

**INITIAL EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF THE STATE FIRE MARSHAL
REGARDING THE ADOPTION BY REFERENCE OF THE
2012 EDITION OF THE UNIFORM MECHANICAL CODE
WITH AMENDMENTS INTO THE 2013 CALIFORNIA MECHANICAL CODE
CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 4**

The Office of the State Fire Marshal (SFM) proposes to adopt the 2012 edition of the Uniform Mechanical Code (UMC) into the 2013 edition of the California Mechanical Code (CMC). SFM further proposes to:

- Repeal the adoption by reference of the 2009 Uniform Mechanical Code and incorporate and adopt by reference in its place the 2012 Uniform Mechanical Code for application and effectiveness in the 2013 California Mechanical Code.
 - Repeal certain amendments to the 2009 Uniform Mechanical Code and/or California Building Standards not addressed by the model code that are no longer necessary.
 - Adopt new building standards or necessary amendments to the 2012 Uniform Mechanical Code that address inadequacies of the 2012 Uniform Mechanical Code as they pertain to California laws.
 - Bring forward previously existing California building standards or amendments, which represent no change in their effect from the 2010 California Building Standards Code.
 - Codify non-substantive editorial and formatting amendments from the format based upon the 2009 Uniform Mechanical Code to the format of the 2012 Uniform Mechanical Code.
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Legend for Express Terms:

1. **Existing California regulations or amendments brought forward without modification:** *All such text appears in italic font.*
 2. **Model code language with new California amendment:** Model code text is shown in normal Arial 9-point font. California amendments to model code text appear *underlined and in italics.*
 3. **New California regulation or modification to existing California regulation:** New California regulation or modification appear *underlined and in italics.*
 4. **Repealed text:** Shown as ~~*strikeout.*~~
 5. **California amendments that remove model code language:** Shown as ~~*strikeout.*~~
 6. **Notation:** Authority and Reference citations are provided at the end of each chapter.
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[1. The SFM is proposing to maintain the adoption of those existing California provisions contained Sections 1.1.0 through 1.1.12 with modification.]

**CHAPTER 1
CALIFORNIA ADMINISTRATION
DIVISION I**

1.1.0 General.

1.1.1 Title. *These regulations shall be known as the California Mechanical Code, may be cited as such and will be referred to herein as “this code.” The California Mechanical Code is Part 4 of twelve parts of the official compilation and publication of the adoption, 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 ~~2009~~2012 Uniform Mechanical Code of the International Association of Plumbing and Mechanical Officials with necessary California amendments.*

1.1.2 Purpose. *The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation, and energy conservation; safety to life and property from fire and other hazards attributed to the built environment; and to provide safety to fire fighters and emergency responders during emergency operations.*

1.1.3 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 buildings or structures throughout the State of California.*

1.1.3.1 Nonstate-Regulated Buildings, Structures, and Applications. *Except as modified by local ordinance pursuant to Section 1.1.8, the following standards in the California Code of Regulations, Title 24, Parts 2, 2.5, 3, 4, 5, 6, 9, 10 and 11 shall apply to all occupancies and applications not regulated by a state agency.*

1.1.3.2 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 Section 1.2 through 1.14, except where modified by local ordinance pursuant to Section 1.1.8. 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. *State-owned buildings, including buildings constructed by the Trustees of the California State University, and to the extent permitted by California laws, buildings designed and constructed by the Regents of the University of California, and regulated by the Building Standards Commission. See Section 1.2 for additional scope provisions.*

2. *Local detention facilities regulated by the Corrections Standards Authority. See Section 1.3 for additional scope provisions.*

3. *Barbering, cosmetology or electrolysis establishments, acupuncture offices, pharmacies, veterinary facilities, and structural pest control locations regulated by the Department of Consumer Affairs. See Section 1.4 for additional scope provisions.*

4. *Reserved for the California Energy Commission. See Section 1.5 for additional scope provisions.*

5. *Dairies and places of meat inspection regulated by the Department of Food and Agriculture. See Section 1.6 for additional scope provisions.*

6. *Organized camps, laboratory animal quarters, public swimming pools, radiation protection, commissaries serving mobile food preparation vehicles and wild animal quarantine facilities regulated by the Department of Public Health. See Section 1.7 for additional scope provisions.*

7. *Hotels, motels, lodging houses, apartment houses, dwellings, dormitories, condominiums, shelters for homeless persons, congregate residences, employee housing, factory-built housing and other types of dwellings containing sleeping accommodations with or without common toilets or cooking facilities. See Section 1.8.2.1.1 for additional scope provisions.*

8. Accommodations for persons with disabilities in buildings containing newly constructed covered multifamily dwellings, new common use spaces serving existing covered multifamily dwellings, additions to existing buildings where the addition alone meets the definition of "COVERED MULTIFAMILY DWELLINGS," and common-use spaces serving covered multifamily dwellings which are regulated by the Department of Housing and Community Development. See Section 1.8.2.1.2 for additional scope provisions.

