

Draft "Ch7A" Revisions For SFM

INITIAL EXPRESS TERMS

FOR

PROPOSED BUILDING STANDARDS

OF THE

OFFICE OF THE STATE FIRE MARSHAL (SFM)

REGARDING THE ADOPTION BY REFERENCE OF THE

2009 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC)

WITH AMENDMENTS INTO THE 2010 CALIFORNIA BUILDING CODE (CBC)

CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 2

- Draft revisions to pages #47- #58 of the SFM CBC Part 2 Initial Express Terms for the October 2nd CBSC 45-Day comment period.
- All areas of change to the 6/30/09 Initial Express Terms submitted by SFM identified by dotted blue right boarder.
- Areas of change since August 31st draft **highlighted**.
- Note Part 12 revisions added on page 13.
- Comments due to Ethan NO LATER than 0900 Friday 18 Sep
- OSFM will consider Task Force recommendations and submit to CBSC as a portion of the entire "California Building Code, Part 2 - Title 24 45-Day Express Terms" document which will be available at http://www.bsc.ca.gov/prpsd_chngs/pc_09_comment.htm

=ef= 9/11/09

[8. The SFM proposes to maintain the adoption of Chapter 7A with the following modifications.]

CHAPTER 7A

MATERIALS AND CONSTRUCTION METHODS FOR EXTERIOR WILDFIRE EXPOSURE [SFM]

SECTION 701A

SCOPE, PURPOSE AND APPLICATION

701A.1 Scope. This chapter applies to building materials, systems and or assemblies used in the exterior design and construction of new buildings located within a Wildland-Urban Interface Fire Area as defined in Section 702A.

701A.2 Purpose. The purpose of this Chapter is to establish minimum standards for the protection of life and property by increasing the ability of a building located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area to resist the intrusion of flame or burning embers projected by a vegetation fire and contributes to a systematic reduction in conflagration losses.

701A.3. Application. ~~New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted on or after December 1, 2005, shall comply with the following Sections: constructed after the application date shall comply with the provisions of this chapter.~~

Exceptions:

1. Buildings of an accessory character classified as a Group U occupancy and not exceeding 120 square feet in floor area, when located at least 30 feet from an applicable building.
2. Buildings of an accessory character classified as Group U occupancy of any size located least 50 feet from an applicable building.
3. Buildings classified as a Group U Agricultural Building, as defined in Section 202 of this code (see also Appendix C – Group U Agricultural Buildings), when located at least 50 feet from an applicable building.
4. Additions to and remodels of buildings originally constructed prior to the applicable application date.

1. 704A.1 – Roofing**2. 704A.2 – Attic Ventilation**

701A.3.1 ~~Alternates for materials, design, tests, and methods of construction. The enforcing agency is permitted to modify the provisions of this chapter for site-specific conditions in accordance with Appendix Chapter 1, Section 104.10. When required by the enforcing agency for the purposes of granting modifications, a fire protection plan shall be submitted in accordance with the California Fire Code, Chapter 47. **Application date and where required.** New buildings for which an application for a building permit is submitted on or after July 1, 2008 located in any Fire Hazard Severity Zone or Wildland Interface Fire Area shall comply with all sections of this chapter, including all of the following areas:~~

1. All unincorporated lands designated by the State Board of Forestry and Fire Protection as State Responsibility Area (SRA) including:
 - 1.1. Moderate Fire Hazard Severity Zones
 - 1.2. High Fire Hazard Severity Zones
 - 1.3. Very-High Fire Hazard Severity Zones
2. Land designated as Very-High Fire Hazard Severity Zone by cities and other local agencies.
3. Land designated as Wildland Interface Fire Area by cities and other local agencies.

Exceptions:

1. New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas, for which an application for a building permit is submitted on or after January 1, 2008, shall comply with all sections of this chapter.
2. New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland Interface Fire Area designated by cities and other local agencies for which an application for a building permit is submitted on or after December 1, 2005 but prior to July 1, 2008, shall only comply with the following sections of this chapter:
 - 2.1. Section 705A – Roofing
 - 2.2. Section 706A – Attic Ventilation

701A.3.2 ~~**New Buildings Located in Any Fire Hazard Severity Zone.** New buildings located in any Fire Hazard Severity Zone within State Responsibility Areas, any Local Agency Very-High Fire Hazard Severity Zone, or any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted on or after January 1, 2008, shall comply with all sections of this chapter.~~

701A.3.2.1 **701A.4 Inspection and certification.** Building permit applications and final completion approvals for buildings within the scope and application of this chapter shall comply with the following:

701A.3.2.2 **1. Building permit issuance.** The local building official shall, prior to construction, provide the owner or applicant a certification that the building as proposed to be built complies with all applicable state and local building standards, including those for materials and construction methods for wildfire exposure as described in this Chapter. Issuance of a building permit by the local building official for the proposed building shall be considered as complying with this section.

