



PIONEER FIRE PROTECTION DISTRICT

FIRE • RESCUE • EMS



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SMOKE AND CARBON MONOXIDE ALARM REQUIREMENTS IN RESIDENTIAL BUILDINGS

Date Issued: July 26, 2021 Purpose:

To assist Fire and Life Safety Division members, general contractors and residents in understanding the over-all requirements for the installation of smoke alarms and carbon monoxide alarms in one-and two-family residential buildings based on the 2019 California Building Code (CBC), 2019 California Residential Code (CRC), and the 2019 California Fire Code (CFC). This information is intended to provide general information, contact the Fire and Life Safety Division (530 620-4445) for any questions or additional information.

New Construction and Additions to Existing Residential Buildings:

In new construction and additions, required smoke alarms and carbon monoxide alarms shall receive their primary power from the permanent building electrical power system (and shall be on the lighting circuit connected within the same room as the smoke alarm). Where two or more smoke alarms or carbon monoxide alarms are required, they shall be interconnected in such a manner that actuation of one shall cause actuation of all detectors in the dwelling unit. (CBC 907.2.11, CRC R314, CRC R315)

All new electrical outlets serving smoke alarms and carbon monoxide alarms shall be on circuits protected with a combination arc-fault circuit interrupter. (2019 CEC 210.12)

Remodeled Residential Buildings:

When a permit is required in the amount of \$ 750 or more for any repair, alterations, or addition - smoke alarms and carbon monoxide alarms shall be installed in accordance with the following location and maintenance provisions in Table 1. Smoke alarms may be battery operated in areas of the dwelling where no construction is taking place. Combination smoke and carbon monoxide alarms may be used in lieu of smoke alarms. (CBC 907.2.11, CRC 314, CRC 315)

Existing dwellings that have attached garages or fuel-burning appliances shall have carbon monoxide alarms installed outside of each separate sleeping area in the immediate vicinity of the bedroom(s) and on every level of a dwelling including basements



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Table 1: Rooms/Spaces that Require Smoke Alarms and Carbon Monoxide Alarms

Room / Space	Smoke Alarm Required? (CBC 907.2 and CRC 314)	Carbon Monoxide Alarm Required? (CBC 907.2 and CRC 315)
Outside of each separate sleeping area in the immediate vicinity of bedrooms (i.e. hallway)	Yes	Yes
In each sleeping room	Yes	No
In each story within a dwelling unit, including basements.	Yes	Yes
In enclosed common stairwells of apartment complexes and other multiple dwelling complexes	Yes	No
In a group R-3.1 (i.e., adult residential facilities), in addition to the above, smoke alarms shall be provided throughout the habitable areas of the dwelling unit except kitchens	Yes	No

Smoke Alarm and Carbon Monoxide Alarm Specific Location Requirements:

Smoke alarms shall be installed on the ceiling or wall between 4” and 12” of the ceiling.

Smoke alarms shall be installed a minimum of 20 feet horizontal distance from a permanently installed cooking appliance.

Smoke alarms shall not be installed within 3 feet horizontal path from the supply registers of a forced air heating or cooling system or ceiling suspended (paddle) fan and shall be installed outside of the direct airflow from those registers or fans.

Smoke alarms shall be installed not less than 3 feet horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by the code.

Carbon monoxide alarms shall be installed in accordance with the manufacturers published instructions.

Smoke Alarm Batteries and Replacement: Smoke alarms that no longer function shall be replaced. Smoke alarms shall be replaced after 10 years of use. Conventional ionization smoke alarms that are solely battery powered shall be equipped with a 10-year battery and have a silence feature. (CBC 907.2.11.2, CRC 314, CRC 315)