

# TECH SHEET

## Apartment Smoke Detection

**EMC** Insurance Companies®

*In accordance with the International Building Code® and the National Fire Protection Association, (NFPA®), smoke detectors are required in all apartment complexes. Studies have shown that 80 percent of deaths from fire occur in the home. According to the NFPA®, residents of apartments where smoke detectors are installed and maintained are 40 percent less likely to die in a fire than those without smoke detectors. For this reason, it is crucial that individuals and landlords understand the basics of smoke detector placement, maintenance and wiring.*

### Placement

According to NFPA® guidelines, new apartment buildings should have smoke detectors installed in the following locations:

- One outside each bedroom
- One inside each bedroom
- One on each level of the building

In existing buildings, one smoke detector is required outside each grouping of bedrooms and on each level. Although the standards are not as strict for existing buildings, NFPA® recommends adding a smoke detector inside each bedroom to meet the current standards.

Detectors should be wall mounted 4" to 12" from the ceiling or should be ceiling-mounted 4" from the nearest wall. With vaulted ceilings, the smoke detector should be installed at the highest point of the ceiling. Smoke detectors should not be placed in areas of high heat and humidity (e.g.; boiler rooms) or areas used for cooking. Placement in these areas may result in false alarms, which commonly causes occupants to disable the smoke detector. Smoke detectors should not be placed where there is a high volume of air moving, such as near ceiling fans. These locations could delay activation. Units should be installed in accordance with manufacturer's instructions and

listed or approved by a nationally recognized testing laboratory.

### Maintenance

Routine maintenance should be performed to increase the reliability of smoke

detectors. Each detector includes manufacturer's recommendations for testing the device. Typically, the test button should be activated at least once per month. Batteries should be changed at least annually or sooner if there is a "chirping" or other sound indicating the battery is weak. Batteries should never be removed without being replaced immediately, and the AC power source should never be disconnected on hard-wired detectors. Once or twice a year, smoke detectors should be vacuumed to remove dust and debris. Since studies have shown that failure rates of smoke detectors increase greatly after the 10th year of operation, the NFPA® recommends replacing them at least every 10 years.



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## Hard-Wired Smoke Detectors

Apartment smoke detectors that are hard-wired offer advantages as well as disadvantages. If smoke detectors are wired into the building's electrical system, occupants need not concern themselves with changing batteries. Smoke detectors can also be wired together, causing all detectors to sound an alarm whenever smoke is detected anywhere in the building. The main disadvantage to hard-wiring is the risk of a power failure, which manufacturers have addressed by offering a battery backup system that will operate during a power outage.

### For Additional Information

#### National Fire Protection Association:

[www.nfpa.org/](http://www.nfpa.org/)

- NFPA 101: Life Safety Code®
- NFPA 72: National Fire Alarm and Signaling Code®

#### International Code Council: [www.iccsafe.org](http://www.iccsafe.org)

- International Building Code – Chapter 9 Fire Protection Systems

#### EMC Tech Sheets: [www.emcins.com](http://www.emcins.com)

- Apartment Fire Prevention