

Sprinkler Protection for Balconies, Canopies, Porte-Cochères, and Decks

TECHNICAL BULLETIN FIRE-9-3

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The purpose of this Technical Bulletin is to establish the minimum requirements for the design and installation of sprinklers below exterior projections such as exterior roofs, balconies, canopies, porte-cochères, and decks. Depending on the type of sprinkler system provided, sprinklers may or may not be required for such projections. See below for requirements specific to National Fire Protection Association (NFPA) 13, 13R and 13D systems, as amended by the California Building Code (CBC) and California Fire Code (CFC).

I. DEFINITIONS

For the purposes of this bulletin, the following definitions apply:

Balcony: A platform that projects from the wall of a building and is surrounded by a railing, balustrade, or parapet. This policy considers patio covers, decks, and porches to be synonymous with balconies. For the purposes of this policy, exterior spaces that are recessed from the exterior wall line of the building, even if identified as “balconies”, “porches”, or “decks” on the drawings, will be treated as rooms.

Canopy: A permanent structure or architectural projection of rigid structural framing over which a covering is attached that provides weather protection, identity or decoration.

Open: Exposed to outside temperature on at least one side.

II. NFPA 13 SYSTEMS

NFPA 13 system requirements for sprinkler protection under exterior roofs, balconies, canopies, porte-cochères, decks and similar projections are dependent on the width of the projection as measured perpendicular to the building wall, the construction of the projection, and the use of the space below the projection.

A. Projections 2 Feet or Less in Width

Sprinkler protection is not required below projections when the width is 2 feet or less. This requirement is independent of the use below the projections or the materials of construction for the projections.

B. Projections Greater Than 2 Feet but Less Than 4 Feet in Width

Sprinkler protection is required below projections when the width exceeds 2 feet but is no more than 4 feet, when combustibles are stored below the projections. This requirement is independent of the materials of construction for the projections.

Planters, delivered packages and newspaper machines are not considered combustible storage for the purposes of this requirement. The following assumptions shall be used when determining if sprinklers may be eliminated.

1. For apartments or condominiums, combustibles shall be considered stored and handled under all exterior roofs, balconies, or attached canopies.
2. For hotels or motels, combustibles shall not be considered stored or handled under all exterior roofs, balconies or attached canopies.

C. Projections Greater Than 4 Feet in Width

Sprinkler protection is required below projections when the width exceeds 4 feet and combustibles are stored below the projections. This requirement is independent of the materials of construction for the projections.

Sprinkler protection below projections exceeding 4 feet in width can be omitted when there is no storage below the projections and the construction for the projections is compliant with one of the following:

1. Projections constructed entirely of materials that are noncombustible, limited-combustible, or fire retardant-treated wood per NFPA 703.
2. Projections constructed entirely or partially of combustible materials, provided that the exposed finish materials are noncombustible, limited-combustible or fire retardant-treated wood per NFPA 703, and the combustible concealed spaces within the projections are protected by one of the following methods:
 - a. Fire sprinkler protection provided throughout the concealed space.
 - b. The concealed space is completely filled with noncombustible insulation.
 - c. The building is a Light or Ordinary hazard occupancy and ceilings of noncombustible or limited-combustible materials attached directly to the bottom of solid wood joists create enclosed joist spaces that are 160 cu. ft. or less. This includes concealed spaces formed by insulation that is laid directly on top or within ceiling joists in an otherwise sprinkler protected attic.
 - d. Concealed spaces over small roofs or canopies not greater than 55 sq. ft. in area.

D. Offset/Staggered Projections Exception

The following requirements are applicable when balconies, decks or other projections are required to have sprinkler protection per Section II, A-C above, and the projections are not aligned vertically up the side of the building or when balconies of different sizes are stacked.

Balconies, decks or other projections that are offset or staggered such that the projections on adjacent floor levels are not directly above one another must have fire sprinkler protection under the upper projection when that projection extends more than 4 feet over the lower projection.

Where balconies, decks or other projections are separated vertically by a distance of more than 20 feet, sprinkler protection is not required below the upper projection.

III. NFPA 13R SYSTEMS

For buildings of Type V construction, as defined in the CBC, sprinkler protection must be provided for all exterior balconies, decks and ground level patios that serve dwelling units or sleeping units that have a roof or deck above.

Sprinkler protection must be provided for exterior balconies, decks and ground level patios that serve dwelling units or sleeping units when the balconies and similar projections are of Type V construction and do not have a fire-resistance rating on buildings of Types III, IV and V construction per CBC, Chapters 7 and 9.

For all types of construction, sprinkler protection must be provided for open-ended corridors and associated exterior stairs and ramps.

IV. NFPA 13D SYSTEMS

NFPA 13D systems require sprinklers for patios, decks and porches that are not considered open per the definition in Section I.

Documents Referenced in this Technical Bulletin

- California Building Code (**CBC**)
- California Fire Code (**CFC**)
- Standard for the Installation of Sprinkler Systems, (**NFPA 13**)
- Standard for the Installation of Sprinkler Systems in Low-Rise Residential Occupancies, (**NFPA 13R**)
- Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes, (**NFPA 13D**)
- Standard for Fire-Retardant Wood and Fire-Retardant Coatings for Building Materials, (**NFPA 703**)