9. Permanent buildings and permanent accessory buildings or structures constructed within mobilehome parks and special occupancy parks regulated by the Department of Housing and Community Development. See Section 1.8.2.1.3 for additional scope provisions.

10. Reserved for the Division of the State Architect – Access Compliance.

11. Public elementary and secondary schools, community college buildings and state-owned or state leased essential service buildings regulated by the Division of the State Architect. See Section 1.9.2 for additional scope provisions.

12. Reserved for the State Historical Building Safety Board with the Division of the State Architect. See Section 1.9.2 for additional scope provisions.

13. General acute care hospitals, acute psychiatric hospitals, skilled nursing and/or intermediate care facilities, clinics licensed by the Department of Public Health and correctional treatment centers regulated by the Office of Statewide Health Planning and Development. See Section 1.10 for additional scope provisions.

14. Applications regulated by the Office of State Fire Marshal include but are not limited to the following in accordance with Section 1.11:

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.

15. Public libraries constructed and renovated using funds from the California Library Construction and Renovation Bond Act of 1988 and regulated by the State Librarian. See Section 1.12 for additional scope provisions.

16. Graywater systems regulated by the Department of Water Resources. See Section 1.13 for additional scope provisions.

17. For applications listed in Section 1.9.1 regulated by the Division of the State Architect – Access Compliance, outdoor environments and uses shall be classified according to accessibility uses described in Chapter 11A, 11B and 11C.

18. Marine Oil Terminals regulated by the California State Lands Commission. See Section 1.14 for additional scope provisions.

1.1.4 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 18901 et. seq. 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 1.1.8 of this code.

1.1.5 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 architectural or engineering practices shall be employed. The National Fire Codes,

standards, and the Fire Protection Handbook of the National Fire Protection Association are permitted to be used as authoritative guides in determining recognized fire prevention engineering practices.

1.1.6 Nonbuilding Standards, Orders and Regulations. Requirements contained in the Uniform Mechanical Code or in any other referenced standard, code or document, which are not building standards as defined in Health and Safety Code Section 18909, shall not be construed as part of the provisions of this code. For nonbuilding standards, orders, and regulations, see other titles of the California Code of Regulations.

1.1.7 Order of Precedence and Use.

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

1.1.7.2 Specific Provisions. Where a specific provision varies from a general provision, the specific provision shall apply.

1.1.7.3 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 requirements shall prevail.

1.1.8 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 1.1.8.1. The effective date of amendments, additions, or deletions to this code by a city, county, or city and county filed pursuant to Section 1.1.8.1 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.

Local modifications shall comply with Health and Safety Code Section 18941.5 for Building Standards Law, Health and Safety Code Section 17958 for State Housing Law or Health and Safety Code Section 13869.7 for Fire Protection Districts.

1.1.8.1 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, Division of Codes and Standards, P.O. Box 1407, Sacramento, CA 95812-1407 or 1800 3rd Street, Room 260, Sacramento, CA 95811.

1.1.9 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.

1.1.10 Availability of Codes. At least one complete 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. Each state department concerned and each city, county, or city and county shall have an up-to-date copy of the code available for public inspection, See Health and Safety Code Sections 18942(d)(1) and (2).

1.1.11 Format. This part fundamentally adopts the Uniform Mechanical 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 Uniform Mechanical Code such chapter of the Uniform Mechanical Code is not adopted as a portion of this code.~~

When a specific chapter of the Uniform Mechanical Code is not printed in the code and is marked "Reserved" such chapter of the Uniform Mechanical Code is not adopted as a portion of this code. When a specific chapter of the

Uniform Mechanical Code is marked "Not adopted by the State of California" but appears in the code, it may be available for adoption by local ordinance.

Note: Matrix Adoption Tables at the front of each chapter may aid the code user in determining which chapter or sections within a chapter are applicable to buildings under the authority of a specific state agency, but they are not to be considered regulatory.

1.1.12 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.

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[1.1. The SFM is proposing to maintain the adoption of those existing California provisions contained Sections 1.11.0 through 1.11.10 without modification.]

1.11.0 Office of the State Fire Marshal.

1.11.1 SFM– Office of the State Fire Marshal. Specific scope of application of the agency responsible for enforcement, the enforcement agency and the specific authority to adopt and enforce such provisions of this code, unless otherwise stated.

Application:

Institutional, Educational, or any Similar Occupancy. 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.

Authority Cited – Health and Safety Code Section 13143.

Reference – Health and Safety Code Section 13143.

Assembly or Similar Place of Assemblage. 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, 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 and 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.

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, and Systems in Connection with any Occupancy.

Authority Cited – Health and Safety Code Section 13114.

Reference – Health and Safety Code Section 13143.

Hazardous Materials.

Authority Cited – Health and Safety Code Section 13143.9.

Reference – Health and Safety Code Section 13143.

Flammable and Combustible Liquids.

Authority Cited – Health and Safety Code Section 13143.6.

Reference – Health and Safety Code Section 13143.

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

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

References – Government Code Section 11152.5, Health and 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 and Safety Code Sections 13143, 13108.5(a), 18949.2(b), (c) and Government Code Section 51189.

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

1.11.2 Duties and Powers of the Enforcing Agency.

1.11.2.1 Enforcement.

1.11.2.1.1 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 except as provided in Section 1.11.2.1.2 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-3 occupancies, 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.

1.11.2.1.2 Pursuant to Health and Safety Code Section 13108, and except as otherwise provided in this section, building standards adopted by the State Fire Marshal published in the California Building Standards Code relating to fire and panic safety shall be enforced by the State Fire Marshal in all state-owned buildings, state-occupied buildings, and state institutions throughout the state. 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 State Fire Marshal and building standards relating to fire and panic safety published in the California Building Code.

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.

1.11.2.1.3 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.

1.11.2.2 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.

1.11.2.3 More Restrictive Fire and Panic Safety Building Standards.

1.11.2.3.1 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 Section 1.1.8.1.

1.11.2.3.2 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 1.11.2.3.1, 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.

1.11.2.3.3 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 1.1.8.1, Item 3.

1.11.2.4 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.

When a request for alternate means of protection involves hazardous materials, the authority having jurisdiction 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.

1.11.2.5 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.

1.11.3 Construction Documents.

1.11.3.1 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.

1.11.3.2 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.

1.11.3.3 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.

1.11.3.4 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.

1.11.3.5 Retention of Plans. Refer to Building Standards Law, Health and Safety Code Sections 19850 and 19851 for permanent retention of plans.

1.11.4 Fees.

1.11.4.1 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.

1.11.4.2 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.

1.11.4.3 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.

1.11.4.4 Fire Clearance Preinspection. Pursuant to Health and Safety Code Section 13235, Fire Clearance Preinspection, 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 preinspection of the facility prior to the final fire clearance approval. At the time of the preinspection, 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 preinspection 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 preinspection of a facility with a capacity to serve 26 or more persons.

1.11.4.5 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 preclearance inspection by the State Department of Social Services, whichever is later.

Pursuant to Health and Safety Code Section 13235, a preinspection fee of not more than \$50.00 may be charged for a facility with a capacity to serve 25 or less clients. A fee of not more than \$100.00 may be charged for a preinspection 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.

1.11.4.6 Requests of the Office of the State Fire Marshal. Whenever a local authority having jurisdiction 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.

1.11.5 Inspections. Work performed subject to the provisions of this code shall comply with the inspection requirements of Title 24, Part 2, California Building Standards Code, Sections 109.1, 109.3, 109.3.4, 109.3.5, 109.3.6, 109.3.8, 109.3.9, 109.3.10, 109.5, and 109.6 as adopted by the Office of the State Fire Marshal.

1.11.5.1 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 shall 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.

1.11.6 Certificate of Occupancy. A Certificate of Occupancy shall be issued as specified in Title 24, Part 2, California Building Code, Section 111.

Exception: Group R, Division 3 and Group U occupancies.

1.11.7 Temporary Structures and Uses. See Title 24, Part 2, California Building Code, Section 107.

1.11.8 Service Utilities. See Title 24, Part 2, California Building Code, Section 112.

1.11.9 Stop Work Order. See Title 24, Part 2, California Building Code, Section 115.

1.11.10 Unsafe Buildings, Structures, and Equipment. See Title 24, Part 2, California Building Code, Section 116.

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 17921, 18949.2, Government Code Section 51189
References: Health and Safety Code Sections 13143, 18949.2, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204

[1.2. The SFM proposes to not adopt UMC Chapter 1. (UMC Chapter 1 Administrative provisions - Sections 101 through 117 relocated to Division II of Chapter 1.)]

DIVISION II

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2
References: Health and Safety Code Sections 13143, 18949.2

[2. The SFM proposes to adopt Chapter 2 with the following existing amendments and California regulations.]

**CHAPTER 2
DEFINITIONS**

203 A

Assembly Building. A building or a portion of a building used for the gathering together of fifty (50) or more persons for such purposes as deliberation, education, instruction, worship, entertainment, amusement, drinking, dining, or awaiting transportation. *[SFM] Refer to the California Building Code, Title 24, Part 2 for use and occupancy classification.*

Authority Having Jurisdiction. The organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, installations, or procedures. The Authority Having Jurisdiction shall be a federal, state, local, or other regional department or an individual such as a plumbing official, mechanical official, labor department official, health department official, building official, or others having statutory authority. In the absence of a statutory authority, the Authority Having Jurisdiction may be some other responsible party. This definition shall include the Authority Having Jurisdiction's duly authorized representative. *[SFM] "Authority Having Jurisdiction" shall mean "Enforcing Agency" as defined in Section 207.0 of this code.*

204 B

Building Code. The building code that is adopted by this jurisdiction. *[SFM] "Building Code" shall mean the California Building Code, Title 24, Part 2.*

Building Official. See **Authority Having Jurisdiction.** *For applications listed in Section 111 regulated by the Office of the State Fire Marshal "Building Official" is the officer charged with the administration and enforcement of this code, or a regular deputy. See "Enforcing Agency". For the State of California, "Building Official" shall be the "Enforcing Agency" as specified in Section 111.*

207 E

Enforcing Agency. *[SFM] is the designated department or agency as specified in statutes to enforce the specific building standards promulgated or adopted by the specified state agency.*

208 F

FIRE CODE – Whenever the term “Fire Code” is used in this code, it shall mean the California Fire Code, Title 24, Part 9.

209 -G-

Tables 6-6 A and B

214 L

Listed and Listing. [SFM] “Listed” and “Listing” are terms referring to equipment or materials included in a list published by an approved testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of current productions of listed equipment or materials and which listing states that the material or equipment complies with approved nationally recognized codes, standards or tests and has been tested or evaluated and found suitable for use in a specific manner. These terms shall also mean equipment or materials accepted by the State Fire Marshal as conforming to the provisions of these regulations and which are included in a list published by the State Fire Marshal.

215-M

Machinery Room [SFM]. Machinery Room is a room in which a refrigeration system is permanently installed and operated but not including evaporators located in a cold storage room, refrigerator box, air-cooled space or other enclosed space. Closets solely contained within, and opening only into, a room shall not be considered machinery rooms, but shall be considered a part of the machinery rooms in which they are contained or open into. It is not the intent of this definition to cause the space in which unit or self-contained systems of Group I refrigerants are located to be classified as machinery rooms.

217 O

Occupancy Classification. Classifications are defined in the California Building Code. [SFM] Whenever the term “Building Code” is used in this code, it shall mean the California Building Code, Title 24, Part 2.

223-U

U.M.C. [SFM] The latest edition of the Uniform Mechanical Code, published by the International Association of Plumbing and Mechanical Officials.
~~Plumbing and Mechanical Officials.~~

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.65, 13108, 13143, 13143.9, 13146, 13210, 13211, 17921, 18949.2

References: Health and Safety Code Sections 13143, 13211, 18949.2

[3. The SFM proposes to adopt Chapter 3 with the following existing amendments and California regulations.]

**CHAPTER 3
GENERAL REQUIREMENTS**

303.8 Liquefied Petroleum Gas Facilities. Containers, container valves regulating equipment, and appurtenances for the storage and supply of liquefied petroleum gas shall be installed in accordance with NFPA 58 and the California Fire Code.

Notation:

Authority: Health and Safety Code Section 13143.9

Reference: Health and Safety Code Section 13143, 18949.2

[4. The SFM proposes to adopt Chapter 4 with the following existing amendments and California regulations.]

**CHAPTER 4
VENTILATION AIR SUPPLY**

401.1 Applicability. This chapter contains requirements for ventilation air supply and exhaust, evaporative cooling systems and makeup-air requirements for direct-gas-fired heaters, industrial air heaters, and miscellaneous heaters. [SFM] Air filters shall comply with all requirements of Part 12, Title 24, Chapter 12-71, SFM Standard 12-71-1.

~~403.8~~403.9 Exhaust Ventilation for Enclosed Parking Garages. Exhaust airflow for enclosed parking garages shall be provided in accordance with the requirements in Table 4-4 and this Section. Exhaust makeup air shall be permitted to be any combination of outdoor air or transfer air.

~~403.8.14~~403.9.1 Exhaust Inlet Distribution. To ensure proper exhaust of contaminated air and fumes from parking garages, exhaust systems utilizing multiple exhaust inlets shall be designed so that exhaust inlets are distributed in such a manner that no portion of the parking garage is more than 50 feet (15 240 mm) from an exhaust inlet. Such exhaust inlets shall be installed so that the highest elevation of the exhaust inlet is no greater than 12 inches (305 mm) below the lowest ceiling level.

Exception: Garage exhaust systems designed without distributed exhaust inlets shall have their exhaust inlets designed based on the principles of engineering and mechanics and shall provide the minimum required exhaust rate in Table 4-4.

~~403.8.2~~403.9.2 Alternative Exhaust Ventilation for Enclosed Parking Garages. Mechanical ventilation systems used for enclosed parking garages shall be permitted to operate intermittently where the system is arranged to operate automatically upon detection of vehicle operation or the presence of occupants by approved automatic detection devices.

~~403.8.2.1~~403.9.2.1 Minimum Exhaust Rate. Ventilation systems shall be capable of providing 14,000 cfm (6608 L/s) of exhaust air for each operating vehicle. Number of operating vehicles shall be determined based on 2.5 percent of all parking spaces (and not less than one vehicle).

~~403.8.2.2~~403.9.2.2 Automatic Carbon Monoxide Sensing Devices. Automatic carbon monoxide sensing devices may be employed to modulate the ventilation system to maintain a maximum average concentration of carbon monoxide of 50 parts per million during any eight-hour period, with a maximum concentration not greater than 200 parts per million for a period not exceeding one hour. Automatic carbon monoxide sensing devices employed to modulate parking garage ventilation systems shall be approved pursuant to the requirements in Section 302.1.

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[5. The SFM proposes to adopt Chapter 5 with the following new and existing amendments and California regulations.]

**CHAPTER 5
EXHAUST SYSTEMS**

506.2 Construction. Ducts used for conveying products shall be airtight construction as approved by the Authority Having Jurisdiction, and shall not have openings other than those required for operation and maintenance of the system. Ducts constructed of steel shall comply with Table 506.2(1) or Table 506.2(2).

Exceptions:

(1) Class 1 product-conveying ducts that operate at less than 4 inches (102 mm) water column (996 Pa) negative pressure and convey noncorrosive, nonflammable, and nonexplosive materials at temperatures not exceeding 250°F (121°C) shall be permitted to be constructed in accordance with SMACNA HVAC Duct Construction Standards Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards—Metal and Flexible or another approved duct construction standard.~~

(2) Ducts used in central vacuuming systems within a dwelling unit shall be constructed of materials in accordance with the applicable standards referenced in Chapter 17. Penetrations of fire-resistive walls, or floor-ceiling or roof-ceiling assemblies shall be in accordance with the building code. Copper or ferrous pipes or conduit extending from within the separation between a garage and dwelling unit to the central vacuum unit shall be permitted to be used.

The use of rectangular ducts conveying particulates shall be subject to approval of the building official. The design of rectangular ducts shall consider the adhesiveness and buildup of products being conveyed within the duct.

Aluminum construction shall be permitted to be used in Class 1 duct systems. The thickness of aluminum ducts shall be not less than two Brown and Sharpe gauges thicker than the gauges required for steel ducts set forth in Table 506.2(a1) and Table 506.2(b2).

509.2.4 Grease Filters. Grease filters shall be listed and constructed of steel or listed equivalent material and shall be of rigid construction that will not distort or crush under normal operation, handling, and cleaning conditions. [NFPA 96: 6.2.3.1 and 6.2.3.2] *[SFM] For applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, grease filters shall be Class I when tested in accordance with the test method in Title 24, Part 12, Chapter 12-71, SFM Standard 12-71-1.*

511.1.6 All wiring and electrical equipment shall comply with ~~NFPA 70, National Electrical Code—California Electrical Code.~~

512.2.6 All electrical equipment shall be installed in accordance with ~~NFPA 70, National Electrical Code—California Electrical Code,~~ with due regard to the effects of heat, vapor, and grease on the equipment.

513.2.2 Standard. ~~Automatic fire extinguishing systems shall be installed in accordance with standard UL 300 or other equivalent standards and shall be installed in accordance with the requirements of the listing. [NFPA 96:10.2.3] Commercial cooking equipment that produce grease laden vapors shall be provided with a Type I Hood, in accordance with this Code, and an automatic fire extinguishing system that is listed and labeled for its intended use as follows:~~

(1) *Wet chemical extinguishing system (NFPA 17A, Standard for Wet Chemical Extinguishing Systems), complying with UL 300, Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking Equipment. All existing dry chemical and wet chemical extinguishing systems shall comply with UL 300, Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking Equipment.*

(2) *Carbon dioxide extinguishing systems (NFPA 12, Standard on Carbon Dioxide Extinguishing Systems).*

(3) *Automatic fire sprinkler systems (NFPA 13, Standard for the Installation of Sprinkler Systems).*

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.

Exceptions:

(1) Automatic fire-extinguishing equipment provided as part of listed recirculating systems in accordance with UL 710B. [NFPA 96:10.2.6]

(2) *Public schools kitchens, without deep-fat fryers, shall be upgraded to a UL 300, Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking Equipment, compliant system during state funded modernization projects that are under the jurisdiction of the Division of the State Architect*

513.2.2.1 Installation. ~~Automatic fire extinguishing systems shall be installed in accordance with the terms of their listing, the manufacturer's installation instructions, and the following standards where applicable. [NFPA 96:10.2.6]~~

~~(1) NFPA 12, Standard on Carbon Dioxide Extinguishing Systems~~

~~(2) NFPA 13, Standard for the Installation of Sprinkler Systems~~

~~(3) NFPA 17, Standard for Dry Chemical Extinguishing Systems~~

~~(4) NFPA 17A, Standard for Wet Chemical Extinguishing Systems~~

513.3.2 Simultaneous operation shall not be required where a dry or wet chemical system is used to protect common exhaust ductwork by the methods specified ~~one of the methods specified in NFPA 17, Standard for Dry Chemical Extinguishing Systems, or NFPA 17A, Wet Chemical Extinguishing Systems.~~

513.11 Portable Fire Extinguishers. Portable fire extinguishers shall be installed in kitchen cooking areas in accordance with ~~NFPA 10, Standard for Portable Fire Extinguishers Chapter 3, Title 19 California Code of Regulations.~~ Such extinguishers shall use agents that saponify upon contact with hot grease and shall be maintained in accordance with ~~NFPA 10 Chapter 3, Title 19 California Code of Regulations.~~

513.11.2 Other fire extinguishers in the kitchen area shall be installed in accordance with ~~NFPA 10 Chapter 3, Title 19 California Code of Regulations.~~

516.2.7 No electrical wiring shall be installed in the interior sections of the hood plenum that might become exposed to grease.

Exception: As permitted by ~~the NFPA 70, National Electrical Code-California Electrical Code.~~

516.2.9 Listing evaluation shall include the following:

- (1) Capture and containment of vapors at published and labeled airflows.
- (2) Grease discharge at the exhaust outlet of the system not to exceed an average of 5 mg/m³ of exhausted air sampled from that equipment at maximum amount of product that is capable of being processed over a continuous 8-hour test per EPA Test Method 202, Determination of Condensable Particulate Emissions for Stationary Sources, with the system operating at its minimum listed airflow.
- (3) Listing and labeling of clearance to combustibles from the sides, top, and bottom.
- (4) Electrical connection in the field in accordance with ~~the NFPA 70, National Electrical Code-California Electrical Code.~~
- (5) Interlocks on all removable components that lie in the path of airflow within the unit to ensure that they are in place during operation of the cooking appliance.

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 13195, 17921, 18949.2

References: Health and Safety Code Sections 13143, 13195, 18949.2

[6. The SFM proposes to adopt Chapter 6 with the following new and existing amendments and California regulations.]

CHAPTER 6 DUCT SYSTEMS

601.3 *The performance criteria and requirements herein contemplate a duct that is a structural assembly having the capacity to support occupant health and safety while minimizing its own contribution to property damage under emergency conditions. Ducts can supply fresh or treated air in support of life and health, can convey products of combustion away from a fire zone, can maintain a pressure differential that facilitates evacuation and reduces the spread of fire and smoke, and can facilitate firefighter access to a fire source.*

602.1 General. Supply air, return air, and outside air for heating, cooling, or evaporative cooling systems shall be conducted through duct systems constructed of metal in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible, or other approved duct construction standard.~~ Rectangular ducts exceeding 2 inches (51 mm) w.g. shall comply with SMACNA HVAC Duct Construction Standards - Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible, or other approved duct construction standard.~~ Ducts, plenums, and fittings shall be permitted to be constructed of concrete, clay, or ceramics when installed in the ground or in a concrete slab, provided the joints are tightly sealed.

In other than Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, corridors shall not be used to convey air to or from rooms where the corridor is required to be of fire-resistive construction in accordance with the California Building Code. In Group A, E, H, I, L and R occupancies, high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, corridors shall not be used to convey air to or from rooms except where permitted in accordance with section 1018.5 of the California Building Code.

~~Corridors shall not be used to convey air to or from rooms if the corridor is required to be of fire resistive construction per the Building Code.~~

Concealed building spaces or independent construction within buildings shall be permitted to be used as ducts or plenums.

Where gypsum products are exposed in ducts or plenums, the air temperature shall be restricted to a range from 50°F (10°C) to 125°F (52°C), and moisture content shall be controlled so that the material is not adversely affected. For the purpose of this section, gypsum products shall not be exposed in ducts serving as supply from evaporative coolers, and in other air-handling systems regulated by this chapter where the temperature of the gypsum product will be below the dew point temperature.

See Chapter 8 for limitations on combustion products venting systems extending into or through ducts or plenums.

See Chapter 5 for limitations on environmental air systems exhaust ducts extending into or through ducts or plenums.

Exhaust ducts under positive pressure and venting systems shall not extend into or pass through ducts or plenums. For appliance vents and chimneys, see Chapter 8.

602.4 Joints and Seams of Ducts. Joints of duct systems shall be made substantially air-tight by means of tapes, mastics, gasketing, or other means.

Crimp joints for round ducts shall have a contact lap of not less than 1½ inches (38 mm) and shall be mechanically fastened by means of not less than three sheet-metal screws equally spaced around the joint, or an equivalent fastening method.

Joints and seams for 0.016 of an inch (0.41 mm) (No. 28 gauge) and 0.013 of an inch (0.33 mm) (No. 30 gauge) residential rectangular ducts shall comply with SMACNA HVAC Duct Construction Standards - Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible~~ for 0.019 of an inch (0.48 mm) (No. 26 gauge) material.

Joints and seams for rectangular duct systems shall comply with SMACNA HVAC Duct Construction Standards - Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible~~.

Joints and seams for flat oval ducts and round ducts in other than single-dwelling units shall comply with SMACNA HVAC Duct Construction Standards - Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible~~.

Joints and seams and reinforcements for factory-made air ducts and plenums shall comply with the conditions of prior approval in accordance with the installation instructions that shall accompany the product. Closure systems for rigid air ducts and plenums shall be listed in accordance with UL 181A. Closure systems for flexible air ducts shall be listed in accordance with UL 181B.

602.5 Metal. Ducts, plenums, or fittings of metal shall comply with SMACNA HVAC Duct Construction Standards - Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible~~ or duct systems in accordance with UL 181.

