



DENVER
THE MILE HIGH CITY

CITY AND COUNTY OF DENVER
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Home Fire Safety

Maintaining and Using Home Smoke Alarms, Fire Extinguishers and Carbon Monoxide Alarms

In 2009, the State of Colorado and City and County of Denver passed ordinances requiring Carbon Monoxide (CO) alarms in residences—a new facet added to governmental requirements for home safety.

This document outlines the requirements for smoke alarms, fire extinguishers, and CO alarms and explains your responsibilities for home fire safety.

Background

According to the National Fire Protection Association (NFPA), more than 80 percent of all civilian fire deaths are the result of home structure fires, and **kitchens** are the leading area of origin for these fires.

Functioning smoke alarms and portable fire extinguishers have proven effective in reducing the risk of death in home fires. Denver's Fire Code has specific requirements for the inspection and testing of this equipment.

According to the NFPA, 24 of every 25 households surveyed in 2008 had at least one smoke alarm—but households with smoke alarms that **don't work** greatly outnumber the households with no alarms. Almost two-thirds of home fire deaths resulted from fires in properties that lacked a functioning smoke alarm. When a smoke alarm fails to operate, it is usually because its batteries are missing, disconnected, or dead.

Any home maintenance program must include smoke alarm, portable fire extinguisher, and carbon monoxide alarm maintenance.

Smoke Alarms

Although most homes have at least one smoke alarm, many homes do not have a unit on every floor. Smoke alarms are required, as described below. It's easy to forget that a smoke alarm's sole function is to sound the warning. Develop and practice an escape plan so that if the alarm sounds, your family can get out quickly.

Requirements and Positioning:

- Smoke detectors are required in every residential unit that includes a sleeping room, including single-family homes.
- Every multi-family residential facility is required to have smoke detection, whether battery operated or hard-wired with battery backup.
- Smoke detectors are required in every bedroom, outside each sleeping area, and on every level.

Maintenance:

- Recommended: Test smoke alarms monthly.
- Required: Denver Fire Code requires that you have your smoke alarms inspected and tested every six months. You may hire someone to do this, you may do it yourself or, if you live in a multi-family residential facility, your management may take care of this. It is required that the batteries (primary and back-up power) be changed at that time.
- Required: As the homeowner, you must fill out a **Residential Fire Safety Equipment Report** and submit it to the property management or homeowners association every six months, unless the management is doing the maintenance for you. Download the form at denvergov.org/fire_prevention.
- Smoke alarms have a life of approximately 10 years and must then be replaced per manufacturer's recommendations.

Portable Fire Extinguishers

Portable fire extinguishers are a first line of defense against fires of limited size. They are needed even if the property is equipped with automatic fire sprinklers.

Requirements and Placement:

- Required: Every home must have one or more portable fire extinguishers.
- Required: Every multi-family residential facility must have one or more portable fire extinguishers, regardless of any other type of fire protection provided.
- For multi-family residential properties, portable fire extinguishers must be mounted within the interior egress corridors when the facility has such corridors, and mounted on the exterior of the building adjacent to exit stairways.
- In both situations, the portable fire extinguishers must be located within 75 feet line of travel of all areas of the living unit; or one 2A:10BC portable fire extinguisher located within each living unit.

Maintenance:

- Recommended: Give your portable fire extinguisher(s) a quick check every 30 days. This is a task you can easily do by answering three questions:
 - Is the extinguisher in the right location?
 - Is the extinguisher visible and accessible?
 - Does the gauge or pressure indicator show the correct pressure?
- Required: Denver Fire Code requires that you have your

portable fire extinguishers inspected and maintained annually. This is a thorough examination of the extinguisher's mechanical parts, fire extinguishing agent and expellant gas. A fire extinguisher professional licensed by the Denver Fire Department is the ideal person to perform this annual maintenance because this person has the appropriate servicing manuals, tools, recharge materials, parts, and lubricants as well as the necessary training and experience.

If you discover a fire in your home . . .

