

**15-DAY COMMENT PERIOD
MODIFICATIONS TO EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF THE STATE FIRE MARSHAL (OSFM)
REGARDING THE ADOPTION BY REFERENCE OF THE
2006 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC)
WITH AMENDMENTS INTO THE 2007 CALIFORNIA BUILDING CODE
CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 2.**

Legend for Express Terms:

1. **California amendment (CA) brought forward without modification:** *All language will appear in italics.*
 2. **California amendment (CA) brought forward with modification:** *All language will appear in italics, modified language is shown underlined.*
 3. **New CBC language with new California amendment (CA):** CBC language shown in normal Arial 9 pt. *California amendments to CBC text is shown underlined and in italics.*
 4. **New California amendment (CA):** *California language will appear underlined and in italics.*
 5. **Repealed language:** Shown as ~~Strikeout~~.
 6. **Amended, adopted or repealed language after 45-day public comment period:** Amended, adopted, or repealed language will appear in double underline and ~~double-strikeout~~.
 7. **IBC language proposed to be removed:** Shown as ~~Strikeout~~.
 8. **Notation:** Authority and reference citations are provided at the end of each section.
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Section 202

BUILDING OFFICIAL The officer or other designated authority charged with the administration and enforcement of this code, or a duly authorized representative (Relocated from 2001 CBC 203-B) ~~for SFM in accordance with state law, Health and Safety Code Section 13146, in occupancies regulated by the State Fire Marshal. 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.~~

Authority: Health and Safety Code Sections 13108, 13143, 13210, 17921

References: Health and Safety Code Sections 13143

Rationale:

Comments received during the Code Advisory Committee meeting and 45-day comment period state that the proposed language is not necessary, OSFM agrees and is proposing to withdraw the amendments.

403.13.1 Smoke Control System. ~~All portions of High-rise buildings shall be provided with a passive or active smoke control system or combination thereof in accordance with Section 909.~~

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

Rationale:

OSFM is proposing these amendments to require smoke control in high-rise buildings. Smoke control systems are intended to provide a tenable environment for the evacuation or relocation of occupants. This amendment is necessary counter act the negative effectives of the stack effect (altitude, building elevation, interior and exterior temperatures) in high-rises buildings.

High-rise buildings have always presented a unique challenge to occupant safety and firefighting operations. During a fire, stack effect is often responsible for wide distribution of smoke and toxic gases in highrise buildings limiting the ability of occupants to evacuate/relocate and emergency personnel to conduct rescue and firefighting operations in a timely manner. The physics of the situation is clear: any building tall enough to develop meaningful stack, regardless of the presence of sprinklers, will transmit smoke from floor to floor in the event of fire whether the fire is controlled by sprinklers or not. An argument could be made that mechanical smoke control is only required when the driving forces of stack effect substantially exceed the capacity of the required passive barriers and their firestop systems to effectively limit the migration of smoke from the point of generation. However, this is already effectively accomplished in the opening sentence of IFC Section 909.1, which says that IFC Section 909 applies to both mechanical and passive smoke control. The required analysis of IFC Section 909.4 will reveal to the knowledgeable designer whether or not the proposed building geometry and the local climatologically conditions will permit a passive system to perform adequately or whether there is a need for mechanical system.

Since the previous model building code upon which the current CBC is based had a similar requirement, the local fire departments and fire districts have come to rely on such systems to assist them in coping with the smoke generated from unwanted fires in high-rise buildings. Their staffing levels and fire suppression and search and rescue tactics are based, in part, on the fact that a smoke control system will be provided and available for their use where necessary. This allows the responding fire departments to concentrate their efforts elsewhere, rather than having to carry up smoke exhaust fans and possibly break out exterior windows to exhaust the smoke and minimize its movement throughout the building. It is a well known fact in the fire service that, unless properly controlled, smoke moves rapidly throughout a building, even in a sprinklered fire, obscuring exit routes and causing significant property damage. And it is very difficult to remove it from high-rise buildings which tend to have fixed window openings, thus tying up fire department personnel for significant periods of time after the fire has been extinguished, while they try to remove the smoke from the building so that it may be safely reoccupied. This fire protection feature has become instrumental for many local fire departments which rely on using the system after a fire incident in a high-rise building to assist in mopping up the smoke before they leave the fire scene.

Without smoke control systems in high-rise buildings, local fire departments and fire districts will have to increase staffing levels, readjust their mutual aid response, and develop new strategies and tactics for dealing with the smoke generated by an unwanted fire. And it is likely that fire losses due to smoke damage will significantly increase in high-rise buildings, while fire fighters and emergency responders will be put at greater risk from exposure to the vision obscuring smoke.

Pressurized stairways are designed and constructed with the goal of providing a tenable environment within the escape route in the event of a building fire. In order to address this issue comprehensively, we are reiterating current IBC provisions (IBC Sections/Table: 715.4.3, 715.4.3.1, Table 715.4 and 909.20.3.2).into these sections to address smokeproof enclosures, vestibules and opening protection required.

The requirement for a vestibule is needed to maintain an effective pressure differential between the building and the stairwell which in turn will help maintain a tenable evacuation route. A vestibule also provides a firefighting staging/operations area (which allows for hose operations without compromising the stairway). In addition, pressurized vestibules can also act as an effective area of refuge for the disabled.

OSFM is proposing to delete 909.20.4 thru 909.20.5 these provisions of the IBC which return to a long-discredited system that is neither scientifically valid nor legally supportable. This is virtually identical to the provisions that were originally incorporated in New York City Local Law 5. These provisions were challenged in the New York Supreme Court and proven to the satisfaction of the tryer of fact to be scientifically invalid and therefore thrown out. It has been demonstrated repeatedly by ASHRAE research and the scientific community, as well as by application in California and many other system western states, that the provisions contained in the UBC are, in fact, the correct provisions for this vital egress system component. It can be demonstrated mathematically that the provisions proposed for deletion will

not work. This is especially true in light of the fact that California requires an opening force on stair doors of no more than 15 pounds.

OSFM is proposing to amend 909.20.2.3 to address standpipes serving smokeproof enclosures. This existing amendment insures the fire hose does not compromise the required enclosure pressure differentials.

OSFM is proposing Section 909.20.3 as a new amendment to the IBC to address the minimum pressure differentials required for the vestibules in smokeproof enclosures.

These amendments are consistent with the previous requirements contained in the 2001 California Building Code, which will maintain the fire and life safety policy of the OSFM. These amendments do not create a change in regulatory effect.

Furthermore comments received specific to 403.13.1 during the 45-day comment period demonstrate that the proposed additional language is necessary to further clarify the OSFM intent. Without the qualifying the language "either passive or active", the designer or enforcing agency may assume that OSFM means only active systems and in theory one may use a combination of passive and active systems. OSFM does not want to prohibit designs that may incorporate active systems or combination systems that meet the provisions in 909. Language proposed to be removed for "All portions" is broad and may include closet spaces or other small places where by design of these systems other means of compliance may be accomplished.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2006 International Building Code and published as the 2007 California Building Code pursuant to Health and Safety Code Section 18949.2, 13108, 13113, 13114, 13131.5, 13143 and 17921.

**TABLE 602
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE^{a,e}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H	OCCUPANCY GROUP F-1, M, S-1	OCCUPANCY GROUP A, B, E, F-2, I, R ^f , S-2, U ^{b,f}
X < 5 ^c	All	3	2	1
5 ≤ X < 10	IA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB	2	1	1d
	IIB, VB	1	0	0
	Others	1	1	1d
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. For special requirements for Group U occupancies see Section 406.1.2
- c. See Section 705.1.1 for party walls.
- d. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- e. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- f. Group R-3 and Group U when used as accessory to Group R-3, shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet or more.

