

# SMOKE ALARMS



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Fire deaths occur in residential buildings more than in any other building type. Over 2,500 people died and over 11,000 were injured in home fires every year. More than half of all fire deaths in residential buildings occur while the occupants are asleep and are unaware. Death usually results from asphyxiation, long before the fire reaches the occupants. Smoke alarms installed in a home give early warnings of smoke and allow the occupants the critical few moments needed to escape. Everyone should know what a smoke alarm sounds like and practice how to safely escape. An emergency escape plan should include a test of the smoke alarm and a safe place to meet such as a mailbox or sidewalk.

Smoke alarms are required by the Minnesota Building Code in new construction and ***whenever there is a building permit issued for an addition or interior work, including windows and doors replacement, in an existing dwelling unit or townhouse.***

In existing dwellings, any time a building permit is issued for any house construction work, excluding mechanical work, reroofing, residing, or deck addition, smoke alarms must be installed.

Smoke alarms must be installed in each sleeping room, outside of each sleeping area in the immediate vicinity of the bedrooms, and on each story of the dwelling including basements. When framing is exposed, smoke alarms must be hard wired and have a battery backup. Smoke alarms must be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the dwelling unit. Circuits containing smoke alarms are not permitted to have a disconnecting switch other than those required for overcurrent protection. In remodeling areas where framing is not exposed, alarms may be solely battery operated.

*Before calling for a final inspection,* it is your responsibility to ensure that all detectors are properly placed, as they will be checked as a part of that inspection. Permit applicants are responsible for compliance.

## The text from the 2020 Minnesota State Building Code follows:

### R314.1 General.

Smoke alarms shall comply with NFPA 72 and Section R314.

#### R314.1.1 Listings.

Smoke alarms shall be *listed* in accordance with UL 217. Combination smoke and carbon monoxide alarms shall be *listed* in accordance with UL 217 and UL 2034.

### R314.2 Where required.

Smoke alarms shall be provided in accordance with this section.

#### R314.2.1 New construction.

Smoke alarms shall be provided in *dwelling units*.

#### R314.2.2 Alterations, repairs and additions.

An individual *dwelling unit* shall be equipped with smoke alarms located as required for new *dwellings* when:

1. Alterations, repairs (including installation or replacement of windows or doors), or additions requiring a building permit occur; or
2. One or more sleeping rooms are added or created in existing *dwellings*.

#### Exceptions:

- > 1. Work involving the exterior surfaces of *dwellings*, such as the replacement of roofing or siding, or the addition of an open porch or deck, or chimney repairs.
- 2. Installation, alteration, or repairs of plumbing, electrical, or mechanical systems.

### 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* and *habitable attics* and 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.
4. Smoke alarms shall be installed not less than 3 feet (914 mm) 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 this section.

#### R314.3.1 Installation near cooking appliances.

Smoke alarms shall not be installed in the following locations unless this would prevent placement of a smoke alarm in a location required by Section R314.3.

1. Ionization smoke alarms shall not be installed less than 20 feet (6096 mm) horizontally from a permanently installed cooking *appliance*.
2. Ionization smoke alarms with an alarm-silencing switch shall not be installed less than 10 feet (3048 mm) horizontally from a permanently installed cooking *appliance*.
3. Photoelectric smoke alarms shall not be installed less than 6 feet (1828 mm) horizontally from a permanently installed cooking *appliance*.

### R314.4 Interconnection.

Where more than one smoke alarm is required to be installed within an individual *dwelling unit* in accordance with Section R314.3, 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 *dwelling unit*. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.

**Exception:** Interconnection of smoke alarms in existing areas shall not be required where alterations or repairs do not result in removal of interior wall or ceiling finishes exposing the structure.

### R314.5 Combination alarms.

Combination smoke and carbon monoxide alarms shall be permitted to be used in lieu of smoke alarms.

### R314.6 Power source.

Smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and, where 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.

