

INTERIOR FINISHES AND FIRE PROTECTION SYSTEMS

Interior Finishes Classification

Chapter 8 governs to use of materials for interior finishes, trim, and decorative materials with primary consideration of flame-spread and smoke-generation characteristics of materials.

Interior finishes are classified based on three possible testing systems:

- *ASTM E 84 and UL 723* – divides materials in three classifications:
 - o *Class A*: Flame spread index 0-25, smoke-developed index 0-450
 - o *Class B*: Flame spread index 26-75, smoke-developed index 0-450
 - o *Class C*: Flame spread index 76-200, smoke-developed index 0-450
- *NFPA 286 (room corner test for interior wall and ceiling finishes)*
- *NFPA 265 (room corner test for textile wall coverings and expanded vinyl wall coverings)*

Finish classification requirements are listed in Table 803.9, based on whether the building is sprinklered, occupancy type and location in building.

Application of interior finish materials to fire-resistance rated structural elements is governed by Section 803.11.

Fire Protection Systems

Chapter 9 governs active fire protection systems including fire sprinklers, smoke-control systems, smoke and heat vents, fire alarms, standpipe systems and fire extinguishers and requirements for each one of these categories, largely governed by the California Fire Code.

Fire sprinkler systems are governed by the following standards:

- *NFPA 13* – for any location required to have sprinkler systems
- *NFPA 13R* – for Group R occupancies up to 4 stories high
- *NFPA 13D* – for one or two-family dwellings

Fire protection systems including sprinklers and fire alarm are typically designed by outside consultant and are deferred as part of Building Department submittal.

Fire extinguishers are required to be shown on architectural drawings and cannot be deferred and they are regulated by Section 906, noting required locations, type of fire extinguisher required, maximum distance of travel to fire extinguisher and installation requirements. Fire extinguishers are required to be placed in a conspicuous location and are not allowed to be obstructed or obscured.

SECTION 801 GENERAL

801.1 Scope.

Provisions of this chapter shall govern the use of materials used as interior finishes, trim and decorative materials.

801.2 Interior wall and ceiling finish.

The provisions of Section 803 shall limit the allowable fire performance and smoke development of interior wall and ceiling finish materials based on occupancy classification.

801.3 Interior floor finish.

The provisions of Section 804 shall limit the allowable fire performance of interior floor finish materials based on occupancy classification.

801.4 Decorative materials and trim.

Decorative materials and trim shall be restricted by combustibility and the flame propagation performance criteria of NFPA 701, in accordance with Section 806. [F]

801.5 Applicability.

For buildings in flood hazard areas as established in Section 1612.3, interior finishes, trim and decorative materials below the design flood elevation shall be flood-damage-resistant materials.

801.6 Application.

Combustible materials shall be permitted to be used as finish for walls, ceilings, floors and other interior surfaces of buildings.

801.7 Windows.

Show windows in the exterior walls of the first story above grade shall be permitted to be of wood or of unprotected metal framing.

801.8 Foam plastics.

Foam plastics shall not be used as interior finish except as provided in Section 803.4. Foam plastics shall not be used as interior trim except as provided in Section 806.3 or 2604.2. This section shall apply both to exposed foam plastics and to foam plastics used in conjunction with a textile or vinyl facing or cover.

SECTION 802 DEFINITIONS

802.1 General.

The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

FLAME SPREAD. The propagation of flame over a surface.

FLAME SPREAD INDEX. A comparative measure, expressed as a dimensionless number, derived from visual measurements of the spread of flame versus time for a material tested in accordance with ASTM E 84 or UL 723.

INTERIOR FINISH. Interior finish includes interior wall and ceiling finish and interior floor finish.

INTERIOR FLOOR FINISH. The exposed floor surfaces of buildings including coverings applied over a finished floor or stair, including risers.

INTERIOR FLOOR-WALL BASE. Interior floor finish trim used to provide a functional and/or decorative border at the intersection of walls and floors. [F]

INTERIOR WALL AND CEILING FINISH. The exposed interior surfaces of buildings, including but not limited to: fixed or movable walls and partitions; toilet room privacy partitions; columns; ceilings; and interior wainscoting, paneling or other finish applied structurally or for decoration, acoustical correction, surface insulation, structural fire resistance or similar purposes, but not including trim.

SITE-FABRICATED STRETCH SYSTEM. A system, fabricated on site and intended for acoustical, tackable or aesthetic purposes, that is comprised of three elements:

(a) a frame (constructed of plastic, wood, metal or other material) used to hold fabric in place,

(b) a core material (infill, with the correct properties for the application), and (c) an outside layer, comprised of a textile, fabric or vinyl, that is stretched taut and held in place by tension or mechanical fasteners via the frame.