Authority: Health and Safety Code Sections 13108, 13143, 13210, 17921
References: Health and Safety Code Sections 13143

Rationale:

OSFM is proposing to bring forth existing OSFM amendments design and construction features in Group L occupancies used as laboratories for scientific experimentation or research facilities previously classified as H-8

Occupancies. This amendment is consistent with the previous requirements contained in the 2001 California Building Code, which will maintain the fire and life safety policy of the OSFM. This amendment does not create a change in regulatory effect.

OSFM is further proposing amendments of this section to incorporate critical elements of the International Residential Code (IRC). During this rulemaking the Department of Housing and Community Development (HCD) was not able to propose adoption of the IRC as originally planned. The IRC and the International Building Code (IBC) contain conflicting requirements in some areas as they relate to one and two family dwellings and Group U private garages accessory to them. In an effort to transition from the IBC to a future adoption of the IRC, OSFM is incorporating amendments to correlate some of the more critical conflicts into this rulemaking.

The 2006 IRC requires exterior walls with less than a 5 ft fire separation distance to property lines to have a 1 hour fire resistance rating. The 2006 IBC does not differentiate between the different Group R occupancy classification groups and would require 1 hour construction for exterior walls of Group R-3 dwellings with a fire separation distance of 10 ft or less to a property line.

The scope provisions contained in Section 101.2 of the 2006 IBC specify that one- and two- family dwellings and townhouses comply with the provisions of the IRC. This amendment aligns the requirement contained in the IRC with those of the IBC by clarifying that Group R-3 one- and two-family dwellings and townhouses do not need 1 hour rated exterior wall assemblies provided a fire separation distance of more than 5 feet is provided.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2006 International Building Code and published as the 2007 California Building Code pursuant to Health and Safety Code Section 18949.2, 13108, 13113, 13114, 13131.5, 13143 and 17921.

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

Exceptions:

1. Detached one- and two-family dwellings and multiple single-family dwellings (town houses) not more than three stories above grade plane in height with a separate means of egress, unless specifically required by other sections of this Code or classified as Group R-4.
2. Group U private garages accessory to a Group R-3 occupancy.
3. Group R-3.1 occupancies not housing bedridden clients, not housing nonambulatory clients above the first floor, and not housing clients above the second floor.
4. Pursuant to Health and Safety Code Section 13113 occupancies housing ambulatory children only, none of whom are mentally ill or mentally retarded, and the buildings or portions thereof in which such children are housed are not more than two stories in height, and buildings or portions thereof housing such children have an automatic fire alarm system activated by approved smoke detectors.
5. Pursuant to Health and Safety Code Section 13143.6 occupancies licensed for protective social care which house ambulatory clients only, none of whom is a child (under the age of 18 years), or who is elderly (65 years of age or over).

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

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

Rationale:

OSFM is correlating this amendment which is derived from the amendment proposed to the IFC. The promulgation and format of the IBC and IFC necessitate this action. Code sections that have [F] in front of them are considered by the ICC Fire Code Development Committee for the IFC and correlated into the IBC where necessary. OSFM is following the format of the code in these instances; where the primary code is the IFC and OSFM is proposing amendments to the section, those same amendments are correlated into the IBC as amendments.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2006 International Building Code and published as the 2007 California Building Code pursuant to Health and Safety Code Section 18949.2, 13108, 13113, 13114, 13131.5, 13143 and 17921.

**[F] TABLE 907.9.1.3
VISIBLE AND AUDIBLE ALARMS**

NUMBER OF SLEEPING UNITS	SLEEPING UNITS WITH VISIBLE AND AUDIBLE ALARMS
6 to 25	2
26 to 50	4
51 to 75	7
76 to 100	9
101 to 150	12
151 to 200	14
201 to 300	17
301 to 400	20
401 to 500	22
501 to 1,000	5% of total
1,001 and over	50 plus 3 for each 100 over 1,000

[SFM] In addition to these requirements, see Chapter 11B Section 1111B.4.5, Table 11B-3, and Table 11B-4.