701A.3.2.3 **2. Building permit final.** The local building official shall, upon completion of construction, provide the owner or applicant with a copy of the final inspection report that demonstrates the building was constructed in compliance with all

applicable state and local building standards, including those for materials and construction methods for wildfire exposure as described in this Chapter. Issuance of a certificate of occupancy by the local building official for the proposed building shall be considered as complying with this section.

~~701A.3.2.4~~ **701A.5 Vegetation management compliance.** Prior to building permit final approval, the property shall be in compliance with the vegetation clearance management requirements prescribed in California Fire Code section 4906, including California Public Resources Code 4291 and or California Government Code Section 51182. Acceptable methods of compliance inspection and documentation shall be determined by the enforcing agency and may include any of the following:

1. Local, state, or federal fire authority or designee authorized to enforce vegetation management requirements.
2. Enforcing agency
3. Third party inspection and certification authorized to enforce vegetation management requirements.
4. Property owner certification authorized by the enforcing agency.

SECTION 702A DEFINITIONS

For the purposes of this chapter, certain terms are defined below:

CDF DIRECTOR means the Director of the California Department of Forestry and Fire Protection.

EXTERIOR COVERING. The exposed siding or cladding material applied to the exterior side of an exterior wall, roof eave soffit, floor projection, or exposed underfloor framing.

FIRE PROTECTION PLAN is a document prepared for a specific project or development proposed for a Wildland-Urban Interface Fire Area. It describes ways to minimize and mitigate potential for loss from wildfire exposure.

The Fire Protection Plan shall be in accordance with this chapter and the California Fire Code, Chapter 4749. When required by the enforcing agency for the purposes of granting modifications, a fire protection plan shall be submitted. Only locally adopted ordinances that have been filed with the California Building Standards Commission or the Department of Housing and Community Development in accordance with Section 401.81.1.8 shall apply.

FIRE HAZARD SEVERITY ZONES are geographical areas designated pursuant to California Public Resources Codes Sections 4201 through 4204 and classified as Very High, High, or Moderate in State Responsibility Areas or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code Sections 51175 through 51189. See California Fire Code Article 86.

The California Code of Regulations, Title 14, Section 1280 entitles the maps of these geographical areas as "Maps of the Fire Hazard Severity Zones in the State Responsibility Area of California."

FIRE RESISTANCE. That property of materials' or their assemblies that prevents or retards the passage of excessive heat, hot gasses, or flames under conditions of use. For Fire Resistance Rating see Section 702.1 and Section 703

HEAVY TIMBER. A type of construction classification specified in Section 602. For use in this Chapter, Heavy Timber shall be sawn lumber or glue laminated wood with a minimum nominal dimension of 4 inches (102 mm). Heavy Timber walls or floors shall be sawn or glue-laminated planks splined, tongue-and-groove, or set close together and well spiked.

IGNITION-RESISTANT MATERIAL is any product which, when tested in accordance with ASTM E84 for a period of 30 minutes, shall have a flame spread of not over 25 and show no evidence of progressive combustion. In addition, the flame front shall not progress more than 10½ foot (3200 mm) beyond the centerline of the burner at any time during the test.

~~Materials shall pass the accelerated weathering test and be identified as Exterior type, in accordance with ASTM D2898 and ASTM D3201. All materials shall bear identification showing the fire performance rating thereof. That identification shall be issued by ICG-ES/ICBO-ES or a testing facility recognized by the State Fire Marshal having a service for inspection of materials at the factory.~~

~~Fire Retardant-Treated Wood or noncombustible materials as defined in section 202 shall satisfy the intent of this section.~~

~~The enforcing agency may use other definitions of ignition-resistant material that reflect wildfire exposure to building materials and/or their materials performance in resisting ignition. A type of building material that resists ignition or sustained flaming combustion sufficiently so as to reduce losses from wildland-urban interface conflagrations under worst-case weather and fuel conditions with wildfire exposure of burning embers and small flames, as prescribed in Section 703A and SFM 12-7A-5, Ignition-resistant Material.~~

LOCAL AGENCY VERY HIGH FIRE HAZARD SEVERITY ZONE means an area designated by a local agency upon the recommendation of the CDF Director pursuant to Government Code Sections 51177(c), 51178 and 5118 that is not a state responsibility area and where a local agency, city, county, city and county, or district is responsible for fire protection.