SMOKE-DEVELOPED INDEX. A comparative measure, expressed as a dimensionless number, derived from measurements of smoke obscuration versus time for a material tested in accordance with ASTM E 84.

TRIM. Picture molds, chair rails, baseboards, handrails, door and window frames and similar decorative or protective materials used in fixed applications.

SECTION 803 WALL AND CEILING FINISHES

803.1 General.

Interior wall and ceiling finish materials shall be classified for fire performance and smoke development in accordance with Section 803.1.1 or 803.1.2, except as shown in Sections 803.2 through 803.13. Materials tested in accordance with Section 803.1.2 shall not be required to be tested in accordance with Section 803.1.1.

803.1.1 Interior wall and ceiling finish materials.

Interior wall and ceiling finish materials shall be classified in accordance with ASTM E 84 or UL 723. Such interior finish materials shall be grouped in the following classes in accordance with their flame spread and smoke-developed indexes.

Class A: Flame spread index 0-25; smoke-developed index 0-450.

Class B: Flame spread index 26-75; smoke-developed index 0-450.

Class C: Flame spread index 76-200; smoke-developed index 0-450.

Exception: Materials tested in accordance with Section 803.1.2.

803.1.2 Room corner test for interior wall or ceiling finish materials.

Interior wall or ceiling finish materials shall be permitted to be tested in accordance with NFPA 286. Interior wall or ceiling finish materials tested in accordance with NFPA 286 shall comply with Section 803.1.2.1.

803.1.3 Room corner test for textile wall coverings and expanded vinyl wall coverings.

Textile wall coverings and expanded vinyl wall coverings shall meet the criteria of Section 803.1.3.1 when tested in the manner intended for use in accordance with the Method B protocol of NFPA 265 using the product-mounting system, including adhesive.

803.1.4 Acceptance criteria for textile and expanded vinyl wall or ceiling coverings tested to ASTM E 84 or UL 723.

Textile wall and ceiling coverings and expanded vinyl wall and ceiling coverings shall have a Class A flame spread index in accordance with ASTM E 84 or UL 723 and be protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. Test specimen preparation and mounting shall be in accordance with ASTM E 2404.

803.2 Thickness exemption.

Materials having a thickness less than 0.036 inch (0.9 mm) applied directly to the surface of walls or ceilings shall not be required to be tested.

803.3 Heavy timber exemption.

Exposed portions of structural members complying with the requirements for buildings of Type IV construction in Section 602.4 shall not be subject to interior finish requirements.

803.4 Foam plastics.

Foam plastics shall not be used as interior finish except as provided in Section 2603.9. This section shall apply both to exposed foam plastics and to foam plastics used in conjunction with a textile or vinyl facing or cover.

803.5 Textile wall coverings.

Where used as interior wall finish materials, textile wall coverings, including materials having woven or nonwoven, napped, tufted, looped or similar surface and carpet and similar textile materials, shall be tested in the manner intended for use, using the product mounting system, including adhesive, and shall comply with the requirements of Section 803.1.2, 803.1.3 or 803.1.4.

803.6 Textile ceiling coverings.

Where used as interior ceiling finish materials, textile ceiling coverings, including materials having woven or nonwoven, napped, tufted, looped or similar surface and

carpet and similar textile materials, shall be tested in the manner intended for use, using the product mounting system, including adhesive, and shall comply with the requirements of Section 803.1.2 or 803.1.4.

803.7 Expanded vinyl wall coverings.

Where used as interior wall finish materials, expanded vinyl wall coverings shall be tested in the manner intended for use, using the product mounting system, including adhesive, and shall comply with the requirements of Section 803.1.2, 803.1.3 or 803.1.4.

803.8 Expanded vinyl ceiling coverings.

Where used as interior ceiling finish materials, expanded vinyl ceiling coverings shall be tested in the manner intended for use, using the product mounting system, including adhesive, and shall comply with the requirements of Section 803.1.2 or 803.1.4.

803.9 Interior finish requirements based on group.

Interior wall and ceiling finish shall have a flame spread index not greater than that specified in Table 803.9 for the group and location designated. Interior wall and ceiling finish materials tested in accordance with NFPA 286 and meeting the acceptance criteria of Section 803.1.2.1, shall be permitted to be used where a Class A classification in accordance with ASTM E 84 or UL 723 is required.

