



## Residential Smoke Detector Installation Guide

### Where required:

1. In each sleeping room
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms
3. On each additional story of the dwelling

*(Reference International Residential Code 2015 section R314.3 & NFPA 72 2013 section 29.5.1.1)*

### Installation requirements:

**For purposes of this guide, smoke detector and smoke alarm shall be considered the same.**

- Installation in accordance with the manufacturer's listing and instructions and shall comply with the following requirements.
  - I. **Flat Ceilings**- shall be located no closer than 4 inches from the adjoining wall surface.
  - II. **Peaked Ceilings**- shall be located within 36 inches horizontally of the peak, but not closer than 4 inches vertically to the peak.
  - III. **Sloped Ceilings**- ceilings having a rise greater than 1 foot in 8 feet horizontally shall be located within 36 inches of the high side of the ceiling, but not closer than 4 inches from the adjoining wall surface.
  - IV. **Wall mounting**- shall be located not farther than 12 inches from the adjoining ceiling surface.
  - V. **Specific Locations:**
    1. Smoke detectors shall not be located where ambient conditions, including humidity and temperature, are outside the limits specified by the manufacturer's published instructions.
    2. Smoke detectors shall not be located within unfinished attics or garages or in other spaces where temperatures can fall below 40°F or exceed 100°F.
    3. Where the mounting surface could become considerably warmer or cooler than the room, such as poorly insulated ceiling below an unfinished attic or an exterior wall, smoke detectors shall be mounted on an inside wall.
    4. Smoke detectors installed within 10-20 foot horizontal flow path from a stationary or fixed cooking appliance shall be equipped with an alarm-silencing means or use photoelectric detection.
    5. Smoke detectors shall not be installed within a 36 inch horizontal path from the supply registers of a forced air heating and cooling system and shall be installed outside of the direct airflow from those registers.
    6. Smoke detectors shall not be installed within a 36 inch horizontal path from the tip of the blade of a ceiling-suspended fan.
    7. Where stairs lead to other occupiable levels, a smoke detector shall be located so that smoke rising in the stairway cannot be prevented from reaching the smoke detector by an intervening door or obstruction.
    8. For stairways leading up from a basement, smoke detectors shall be located on the basement ceiling near the entry to the stairs.

*(Reference NFPA 72 2013 section 29.8.3 through 29.8.3.4)*