Authority: Health and Safety Code Sections 13143, 17921(b)
References: Health and Safety Code Sections 13143

Rationale:

OSFM is correlating this amendment which is derived from the amendment proposed to the IFC. The promulgation and format of the IBC and IFC necessitate this action. Code sections that have [F] in front of them are considered by the ICC Fire Code Development Committee for the IFC and correlated into the IBC where necessary. OSFM is following the format of the code in these instances; where the primary code is the IFC and OSFM is proposing amendments to the section, those same amendments are correlated into the IBC as amendments.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2006 International Building Code and published as the 2007 California Building Code pursuant to Health and Safety Code Section 18949.2, 13108, 13113, 13114, 13131.5, 13143 and 17921.

(Relocated from 2001 CBC, 1114B.2.2.2)

1007.6.1 Size. Each area of refuge shall be sized to accommodate ~~one~~ two wheelchair spaces that are not less than 30 inches by 48 inches (762 mm by 1219 mm). ~~The total number of such 30-inch by 48-inch (762 mm by 1219 mm) spaces per story shall be not less than one for every 200 persons of calculated occupant load served by the area of rescue refuge, for each 200 occupants or portion thereof, based on the occupant load of the area of refuge and areas served by the area of refuge.~~ Such wheelchair spaces shall not reduce the required means of egress width. Access to any of the required wheelchair spaces in an area of refuge shall not be obstructed by more than one adjoining wheelchair space

Exception: *The enforcing agency may reduce the size of each required area of refuge to accommodate one wheelchair space that is not less than 30 inches by 48 inches on floors where the occupant load is less than 200.*

Authority: Health and Safety Code Sections 13108, 13143

References: Health and Safety Code Sections 13143

Rationale:

OSFM is proposing these existing OSFM amendments to provide for area of rescue refuge. This is necessary for the compliance with federal statutes and current regulations for the number of spaces formula used in calculating such. These amendments are consistent with the previous requirements contained in the 2001 California Building Code. These amendments do not create a change in regulatory effect.

The actions described above are reasonably necessary to carry out the purpose for which it is proposed. The rationale for these actions is to establish minimum requirements for the prevention of fire and for the protection of life and property against fire and panic in occupancies that are addressed in the 2006 International Building Code and published as the 2007 California Building Code pursuant to Health and Safety Code Section 18949.2, 13108, 13113, 13114, 13131.5, 13143 and 17921.

1022.5 Ducts and air transfer openings. [SFM] *In high-rise buildings, Group A, E, H, I and L occupancies and other applications listed in Section 111 regulated by the Office of the State Fire Marshal, ducts and air transfer openings through fire walls or fire barriers, forming a horizontal exit, shall be designed and protected in accordance with Section 716 in order to afford safety from both fire and smoke in the refuge area. All ducts and air transfer openings shall be protected by listed combination fire/smoke dampers.*

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

References: Health and Safety Code Sections 13143

Rationale:

The purpose of the code change is to coordinate with proposed amendments to section 710.7, 716.5.2 and 716.5.4 to provide code language that implements the intent of Section 1002.1, definition of Horizontal Exit. Horizontal exits are intended to afford safety from both fire and smoke. No code provisions specifically require duct and air transfer openings in horizontal exit walls to be designed and protected in order to afford safety from both fire and smoke in the refuge area. Section 1022.2 Separation, refers to sections 705 and 706 which refer to 716.5.1 and 716.5.2 There are no provisions in 716.5.1 Fire walls, and 716.5.2 Fire barriers, requiring ducts and air transfer openings in horizontal exit walls to be protected by anything other than fire dampers. It is currently the intent of the code to provide protection from smoke in addition to fire for horizontal exits. It appears the lack of such implementing code language is an oversight in the current code.