#### Exceptions:

1. Smoke alarms shall be permitted to be battery operated where installed in buildings without commercial power.
2. Smoke alarms installed in existing areas shall be permitted to be battery powered provided any alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure.

In addition to the Building Code requirements for smoke alarms, there is also a state statute passed by the Minnesota Legislature that applies to all dwellings in the state. It is more restrictive than the state building code because it requires **all** dwellings regardless of age and construction activity to have smoke alarms.

The text from the Statute follows:

**Minnesota Statutes 299F.362 SMOKE DETECTOR; INSTALLATION; RULES; PENALTY.**

**Subdivision 1. Definitions.**

For the purposes of this section, the following definitions shall apply:

- (a) "Apartment house" is any building, or portion thereof, which is designed, built, rented, leased, let, or hired out to be occupied, or which is occupied as the home or residence of three or more families living independently of each other and doing their own cooking in the building, and shall include buildings containing three or more flats or apartments.
- (b) "Dwelling" is any building, or any portion thereof, which is not an apartment house, lodging house, or a hotel and which contains one or two "dwelling units" which are, or are intended or designed to be, occupied for living purposes.
- (c) "Dwelling unit" is a single unit providing complete, independent living facilities for one or more persons including permanent provisions for living, sleeping, eating, cooking, and sanitation, or a single unit used by one or more persons for sleeping and sanitation pursuant to a work practice or labor agreement.
- (d) "Hotel" is any building, or portion thereof, containing six or more guest rooms intended or designed to be used, or which are used, rented, or hired out to be occupied, or which are occupied for sleeping purposes by guests.
- (e) "Lodging house" is any building, or portion thereof, containing not more than five guest rooms which are used or are intended to be used for sleeping purposes by guests and where rent is paid in money, goods, labor, or otherwise.

**Subd. 2. Rules, smoke detector location.**

The commissioner of public safety shall promulgate rules concerning the placement of smoke detectors in dwellings, apartment houses, hotels, and lodging houses. The rules shall take into account designs of the guest rooms or dwelling units.

**Subd. 3. Smoke detector for any dwelling.**

Every dwelling unit within a dwelling must be provided with a smoke detector meeting the requirements of the State Fire Code. The detector must be mounted in accordance with the rules regarding smoke detector location adopted under subdivision 2. When actuated, the detector must provide an alarm in the dwelling unit.

**Subd. 3a. Smoke detector for new dwelling.**

In construction of a new dwelling, each smoke detector must be attached to a centralized power source.

**Subd. 4. Smoke detector for apartment, lodging house, or hotel.**

Every dwelling unit within an apartment house and every guest room in a lodging house or hotel used for sleeping purposes must be provided with a smoke detector conforming to the requirements of the State Fire Code. In dwelling units, detectors must be mounted in accordance with the rules regarding smoke detector location adopted under subdivision 2. When actuated, the detector must provide an alarm in the dwelling unit or guest room.

**Subd. 5. Maintenance responsibilities.**

For all occupancies covered by this section where the occupant is not the owner of the dwelling unit or the guest room, the owner is responsible for maintenance of the smoke detectors. An owner may file inspection and maintenance reports with the local fire marshal for establishing evidence of inspection and maintenance of smoke detectors.

**Subd. 5a. Inform owner; no added liability.**

The occupant of a dwelling unit must inform the owner of the dwelling unit of a nonfunctioning smoke detector within 24 hours of discovering that the smoke detector in the dwelling unit is not functioning. If the occupant fails to inform the owner under this subdivision, the occupant's liability for damages is not greater than it otherwise would be.

**Subd. 6. Penalties.**

- (a) Any person who violates any provision of this section shall be subject to the same penalty and the enforcement mechanism that is provided for violation of the State Fire Code, as specified in section 299F.011, subdivision 6.
- (b) An occupant who willfully disables a smoke detector or causes it to be nonfunctioning, resulting in damage or injury to persons or property, is guilty of a misdemeanor.