TABLE 803.9 INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY k

GROUP	SPRINKLERED ¹			NONSPRINKLERED		
	Exit enclosures and exit passageways ^{a, b}	Corridors	Rooms and enclosed spaces ^c	Exit enclosures and exit passageways ^{a, b}	Corridors	Rooms and enclosed spaces ^c
A-1 & A-2	B	B	C	A	A ^d	B ^e
A-3 ^f , A-4, A-5	B	B	C	A	A ^d	C
B, E, M, R-1	B	C	C	A	B	C
R-4	B	C	C	A	B	B
F	C	C	C	B	C	C
H,L	B	B	C ^g	A	A	B
I-2, I-2.1	B	B	B ^{h, i}	A	A	B
I-3	A	A ^j	B	NP	NP	NP
I-4	B	B	B ^{h, i}	A	A	B
R-2	C	C	C	B	B	C
R-2.1	B	C	C	A	B	B
R-3	C	C	C	C	C	C
S	C	C	C	B	B	C
U	No restrictions			No restrictions		

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929m².
 NP = Not permitted [SFM]

- a. Class C interior finish materials shall be permitted for wainscotting or paneling of not more than 1,000 square feet of applied surface area in the grade lobby where applied directly to a noncombustible base or over furring strips applied to a noncombustible base and fireblocked as required by Section 803.11.1.
- b. In exit enclosures of buildings less than three stories above grade plane of other than Group I-3, Class B interior finish for nonsprinklered buildings and Class C interior finish for sprinklered buildings shall be permitted.
- c. Requirements for rooms and enclosed spaces shall be based upon spaces enclosed by partitions. Where a fire-resistance rating is required for structural elements, the enclosing partitions shall extend from the floor to the ceiling. Partitions that do not comply with this shall be considered enclosing spaces and the rooms or spaces on both sides shall be considered one. In determining the applicable requirements for rooms and enclosed spaces, the specific occupancy thereof shall be the governing factor regardless of the group classification of the building or structure.
- d. Lobby areas in Group A-1, A-2 and A-3 occupancies shall not be less than Class B materials.
- e. Class C interior finish materials shall be permitted in places of assembly with an occupant load of 300 persons or less.
- f. For places of religious worship, wood used for ornamental purposes, trusses, paneling or chancel furnishing shall be permitted.
- g. Class B material is required where the building exceeds two stories.
- h. Class C interior finish materials shall be permitted in administrative spaces.
- i. Class C interior finish materials shall be permitted in rooms with a capacity of four persons or less.
- j. Class B materials shall be permitted as wainscotting extending not more than 48 inches above the finished floor in corridors.
- k. Finish materials as provided for in other sections of this code.
- l. Applies when the exit enclosures, exit passageways, corridors or rooms and enclosed spaces are protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2

803.10 Stability.

Interior finish materials regulated by this chapter shall be applied or otherwise fastened in such a manner that such materials will not readily become detached where subjected to room temperatures of 200°F (93°C) for not less than 30 minutes.

803.11 Application of interior finish materials to fire-resistance-rated structural elements. Where interior finish materials are applied on walls, ceilings or structural elements required to have a fire-resistance rating or to be of noncombustible construction, they shall comply with the provisions of this section.

803.11.1 Direct attachment and furred construction.

Where walls and ceilings are required by any provision in this code to be of fire-resistance-rated or noncombustible construction, the interior finish material shall be applied directly against such construction or to furring strips not exceeding 13/4 inches (44 mm) applied directly against such surfaces. The intervening spaces between such furring strips shall comply with one of the following:

1. Be filled with material that is inorganic or non-combustible;
2. Be filled with material that meets the requirements of a Class A material in accordance with Section 803.1.1 or 803.1.2; or
3. Be fireblocked at a maximum of 8 feet (2438 mm) in any direction in accordance with Section 717.

803.11.2 Set-out construction.

Where walls and ceilings are required to be of fire-resistance-rated or noncombustible construction and walls are set out or ceilings are dropped distances greater than specified in Section 803.11.1, Class A finish materials, in accordance with Section 803.1.1 or 803.1.2, shall be used except where interior finish materials are protected on both sides by an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, or attached to noncombustible backing or furring strips installed as specified in Section 803.11.1. The hangers and assembly members of such dropped ceilings that are below the main ceiling line shall be of noncombustible materials, except that in Types III and V construction, fire-retardant-treated wood shall be permitted. The construction of each set-out wall shall be of fire-resistance-rated construction as required elsewhere in this code.