ACTIVATE the building fire alarm system or notify the Fire Department (call 911 or have someone else do this for you).

ASSIST any person in immediate danger, or those incapable of exiting the building on their own, without risk to yourself.

Only after these two steps have been completed should you attempt to extinguish the fire.

Only fight a fire with a portable fire extinguisher:

- If the fire is small and contained
- If you are safe from toxic smoke
- If you have a means of escape
- If your instincts tell you it is okay to do this

It is a good idea to practice picking up and holding a portable fire extinguisher to get an idea of its weight and feel.

Take time to read the operating instructions and warnings on the fire extinguisher's label.

Practice releasing the discharge hose or horn and aiming it at the base of an imagined fire. Do not pull the pin or squeeze the lever—this will break the extinguisher seal and cause it to lose pressure.

Like any mechanical device, a portable fire extinguisher must be maintained on a regular basis to insure proper operation. The owner or occupant where the extinguisher(s) is/are located is responsible for the fire extinguisher's maintenance.

Carbon Monoxide (CO) Alarms

Carbon monoxide (CO) is produced when any fuel is incompletely burned because of insufficient oxygen. Wood fires and charcoal grills produce large amounts of carbon monoxide, as do malfunctioning heating systems.

Carbon monoxide combines with hemoglobin, the oxygen-carrying agent in red blood cells. When oxygen is robbed from the brain and other organs, death can result. In addition, up to 40% of survivors of severe CO poisoning develop memory impairment and other serious illnesses. Many cases of reported CO poisoning indicate that victims are aware that they are not well but become so disoriented that they are unable to save themselves.

Carbon monoxide is colorless and odorless. There is only one safe and reliable way to detect carbon monoxide in your home—**install a carbon monoxide alarm.**

Requirements:

- **State of Colorado and City and County of Denver requirement:** Every residence with fuel-burning appliances or an attached garage must be equipped with at least one UL-listed carbon monoxide alarm.

Placement:

- State of Colorado and City and County of Denver laws require carbon monoxide alarms in the following locations:
 - One alarm within 15 feet of each bedroom entry door
 - One alarm on each level of a multi-level dwelling unit
 - One alarm within each bedroom containing a fuel-burning appliance
 - Where a fuel-burning appliance(s) serve(s) multiple residences, one CO alarm within the enclosure housing the appliance(s), placed within 25 feet of the appliance(s). The carbon monoxide alarm must be integrated with the base building fire alarm system. (Requires a City and County of Denver permit.)
- For existing properties where a fuel-burning appliance does not serve multiple residences, the installation of battery-powered, 115-volt plug-in or 115-volt hard-wired alarm or combination 115-volt and batter-powered carbon monoxide alarm and smoke alarm may be installed. For new construction, a 115-volt hard-wired carbon monoxide alarm with battery backup or 115-volt combination carbon monoxide alarm and smoke alarm must be installed under City and County of Denver permit.
- Do not install carbon monoxide alarms directly above or beside fuel-burning appliances, as these appliances may emit a small amount of CO upon startup.
- Do not install CO alarms within 15 feet of heating or cooking appliances or in or near very humid areas such as bathrooms. Carbon monoxide will rise with the warmer air, so the CO alarm may be mounted on the ceiling.
- Recommended placement may vary by manufacturer based on research conducted and the listing obtained for the device, so be sure to read the installation manual for each carbon monoxide alarm before installing it.

CO Detector Maintenance (same as for smoke alarms):

- Recommended: Test CO alarms monthly.
- Required: Denver Fire Code requires that you have your CO alarms inspected and tested every six months. You may hire someone to do this, you may do it yourself or, if you live in a multi-family residential facility, your management may take care of this. It is required that the batteries be changed at that time.
- CO alarms have a life of approximately 7 years and must then be replaced per manufacturer's recommendations.

