 - ii) The location of the circuit disconnecting means shall be permanently identified at the fire alarm control unit. NFPA 72 4.4.1.4.2.3

6) **Sprinkler System and Fire Hydrants:**

- a) Maintenance schedule for water-based fire protection systems see NFPA 25, 2002 edition, California Edition 2006. Title 19, 3.3.20
- b) Sprinklers
 - i) An approved sign to identify the **Fire Riser** room shall be placed on the exterior of the door, constructed of durable materials, permanently installed and readily visible. CFC 510.1
 - ii) 5-year certification on the sprinkler system – Fire protection systems shall be inspected, tested and maintained in accordance with the referenced standards listed in Table 901.6.1 and Chapter 3 and 5, Title 19 California Code of Regulations. NFPA 25 5.2.1.1.4
 - iii) A supply of spare sprinklers (never fewer than six) shall be maintained on the premises so that any sprinklers that have operated or been damaged in any way can be promptly replaced. Title 19, 5.2.1.3.
 - iv) A special sprinkler wrench shall be provided and kept in the cabinet to be used in the removal and installation of sprinklers. One sprinkler wrench shall be provided for each type of sprinkler installed. Title 19, 5.2.1.3.
- c) Fire Department Connections (FDC)
 - i) An approved sign to identify the building served by the FDC shall be placed on the FDC, constructed of durable materials, permanently installed and readily visible. CFC 510.1
 - ii) 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. CFC 912.3
 - iii) Fire department connections shall be equipped with listed plugs or caps, properly secured and arranged for easy removal by fire department. NFPA 13, 6.8.4
 - iv) All fire department connections shall be backflushed as full flow at a frequency not to exceed every 5 years. Title 19, 12.7.4
- d) Backflow Preventer (OS&Y)
 - i) An approved sign to identify the building served by the OS&Y shall be placed on the OS&Y, constructed of durable materials, permanently installed and readily visible. CFC 510.1
- e) Post Indicator Valve (PIV)
 - i) Chained and locked. CFC 901.8.1, NFPA 24, 6.6.2

- ii) An approved sign to identify the building served by the PIV shall be placed on the PIV, constructed of durable materials, permanently installed and ready visible. CFC 510.1
 - iii) Open sign of the PIV is visible. CFC 901.6
- f) Hydrants
- i) Blue reflectors (Riverside County Fire Standard FPS #06-11)
 - ii) All system valves shall be protected from physical damage and shall be accessible. NFPA 25 12.2.3
 - iii) Where fire hydrants are subject to impact by motor vehicle, guard posts or other approved means shall (be provided) comply with Section 312. CFC 508.5.6
 - iv) Design (Riverside County Fire Bollard Design Detail) CFC 312
 - v) A 3-foot clear space shall be maintained around the circumference of fire hydrants except as otherwise required or approved. CFC 508.5.5
- g) Obstructions
- i) Posts, fences, vehicles, growth, trash, storage and other materials or objects shall not be placed or kept near fire hydrants, fire department inlet connections or fire protection system control valves in a manner that would prevent such equipment or fire hydrants from being immediately discernible. CFC 508.5.4

7) **Kitchen:**

- a) Automatic fire-extinguishing systems shall be serviced at least every 6 months and after activation of the system. Inspection shall be by qualified individuals, and a certificate of inspection shall be forwarded to the fire code official upon completion. CFC 904.11.6.4 or Title 19, 904.
- b) Fusible links and automatic sprinkler heads shall be replaced at least annually and other protection devices shall be serviced or replaced in accordance with the manufacturer's instructions. CFC 904.11.6.5

Exception:

- i) Frangible bulbs are not required to be replaced annually.
- c) Portable fire extinguishers shall be provided and maintained in accordance with Title 19 California Code of Regulations, Chapter 3. CFC 904.11.5, Title 19, 575.1/596
- d) Each required commercial kitchen exhaust hood and duct system required by Section 609 to have a Type I hood shall be protected with an approved automatic fire-extinguishing system installed in accordance with this code. CFC 904.2.1
- e) Hoods, grease-removal devices, fans, ducts and other appurtenances shall be cleaned at intervals necessary to prevent the accumulation of grease. Cleanings shall be recorded, and records shall state the extent, time and date of cleaning. Such records shall be maintained on the premises. CFC 904.11.6.3
- f) Recent changes to the 2007 California Fire Code now requires that all commercial hood-extinguishing systems meet UL 300 standards no later than the second required servicing in 2008 (servicing of hood suppression systems is required every six months). The standards for suppression systems listed as UL 300 compliant allow for a greater level of protection for your hood suppression system, providing a higher level of fire and life safety for the occupants of the building.
- g) For more details see DSA Bulletin #06-01.

