

Residential Smoke Alarms

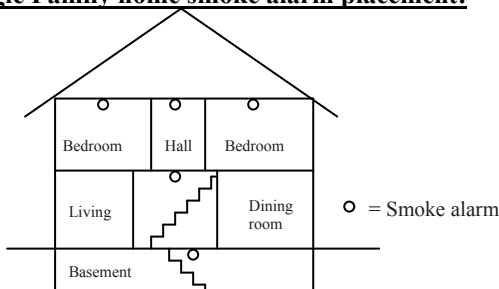
Revised April 2009

Installation in existing homes

Smoke detector placement in sleeping room

- Smoke alarms must be mounted on the ceiling at least four inches from a wall or on a wall with the top of the detector not less than four inches, or more than 12 inches, below the ceiling.
- Smoke alarms should not be located within kitchens, garages or in other spaces where temperatures can fall below 32° F or exceed 100° F.
- Smoke alarms should not be located within three feet of supply registers for a forced air heating or cooling system and doors to a kitchen or bathroom with tub or shower because these conditions cause excessive, erratic and unreliable operations.
- Smoke alarms in rooms with ceiling slopes greater than 1-foot rise per 8 feet horizontally shall be located at the high side of the ceiling.
- A smoke alarm installed in a stairwell should be located to ensure that smoke rising in the stairwell cannot be prevented from reaching the smoke alarm by an intervening door or obstruction.
- If there are no bedrooms in the basement, the recommended location of the smoke alarm is then in close proximity to the stairway leading to the floor above.
- Smoke alarms should not be located within 36 inches horizontally of ceiling fan blades.
- Added or replaced smoke alarms may be battery operated unless they are hardwired. When replacing a hardwired smoke alarm the replacement must also be hardwired.
- Smoke alarms must be adequately secured.
- In all cases install smoke alarms according to the manufacturer's instructions.

Single Family home smoke alarm placement:



New construction (R313.2)

Single and multiple-station smoke alarms shall be installed:

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 cellars, but not crawl spaces 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.

When more than one smoke alarm is required to be installed within an individual dwelling unit, the alarm devices shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the unit. *Manufacturer's instructions must be followed for proper location.*

Alterations, repairs or additions (R313.2.1)

When interior alterations, repairs or additions require a permit, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be provided with smoke detectors located as required for new dwellings. The smoke alarm shall be interconnected and hardwired.

Exceptions:

1. Smoke alarms in existing areas shall not be required to be interconnected and hardwired where the alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure. If an attic, crawlspace or basement is available which could provide access, the smoke alarms shall be hardwired.
2. Work on the exterior which does not require entry into the interior for inspection; such as roofing, siding, window replacements, decks and detached buildings.

Power source (R 313.3)

In new construction, the required smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source. When primary power is interrupted, it shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection. Smoke alarms may be battery operated when installed in buildings without commercial power or in buildings that undergo alterations, repairs or additions regulated by *Section R313.2.1 of the 2006 IRC.*



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Attention: Effective October 1, 2009 the State of Iowa is requiring all new residential one and two family dwellings to be installed with dual sensor smoke detectors. Additional information may be found at:

<http://www.dps.state.ia.us/fm/smokedetector.shtml>