Residential Fire Safety Equipment Report

As a homeowner / tenant in a multi-tenant residential facility, you are required to complete a **Residential Fire Safety Equipment Report** every six months and submit it to the property management or homeowners' association (HOA), unless the management is doing the required maintenance for you. Download the form at denvergov.org/fire_prevention.

We recommend that you test your smoke and CO alarms once a month in accordance with national standards, or more frequently if the manufacturer's instructions require it, and change your batteries every six months. **Change your batteries and complete the Residential Fire Safety Equipment Report in the spring and fall—same time you change the clocks for Daylight Saving Time.**

On March 25, 2009, Governor Bill Ritter signed into law Colorado House Bill 1091 requiring the installation of carbon monoxide alarms in residential properties. This bill is called the Lofgren and Johnson Families Carbon Monoxide Safety Act.

Frequently Asked Questions - House Bill 09-1091- Concerning a requirement that Carbon Monoxide Alarm Be Installed in Residential Properties

Why is this new law required?

To provide the immediate preservation of the public peace, health, and safety in residential properties. The act is named after Parker, Caroline, Owen, and Sophie Lofgren and Lauren Johnson, all of whom died as a result of carbon monoxide poisoning. The full text of the law can be found at:

http://www.leg.state.co.us/clics/clics2009a/csl.nsf/fsbillcont3/8CA7AA87F3BED22D8725753700718548?open&file=1091_enr.pdf. More information about the health effects of carbon monoxide can be found at:

<http://www.cdphe.state.co.us/dc/ehs/index.html>

When does this law take effect?

This law will take effect on July 1, 2009.

What does this new law do? – A Summary

- This law requires homeowners and owners of rental property to install carbon monoxide alarms near the bedrooms (or other room lawfully used for sleeping purposes) in every home that is heated with fossil fuel, has a fuel-fired appliance, has a fireplace, or has an attached garage.
- This requirement applies to every home that is sold, remodeled, repaired, or leased to a new tenant after July 1, 2009.
- This law also protects a property owner, an authorized agent of a property owner, or anyone who installs a carbon monoxide detector from any potential future liability (or damages) resulting from the operation, maintenance, or effectiveness of the detector, so long as the detector was installed according to the manufacturer's instructions and in accordance with this law.
- This law also protects persons holding real estate licenses pursuant to Article 61 of Title 12, C.R.S from any damages, claimed by a purchaser, and related to the operation, maintenance, or effectiveness of a carbon monoxide alarm if such licensed person complies with the rules set forth in this law.
- This law does not limit a municipality, city, home rule city and county, or other local government entity from adopting or enforcing any requirements regarding carbon monoxide alarms that are more stringent (or protective) than the requirements of this law

What type of home does this law apply to?

- This law applies to:
 - Single-family homes: Property used or intended to be used as a residence that contains one dwelling unit
 - Multi-family homes (including condominiums and cooperatives): Property used or intended to be used as a residence that contains more than one dwelling unit
 - Homes that are owned by the residents, and
 - Homes used for rental purposes, AND
- This law applies to homes that have either
 - A fuel-fired heater or appliance (fuel includes coal, kerosene, oil, gas, and wood),
 - A fireplace, or
 - An attached garage

Does this law apply to commercial buildings?

No, this law does not apply to commercial buildings.

What is a carbon monoxide alarm?

Carbon monoxide alarm may be similar in size and shape to a smoke detector. A carbon monoxide alarm constantly samples the air, monitors for the presence of carbon monoxide, and sounds an alarm when carbon monoxide is detected at dangerous levels.

How should carbon monoxide alarms be installed?

According to this law, carbon monoxide alarms must be installed in one of the following ways:

- Wired directly into the home's electrical system
- Directly plugged into an electrical outlet (does not require a switch other than a circuit breaker)
- Any battery powered alarm can be attached to the wall or ceiling of the home.
 - Alarms installed in this manner must comply with the National Fire Protection Association standard 720, or any successor standard for the operation and installation of carbon monoxide alarms.

Where should carbon monoxide alarms be installed?