602.6 Tin. Existing tin ducts shall be permitted to be used where cooling coils are added to a heating system, provided the first 10 feet (3048 mm) of the duct or plenum measured from the cooling coil discharge are constructed of metal of the gauge thickness in accordance with or SMACNA HVAC Duct Construction Standards - Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible~~, other approved duct construction standard or are of approved material and construction. Tin ducts completely enclosed in inaccessible concealed areas need not be replaced. All accessible ducts shall be insulated in accordance with SMACNA HVAC

Duct Construction Standards - Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible~~. For the purpose of this subsection, ducts shall be considered accessible where the access space is 30 inches (762 mm) or greater in height.

603.2 Metal Ducts. Ducts shall be securely fastened in place at each change of direction in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible~~. Vertical rectangular ducts and vertical round ducts shall be supported in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible~~. Riser ducts shall be held in place by means of metal straps or angles and channels to secure the riser to the structure.

Metal ducts shall be installed with not less than 4 inches (102 mm) separation from earth. Metal ducts where installed in or under a concrete slab shall be encased in not less than 2 inches (51 mm) of concrete.

Ducts shall be installed in a building with clearances that will retain the full thickness of fireproofing on structural members.

Supports for rectangular ducts shall comply with SMACNA HVAC Duct Construction Standards - Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible~~, where suspended from above, shall be installed on two opposite sides of each duct and shall be riveted, bolted, or metal screwed to each side of the duct at intervals specified.

603.2.1 Horizontal Round Ducts. Horizontal round ducts not more than 40 inches (1016 mm) in diameter where suspended from above shall be supported in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible~~ with one hanger per interval, installed, in accordance with Section 603.2.2 through Section 603.2.5.

603.5 Support of Ducts. Installers shall provide the manufacturer's field fabrication and installation instructions.

In the absence of specific supporting materials and spacing, approved factory-made air ducts shall be permitted to be installed in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible~~.

604.1 General. Supply-air ducts, return-air ducts, and plenums of a heating or cooling system shall be insulated to achieve the minimum thermal (R) value in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible ~~ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible~~.

Exceptions:

- (1) Factory-installed plenums, casings, or ductwork furnished as a part of HVAC equipment tested and rated in accordance with approved energy efficiency standards.
- (2) Ducts or plenums located in conditioned spaces.
- (3) For runouts less than ten (10) feet (3,048 mm) in length to air terminals or air outlets, the rated R value of insulation need not exceed R-3.5 (R-0.6).
- (4) Backs of air outlets and outlet plenums exposed to unconditioned or indirectly conditioned spaces with face areas exceeding five (5) square feet (0.5 m²) need not exceed R-2 (R-0.4); those five (5) square feet (0.5 m²) or smaller need not be insulated.
- (5) Ducts and plenums used exclusively for evaporative cooling systems.

Approved materials shall be installed within ducts and plenums for insulating, sound deadening, or other purposes. Materials shall have a mold, humidity, and erosion-resistant surface that meets the requirements of the referenced standard for air ducts in Chapter 17. Duct liners in systems operating with air velocities exceeding 2,000 feet per minute (10.16 m/s) shall be fastened with both adhesive and mechanical fasteners, and exposed edges shall have approved treatment to withstand the operating velocity.

Insulation applied to the surface of ducts, including duct coverings, linings, tapes, and adhesives, located in buildings shall have a flame-spread index not to exceed 25 and a smoke developed index not to exceed 50, where tested in accordance with ASTM E 84 UL 723. The specimen preparation and mounting procedures of ASTM E 2231 shall be used. Air duct coverings and linings shall not flame, glow, smolder, or smoke where tested in accordance with ASTM C 411 at the temperature to which they are exposed in service. In no case shall the test temperature be less than 250°F (121°C).

Factory-made air ducts and faced insulations intended for installation on the exterior of ducts shall be legibly printed with the name of the manufacturer, the thermal resistance (R) value at installed thickness, and the flame-spread index and smoke developed index of the composite material.

~~606-8605.8~~ *When the automatic activation of a smoke damper or a combination smoke-fire damper occurs, the HVAC system serving such dampers shall immediately shut down.*

Exceptions:

- (1) *HVAC systems that are part of an engineered smoke evacuation system.*
- (2) *Where the automatic activation causes all the smoke dampers and combination smoke-fire dampers to close in the enclosed space having a common atmosphere where openings are required to be protected.*
- (3) *Where analysis demonstrates shutoff would create a greater hazard.*

The HVAC system shall not be restarted again until all the dampers are reset and fully opened.

