

Carbon Monoxide

Carbon Monoxide (CO) is an invisible, odorless, colorless gas created when fuels (gasoline, wood, coal, natural gas, propane, oil, and methane) burn incompletely. In the home heating and cooking equipment that burn fuel are possible sources of CO. Vehicles or generators running in an attached garage can also produce dangerous levels of CO.

Effects of CO Exposure

CO replaces oxygen in the bloodstream, which leads to suffocation. Mild Exposure-Mild effects include symptoms similar to flu, (headache, nausea and vomiting).

Medium Exposure-More severe symptoms include difficulty breathing, severe headache, drowsiness, confusion and an increased heart rate.

Extreme Exposure-Extreme symptoms can cause unconsciousness, convulsions, cardio-respiratory failure, and death.

527 CMR 31.00 Regulation

In accordance with MGL 148 Section 26 F1/2, The Massachusetts Fire Prevention Code 527 CMR 31.00 regulates the placement of CO detection in dwelling units. Regulations apply "to every dwelling, building or structure occupied in whole or in part for residential purposes, that: (1) contains fossil-fuel burning equipment or (2) incorporates enclosed parking within its structure."

In summary, effective March 31, 2006, the regulation applies to dwellings; buildings or structures occupied in whole or in part for residential purposes that contain fossil fuel burning equipment or has enclosed parking. The owner, landlord or superintendent shall equip these dwelling buildings or structures with working listed carbon monoxide alarms.

Buildings or structures owned or operated by the Commonwealth or any local housing authority are exempt from the requirements of 527 CMR 31.04 until January 1, 2007.

Location

The carbon monoxide alarm shall be located in each level of a dwelling unit including finished basements and cellars but not including crawl spaces and uninhabitable attics. (Check manufacturer's requirements for installation instructions.)

The types of carbon monoxide detectors allowed are:

- Battery operated
- Plug in with battery back up
- Hard wired with battery back up
- Low voltage or wireless
- Combination smoke and carbon monoxide alarms/detectors. (Note that these are required to be photoelectric smoke detectors if located within 20 ft. of a kitchen or bathroom.)

CO Alarms

Select alarms listed by a qualified independent testing laboratory meeting the requirements of IAS/CAS 6.19 or UL 2034.

Install, test, and maintain CO alarms as specified by the manufacturer's instructions.

In compliance with Mass. State Law (527 CMR 31.04), a CO alarm shall be installed in the immediate vicinity of the sleeping area, not to exceed 10 ft. in any direction from any bedroom door.

Call the Boston Fire Department at 911 if your CO alarm sounds.

Replace the battery per the manufacturer's instructions. (The BFD recommends twice a year when you change your clocks).

Alternative Compliance Option

Large buildings with multiple dwelling units that contain minimal or no sources of CO inside the individual units and which will be required to install hard-wired detectors will have until January 1, 2007 to comply. These buildings may provide protection in the following areas of the structure:

- 1) Areas or rooms containing centralized fossil fuel burning equipment such as boiler rooms, hot water heaters, central laundry areas and all adjacent spaces.
- 2) Adjacent spaces of enclosed parking.

The owner of these buildings shall provide written notification to the Head of the Fire Department of the intent to install Carbon Monoxide Alarm Protection under the Alternative Compliance Option by January 1, 2007.

Safety Checklist

CO alarms are not substitutes for smoke alarms. Make sure the dwelling has working smoke alarms that are located in accordance with the minimum required locations. (It is recommended that working smoke detectors be located on every level and directly inside all sleeping rooms).

Make sure CO and Smoke alarms are tested regularly. Know the difference between the sound of smoke alarms and CO alarms. Have an escape plan for emergencies and practice the plan with all members of the dwelling (household) regularly, at least twice a year.

Useful websites:

<http://www.mass.gov/dfs/osfm/fireprevention/cmnr/index.htm>
www.usfa.fema.gov



City of Boston
Thomas M. Menino, *Mayor*

Carbon Monoxide Detectors



Kevin P. MacCurtain
Acting Fire Commissioner/Chief of Department