LOG WALL CONSTRUCTION. A type of construction in which exterior walls are constructed of solid wood members and where the smallest horizontal dimension of each solid wood member is at least 6 inches (152 mm).

RAFTER TAIL. The portion of roof rafter framing in a sloping roof assembly that projects beyond and overhangs an exterior wall.

ROOF EAVE. The lower portion of a sloping roof assembly that projects beyond and overhangs an exterior wall at the lower end of the rafter tails. Roof eaves may be either "open" or "enclosed." Open Roof Eaves have exposed rafter tails and an unenclosed space on the underside of the roof deck. Enclosed Roof Eaves have a boxed-in Roof Eave Soffit with a horizontal underside or sloping rafter tails with an exterior covering applied to the underside of the rafter tails.

ROOF EAVE SOFFIT. An enclosed boxed-in soffit under a roof eave with exterior covering material applied to the soffit framing creating a horizontal surface on the exposed underside..

STATE RESPONSIBILITY AREA means lands that are classified by the Board of Forestry pursuant to Public Resources Code Section 4125 where the financial responsibility of preventing and suppressing forest fires is primarily the responsibility of the state.

WILDFIRE is any uncontrolled fire spreading through vegetative fuels that threatens to destroy life, property, or resources as defined in Public Resources Code Sections 4103 and 4104.

WILDFIRE EXPOSURE is one or a combination of radiant heat, convective heat, direct flame contact and burning embers being projected by vegetation fire to a structure and its immediate environment.

WILDLAND-URBAN INTERFACE FIRE AREA is a geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires..

SECTION 703A STANDARDS OF QUALITY

703A.1 General. ~~Building Mmaterial, systems, assemblies and methods of construction used shall be in accordance with this Chapter.~~ in this Chapter shall be in accordance with Section 703A.

703A.2 Qualification by Testing. ~~Material and material assemblies tested in accordance with the requirements of section 703A shall be accepted for use when the results and conditions of those tests are met. Testing shall be performed by a testing agency.~~ Product evaluation testing of material and material assemblies shall be approved or listed by the State Fire Marshal, or identified in a current report issued by an approved agency by an ICG-ES/ICBO-ES report.

703A.3 Standards of Quality. ~~Approved agency. Product evaluation testing shall be performed by an approved agency as defined in Section 1702.1..... The scope of accreditation for the approved agency shall include building product compliance with code. The State Fire Marshal standards listed below and as referenced in this Chapter are located in the California Referenced Standards Code, Part 12 and Chapter 35 of this code.~~

SFM 12-7A-1, Exterior Wall Siding and Sheathing
SFM 12-7A-2, Exterior Window
SFM 12-7A-3, Under Eave
SFM 12-7A-4, Decking

703A.4 Labeling. Material and material assemblies tested in accordance with the requirements of section 703A shall bear an identification label showing the fire test results. That identification label shall be issued by a testing and/or inspecting agency approved by the State Fire Marshal.

1. Identification mark of the approved testing and/or inspecting agency.
2. Contact and identification information of the manufacturer.
3. Model number or identification of the product or material.
4. Pre-test weathering specified in this chapter.
5. Compliance standard as described under Section 703A.7.

703A.5 Weathering and surface treatment protection.

703A.5.1 General. Material and material assemblies tested in accordance with the requirements of section 703A shall maintain their fire test performance under conditions of use when installed in accordance with the manufacturers instructions.

703A.5.2 Weathering. Fire-retardant-treated wood and Fire-retardant-treated wood shingles and shakes shall meet the fire test performance requirements of this Chapter after being subjected to the weathering conditions contained in the following standards, as applicable to the materials and the conditions of use.

703A.5.2.1 Fire-retardant-treated wood. Fire-retardant-treated wood shall be tested in accordance with ASTM D 2898, "Standard Practice for Accelerated Weathering of Fire-Retardant Treated Wood for Fire Testing (Method A)" and the requirements of section 2303.2.

703A.5.2.2 Fire-retardant-treated wood shingles and shakes. Fire-retardant-treated wood shingles and shakes shall be approved and listed by the State Fire Marshal in accordance with Section 208(c), Title 19 California Code of Regulations.

703A.5.3 Surface treatment protection. The use of paints, coatings, stains, or other surface treatments are not an approved method of protection as required in this Chapter.