8) Assembly:

- a) Interior wall and ceiling finish shall have a flame spread index not greater than that specified in Table 803.3 for the group and location designed. CFC 803.3
- b) Stage curtains shall have a California State Fire Marshal tag. CBC 806.1 or Title 19, 3.08
- c) Combustible materials used in sets and scenery shall meet the fire propagation performance criteria of NFPA 701, in accordance with Section 806 and the California Fire Code. Foam plastics and materials containing foam plastics shall comply with Section 2603 and the California Fire Code. CBC 410.3.6
- d) Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway from the room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or authorized agent. CFC 1004.3 or Title 19, 3.30

9) Exit Doors:

- a) A means of egress shall be free from obstructions that would prevent its use, including the accumulation of snow and ice. CFC 1028.3
- b) The opening force for interior side-swinging doors without closers shall not exceed a 5-pound force. For other side-swinging, sliding and folding doors, the door latch shall release when subjected to a force of not more than 15 pounds. The door shall be set in motion when subjected to a force not exceeding a 30-pound force. The door shall swing to a full-open position when subjected to a force of not more than 50 pounds. Forces shall be applied to latch side. CFC 1027.8

10) Exit Signs:

- a) Exit signs shall be installed and maintained in accordance with CBC 1011. CFC 1028.4
- b) Decorations, furnishings, equipment or adjacent signage that impairs the visibility of exit signs, creates confusion or prevents identification of the exit shall not be allowed. CFC 1028.4
- c) Exit signs shall be internally or externally illuminated. CFC 1011.2

11) Corridors/Hallways:

- a) Required exit accesses, exit or exit discharges shall be continuously maintained free from obstructions or impediments to full instant use in the case of fire or other emergency when the areas served by such exits are occupied. Security devices affecting means of egress shall be subject to approval of the fire code official. CFC 1028.2
- b) Clothing and personal effects shall not be stored in corridors and lobbies. CFC 807.4.3.1
 - i) **Exceptions:**
 - ii) Corridors protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.
 - iii) Corridors protected by an approved smoke detection system installed in accordance with Section 907.
 - iv) Storage in metal lockers, provided the minimum required egress width is maintained.
 - v) Artwork and teaching materials shall be limited on walls of corridors to not more than 20 percent of the wall area. CFC 807.4.3.2
- c) Combustible materials shall not be stored in exits or exit enclosures. CFC 315.2.2

12) Rated Construction:

- a) The required fire-resistance rating of fire-resistance-rated construction (including wall, firestops, shaft enclosures, partitions, smoke barriers, floor, fire-resistive coatings and sprayed fire-resistant materials applied to structural members and fire-resistant joint systems) shall be maintained. Such elements shall be properly repaired, restored or replaced when damaged, altered, breached or penetrated. Openings made therein for the passage of pipes, electrical conduit, wires, ducts, air transfer openings and holes made for any reason shall be protected with approved methods capable of resisting the passage of smoke and fire. Openings through fire-resistance-rated assemblies shall be protected by self- or automatic-closing doors of approved construction meeting the fire protection requirements for the assembly. CFC 703.1
- b) Opening protectives shall be maintained in an operative condition in accordance with NFPA 80. Fire doors and smoke barrier doors shall not be blocked or obstructed or otherwise made inoperable. Fusible links shall be replaced promptly whenever fused or damaged. Fire door assemblies shall not be modified. CFC 703.2
- c) Hold-open devices and automatic door closers, where provided, shall be maintained. During the period that such device is out of service for repairs, the door it operates shall remain in the closed position. CFC 703.2.2
- d) Swinging fire doors shall close from the full-open position and latch automatically. The door closer shall exert enough force to close and latch the door from any partially open position. CFC 703.2.3
- e) The hanging and displaying of decorative materials from acoustical ceiling systems that are part of a fire-resistance-rated floor/ceiling or roof/ceiling assembly, shall be prohibited. CFC 703.3
- f) Horizontal and vertical sliding and rolling fire doors shall be inspected and tested annually to confirm proper operation and full closure. A written record shall be maintained and be available to the fire code official. CFC 703.4

13) Ignition Sources:

- a) Clearance between ignition sources, such as luminaries, heaters, flame-producing devices and combustible materials shall be maintained in an approved manner. CFC 305.1
- b) Open flame devices shall be prohibited in every Group E occupancy. Title 19, 3.25

14) Trash Cans & Housekeeping

Title 19 § 3.19. Housekeeping.

Every building or portion of a building governed by these regulations shall be maintained in a neat orderly manner, free from any condition that would create a fire or life hazard or a condition which would add to or contribute to the rapid spread of fire. Provisions shall be made for the proper storage and disposal of waste materials and rubbish consistent with the following:

- (a) All basements, cellars, floors, closets, attics, and other similar places not open to continuous observation shall be kept free from combustible litter and rubbish at all times. Note: Such storage may be permitted in these areas only when protected by approved automatic extinguishing systems or fire-resistive separations.
- (b) All combustible waste material and rubbish shall be stored in approved containers or shall be stored in a manner approved by the enforcing agency as being consistent with standard fire prevention practices until such waste material and rubbish is removed from the premises or otherwise disposed of in a proper manner. Nonmetallic rubbish containers with a capacity of less than 30 gallons shall be manufactured of materials tested in accordance with and shall comply with U.L. Standard 242 "Nonmetallic Containers for Waste Paper" (Rev. 3- 93) which is incorporated by reference. Nonmetallic rubbish containers with a capacity of 30 gallons or more

shall be manufactured of materials having a peak rate of heat release not exceeding 300 kW/m² that meet ASTM Standard 1354-90a, "Standard Test Method for Heat and Visible Smoke Release for Materials and Products Using an Oxygen Consumption Calorimeter" (Rev. 8-91) which is incorporated by reference. Such containers shall be equipped with an integrated self-closing lid and be permanently labeled indicating capacity and peak rate of heat release.

(c) Approved self-closing metal containers shall be provided and maintained in all rooms or locations where oily rags, oily waste, paint rags, or similar materials subject to spontaneous ignition are used, or are stored temporarily. Such containers shall be emptied daily.

(d) Ashes shall not be placed in, on, or near combustible material, but shall be placed in approved metal containers, until removed from the premises or otherwise properly disposed of.

(e) No dry vegetation shall be permitted to exist within 20 feet of any building or occupancies subject to these regulations.

(f) Except when permitted by the enforcing agency, boiler rooms, mechanical rooms, transformer and switchgear vaults and electrical panel rooms, shall not be used for storage.

(g) Electric motors, filters on heating equipment, and grease hoods shall be checked periodically and kept clean and maintained in a safe operating condition.

15)Decorative Materials:

- a) In Group E occupancies curtains, draperies, hangings and other decorative materials suspended from walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 806.2 or be non combustible. CFC 807.1
- b) The permissible amount of noncombustible decorative material shall not be limited. CFC 807.1.1
- c) 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. CFC 807.1.2
- d) Means of egress doors shall be readily distinguishable from the adjacent construction and finishes such that the doors are easily recognizable as doors. Mirrors or similar reflecting materials shall not be used on means of egress doors. Means of egress doors shall not be concealed by curtains, drapes, decorations or similar materials. CBC 1008.1
- e) Clothing and personal effects shall not be stored in corridors and lobbies. CFC 807.4.3.1
Exceptions:
 - i) Corridors protected by an approved automatic sprinkler system.
 - ii) Corridors protected by an approved smoke detection system.
 - iii) Storage in metal lockers, provided the minimum required egress width is maintained.
- f) Artwork and teaching materials shall be limited on the walls of corridors to not more than 20 percent of the wall area. CFC 807.4.3.2
- g) Artwork and teaching materials shall not exceed 20 percent of the wall area in a building that is not protected throughout by an approved automatic sprinkler system. NFPA 101 (CSFM IB 9-1-2009)
- h) Artwork and teaching materials shall not exceed 50 percent of the wall area in a building that is protected throughout by an approved automatic sprinkler system. NFPA 101 (CSFM IB 9-1-2009)
- i) In Group E occupancies all drapes, hangings, curtains, drops, and all other decorative material, including Christmas trees, that would tend to increase the fire and panic hazard shall be made from a nonflammable material, or shall be treated and maintained in a flame –retardant condition by means of a flame-retardant solution or process approved by the State Fire Marshall, as set forth in Subchapter 8, Chapter 1, Title 19, CAC, Exits, exit lights, fire alarm sending stations, wet

standpipe hose cabinets, and fire extinguisher locations shall not be concealed, in whole or in part, by any decorative material. Title 19, 3.08.

16) Securing Compressed Gas Container, Cylinders and Tanks:

- a) Compressed gas containers, cylinders and tanks shall be secured to prevent falling caused by contact, vibration or seismic activity. CFC 3003.5.3

17) Liquified Petroleum Gases

- a) Portable LP-gas containers shall not be in buildings except as specified in NFPA 58 and Section 3803.2.1.4.
- b) In E occupancies, portable LP-gas containers are allowed to be used for research and experimentation. Such containers shall not be used in classrooms. Such containers shall not exceed a 50-pound water capacity. Where more than one such container is present in the same room, each container shall be separated from other containers by a distance of not less than 20 feet. CFC 3803.2.1.4

18) Fire Extinguisher:

- a) Portable fire extinguishers shall be installed in new and existing E occupancies. CFC 906.1
- b) Within 30 feet of commercial cooking equipment. (Class K, Title 19, 573)
- c) A minimum rated extinguisher of 2A10BC shall be used. Title 19, Table 2 & Table 3
- d) The maximum travel distance to an extinguisher shall be 75-feet. Title 19, Table 2.
- e) Portable fire extinguishers having a gross weight not exceeding 40-pounds shall be installed so that its top is not more than 5-feet above the floor. CFC 906.9/Title 19, 567.6
- f) Portable fire extinguishers shall be serviced annually. Title 19, 575.1/596

19) Storage:

- a) Storage shall be maintained 2 feet or more below the ceiling in non-sprinklered areas of buildings or a minimum of 18 inches below sprinkler head deflectors in sprinklered areas of buildings. CFC 315.2.1

20) Laboratories:

- a) Material Safety Data Sheets (MSDS) for all hazardous materials shall be readily available on the premises. CFC 407.2
- b) Class I, II, or III-A flammable liquids shall not be placed, stored or used in Group E occupancies, except in approved quantities as necessary in laboratories and classrooms and for operation and maintenance as set forth in the California Fire Code. CBC 442.5.1
- c) Quantities in Group E occupancies shall not exceed that necessary for demonstration, treatment, laboratory work, maintenance purposes and operation of equipment, and shall not exceed quantities set forth in Table 2703.1.1(1) [of the CFC]. CFC 3404.3.4.2

21) Portable Buildings:

- a) A portable building as defined in Section 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 or automatic sprinkler system. CFC 907.2.3.8.3

22) Small Ceramic Kilns:

- a) The provisions of the [California Mechanical Code] apply to kilns used for ceramics that have a maximum interior volume of twenty (20) cubic feet and are used for hobby or noncommercial purposes. CMC 930.1
- b) Kilns shall be installed in accordance with the manufacturers' instructions and the provisions of the [CMC]. CMC 930.2
- c) Standing pilots shall not be used with gas-fired kilns. CMC 930.3
- d) All electrical equipment used as part of, or in connection with, the installation of a kiln shall comply with the requirements set forth in the Electrical Code. CMC 930.4
- e) The sides and tops of kilns shall be located a minimum of eighteen (18) inches from any noncombustible wall surface and three (3) feet from any combustible wall surface. Kilns shall be installed on noncombustible flooring consisting of at least two (2) inches of solid masonry or concrete extending at least twelve (12) inches beyond the base or supporting members of the kiln.

Exception: These clearances may be reduced, provided the kiln is installed in accordance with its listing.

In no case shall the clearance on the gas or electrical control side of a kiln be reduced to less than thirty (30) inches. CMC 930.5.1

- f) A canopy-type hood shall be installed directly above each kiln. The face opening area of the hood shall be equal to or greater than the top horizontal surface area of the kiln. The hood shall be constructed of not less than 0.024 inch (No. 24 U.S. gauge) galvanized steel or equivalent and be supported at a height of between twelve (12) inches and thirty (3) inches above the kiln by noncombustible supports.

Exception: Electric kilns installed with listed exhaust blowers may be used when marked as being suitable for the kiln and installed in accordance with manufacturers' instructions.

- g) Each hood shall be connected to a gravity ventilation duct extending in a vertical direction to outside the building. This duct shall be of the same construction as the hood and shall have a minimum cross-sectional area of not less than one-fifteenth of the face opening area of the hood. The duct shall terminate a minimum of twelve (12) inches above any portion of a building within four (4) feet from any openable windows or other openings into the building or adjacent property line. The duct opening to the outside shall be shielded, without reduction or duct area, to prevent entrance of rain into the duct. The duct shall be supported at each section by noncombustible supports. CMC 930.5.3
- h) Provisions shall be made for air to enter the room in which a kiln is installed at a rate at least equal to the air being removed through the kiln hood. CMC 930.5.4
- i) Every hood and duct serving a fuel-burning kiln shall have a clearance from combustible construction of at least eighteen (18) inches. This clearance may be reduced in accordance with Table 3-2. CMC 930.5.5
- j) Kilns installed in exterior locations shall be installed with minimum clearances as specified Section 930.5.1. Wherever a kiln is located under a roofed area and is partially enclosed by more than two vertical wall surfaces, a hood and gravity ventilation duct shall be installed to comply with Sections 930.5.2, 930.5.3, and 930.5.5. CMC 930.6

23) Large Ceramic Kilns (Industrial Ovens):

- a) Industrial ovens shall comply with the applicable provisions of NFPA 86, California Mechanical Code and CFC Chapter 21. CFC 2101.1

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- b) Permits shall be required to operate commercial ovens as set forth in Appendix Chapter 1, Sections 105.6 and 105.7. CFC 2101.2
 - c) An operational permit is required for operation of industrial ovens regulated by Chapter 21. CFC App Ch 1, 105.6.24
 - d) A construction permit is required for installation of industrial ovens covered by Chapter 21. CFC App Ch 1, 105.7.8