



**COUNTY OF ALAMEDA,  
PUBLIC WORKS AGENCY,  
BUILDING INSPECTION  
DEPARTMENT**

399 Elmhurst Street, Hayward, CA 94544  
(510) 670-5440, Fax (510) 293-0960  
<https://www.acpwa.org/permits/building-inspections/index.page?>

**CARBON MONOXIDE & SMOKE  
ALARM REQUIREMENTS – 2022  
CALIFORNIA RESIDENTIAL CODE  
RESIDENTIAL BUILDINGS – ONE &  
TWO DWELLING UNITS**

**BACKGROUND**

The 2010 Senate Bill No. 183 amended the Health & Safety Code Section 17926, to require property owners for all existing single-family dwelling units to install a carbon monoxide device on or before July 1, 2011. The same requirements will apply to all other existing dwelling units (condos or apartments) on or before January 1, 2013.

The adopted 2022 California Residential Code (Effective date: January 1, 2023) also requires Carbon Monoxide device to be installed when a building permit is issued for work exceeding \$1,000. This is in addition to smoke detector requirements in dwelling units that have been in Building Codes for many years.

This brochure is intended to provide basic information for both Smoke & Carbon Monoxide Alarms according to the adopted 2022 CRC.

**SMOKE ALARMS - CRC R314**

1. **Alterations, Repairs, and Additions.** Smoke alarms are required for all dwelling units intended for human occupancy for a permit for alterations, repairs, or additions, exceeding \$1,000. When a sleeping room is added or created, the dwelling unit shall be equipped with smoke alarms as required for new dwellings.
2. **Alarm Locations.**
  - a. In each sleeping room.
  - b. Outside each separated sleeping area in the immediate vicinity of the bedrooms.
  - c. On each additional story, including basements, habitable attics, and split levels.
3. **Power Source.** Smoke alarms shall receive their primary power from the building wiring and battery backup.

Battery only operated alarm may apply to work in existing dwelling units where repairs or alterations do not result in the removal of wall and ceiling finishes or there is no access by means of attic, basement or crawl space.
4. **Interconnection.** Where more than one smoke alarm is required, the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the unit.

Interconnection is not required where battery only operated alarms are allowed.
5. **Alarm Requirements.** All smoke alarms shall be listed as complying with UL217 and NFPA 72 as approved by the State Fire Marshal. Alarms shall be installed according to manufacturer's installation instructions.

**CARBON MONOXIDE ALARMS - CRC R315**

*Residential CO & Smoke Alarms (2022 CBC)*

1. **New Construction.** Carbon monoxide alarm shall be installed for units within which fuel-burning appliances are installed and in units with attached garages. New construction work includes new dwelling units, additions, repairs, and alterations to existing dwelling units.

The primary power supply shall be directly connected to the permanent building wiring with battery back-up. Interconnection is required when more than one carbon monoxide alarms are installed.

Battery only operated alarm may apply to work in existing dwelling units where repairs or alterations do not result in the removal of wall and ceiling finishes or there is no access by means of attic, basement or crawl space.
2. **Existing Dwellings.** Where a permit is required for alterations, repairs or additions exceeding \$1,000, existing dwellings or sleeping units that have attached garages or fuel-burning appliances shall be provided with a carbon monoxide alarm.
3. **Alarm Requirements.** Carbon monoxide alarms shall be listed as complying with UL2034. Carbon monoxide detectors shall be listed as complying with UL2075. Alarms & detectors shall be on the approved listing and installed according to manufacturer's installation instructions.
4. **Alarm Locations.**
  - a. Outside of each separate dwelling unit sleeping area in the immediate vicinity of bedrooms.
  - b. On every level of a dwelling unit including basements.
5. **Multiple-Purpose Alarms.** Carbon monoxide alarms combined with smoke alarms shall comply with all applicable standards, and requirements for listing and approval by the State Fire Marshal for smoke alarms.

**FOR EXISTING BUILDINGS**

The Health & Safety Code Section 17926 and 13113 requires property owners to install and maintain carbon monoxide and smoke alarms for all existing dwelling units. Therefore, to streamline the permit and inspection processes, the permittees (or contractors) and property owners are responsible for the installation of carbon monoxide and smoke alarms according to proper code provisions where work is limited to the following permits issued by the Alameda County Building Department:

1. Re-Roofs.
2. Replace Water Heaters only.
3. Electrical Service Upgrade.
4. Outdoor PV systems.
5. Retrofit windows.
6. Replace HVAC only.
7. Detached accessory structures.
8. Outdoor siding or stucco work.
9. Outdoor swimming pool or hot tubs.
10. Outdoor decks, trellis, retaining walls, drainage or similar work.
11. Any other work considered by the department as minor repair/alteration work in nature.

Exempt from County Building Inspections for Smoke & Carbon Monoxide Alarms shall not be deemed to grant authorization for any work to be done in any manner in violation of the Building Codes or any other laws or ordinances.

**CODES**

Effective As of: January 1, 2023

2022 California Building Standards Code:

- 2022 California Building Code (T24, Part 2).
- 2022 California Residential Code (T24, Part 2.5).
- 2022 California Electrical Code (T24, Part 3).
- 2022 California Mechanical Code (T24, Part 4).
- 2022 California Plumbing Code (T24, Part 5).
- 2022 California Energy Code (T24, Part 6).
- 2022 California Historical Code (T24, Part 8).
- 2022 California Existing Building Code (T24, Part 10).
- 2022 California Green Building Code (T24, Part 11).
- *Alameda County Building Ordinance: The Adoption and Amendments of California Building Standards Code.*



GUIDELINE

**Carbon Monoxide & Smoke Alarm Requirements for Residential Dwellings**

**2022 California Residential Code**

**IN UNINCORPORATED ALAMEDA COUNTY**

**IMPORTANT, PLEASE READ!!**

*This brochure provides basic requirements for residential Carbon Monoxide & Smoke Alarms according to 2019 California Residential Code. Please refer to the code language for detailed requirements.*



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