



### Purpose

Smoke detectors are required when alterations, repairs, or additions requiring a permit of any type occur, or when new sleeping rooms are created, each affected dwelling unit shall be provided with smoke detectors located as required for new buildings. See 2018 IRC R314, 2018 IBC 907.2.10, and 2018 IFC 907.2.10.1.4.

### Exceptions

Repairs solely to the exterior of a dwelling or Group R Occupancy (including the replacement of roof sheathing), or involving only plumbing and/or mechanical systems, are exempt from this requirement.

### Required Smoke Detector Locations

- Within each sleeping area
- Outside of each separate sleeping area in the immediate vicinity of the bedrooms
- On each additional story of the dwelling (including basements and cellars, but not including crawl spaces and uninhabitable attics)

In dwellings or dwelling units with split levels and without an intervening door between the levels, a smoke detector needs to be installed only on the upper level, provided the lower level is less than one full story below the upper level. A single smoke detector may serve 2 sleeping areas that are located within the maximum spacing allowed by the smoke detector listing, with the single detector located no more than one-half the maximum spacing from any sleeping area door. The typical smoke detector listing of 30ft on center will be used unless other information from the manufacturer is available. The alarm shall be audible within each sleeping area with the door closed.

### Required Power Source

In existing dwellings, a battery-powered smoke detector may be installed in locations where connection to the building wiring is not easily accessed, especially where removal of wall or finish material is required to gain access. Hard-wired detectors need not be interconnected if the interconnection route is not easily accessed without the remove of finish materials. Where the available path for wiring or interconnection is through a space such as an attic where insulation materials would be disturbed, the determination of accessibility for wiring may be made by the permit holder and the owner/occupant. Otherwise, smoke detectors shall be hard-wired with battery backup, and shall be interconnected such that the activation of one alarm will actuate all the alarms in the individual dwelling unit.

***An electrical permit is required for the installation of hard-wired smoke detectors.***

### *Power Source Exceptions*

In the case where the only location easily accessed without the removal of finish materials is in an unfinished basement and there is no other electrical work requiring a permit occurring in the dwelling unit, then all smoke detectors required under these provisions may be battery-powered only.

### Compliance Verified on Inspections

Compliance with the requirement for installation of smoke detectors will be made on inspection of the work authorized by the permit.