703A.6 Alternates for materials, design, tests, and methods of construction. The enforcing agency is permitted to modify the provisions of this chapter for site-specific conditions in accordance with Section 1.11.2.4. When required by the enforcing agency for the purposes of granting modifications, a fire protection plan shall be submitted in accordance with the California Fire Code, Chapter 49.

703A.7 Standards of quality. The State Fire Marshal standards for exterior wildfire exposure protection listed below and as referenced in this chapter are located in the California Referenced Standards Code, Part 12 and Chapter 35 of this code.

SFM 12-7A-1, Exterior Wall Siding and Sheathing. A fire resistance test standard consisting of a 150 kW intensity direct flame exposure for a 10 minutes duration.

SFM 12-7A-2, Exterior Windows. A fire resistance test standard consisting of a 150 kW intensity direct flame exposure for a 8 minutes duration.

SFM 12-7A-3, Under Soffit. Horizontal Projection Underside A fire resistance test standard consisting of a 300 kW intensity direct flame exposure for a 10 minute duration.

SFM 12-7A- 4, Decking. A two-part test consisting of a heat release rate (Part A) deck assembly combustion test with an under deck exposure of 80 kW intensity direct flame for a 3 minute duration, and a (Part B) sustained deck assembly combustion test consisting of a deck upper surface burning ember exposure with a 12 mph wind for 40 minutes using a 2.2lb (1kg) burning "Class A" size 12"x12"x2.25" (300mmx300mmx57mm) roof test brand.

SFM 12-7A-4A, Decking Alternate Method A. A heat release rate deck assembly combustion test with an under deck exposure of 80 kW intensity direct flame for a 3 minute duration.

SFM 12-7A-5, Ignition-resistant Material. A generic building material surface burning flame spread test standard consisting of an extended 30 minute ASTM E84 or UL 723 test method as is used for Fire-Retardant-Treated wood.

SECTION - 704A

MATERIALS, SYSTEMS AND METHODS OF CONSTRUCTION SECTION 704A.1 - ROOFS

704A.1 Roofing

704A.1.1 General. Roofs shall comply with the requirements of Chapter 7A and Chapter 15. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions.

704A.1.2 Roof coverings. Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to prevent the intrusion of flames and embers, be firestopped with approved materials or have one layer of 72 pound (32.4 kg) mineral surfaced nonperforated cap sheet complying with ASTM D 3909 installed over the combustible decking.

704A.1.3 Roof valleys. When provided, valley flashings shall be not less than 0.019-inch (0.48 mm) (No. 26 galvanized sheet gage) corrosion-resistant metal installed over a minimum 36-inch wide (914 mm) underlayment consisting of one layer of 72-pound (32.4 kg) mineral surfaced nonperforated cap sheet complying with ASTM D 3909 running the full length of the valley.

704A.1.5 Roof Gutters. Roof gutters shall be provided with the means to prevent the accumulation of leaves and debris in the gutter.

704A.2 Attic ventilation.

704A.2.1 General. When required by Chapter 15, roof and attic vents shall resist the intrusion of flame and embers into the attic area of the structure, or shall be protected by corrosion-resistant, noncombustible wire mesh with openings a minimum of 1/8-inch (3.2 mm) and shall not exceed 1/4-inch (6 mm) or its equivalent.

704A.2.2 Eave or Cornice Vents. Vents shall not be installed in eaves and cornices.

Exception: Eave and cornice vents may be used provided they resist the intrusion of flame and burning embers into the attic area of the structure.

704A.2.3 Eave Protection. Eaves and soffits shall meet the requirements of SFM 12-7A-3 or shall be protected by ignition-resistant materials or noncombustible construction on the exposed underside.

704A.3 Exterior walls

704A.3.1 General. Exterior walls shall be approved non-combustible or ignition resistant material, heavy timber, or log wall construction or shall provide protection from the intrusion of flames and embers in accordance with standard SFM 12-7A-1.

704A.3.1.1 Exterior wall coverings. Exterior wall coverings shall extend from the top of the foundation to the roof, and terminate at 2-inch (50.8 mm) nominal solid wood blocking between rafters at all roof overhangs, or in the case of enclosed eaves, terminate at the enclosure.

704A.3.2 Exterior Wall Openings. Exterior wall openings shall be in accordance with this section.

704A.3.2.1 Exterior Wall Vents. Unless otherwise prohibited by other provisions of this code, vent openings in exterior walls shall resist the intrusion of flame and embers into the structure or vents shall be screened with a corrosion-resistant, non-combustible wire mesh with 1/4 inch (6 mm) openings or its equivalent.

