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SMOKE ALARMS

This handout is intended only as a guide and is based in part on the 2020 Minnesota State Building Code, the 2020 Minnesota State Fire code and the City of Owatonna ordinances, and good building practice. While every attempt has been made to ensure the correctness of this handout, no guarantees are made to its accuracy or completeness. Responsibility for compliance with applicable codes and ordinances falls on the owner or contractor. For specific questions regarding code requirements, refer to the applicable codes or contact your local Building Department.

New Construction [R314.2.1](#)

In newly constructed dwellings, 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. 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. Smoke alarms must receive their primary power from the building wiring but must have a battery backup. [R314.6](#)

Circuits containing smoke alarms are not permitted to have a disconnecting switch other than those required for over current protection.

Remodeled or Altered Dwellings [R314.2.2](#)

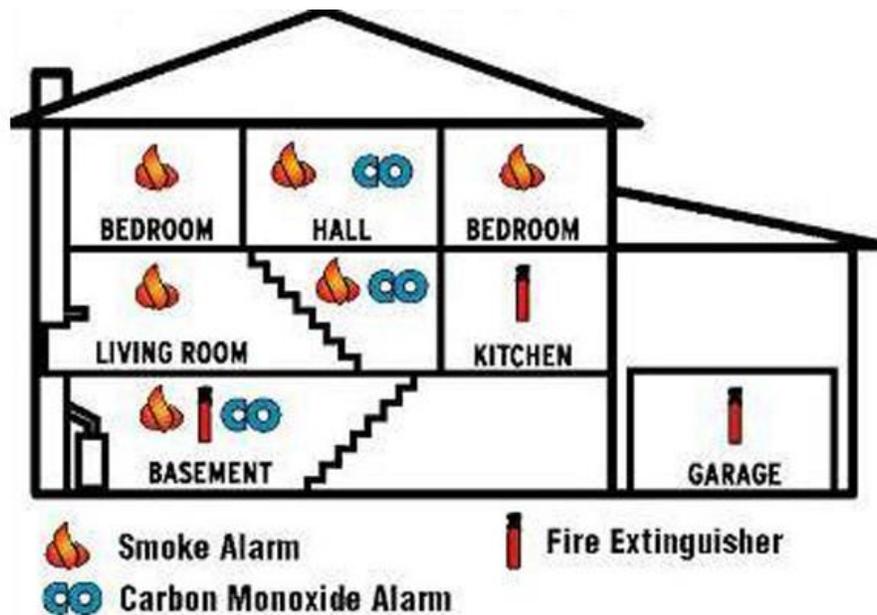
Smoke alarms must be installed in existing dwellings to meet the requirements for new dwellings whenever *interior* alterations, repairs or additions requiring a permit occur or when one or more bedrooms are added. The alarms are required to be hardwired and interconnected and equipped with a battery backup. However, in existing portions of the building, alarms can be solely battery operated where the work does not involve removal of wall or ceiling finishes. [R314.6](#)

Combination smoke and carbon monoxide detectors shall be permitted to be installed in fire alarm systems in lieu of smoke detectors, provided that they are *listed* in accordance with UL 268 and UL 2075. [R314.7.4](#) (See also Carbon Monoxide Alarms) [R315](#)

Interconnection: [R314.4](#)

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.



Good Building Practices:

Protect yourself and your family.

Install smoke alarms- it's the law. Minnesota Fire Code requires that every home have working smoke alarms.

Smoke alarms save lives

Most fatal fires occur at night when people are asleep. Often, victims never wake up. A working smoke alarm will detect smoke and sound an alarm to alert you, giving you precious time to escape.

Buying the best alarm

There are many types of smoke alarms, each with different features. Alarms can be electrically connected, battery powered or a combination of both. This combination – and a pause feature to reduce nuisance alarms- is highly recommended.

One smoke alarm is not enough

Install smoke alarms on every level of your home and near sleeping areas inside each bedroom.

Where to install smoke alarms.

Because smoke rises, you should place alarms on the ceiling. If you cannot do this, place them high up on a wall according to manufacturer's instructions. **Most importantly, read the installation instructions that come with the alarm.**

There are certain locations to avoid such as near bathrooms, florescence lights, heating appliances, windows, or close to ceiling fans. Don't place smoke alarms in kitchens, bathrooms, furnace rooms, workshops, garages, or in other spaces where temperatures can fall below 32 F, or exceed 100 F. These areas are subject to fumes, steam, dust and smoke, which can generate false alarms and contaminate the alarm. Do not install alarms where air movement can delay the alarm. This means they should be away from windows and at least 3 ft. from warm or cold air ducts or return ducts. Also, don't install them between an air return and a bedroom door.

Don't place alarms where it is inconvenient or unsafe to test them, like in tall foyers or high over a stairway.

If smoke alarms are placed in a room with sloped ceilings, the alarm should be located on the high side of the ceiling. A smoke alarm installed in a stairwell must be so located as to ensure that smoke rising in the stairwell cannot be prevented from reaching the alarm by an intervening door or obstruction. A smoke alarm installed to detect a fire in the basement shall be located in close proximity to the stairway leading to the floor above. Smoke alarms should be mounted on the ceiling at least 4 inches from a wall or on a wall with the top of the alarm not less than 4 inches or more than 12 inches, below the ceiling. Smoke alarms should not be located within 3 feet of supply registers of a forced air heating or cooling systems and doors to a kitchen or bathroom with tub or shower.

Test your smoke alarm regularly.

Every month, test your smoke alarms using the alarm test button. Once a year, use a smoke test by blowing out a match and letting the smoke roll over the alarm.

Change your clock, change your battery.

Install a new battery of the proper type at least once a year. If the low battery warning beeps, replace the battery immediately. We change our clocks each spring and fall so this is a good time to change your smoke alarm batteries too.

Gently vacuum alarm every six months.

Dust can clog a smoke alarm, so carefully vacuum the inside of a battery-powered unit using the soft bristle brush. If electrically connected, shut off the power and vacuum the outside vents only. Restore power and test unit when finished.

Smoke alarms don't last forever.

Smoke alarms do wear out, so if you think your alarms are more than 10 years old, replace them with new ones. Why not replace them with long-life smoke alarms that will eliminate the need for annual battery replacement and the potential hazard of dead batteries for up to 10 years

Plan your escape.

Make sure that everyone knows the sound of the smoke alarm and what to do if a fire occurs. Regularly practice your home fire escape plan. Know two ways out of every room and have a pre-arranged meeting place outside. Once out, stay out and call the fire department from a neighbor's home.

