



**Department of Labor and Industry  
Construction Codes and Licensing Division**

443 Lafayette Road N.

St. Paul, MN 55101-2181

Phone: (651) 284-5068 or 1-800-657-3944

TTY: (651) 297-4198 Fax: (651) 284-5749

The State of Minnesota adopts a set of construction standards known as the Minnesota State Building Codes (MSBC). The MSBC contains safety requirements relating to structure, mechanical, plumbing, energy, electrical, elevators, manufactured buildings and life safety.

The information in this brochure is for general reference for residential construction projects. Contact your municipal building official regarding permits and specific code requirements for residential construction within your community.

**To confirm if your contractor is licensed in Minnesota contact the:**

Department of Labor and Industry  
Residential Building Contractors

Phone: (651) 284-5065 or 1-800-657-3944

[www.doli.state.mn.us/contractor.html](http://www.doli.state.mn.us/contractor.html)

E-mail: [DLI.Contractor@state.mn.us](mailto:DLI.Contractor@state.mn.us)

[www.doli.state.mn.us](http://www.doli.state.mn.us)  
[www.mncodes.org](http://www.mncodes.org)

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# SMOKE ALARMS and CARBON MONOXIDE DETECTORS

*Guidelines for placement  
and use of smoke alarms  
and carbon monoxide  
detectors.*



## Why are smoke alarms required?

Fire deaths occur in residential buildings more than in any other building type. 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 an early warning of smoke and give the occupants the critical few moments needed to escape.

To address the loss of life in residential buildings, the Minnesota State Building Code (MSBC) has requirements for the installation of smoke alarms in a home.

In general, the code requires that smoke alarms be provided on each floor of a dwelling and in the corridor giving access to bedrooms and in bedrooms. Alarms in new construction must receive their power from the building wiring and have a battery backup in the event of electrical power loss. During remodeling, where connection to the building wiring is difficult to achieve, battery-operated alarms may be used. (Refer to International Residential Code, Section R317.1.1.)

An important feature of the requirement for alarms being connected into the building's electrical wiring is there must be no disconnecting means other than the primary over current protection (fuse or circuit breaker). Alarms must be wired directly into the building's wiring system and no switches, plugs or mechanical disconnects are permitted between the electric service panel and the alarm.

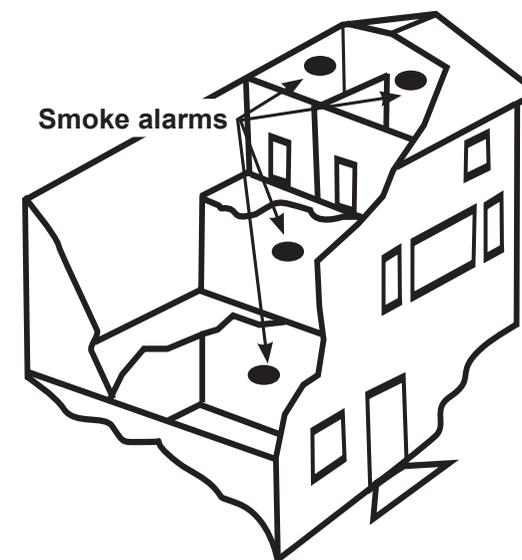
## Specific code requirements

### General

Dwelling units, congregate residences and hotel or lodging guests rooms that are used for sleeping purposes must be provided with smoke alarms. Alarms must be installed in accordance with the approved manufacturer's instructions.

### Power source

In new construction, the required smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source. When primary power is interrupted, smoke alarms 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 permitted to be battery operated when installed in buildings without commercial power or in buildings that undergo alterations, repairs or additions regulated by Section R317.1.1.



## Location within a dwelling unit

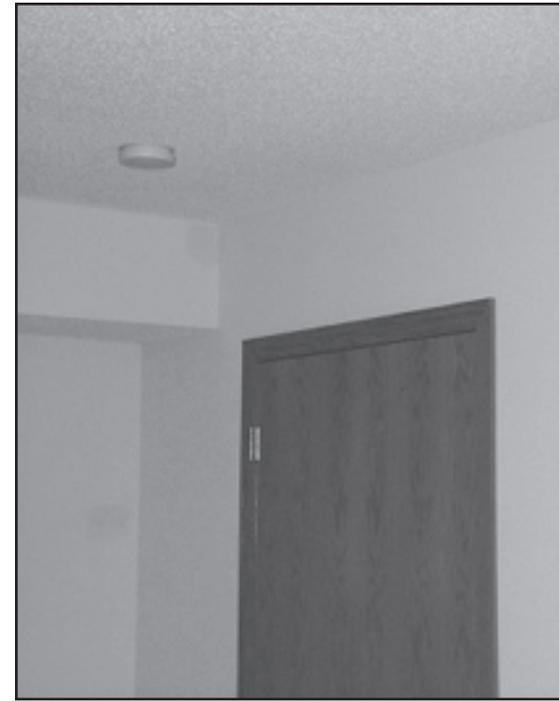
### R317.1 Single- and multiple-station smoke alarms

Single- and multiple-station smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside of each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional story of the dwelling, including basements and cellars, 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 so the actuation of one alarm will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

All smoke alarms shall be listed and installed in accordance with the provisions of this code and the household fire warning equipment provisions of NFPA 72.



## Plan ahead

Everyone in the residence should know what the alarm sounds like and know what to do in a case of a fire. A smoke detector is just one part of an emergency escape safety plan, especially if a fire occurs in the middle of the night and no lights are available to aid escape.

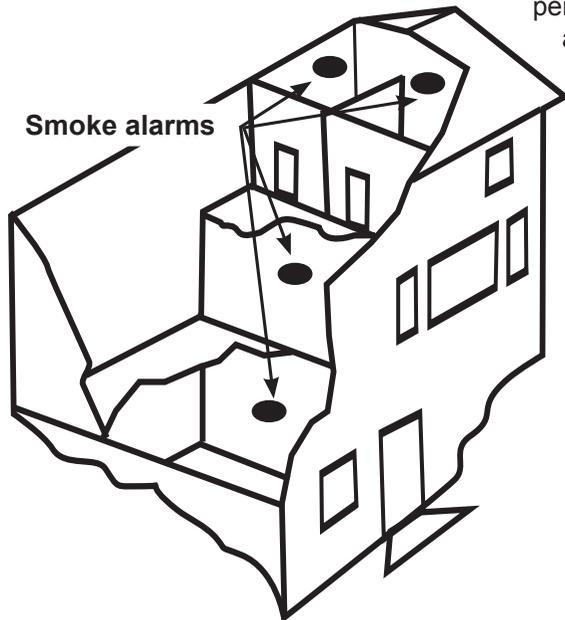


### R317.1.1 Alterations, repairs or additions

When interior alterations, repairs or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be provided with smoke alarms located as required for new dwellings; the smoke alarms shall be interconnected and hardwired.

#### Exceptions:

1. Smoke alarms in existing areas shall not be required to be interconnected and hardwired where the alterations or repairs do not result in the removal of the interior wall or ceiling finishes exposing the structure, unless there is a crawl space or basement available which could provide access for hardwiring and interconnection without the removal of interior finishes.
2. Work on the exterior which does not require entry into the interior for inspection.



### New carbon monoxide law effective January 2007



The 2006 legislative session resulted in a new law that requires carbon monoxide detectors to be placed in new and existing residential structures. The requirement can be found in Minnesota Statutes 299F.50.

The Department of Public Safety, State Fire Marshal Division, has responsibility for this statute and has posted a statement on its Web site that explains the new requirement. This new requirement will affect all new single-family homes and multi-family dwelling units built in Minnesota where building permits are obtained after Jan. 1, 2007. The law will also require existing single-family homes to comply by Aug. 1, 2008, and existing multi-family dwellings and apartment units by Aug. 1, 2009.

Further information about the requirements is online at [www.fire.state.mn.us/FireCode/COAlarmInfoSheet.pdf](http://www.fire.state.mn.us/FireCode/COAlarmInfoSheet.pdf) or call the State Fire Marshal Division at (651) 201-7200.