704A.3.2.2 Exterior glazing and window walls. Exterior windows, window walls, glazed doors, and glazed openings within exterior doors shall be insulating glass units with a minimum of one tempered pane, or glass block units, or have a fire-resistance rating of not less than 20 minutes, when tested according to NFPA 257, or in accordance with

~~section 715, or conform to the performance requirements of SFM 12-7A-2.~~

~~**704A.3.2.3 Exterior door assemblies.** Exterior door assemblies shall conform to the performance requirements of standard SFM 12-7A-1 or shall be of approved noncombustible construction, or solid core wood having stiles and rails not less than 13/8 inches thick with interior field panel thickness no less than 1 1/4 inches thick, or shall have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 252, or in accordance with section 715.~~

~~**Exception:** Noncombustible or exterior fire-retardant treated wood vehicle access doors are not required to comply with this chapter.~~

~~**704A.4 Decking, floors and underfloor protection**~~

~~**704A.4.1 Decking.**~~

~~**704A.4.1.1 Decking Surfaces.** Decking, surfaces, stair treads, risers, and landings of decks, porches, & balconies where any portion of such surface is within 10 feet (3048 mm) of the primary structure shall comply with one of the following methods:~~

- ~~1. Shall be constructed of Ignition Resistant Materials and pass the performance requirements of SFM 12-7A-4, Parts A and B.~~
- ~~2. Shall be constructed with heavy timber, exterior fire retardant treated wood or approved non-combustible materials.~~
- ~~3. Shall pass the performance requirements of SFM 12-7A-4, Part A, 12-7A-4.7.5.1 only with a not peak heat release rate of 25kW/sq-ft for a 40 minute observation period and:

 - ~~a. Decking surface material shall pass the accelerated weathering test and be identified as Exterior type, in accordance with ASTM E 84 and;~~
 - ~~b. The exterior wall covering to which it the deck is attached and within 10 (3048 mm) feet of the deck shall be constructed of approved noncombustible or ignition resistant material.~~~~

~~**Exception:** Walls are not required to comply with this sub-section if the decking surface material conforms to ASTM E 84 Class B flame spread.~~

~~The use of paints, coatings, stains, or other surface treatments are not an approved method of protection as required in this Chapter.~~

~~**704A.4.2 Underfloor and Appendages Protection**~~

~~**704A.4.2.1 Underside of Appendages and Floor Projections.** The underside of cantilevered and overhanging appendages and floor projections shall maintain the ignition-resistant integrity of exterior walls, or the projection shall be enclosed to the grade.~~

~~**704A.4.2. Unenclosed Underfloor Protection.** Buildings shall have all underfloor areas enclosed to the grade with exterior walls in accordance with section 704A.3.~~

~~**Exception:** The complete enclosure of under floor areas may be omitted where the underside of all exposed floors, exposed structural columns, beams and supporting walls are protected as required with exterior ignition-resistant material construction or be heavy timber.~~

SECTION 704A **IGNITION-RESISTANT CONSTRUCTION**

~~**704A.1 General.** The materials prescribed herein for ignition resistance shall conform to the requirements of this chapter.~~

~~**704A.2 Ignition-resistant Material.** Ignition-resistant material shall be determined in accordance with the test procedures set forth in SFM 12-7A-5 "Ignition-resistant material" or in accordance with this section.~~

~~**704A.3 Alternative methods for determining Ignition-resistant material.** Any one of the following shall be accepted as meeting the definition of ignition-resistant material:~~

1. Noncombustible material. Material that complies with the definition for noncombustible materials in section 202
2. Fire-retardant-treated wood. Fire-retardant-treated wood identified for exterior use that complies with the requirements of section 2303.2.
3. Fire-retardant-treated wood shingles and shakes. Fire-retardant-treated wood shingles and shakes, as defined in section 1505.6 and listed by State Fire Marshal for use as "Class B" roof covering, shall be accepted as an ignition-resistant wall covering material when installed over solid sheathing.

SECTION 705A
ANCILLARY BUILDINGS AND STRUCTURES
ROOFING

705A.1 Ancillary Buildings and Structures. ~~When required by the enforcing agency ancillary buildings and structures and detached accessory structures shall comply with the provisions of this Chapter.~~ **General.** Roofs shall comply with the requirements of Chapter 7A and Chapter 15. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions.

705A.2 Roof coverings. Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to prevent the intrusion of flames and embers, be firestopped with approved materials or have one layer of minimum 72 pound (32.4 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D 3909 installed over the combustible decking.

