

SMOKE AND CARBON MONOXIDE ALARMS

Building permit information for one- or two-family dwellings and townhomes.

Existing Dwellings

(R314.2.2 & R315.2.2)

- Smoke alarms must be installed per code in any individual dwelling unit when a building permit is issued for alterations, repairs (including installation or replacement of windows or doors), additions requiring a building permit occur, or when one or more sleeping rooms are added or created.
 - **Exceptions:**
 - Work involving the exterior of dwellings such as the replacement of roofing or siding, or the addition of an open porch or deck, or chimney repairs.
 - Installation, alteration, or repairs of plumbing, electrical, or mechanical systems.
- Carbon monoxide alarms must be installed per code in any individual dwelling unit when a building permit is issued, and the dwelling unit contains a fuel-fired appliance or has an attached garage with an opening that communicates with the dwelling unit.

Locations

(R314.3 & R315.3)

- Smoke alarms shall be installed in the following locations:
 - In each sleeping room.
 - Outside each separate sleeping area in the immediate vicinity of the bedrooms.
 - On each additional story of the dwelling, including basements and habitable attics and not including crawlspaces 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.
- Carbon Monoxide Alarms shall be installed in the following locations:
 - Outside and not more than 10 feet from each separate sleeping area or bedroom. Alarms shall be installed on each level containing sleeping areas or bedrooms.
 - Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.

Power Source

(R314.6)

- Smoke alarms shall receive their primary power from the building wiring (hardwired) and when primary power is interrupted shall receive power from a battery (battery back-up). Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.
 - **Exceptions:**
 - Buildings with no commercial power shall be allowed to be battery operated.
 - Hardwiring of smoke alarms is **NOT** required in existing areas where alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure.

Interconnection

(R314.4 & R315.5)

- Smoke & carbon monoxide alarms shall be interconnected in such a manner that the activation of one alarm will activate all the alarms in the individual dwelling unit where more than one smoke alarm is required to be installed.
 - Physical interconnection of smoke & carbon monoxide alarms is not required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.
 - **Exception:**
 - Interconnection of smoke & carbon monoxide alarms is **NOT** required in existing areas where alterations or repairs do not result in removal of interior wall or ceiling finishes exposing the structure.

Installation

- All installation of smoke alarms and carbon monoxide alarms, including but not limited to the placement of the alarm on a wall or ceiling, shall be done according to the alarm manufacturer's installation instructions.

Detection Systems

(R314.7 & R315.7)

- Fire alarm systems shall be permitted to be used in lieu of smoke alarms and shall comply with the following:
 - Fire alarm system shall comply with the provisions of this code and the household fire warning equipment provisions of the NFPA 72. Smoke detectors shall be listed in accordance with UL 268.
 - Smoke detectors shall be installed in the locations specified in section R314.3.
 - The household fire alarm system shall become a permanent fixture of the occupancy and owned by the homeowner.
 - Combination smoke and carbon monoxide detectors shall be permitted to be installed in fire alarm systems in lieu of smoke detectors, provided they are listed in accordance with UL 268 and UL 2075.
- Carbon monoxide detection systems shall be permitted to be used in lieu of carbon monoxide alarms and shall comply with the following:
 - Carbon monoxide detection system shall comply with NFPA 720. Carbon monoxide detectors shall be listed in accordance with UL 2075.
 - Carbon monoxide detectors shall be installed in the locations specified in section R315.3. These locations supersede the locations specified in NFPA 720.
 - The household carbon monoxide detection system shall become a permanent fixture of the occupancy and owned by the homeowner.
 - Combination carbon monoxide and smoke detectors installed in carbon monoxide detection systems in lieu of carbon monoxide detectors shall be listed in accordance with UL 2075 and UL 268.

The information in this handout is just an overview. See the 2020 Minnesota Residential Code for complete information.