803.11.3 Heavy timber construction.

Wall and ceiling finishes of all classes as permitted in this chapter that are installed directly against the wood decking or planking of Type IV construction or to wood furring strips applied directly to the wood decking or planking shall be fireblocked as specified in Section 803.11.1.

803.11.4 Materials.

An interior wall or ceiling finish that is not more than 1/4 inch (6.4 mm) thick shall be applied directly against a noncombustible backing.

Exceptions:

1. Noncombustible materials.
2. Materials where the qualifying tests were made with the material suspended or furred out from the noncombustible backing.

803.12 High-density polyethylene (HDPE).

Where high-density polyethylene is used as an interior finish, it shall comply with the requirements of Section 803.1.2.

803.13 Site-fabricated stretch systems.

Where used as interior wall or interior ceiling finish materials, site-fabricated stretch systems shall be tested in the manner intended for use, and shall comply with the requirements of Section 803.1.1 or 803.1.2. If the materials are tested in accordance with ASTM E 84 or UL 723, specimen preparation and mounting shall be in accordance with ASTM E 2573.

SECTION 804 INTERIOR FLOOR FINISH

804.1 General.

Interior floor finish and floor covering materials shall comply with Sections 804.2 through 804.4.1.

Exception: Floor finishes and coverings of a traditional type, such as wood, vinyl, linoleum or terrazzo, and resilient floor covering materials that are not comprised of fibers.

804.2 Classification.

Interior floor finish and floor covering materials required by Section 804.4.1 to be of Class I or II materials shall be classified in accordance with NFPA 253. The classification referred to herein corresponds to the classifications determined by NFPA 253 as follows: Class I, 0.45 watts/cm² or greater; Class II, 0.22 watts/cm² or greater.

804.3 Testing and identification.

Interior floor finish and floor covering materials shall be tested by an agency in accordance with NFPA 253 and identified by a hang tag or other suitable method so as to identify the manufacturer or supplier and style, and shall indicate the interior floor finish or floor covering classification according to Section 804.2. Carpet-type floor coverings shall be tested as proposed for use, including underlayment. Test reports confirming the information provided in the manufacturer's product identification shall be furnished to the building official upon request.

804.4 Interior floor finish requirements.

In all other occupancies except I-3, interior floor finish and floor covering materials in exit enclosures, exit passageways, corridors and rooms or spaces not separated from corridors by full-height partitions extending from the floor to the underside of the ceiling shall withstand a minimum critical radiant flux as specified in Section 804.4.1. For Group I-3 occupancies see Section 804.4.2.

SECTION 805 COMBUSTIBLE MATERIALS IN TYPES I AND II CONSTRUCTION

805.1 Application.

Combustible materials installed on or embedded in floors of buildings of Type I or II construction shall comply with Sections 805.1.1 through 805.1.3.

Exception: Stages and platforms constructed in accordance with Sections 410.3 and 410.4, respectively.

805.1.1 Subfloor construction.

Floor sleepers, bucks and nailing blocks shall not be constructed of combustible materials, unless the space between the fire-resistance-rated floor assembly and the

flooring is either solidly filled with noncombustible materials or fireblocked in accordance with Section 717, and provided that such open spaces shall not extend under or through permanent partitions or walls.

805.1.2 Wood finish flooring.

Wood finish flooring is permitted to be attached directly to the embedded or fireblocked wood sleepers and shall be permitted where cemented directly to the top surface of fire-resistance-rated floor assemblies or directly to a wood subfloor attached to sleepers as provided for in Section 805.1.1.

805.1.3 Insulating boards.

Combustible insulating boards not more than 1/2 inch (12.7 mm) thick and covered with finish flooring are permitted where attached directly to a noncombustible floor assembly or to wood subflooring attached to sleepers as provided for in Section 805.1.1.

SECTION 806 DECORATIVE MATERIALS AND TRIM [F]

806.1 General requirements.

In occupancies in Groups A, E, I and R-1 and dormitories in Group R-2, curtains, draperies, hangings and other decorative materials suspended from walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with Section 806.2 or be noncombustible. [F]

In Groups I-1 and I-2, combustible decorative materials shall meet the flame propagation criteria of NFPA 701 unless the decorative materials, including, but not limited to, photographs and paintings, are of such limited quantities that a hazard of fire development or spread is not present. In Group I-3, combustible decorative materials are prohibited.

