



# Smoke Alarms in Residential Construction

LAND MANAGEMENT DIVISION 125 E 8<sup>th</sup> AVENUE, EUGENE OR 97401

## Summary:

Smoke alarms are required in residential construction in accordance with the 2011 Oregon Residential Code.

## Applicability:

Smoke alarms are required for the following:

- 1) New one- and two-dwelling units
- 2) Existing dwelling units when alterations, repairs or additions requiring a permit occur, or when one or more sleeping rooms are added or created.

Exceptions: Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck, do not trigger the requirements for smoke alarms in the affected dwelling.

## Standards:

Smoke alarms must carry the appropriate listing and be installed in accordance with the manufacturer's installation instructions. Smoke alarms shall be hard-wired with battery backup. When more than one smoke alarm is required to be installed within an individual dwelling unit based on the location requirements below, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit.

Exceptions: Smoke alarms shall be permitted to be battery operated when installed in buildings not powered by a utility;

Interconnection and hard-wiring of smoke alarms in existing areas shall not be required where the alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure.

Smoke alarms shall be installed in the following locations:

- 1) In each sleeping room.
- 2) Outside each separate sleeping area in the immediate vicinity of the bedrooms.
- 3) On each additional story of the dwelling, including basements but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

Required smoke alarms shall not be located within kitchens or garages, or in other spaces where temperatures can fall below 40° F. Ionization smoke alarms shall not be located closer than 3 feet horizontally from the following:

- 1) The door to a kitchen.
- 2) The door to a bathroom containing a tub or shower.
- 3) The supply registers of a forced air heating or cooling system, outside the airflow from those registers.

A smoke alarm installed within 20 feet (direct linear path) of a cooking appliance shall be a photoelectric type smoke alarm or the alarm shall have an approved alarm silencing means.

LANE CO. SDIRC REV 06-8-11 BDC

## **References:**

- ORS 479.250 – 479.300 (Statutes regarding smoke alarms)
- OAR Chapter 837, Division 45 Smoke Detectors
- 2011 Oregon Residential Specialty Code, Section R314 Smoke Alarms (full text below)

## **For more information on the Web:**

- Oregon Office of State Fire Marshal - [www.oregon.gov/OSP/SFM](http://www.oregon.gov/OSP/SFM)
- National Fire Protection Association - [www.nfpa.org](http://www.nfpa.org)
- Home Safety Council - [homesafetycouncil.org](http://homesafetycouncil.org)
- Consumer Products Safety Commission - [www.cpsc.gov](http://www.cpsc.gov)

## **From the 2011 Oregon Residential Specialty Code:**

**R314.1 Smoke detection and notification.** All smoke alarms shall be listed in accordance with UL 217 and installed in accordance with the provisions of this code or the household fire warning equipment provisions of NFPA 72.

**R314.2 Smoke detection systems.** Household fire alarm systems installed in accordance with NFPA 72 that include smoke alarms, or a combination of smoke detector and audible notification device installed as required by this section for smoke alarms, shall be permitted. The household fire alarm system shall provide the same level of smoke detection and alarm as required by this section for smoke alarms. Where a household fire warning system is installed using a combination of smoke detector and audible notification device(s), it shall become a permanent fixture of the occupancy and owned by the homeowner. The system shall be monitored by an approved supervising station and be maintained in accordance with NFPA 72.

**Exception:** Where smoke alarms are provided meeting the requirements of Section R314.4.

**R314.3 Location.** Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional story of the dwelling, including basements but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

When more than one smoke alarm is required to be installed within an individual dwelling unit the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit.

Required smoke alarms shall not be located within kitchens or garages, or in other spaces where temperatures can fall below 40F (5C). Ionization smoke alarms shall not be located closer than 3 feet (914 mm) horizontally from the following:

1. The door to a kitchen;
2. The door to a bathroom containing a tub or shower;
3. The supply registers of a forced air heating or cooling system, outside the airflow from those registers.

A smoke alarm installed within 20 feet (6096 mm) (direct linear path) of a cooking appliance shall be a photoelectric-type smoke alarm or the alarm shall have an approved alarm silencing means.

**R314.3.1 Alterations, repairs and additions.** When alterations, repairs or additions requiring a structural permit occur, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be equipped with smoke alarms located as required for new dwellings.

**Exceptions:**

Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck, are exempt from the requirements of this section.

**R314.4 Power source.** Smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection. Smoke alarms shall be interconnected.

**Exceptions:**

1. Smoke alarms shall be permitted to be battery operated when installed in buildings without commercial power.
2. Interconnection and hard-wiring of smoke alarms in existing areas shall not be required where the alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure.