

Montcalm County Department of Building Safety

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Smoke Alarm Requirements

Smoke detection systems have been a part of the building code for many years. These devices have been shown to save lives by providing us with an audible alarm to notify us when smoke may be present in a building. When installed and maintained in accordance with the code and the manufacturer's specifications, these devices will provide an important life saving system in our homes. Smoke detectors/alarms are required in new construction, and in projects that require permits for alterations, additions and repairs with a few exceptions. These requirements are located in the 2015 Michigan Residential Code (MRC), Section R314.

Section R314.1.1 requires smoke alarms to be listed in accordance with UL 217. Combination smoke and carbon monoxide alarms shall be listed in accordance with UL 217 and UL 2034.

In accordance with Section R314.3 of the 2015 MRC, 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 habitable attic areas, but not in uninhabitable attics or crawlspaces. In dwellings with split levels and without intervening doors 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 1 full story below the upper level.

Smoke alarms are required to be installed, as required for new dwellings, in projects requiring a permit and involve alterations, repairs and additions, or when one or more sleeping rooms are added or created in existing dwellings. The exception to this requirement is if the work requiring a building permit involves only the exterior surfaces of the building, such as reroofing, residing, door and window replacement, or porch and deck additions. Work on electrical, plumbing and mechanical systems that require permits are also exempt from the smoke alarm requirements.

Section R314.3.1 has added text to avoid location of smoke alarms near cooking appliances, in an effort to avoid nuisance alarms. Ionization smoke alarms shall not be installed less than 20' horizontally from a permanently installed cooking appliance. Ionization smoke alarms with an alarm silencing switch shall not be installed less than 10' horizontally from a permanently installed cooking appliance. Photoelectric smoke alarms shall not be installed less than 6' horizontally from a permanently installed cooking appliance.

Section R314.4 requires that when more than 1 smoke alarm is required to be installed within an individual dwelling unit, the smoke alarms shall be interconnected so that when one alarm activates, the activation will set off the remainder of the smoke alarms in the dwelling unit too. This section also states that physical interconnection is not required where listed wireless alarms are installed and all alarms sound upon actuation of one alarm.

Section R314.3.3 of the 2015 MRC stipulates that smoke alarm devices shall be listed and installed in accordance with the manufacturer's installation requirements, the provisions of the code and the provisions of NFPA 72 as listed in Chapter 44. This section also lists requirements for the power source. Smoke alarms are required to receive their primary source of power from the building wiring when such wiring is served from a commercial source of power, and when the primary power is interrupted a battery back is required to power the system. The wiring is required to be permanent and without a disconnecting switch to interrupt the power (with exception of the over-current protection). As with many code sections, there are a couple exceptions to the power requirements. Smoke alarms are allowed to be battery operated when installed in buildings without commercial power.

Section R314.5 allows the use of combination smoke and carbon monoxide alarms to be used in lieu of smoke alarms.

Section R314.7.4 allows the use of combination smoke and carbon monoxide detectors to be installed in fire alarm systems in lieu of smoke detectors provided they are listed in accordance with UL 268 and UL 2075.

Smoke alarms can save lives, but only when installed and maintained correctly. It is the responsibility of the owner, or a renter in a rental property, to maintain and test the smoke alarms in accordance with the smoke alarm manufacturer's instructions. Batteries should be checked annually, and changed when no longer able to provide the necessary backup power to operate the unit in the event that the primary power source is interrupted. Smoke alarms have expiration dates. The typical life of a smoke alarm is 10 years. Replace your old smoke alarms with new ones if yours are outdated. Protect yourself, protect your family,. Make sure that you have smoke alarms located throughout your home. The life the smoke alarm saves may be yours!