Fixed or movable walls and partitions, paneling, wall pads and crash pads applied structurally or for decoration, acoustical correction, surface insulation or other purposes shall be considered interior finish if they cover 10 percent or more of the wall or of the ceiling area, and shall not be considered decorative materials or furnishings.

In Group B and M occupancies, fabric partitions suspended from the ceiling and not supported by the floor shall meet the flame propagation performance criteria in accordance with Section 806.2 and NFPA 701 or shall be noncombustible.

Exceptions:

1. Curtains, draperies, hangings and other decorative materials suspended from walls of sleeping units and dwelling units in dormitories in Group R-2 protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1 and such materials are limited to not more than 50 percent of the aggregate area of walls.

2. Decorative materials, including, but not limited to, photographs and paintings in dormitories in Group R-2 where such materials are of limited quantities such that a hazard of fire development or spread is not present.

806.1.1 Noncombustible materials.

The permissible amount of noncombustible decorative material shall not be limited. [F]

806.1.2 Combustible decorative materials.

The permissible amount of decorative materials meeting the flame propagation performance criteria of NFPA 701 shall not exceed 10 percent of the specific wall or ceiling area to which it is attached. [F]

Exceptions:

1. In auditoriums in Group A, the permissible amount of decorative material meeting the flame propagation performance criteria of NFPA 701 shall not exceed 75 percent of the aggregate wall area where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and where the material is installed in accordance with Section 803.11.

2. The amount of fabric partitions suspended from the ceiling and not supported by the floor in Group B and M occupancies shall not be limited.

806.2 Acceptance criteria and reports. Where required by Section 806.1, decorative materials shall be tested by an agency and meet the flame propagation performance criteria of NFPA 701 or such materials shall be noncombustible. Reports of test results shall be prepared in accordance with NFPA 701 and furnished to the building official upon request. [F]

806.3 Foam plastic.

Foam plastic used as trim in any occupancy shall comply with Section 2604.2. [F]

806.4 Pyroxylin plastic.

Imitation leather or other material consisting of or coated with a pyroxylin or similarly hazardous base shall not be used in Group A occupancies. [F]

806.5 Interior trim.

Material, other than foam plastic used as interior trim, shall have a minimum Class B flame spread and 450 smoke-developed index in Group I-3 and for all other occupancies Class C flame spread and smoke-developed index when tested in accordance with ASTM E 84 or UL 723, as described in Section 803.1.1. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the specific wall or ceiling area in which it is attached. [F]

806.6 Interior floor-wall base.

Interior floor-wall base that is 6 inches (152 mm) or less in height shall be tested in accordance with Section 804.2 and shall not be less than Class II. Where a Class I floor finish is required, the floor-wall base shall be Class I. [F]

Exception: Interior trim materials that comply with Section 806.5.

SECTION 807 INSULATION

807.1 Insulation.

Thermal and acoustical insulation shall comply with Section 719.

SECTION 808 ACOUSTICAL CEILING SYSTEMS

808.1 Acoustical ceiling systems.

The quality, design, fabrication and erection of metal suspension systems for acoustical tile and lay-in panel ceilings in buildings or structures shall conform with generally accepted engineering practice, the provisions of this chapter and other applicable requirements of this code.

808.1.1 Materials and installation.

Acoustical materials complying with the interior finish requirements of Section 803 shall be installed in accordance with the manufacturer's recommendations and applicable provisions for applying interior finish.

808.1.1.1 Suspended acoustical ceilings.

Suspended acoustical ceiling systems shall be installed in accordance with the provisions of ASTM C 635 and ASTM C 636.

808.1.1.2 Fire-resistance-rated construction.

Acoustical ceiling systems that are part of fire-resistance-rated construction shall be installed in the same manner used in the assembly tested and shall comply with the provisions of Chapter 7.

SECTION 901 GENERAL

901.1 Scope.

The provisions of this chapter shall specify where fire protection systems are required and shall apply to the design, installation and operation of fire protection systems.

901.2 Fire protection systems.

Fire protection systems shall be installed, repaired, operated and maintained in accordance with this code and the California Fire Code.

Any fire protection system for which an exception or reduction to the provisions of this code has been granted shall be considered to be a required system.

Exception: Any fire protection system or portion thereof not required by this code shall

be permitted to be installed for partial or complete protection provided that such system meets the requirements of this code.

901.3 Modifications.

No person shall remove or modify any fire protection system installed or maintained under the provisions of this code or the California Fire Code without approval by the building official.

901.4 Threads.

Threads provided for fire department connections to sprinkler systems, standpipes, yard hydrants or any other fire hose connection shall be compatible with the connections used by the local fire department.