705A.3 Roof valleys. Where valley flashing is installed, the flashing shall be not less than 0.019-inch (0.48 mm) No. 26 gage galvanized sheet corrosion-resistant metal installed over not less than one layer of minimum 72 pound (32.4 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D 3909, at least 36-inch –wide (914 mm) running the full length of the valley.

705A.4 Roof Gutters. Roof gutters shall be provided with the means to prevent the accumulation of leaves and debris in the gutter.

SECTION 706A
VENTS

706A.1 General. Where provided, ventilation openings for enclosed attics, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, and underfloor ventilation shall be in accordance with section 1203 and this section to resist building ignition from the intrusion of burning embers and flame through the ventilation openings.

706A.2 Requirements. Ventilation openings for enclosed attic spaces, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, and underfloor ventilation openings shall be fully covered with metal wire mesh, vents, or other materials that meet the following requirements:

1. The size of openings therein shall be a minimum of 1/16th inch (1.6 mm) and shall not exceed 1/8th inch (3.2mm).
2. The material used in the construction of the vent shall be of noncombustible material.
3. The material used in the construction of the vent shall be corrosion resistant.

706A.3 Ventilation openings on the Underside of Eaves and Cornices: Vents shall not be installed on the underside of eaves and cornices.

Exceptions:

1. The attic space being ventilated is fully protected by an automatic sprinkler system installed in accordance with section 903.3.1.1.
2. Vents which comply with requirements of this section may be installed on the underside of eaves when the exterior wall covering and exposed underside of the eave are of noncombustible material or Ignition-resistant Material as determined in accordance with SFM 12-7A-5 Ignition-resistant Material.
3. The enforcing agency may accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers.

SECTION 707A
EXTERIOR COVERING

707A.1 Scope. *The provisions of this section shall govern the materials and construction methods used to resist building ignition and/or safeguard against the intrusion of flames resulting from small ember and short-term direct flame contact exposure.*

707A.2. General. *The following exterior covering materials and/or assemblies shall comply with this section:*

- 1. Exterior wall covering material.*
- 2. Exterior wall assembly.*
- 3. Exterior exposed underside of roof eave overhangs.*
- 4. Exterior exposed underside of roof eave soffits.*
- 5. Exposed underside of exterior porch ceilings.*
- 6. Exterior exposed underside of floor projections.*
- 7. Exterior underfloor areas.*

Exceptions:

- 1. Exterior wall architectural trim, embellishments, fascias, and gutters.*
- 2. Roof or wall top cornice projections and similar assemblies.*
- 3. Roof assembly projections over gable end walls..*
- 4. Solid wood rafter tails and solid wood blocking installed between rafters having minimum dimension 2 inch (50.8 mm) nominal.*
- 5. Deck walking surfaces shall comply with Section 709A.4 only.*

707A.3. Exterior Walls. *The exterior wall covering or wall assembly shall comply with one of the following requirements:*

- 1. Non-combustible material.*
- 2. Ignition-resistant material.*
- 3. Heavy timber exterior wall assembly.*
- 4. Log wall construction assembly.*
- 5. Wall assemblies that meet the performance criteria in accordance with the test procedures for a 10-minute direct flame contact exposure test set forth in SFM Standard 12-7A-1.*

Exception: *Any of the following shall be deemed to meet the assembly performance criteria and intent of this section:*

- 1. One layer of 5/8-inch type X gypsum sheathing applied behind the exterior covering or cladding on the exterior side of the framing.*
- 2. The exterior portion of a 1-hour fire resistive exterior wall assembly designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the gypsum Association Fire Resistance Design Manual.*

707A.3.1 Extent of exterior wall covering. *Exterior wall coverings shall extend from the top of the foundation to the roof, and terminate at 2 inch (50.8 mm) nominal solid wood blocking between rafters at all roof overhangs, or in the case of enclosed eaves, terminate at the enclosure.*

707A.4 Open roof eaves. *The exposed roof deck on the underside of unenclosed roof eaves shall consist of one of the following:*

- 1. Non-combustible material.*
- 2. Ignition-resistant material.*
- 3. One layer of 5/8-inch type X gypsum sheathing applied behind an exterior covering on the underside exterior of the roof deck.*
- 4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the roof deck designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the gypsum Association Fire Resistance Design Manual.*

Exceptions: *The following materials do not require protection:*

- 1. Solid wood rafter tails on the exposed underside of open roof eaves having a minimum nominal dimension of 2*

inch (50.8 mm).

