



What You Should Know About Smoke Alarms

The Apartment Association of Fort Wayne, the Fort Wayne Fire Department, and the U. S. Fire Administration want you to know that:

- Eighty-two percent of all fire deaths occur in the home
- Having a working smoke alarm reduces one's chances of dying in a fire by nearly half.
- Nearly one-third of the residential fires and two-fifths of residential fire fatalities occur in homes with no smoke alarms.

SMOKE ALARMS SAVE LIVES

The most important things you need to know are smoke alarms save lives and they should be in every home. Follow these important smoke alarm safety measures:

- Make sure your smoke alarms are working. This means testing smoke alarms monthly, replacing batteries once a year or when a low-battery alarm chirps and performing other maintenance as NFPA and your smoke alarm manufacturers recommend. And of course, a smoke alarm disabled because of nuisance alarms provides no protection at all. Ultra long life batteries are now available to purchase for smoke alarms that can last up to ten years. In addition there are smoke alarms available that have a sealed battery compartment to prevent removal of the factory installed ten year battery.
- It is important to have not just one smoke alarm but smoke alarms in every location required by NFPA standards. (On each level of your home, outside each sleeping area and inside each bedroom.) Local ordinance requires a smoke alarm one each level of the residence and outside all sleeping areas. For best protection a smoke alarm should be installed in every room. Tens of millions of U.S. homes are estimated to have smoke alarms but not enough smoke alarms to meet the standards and protect their homes.
- Interconnect your smoke alarms so that a fire detected by any smoke alarm will sound an alarm at every location where a smoke alarm is installed. Interconnection can be done using hard-wiring or wireless broadcast technology. Interconnected smoke alarms provide early warning of fires that are still far away or are located on the other side of a door or wall that may block sound. The wireless interconnected smoke alarm systems are much less expensive to purchase than installing a hard wired system and provide a higher level of life protection than individual smoke alarms.
- Develop and practice an escape plan so that everyone in the home knows what to do if the smoke alarm sounds. That includes planning a second way out from every room in your home. Every household that develops and practices an escape plan with two ways out from every location improves its time to escape in every type of fire.

TWO TYPES OF FIRES AND TWO TYPES OF SMOKE ALARMS

There are slow smoldering fires and fast flaming fires. The type of fire primarily depends on what product in the home first ignites. Smoldering fires produce an enormous amount of thick toxic smoke before breaking into flames while flaming fires are very hot and fast moving. It is impossible to determine the type of fire that might occur in a home. Either type of house fire is extremely dangerous and can kill residents very quickly. The majority of people that die in house fires perish from inhaling the poisonous smoke rather than direct exposure to flame or heat.

The two most commonly recognized smoke detection technologies are ionization smoke detection and photoelectric smoke detection. Photoelectric detectors sense smoke through the use of light beams and a photo sensor. When smoke particles scatter the light beams, some light is redirected, hits the photo sensor and the alarm activates.

Ionization detectors have a metal chamber that contains a small amount of radioactive material called Americium. When smoke enters the chamber it disrupts the electrical current within the chamber via ionized air molecules attaching to the smoke particles and the alarm activates.

Neither technology is new but they were fairly equal when we had mostly natural fibers in our homes. Now with the abundance of synthetic and plastic materials in our homes the difference in smoke alarm technology is very important. Today, many house fires produce large amounts of thick smoke, which would indicate more of a need for photoelectric smoke alarms in the residence.

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Although it is still recommended by manufacturers that homes have both ionization and photoelectric smoke alarms installed, new independent testing is beginning to indicate that photoelectric alarms are usually the most effective at early detection of smoke particles from both types of fire. Ionization detectors are less expensive than photoelectric and as such are the most predominant detector in many homes. It is strongly recommended by the fire service that residents install photoelectric smoke alarms in their homes, especially near bedroom areas.

FOR BEST PROTECTION USE BOTH TYPES OF SMOKE ALARM TECHNOLOGIES

For best protection, it is recommended both (ionization and photoelectric) technologies be in homes. In addition to individual ionization and photoelectric alarms, combination alarms that include both technologies in a single device are available.

NUISANCE ALARMS CAN BE MINIMIZED

Ionization type smoke alarms are more susceptible to nuisance alarms due to cooking, the leading cause of nuisance alarms, but both types have some susceptibility to nuisance alarms from cooking fumes, and both have susceptibility to nuisance alarms from the steam from a hot shower. In the past decade or so, a number of steps have been taken to reduce the likelihood of nuisance alarms, including hush features and refinements to installation rules that include guidance on safe distances from nuisance sources. Under no circumstances should the battery be removed to prevent nuisance alarms.

BASIC RECOMMENDATION:

- Have working smoke alarms on each level and outside all bedrooms in the home.

BETTER RECOMMENDATION:

- Have a combination of working photoelectric and ionization smoke alarms, or dual sensor units, in every room of the home.

BEST RECOMMENDATION:

- Install interconnected, hard wired or wireless, dual sensor smoke alarms inside every room of the house.
- Install a carbon monoxide alarm on each level of the home if you have gas appliances or a fireplace.
- Install a residential fire sprinkler system.

SMOKE ALARMS ARE YOUR FIRST LINE OF DEFENSE IN A FIRE AND MUST BE PROPERLY INSTALLED AND MAINTAINED IF THEY ARE TO DO THEIR JOB – THEN – YOUR JOB IS TO REACT PROPERLY SO THAT YOU AND YOUR FAMILY CAN SAFELY GET OUT AND STAY OUT!

For More Information Contact:

The U. S. Fire Administration
301-447-1000
www.usfa.dhs.gov



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