901.5 Acceptance tests.

Fire protection systems shall be tested in accordance with the requirements of this code and the California Fire Code. When required, the tests shall be conducted in the presence of the building official. Tests required by this code, the California Fire Code and the standards listed in this code shall be conducted at the expense of the owner or the owner's representative. It shall be unlawful to occupy portions of a structure until the required fire protection systems within that portion of the structure have been tested and approved.

901.6 Supervisory service.

Where required, fire protection systems shall be monitored by an supervising station in accordance with NFPA 72.

901.6.1 Automatic sprinkler systems.

Automatic sprinkler systems shall be monitored by an approved supervising station.

Exceptions:

1. A supervising station is not required for automatic sprinkler systems protecting one- and two-family dwellings.
2. Limited area systems serving fewer than 20 sprinklers.

901.7 Fire areas.

Where buildings, or portions thereof, are divided into fire areas so as not to exceed the limits established for requiring a fire protection system in accordance with this chapter, such fire areas shall be separated by fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both, having a fire-resistance rating of not less than that determined in accordance with Section 707.3.9.

SECTION 902 DEFINITIONS

SECTION 903 AUTOMATIC SPRINKLER SYSTEMS

903.1 General.

Automatic sprinkler systems shall comply with this section. [F]

903.1.1 Alternative protection.

Alternative automatic fire-extinguishing systems complying with Section 904 shall be permitted in lieu of automatic sprinkler protection where recognized by the applicable standard and approved by the fire code official. [F]

903.3 Installation requirements.

Automatic sprinkler systems shall be designed and installed in accordance with Sections 903.3.1 through 903.3.6. [F]

903.3.1 Standards.

Sprinkler systems shall be designed and installed in accordance with Section 903.3.1.1, unless otherwise permitted by Sections 903.3.1.2 and 903.3.1.3. [F]

903.3.1.1 NFPA 13 sprinkler systems.

Where the provisions of this code require that a building or portion thereof be equipped throughout with an automatic sprinkler system in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 except as provided in Section 903.3.1.1.1. [F]

903.3.1.2 NFPA 13R sprinkler systems.

Automatic sprinkler systems in Group R occupancies up to and including four stories in height shall be permitted to be installed throughout in accordance with NFPA 13R as amended in Chapter 35. [F]

903.3.1.3 NFPA 13D sprinkler systems.

Automatic sprinkler systems installed in one- and two-family dwellings and townhouses shall be permitted to be installed throughout in accordance with NFPA 13D. [F]

SECTION 904 ALTERNATIVE AUTOMATIC FIRE-EXTINGUISHING SYSTEMS

904.1 General.

Automatic fire-extinguishing systems, other than automatic sprinkler systems, shall be designed, installed, inspected, tested and maintained in accordance with the provisions of this section and the applicable referenced standards. [F]

SECTION 905 STANDPIPE SYSTEMS

SECTION 906 PORTABLE FIRE EXTINGUISHERS

906.1 Where required.

Portable fire extinguishers shall be installed in the following locations. [F]

1. In new and existing Group A, B, E, F, H, I, L, M, R-1, R-2, R-2.1, R-3.1, R-4 and S occupancies.
2. Within 30 feet (9144 mm) of commercial cooking equipment.
3. In areas where flammable or combustible liquids are stored, used or dispensed.
4. On each floor of structures under construction, except Group R-3 occupancies, in accordance with Section 1415.1 of the California Fire Code.
5. Where required by the California Fire Code sections indicated in Table 906.1.
6. Special-hazard areas, including but not limited to laboratories, computer rooms and generator rooms, where required by the fire code official.
7. Large and small family day-care homes shall be equipped with a portable fire extinguisher having a minimum 2A10BC rating.
8. Where required by California Code of Regulations, Title 19, Division 1.

906.2 General requirements.

Portable fire extinguishers shall be selected, installed and maintained in accordance with this section and California Code of Regulations, Title 19, Division 1, Chapter 3. [F]

Exceptions:

1. The travel distance to reach an extinguisher shall not apply to the spectator seating portions of Group A-5 occupancies.
2. Thirty-day inspections shall not be required for portable fire extinguishers that are supervised by a listed and approved electronic monitoring device, provided that all of the following conditions are met:
 - 2.1. Electronic monitoring shall confirm that extinguishers are properly positioned, properly charged and unobstructed.
 - 2.2. Loss of power or circuit continuity to the electronic monitoring device shall initiate a trouble signal.
 - 2.3. The extinguishers shall be installed inside of a building or cabinet in a noncorrosive environment.
 - 2.4. Electronic monitoring devices and supervisory circuits shall be tested when extinguisher maintenance is performed.
 - 2.5. A written log of required hydrostatic test dates for extinguishers shall be maintained by the owner to verify that hydrostatic tests are conducted at the frequency required by California Code of Regulations, Title 19, Division 1, Chapter 3.
3. In Group I-3, portable fire extinguishers shall be permitted to be located at staff locations.