2. Solid wood blocking installed between rafter tails on the exposed underside of open roof eaves having a minimum nominal dimension of 2 inch (50.8 mm).
3. Gable end overhangs and roof assembly projections beyond an exterior wall other than at the lower end of the rafter tails.
4. Fascia and other architectural trim boards.

707A.5 Enclosed roof eaves and roof eave soffits. The exposed underside of enclosed roof eaves having either a boxed-in roof eave soffit with a horizontal underside, or sloping rafter tails with an exterior covering applied to the underside of the rafter tails, shall be protected by one of the following:

1. Non-combustible material.
2. Ignition-resistant material.
3. One layer of 5/8-inch type X gypsum sheathing applied behind an exterior covering on the underside of the rafter tails or soffit.
4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the rafter tails or soffit including assemblies using the gypsum panel and sheathing products listed in the gypsum Association Fire Resistance Design Manual.
3. Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.

Exceptions: The following materials do not require protection:

1. Gable end overhangs and roof assembly projections beyond an exterior wall other than at the lower end of the rafter tails.
2. Fascia and other architectural trim boards.

707A.6 Exterior porch ceilings. The exposed underside of exterior porch ceilings shall be protected by one of the following:

1. Non-combustible material.
2. Ignition-resistant material.
3. One layer of 5/8-inch type X gypsum sheathing applied behind the exterior covering on the underside of the ceiling.
4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the ceiling assembly including assemblies using the gypsum panel and sheathing products listed in the gypsum Association Fire Resistance Design Manual.
5. Porch ceiling assemblies with a horizontal underside that meet the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.

Exception: Architectural trim boards.

707A.7 Floor Projections. The exposed underside of a cantilevered floor projection where a floor assembly extends over an exterior wall shall be protected by one of the following:

1. Non-combustible material.
2. Ignition-resistant material.
3. One layer of 5/8-inch type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection.
4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the floor projection including assemblies using the gypsum panel and sheathing products listed in the gypsum Association Fire Resistance Design Manual.
5. The underside of a floor projection assembly that meet the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.

Exception: Architectural trim boards.

707A.8. Underfloor Protection. The underfloor area of elevated or overhanging buildings shall be enclosed to grade in accordance with the requirements of this chapter or the underside of the exposed underfloor shall consist of one of the

following:

1. Non-combustible material.
2. Ignition-resistant material.
3. One layer of 5/8-inch type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection.
4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the floor including assemblies using the gypsum panel and sheathing products listed in the gypsum Association Fire Resistance Design Manual.
5. The underside of a floor assembly that meets the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.

Exception: Heavy timber structural columns and beams do not require protection.

707A.8 Underside of Appendages. When required by the enforcing agency the underside of overhanging appendages shall be enclosed to grade in accordance with the requirements of this chapter or the underside of the exposed underfloor shall consist of one of the following:

1. Non-combustible material.
2. Ignition-resistant material.
3. One layer of 5/8-inch type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection.
4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the floor including assemblies using the gypsum panel and sheathing products listed in the gypsum Association Fire Resistance Design Manual.
5. The underside of a floor assembly that meets the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.

Exception: Heavy timber structural columns and beams do not require protection

SECTION 708A **EXTERIOR WINDOWS AND DOORS**

708A.1 General

708A.2 Exterior glazing. The following exterior glazing materials and/or assemblies shall comply with this section:

1. Exterior windows.
2. Exterior glazed doors.
3. Glazed openings within exterior doors.
4. Glazed openings within exterior garage doors.
5. Exterior structural glass veneer.

708A.2.1 Exterior windows and exterior glazed door assembly requirements. Exterior windows and exterior glazed door assemblies shall comply with one of the following requirements:

1. Be constructed of multi-pane glazing with a minimum of one tempered pane meeting the requirements of Section 2406 Safety Glazing, or
2. Be constructed of glass block units, or
3. Have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 257, or
5. Be tested to meet the performance requirements of SFM 12-7A-2.

708A.2.2 Structural glass veneer. The wall assembly behind structural glass veneer shall comply with section 707A.3.

708A.3 Exterior doors. Exterior doors shall comply with one of the following:

1. The exterior surface or cladding shall be of noncombustible or Ignition-resistant material, or
2. Shall be constructed of solid core wood having stiles and rails not less than 1 3/8 inches thick with interior field panel thickness no less than 1 1/4 inches thick, or
3. Shall have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 252.

Exception: Solid doors having a fire-resistance rating of not less than 20 minutes may have untested glazing that complies with section 708A.2.

4. Shall be tested to meet the performance requirements of standard SFM 12-7A-1.

708A.3.1 Exterior door glazing. Glazing in exterior doors shall comply with Section 708A.2.1.