This law requires that an operational carbon monoxide alarm be installed within 15 feet of the entrance to each bedroom (or other room lawfully used for sleeping purposes), or in any location otherwise specified by a state or local building code.

How does this law affect those who live in single-family homes after July 1, 2009?

- *For any home offered for sale or transfer*, this law requires that an operational carbon monoxide alarm be installed within 15 feet of the entrance to each bedroom (or other room lawfully used for sleeping purposes), or in any location otherwise specified by a state or local building code. This requirement must be included in the listing contract
- *For any home where a building permit is required to address interior alterations, repairs, addition of bedrooms, or the addition or replacement of fuel-fired appliances*, this law requires that an operational carbon monoxide alarm be installed within 15 feet of the entrance to each bedroom (or other room lawfully used for sleeping purposes), or in any location otherwise specified by a state or local building code.
- No person shall remove batteries from, or render inoperable, a carbon monoxide alarm except as part of the inspection, maintenance, repair, or replacement process.

How does this law affect those who live in multi-family homes after July 1, 2009?

- *For every home within a multi-family dwelling offered for sale or transfer*, this law requires that an operational carbon monoxide alarm be installed within 15 feet of the entrance to each bedroom (or other room lawfully used for sleeping purposes), or in any location otherwise specified by a state or local building code. This requirement must be included in the listing contract
- *For every home where a building permit is required to address interior alterations, repairs, addition of bedrooms, or the addition or replacement of fuel-fired appliances*, this law requires that an operational carbon monoxide alarm be installed within 15 feet of the entrance to each bedroom (or other room lawfully used for sleeping purposes), or in any location otherwise specified by a state or local building code.
- No person shall remove batteries from, or render inoperable, a carbon monoxide alarm except as part of the inspection, maintenance, repair, or replacement process.

How does this law affect owners of rental property after July 1, 2009?

- *For any home, or single family unit in a multi-family dwelling, used for rental purposes*, this law requires that an operational carbon monoxide alarm be installed within 15 feet of the entrance to each bedroom (or other room lawfully used for sleeping purposes), or in any location otherwise specified by a state or local building code.

- **Exception** – so long as there is a centralized alarm system or other mechanism for a responsible person to hear the alarm at all times, a multi-family home may have carbon monoxide alarms installed within 25 feet of any fuel-fired heater or appliance, fireplace, garage, or in a location as specified in any state or local building code.
- *For all existing tenants and prior to the commencement of a new tenant, the owner is required to:*
 - Replace any carbon monoxide alarm that was stolen, removed, found missing, or is not operational prior to the new tenant moving in.
 - Ensure that any necessary batteries are provided to the new tenant at the beginning of his or her tenancy.
 - Replace any carbon monoxide alarm that has been stolen, removed, missing, or found non-operational during the tenant's occupancy so long as the tenant notifies the owner, or the owner's authorized agent, in writing.
 - Fix any deficiency in a carbon monoxide alarm so long as the tenant notifies the owner, or the owner's authorized agent, in writing.
 - Other than the above listed requirements, the owner is not responsible for the maintenance, repair, or replacement for the carbon monoxide alarm and/or required batteries.

How does this law affect tenants after July 1, 2009?

- The tenant is required to:
 - Keep, test, and maintain all carbon monoxide alarms in good repair
 - Notify the owner, or the owner's authorized agent, in writing if the batteries of any carbon monoxide alarm need to be replaced
 - Notify the owner, or the owner's authorized agent, in writing if any carbon monoxide alarm is stolen, removed, missing, or non-operational
 - Notify the owner, or the owner's authorized agent, in writing of any deficiency in any carbon monoxide alarm that the tenant cannot correct
- No person shall remove batteries from, or render inoperable, a carbon monoxide alarm except as part of the inspection, maintenance, repair, or replacement process.

For more information about this bill or any questions about health effects that could be related to carbon monoxide, please contact Shannon Rossiter, MPH at 303-692-2617, or toll free at 1 (888) 569-1831, extension 2617.