609.1 General. Air-moving systems supplying air in excess of 2000 cubic feet per minute (0.9439 m³/s) to enclosed spaces within buildings shall be equipped with an automatic shutoff. Automatic shutoff shall be accomplished by interrupting the power source of the air-moving equipment upon detection of smoke in the main supply-air duct served by such equipment. Smoke detectors shall be labeled by an approved agency *approved and listed by California State Fire Marshal* for air duct installation and shall be installed in accordance with the manufacturer's *installation* instructions. Such devices shall be compatible, with the operating velocities, pressures, temperatures and humidities of the system. Where fire detection or alarm systems are provided for the building, the smoke detectors required by this section shall be supervised by such systems, *and installed in accordance with NFPA 72 and the California Building and Fire Codes.*

Exceptions:

- (1) When the space supplied by the air-moving equipment is served by a total coverage smoke-detection system complying with *the California Fire Code*, interconnection to such system may be used to accomplish the required shutoff.
- (2) Automatic shutoff is not required where all occupied rooms served by the air-handling equipment have direct exit to the exterior and the travel distance does not exceed 100 feet (30,480 mm).
- (3) Automatic shutoff is not required for Group R, Division 3 and Group U Occupancies.
- (4) Automatic shutoff is not required for approved smoke control systems or where analysis demonstrates shutoff would create a greater hazard such as may be encountered in air-moving equipment supplying specialized portions of Group H Occupancies. Such equipment shall be required to have smoke detection with remote indication and manual shutoff capability at an approved location.
- (5) Smoke detectors that are factory installed in listed air moving equipment may be used in lieu of smoke detectors installed in the main supply-air duct served by such equipment.

Notation:

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

[7. The SFM proposes to adopt Chapter 7 without amendments.]

**CHAPTER 7
COMBUSTION AIR**

Notation:

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

[8. The SFM proposes to adopt Chapter 8 without amendments.]

**CHAPTER 8
CHIMNEYS AND VENTS**

Notation:

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

References: Health and Safety Code Sections 13143

[9. The SFM proposes to adopt Chapter 9 without amendments.]

**CHAPTER 9
INSTALLATION OF SPECIFIC EQUIPMENT**

Notation:

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

References: Health and Safety Code Sections 13143

[10. The SFM proposes to adopt Chapter 10 without amendments.]

**CHAPTER 10
STEAM AND HOT WATER BOILERS**

Notation:

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

References: Health and Safety Code Sections 13143

[11. The SFM proposes to adopt Chapter 11 with the following existing amendments and California regulations.]

**CHAPTER 11
REFRIGERATION**

1106.3.1 Refrigerant Service Ports. *Refrigerant service ports located outdoors shall be fitted with locking-type tamper-resistant caps or shall be protected from unauthorized access by a means acceptable to the Enforcing Agency.*

[New (proposed) UMC section, the above Ca amendment may no longer be necessary]

1106.14 Refrigerant Port Protection. Air conditioning refrigerant circuit access ports located outdoors shall be protected from unauthorized access with locking-type tamperresistant caps or in a manner approved by the Authority Having Jurisdiction.

1121.3 Annunciation. Detection and alarm systems shall be annunciated for refrigerants at an approved location ~~accordance with the~~ *as required for fire alarm systems in the Fire Code.*

1121.4 Installation, Maintenance, and Testing. Detection and alarm systems shall be installed, maintained, and tested in accordance with the Fire Code *and with the equipment manufacturers' specifications.*

Notation:

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

References: Health and Safety Code Sections 13143

[12. The SFM proposes to not adopt Chapter 12.]

**CHAPTER 12
HYDRONICS**

Notation:

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

References: Health and Safety Code Sections 13143

[13. The SFM proposes to adopt Chapter 13 without amendments.]

**CHAPTER 13
FUEL GAS PIPING**

Notation:

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

References: Health and Safety Code Sections 13143

[14. The SFM proposes to adopt Chapter 14 without amendments.]

**CHAPTER 14
PROCESS PIPING**

Notation:

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

References: Health and Safety Code Sections 13143

[15. The SFM proposes to not adopt Chapter 15.]

**CHAPTER 15
SOLAR SYSTEMS**

Notation:

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

[16. The SFM proposes to adopt Chapter 16 without amendments.]

**CHAPTER 16
STATIONARY FUEL CELL POWER PLANTS**

Notation:

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

[17. The SFM proposes to adopt Chapter 17 without amendments.]

**CHAPTER 17
STANDARDS**

**CHAPTER 17
STANDARDS TABLE 17-1
Standards for Equipment and Materials**

SMACNA 2006* / ANSI-006 — 2006	HVAC Duct Construction Standards Metal and Flexible 3rd Edition	Ducts, Metal and Flexible	506.2, 602.1, 602.4, 602.5, 602.6, 603.2, 603.2.1, 603.5, and 604.1
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Notation:

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

[18. The SFM proposes to not adopt Appendices A through D.]

**APPENDIX A
RESIDENTIAL PLAN EXAMINER REVIEW FORM FOR HVAC SYSTEM DESIGN**

**APPENDIX B
PROCEDURES TO BE FOLLOWED TO PLACE GAS EQUIPMENT IN OPERATION**

**APPENDIX C
INSTALLATION AND TESTING OF OIL (LIQUID) FUEL-FIRED EQUIPMENT**

**APPENDIX D
UNIT CONVERSION TABLES**

Notation:

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

References: Health and Safety Code Sections 13143