SECTION 709A **DECKING**

709A.1 General The walking surface material of decks, porches, balconies and stairs shall comply with the requirements of this section.

709A.2 Where required. The walking surface material of decks, porches, balconies and stairs shall comply with the requirements of this section when any portion of such surface is within 10 feet (3048 mm) of the building.

709A.3 Decking Surfaces. The walking surface material of decks, porches, balconies and stairs shall be constructed with one of the following materials:

1. Ignition-resistant material that complies with the performance requirements of both SFM 12-7A-4 and SFM 12-7A-5.
2. Exterior fire retardant treated wood
3. Noncombustible material.
4. Any material that complies with the performance requirements of SFM 12-7A-4A when attached exterior wall covering is also either noncombustible or ignition-resistant material.

Exception: Wall material may be of any material that otherwise complies with this chapter when the decking surface material complies with the performance requirements ASTM E-84 with a Class B flame spread rating.

SECTION 710A **ACCESSORY STRUCTURES**

710A.1 General. Accessory and miscellaneous structures, other than buildings covered by section 701A.3, which pose a significant exterior exposure hazard to applicable buildings during wildfires shall be constructed to conform to the ignition resistance requirements of this section.

710A.2 Applicability. The provisions of this section shall apply to trellises, arbors, patio covers, carports, gazebos, and similar structures of an accessory or miscellaneous character.

Exceptions.

1. Decks shall comply with the requirements of Section 709A.
2. Awnings and canopies shall comply with the requirements of Section 3105.

710A.3 Where Required. Accessory structures shall comply with the requirements of this section.

710A.3.1 Attached accessory structures shall comply with the requirements of this section.

710A.3.2 When required by the enforcing agency, detached accessory structures within 50 feet of an applicable building shall comply with the requirements of this section.

710A.4. Requirements. When required by the enforcing agency accessory structures shall be constructed of noncombustible or ignition-resistant materials.



**INITIAL EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF THE STATE FIRE MARSHAL (SFM)
REGARDING MODIFICATIONS OF THE
2010 CALIFORNIA REFERENCED STANDARDS CODE
CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 12**

The Office of the State Fire Marshal (SFM) proposes to modify Standards contained in Part 12 the California Referenced Standards Code for the 2010 edition of the California Referenced Standards Code. SFM further proposes to:

- Adopt new SFM standards or necessary modifications to existing SFM standards.
- Repeal certain SFM standards that are no longer necessary.

[3. The SFM proposes to maintain the adoption of SFM Standard 12-7A-3 with the following modifications.]
UNDER EAVE HORIZONTAL PROJECTION UNDERSIDE
SFM STANDARD 12-7A-3

12-7A-3.1 Application. The minimum design, construction and performance standards set forth herein for the exposed underside of horizontal projections such as the horizontal soffits of roof eaves, floor projections, and exposed underfloor areas ~~exterior wall eaves~~ are those deemed necessary to establish conformance to the provisions of these regulations. Materials and assemblies that meet the performance criteria of this standard are acceptable for use in ~~Very High Fire Hazard Zones as defined in California Building Code, Chapter 7A~~ the California Building Standards Code.

12-7A-3.2 Scope. This standard evaluates the fire resistive performance of horizontal projection assemblies including the horizontal soffits of roof eaves, floor projections, and exposed underfloor areas ~~determines the performance of eaves of exterior walls of structures when subjected exposed to direct flames exposure to the underside of a horizontal projection.~~

12-7A-3.3 Referenced documents.

1. ASTM D4442. Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials.
- ~~1-2.~~ ASTM D4444. Standard Test Methods for Use and Calibration of Hand-Held Moisture Meters
- ~~2-3.~~ California Building Code, Chapter 7A.

12-7A-3.4 Definitions

1. **Eaves.** A projecting edge of a roof that extends beyond the supporting wall as in CBC 702A "Roof Eave" or similar horizontal projection assembly.
2. **Soffit.** The enclosed underside of any exterior overhanging section of a roof eave or similar horizontal projection assembly (see CBC 702A "Roof Eave Soffit").

12-7A-3.10 Conditions of acceptance. Should one of the three replicates fail to meet the Conditions of Acceptance, three additional tests may be run. All of the additional tests must meet the Conditions of Acceptance.

1. Absence of flame penetration of the eaves or horizontal projection assembly at any time.
2. Absence of structural failure of the eaves or horizontal projection subassembly at any time.
3. Absence of sustained combustion of any kind at the conclusion of the 40-min test.