906.3 Size and distribution.

The size and distribution of portable fire extinguishers shall be in accordance with Sections 906.3.1 through 906.3.4. [F]

906.3.1 Class A fire hazards.

The minimum sizes and distribution of portable fire extinguishers for occupancies that involve primarily Class A fire hazards shall comply with Table 906.3(1). [F]

TABLE 906.3(1) FIRE EXTINGUISHERS FOR CLASS A FIRE HAZARDS [F]

	LIGHT (Low) HAZARD OCCUPANCY	ORDINARY (Moderate) HAZARD OCCUPANCY	EXTRA (High) HAZARD OCCUPANCY
Minimum Rated Single Extinguisher	2-A ^c	2-A	4-A ^a
Maximum Floor Area Per Unit of A	3,000 square feet	1,500 square feet	1,000 square feet
Maximum Floor Area for Extinguisher ^b	11,250 square feet	11,250 square feet	11,250 square feet
Maximum Travel Distance to Extinguisher	75 feet	75 feet	75 feet

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929m², 1 gallon = 3.785 L.

- a. Two 2 1/2-gallon water-type extinguishers shall be deemed the equivalent of one 4-A rated extinguisher.
- b. California Code of Regulations, Title 19, Division 1, Chapter 3 concerning application of the maximum floor area criteria.
- c. Two water-type extinguishers each with a 1-A rating shall be deemed the equivalent of one 2-A rated extinguisher for Light (Low) Hazard Occupancies.

906.3.2 Class B fire hazards.

Portable fire extinguishers for occupancies involving flammable or combustible liquids with depths less than or equal to 0.25-inch (6.35 mm) shall be selected and placed in accordance with Table 906.3(2). [F]

906.3.3 Class C fire hazards.

Portable fire extinguishers for Class C fire hazards shall be selected and placed on the basis of the anticipated Class A or B hazard. [F]

906.3.4 Class D fire hazards.

Portable fire extinguishers for occupancies involving combustible metals shall be selected and placed in accordance with California Code of Regulations, Title 19, Division 1, Chapter 3. [F]

906.4 Cooking grease fires.

Fire extinguishers provided for the protection of cooking grease fires shall be of an approved type compatible with the automatic fire-extinguishing system agent and in accordance with Section 904.11.5 of the California Fire Code. [F]

906.5 Conspicuous location.

Portable fire extinguishers shall be located in conspicuous locations where they will be readily accessible and immediately available for use. These locations shall be along normal paths of travel, unless the fire code official determines that the hazard posed indicates the need for placement away from normal paths of travel. [F]

906.6 Unobstructed and unobscured.

Portable fire extinguishers shall not be obstructed or obscured from view. In rooms or areas in which visual obstruction cannot be completely avoided, means shall be provided to indicate the locations of extinguishers. [F]

906.7 Hangers and brackets.

Hand-held portable fire extinguishers, not housed in cabinets, shall be installed on the hangers or brackets supplied. Hangers or brackets shall be securely anchored to the mounting surface in accordance with the manufacturer's installation instructions. [F]

906.8 Cabinets.

Cabinets used to house portable fire extinguishers shall not be locked. [F]

Exceptions:

1. Where portable fire extinguishers subject to malicious use or damage are provided with a means of ready access.
2. In Group I-3 occupancies and in mental health areas in Group I-2 occupancies, access to portable fire extinguishers shall be permitted to be locked or to be located in staff locations provided the staff has keys.

906.9 Extinguisher installation.

The installation of portable fire extinguishers shall be in accordance with Sections 906.9.1 through 906.9.3. [F]

906.9.1 Extinguishers weighing 40 pounds or less.

Portable fire extinguishers having a gross weight not exceeding 40 pounds (18 kg) shall be installed so that their tops are not more than 5 feet (1524 mm) above the floor. [F]

906.9.2 Extinguishers weighing more than 40 pounds.

Hand-held portable fire extinguishers having a gross weight exceeding 40 pounds (18 kg) shall be installed so that their tops are not more than 3.5 feet (1067 mm) above the floor. [F]

906.9.3 Floor clearance.

The clearance between the floor and the bottom of installed hand-held portable fire extinguishers shall not be less than 4 inches (102 mm). [F]

906.10 Wheeled units.

Wheeled fire extinguishers shall be conspicuously located in a designated location. [F]

SECTION 907 FIRE ALARM AND DETECTION SYSTEMS

907.1 General.

This section covers the application, installation, performance and maintenance of fire alarm systems and their components. [F]

907.1.1 Construction documents.

Construction documents for fire alarm systems shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code, the California Fire Code, and relevant laws, ordinances, rules and regulations, as determined by the fire code official. [F]

907.1.2 Fire alarm shop drawings.

Shop drawings for fire alarm systems shall be submitted for review and approval prior to system installation, and shall include, but not be limited to, all of the following: [F]

SECTION 908 EMERGENCY ALARM SYSTEMS

908.1 Group H occupancies.

Emergency alarms for the detection and notification of an emergency condition in Group H occupancies shall be provided in accordance with Section 414.7. [F]

SECTION 909 SMOKE CONTROL SYSTEMS

909.1 Scope and purpose.

This section applies to mechanical or passive smoke control systems when they are required by other provisions of this code. The purpose of this section is to establish minimum requirements for the design, installation and acceptance testing of smoke control systems that are intended to provide a tenable environment for the evacuation or relocation of occupants. These provisions are not intended for the preservation of contents, the timely restoration of operations or for assistance in fire suppression or overhaul activities. Smoke control systems regulated by this section serve a different purpose than the smoke- and heat-venting provisions found in Section 910. Mechanical smoke control systems shall not be considered exhaust systems under Chapter 5 of the California Mechanical Code. [F]

SECTION 910 SMOKE AND HEAT VENTS

910.1 General.

Where required by this code or otherwise installed, smoke and heat vents, or mechanical smoke exhaust systems, and draft curtains shall conform to the requirements of this section. [F]

Exceptions:

1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an approved automatic sprinkler system.
2. Where areas of buildings are equipped with early suppression fast-response (ESFR) sprinklers, automatic smoke and heat vents shall not be required within these areas. This exception shall not apply to any state institution or other state-owned or state-occupied buildings or other applications listed in Section 1.11 regulated by the Office of the State Fire Marshal.

SECTION 911 FIRE COMMAND CENTER

911.1 General.

Where required by other sections of this code and in all buildings classified as high-rise buildings by this code and Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access, a fire command center for fire department operations shall be provided and shall comply with Sections 911.1.1 through 911.1.5. [F]

SECTION 912 FIRE DEPARTMENT CONNECTIONS

912.1 Installation.

Fire department connections shall be installed in accordance with the NFPA standard applicable to the system design and shall comply with Sections 912.2 through 912.5. [F]

SECTION 913 FIRE PUMPS

913.1 General.

Where provided, fire pumps shall be installed in accordance with this section and NFPA 20. [F]

SECTION 914 EMERGENCY RESPONDER SAFETY FEATURES

914.1 Shaftway markings.

Vertical shafts shall be identified as required by Sections 914.1.1 and 914.1.2. [F]

914.1.1 Exterior access to shaftways.

Outside openings accessible to the fire department and that open directly on a hoistway or shaftway communicating between two or more floors in a building shall be plainly marked with the word "SHAFTWAY" in red letters at least 6 inches (152 mm) high on a white background. Such warning signs shall be placed so as to be readily discernible from the outside of the building. [F]

914.1.2 Interior access to shaftways.

Door or window openings to a hoistway or shaftway from the interior of the building shall be plainly marked with the word "SHAFTWAY" in red letters at least 6 inches (152 mm) high on a white background. Such warning signs shall be placed so as to be readily discernible. [F]

Exception: Markings shall not be required on shaftway openings that are readily discernible as openings onto a shaftway by the construction or arrangement.

SECTION 915 EMERGENCY RESPONDER RADIO COVERAGE

915.1 General.

Emergency responder radio coverage shall be provided in all new buildings in accordance with Section 510 of the California Fire Code. [F]

Next Week

- Tue 10/04
 - Exam 5 – Interior Finishes/Fire Protection Systems/any previously covered topics may be included
 - Setting up Code plans and Notes, work on Assignment 1

- Thu 10/06
 - Guest Lecture – Jim Aguila – Code Plans and QA in interior design practice, role of code checker in the office, interaction with various governmental agencies – prepare questions
 - Individual consultations on Assignment 1