

## SMOKE ALARMS – A SMALL PRICE TO PAY FOR LIFE-SAVING PROTECTION

**Working** smoke alarms save lives by alerting people to danger and giving them time to escape. The National Fire Protection Association (NFPA) estimates that 94 percent of homes have at least one smoke alarm. However, there are more homes with smoke alarms that don't work than homes without any alarms. Proper installation and maintenance of these alarms is essential in providing *big* protection at a *small* price.

### Types of Smoke Alarms

There are two common types of smoke alarms: photoelectric and ionization. A photoelectric detector acts like the electric eye on a supermarket door. When smoke enters the chamber, it scatters the light into a photocell, triggering the alarm. Generally, this type of alarm is much more sensitive to smoky, smoldering fires such as those caused by a cigarette dropped on a mattress or sofa.

Ionization alarms sound when combustion particles upset the delicate balance in the unit. This alarm generally is more sensitive to flaming fires that give off relatively little visible smoke.

Experts who compared the two types of smoke alarms under various fire conditions generally agree that either type provides adequate protection against fire. Combination smoke alarms featuring both photoelectric and ionization technology are also available.

### Power Sources

Both photoelectric and ionization alarms are available in either battery-powered or house-current models. Battery powered models have a built-in warning signal to let you know the batteries are running low. This "chirping" sound, emitted every 15 seconds or so, continues for a week or longer. However, whether or not this warning sounds, it is a good idea to change the batteries once a year. **Hint:** Schedule battery replacement for the same day you change your clock from daylight to standard time in the fall.

Unless they have stand-by batteries, units powered by house current will not function when the power is off. This commonly happens if the plug is not firmly inserted in the outlet; if the current is controlled by a wall switch and the switch is off; or if there is a power failure. In addition to plug-in type alarms, some units can be wired directly into your household wiring.

Regardless of the type of smoke alarm selected, always look for the Underwriters Laboratories (UL) or Factory Mutual (FM) label on the units.

### Placement

Where you place your smoke alarms could mean the difference between life and death. Install at least one alarm on every floor (including the basement) and within 10' of each sleeping area. If you sleep with the door closed, NFPA recommends installing a smoke alarm inside the room. In new construction, codes require hard-wired smoke alarms to be interconnected. This means if one is activated, all alarms will sound. New construction also requires a smoke alarm be installed in each bedroom.

To avoid dead air spaces where walls meet ceilings, mount alarms on the ceiling at least 12" from all walls, or if you prefer, on a wall between 6" and 12" from the ceiling. On vaulted ceilings, the alarm should be mounted at the highest point of the ceiling.

## Special Features

Before purchasing smoke alarms, you may want to consider units that have one of the following special features:

- \* Testing has indicated that a warbling or intermittent sound is better at attracting attention than a continuous tone. If you have heavy sleepers in your home or if one alarm must awaken people in a distant bedroom, this feature may be desirable.
- \* One smoke alarm is designed to protect your home even when you aren't there. It has a wireless transmitter that can send an alarm to a separate receiver/alarm unit about the size of a table radio. The receiver can be placed as far as 200 feet from the alarm so it could be left with a neighbor when you're away from home. Another unit can be connected to a loud outside horn.
- \* So you can see better, one alarm has a built-in emergency light powered by rechargeable batteries. The light goes on whenever the house current fails or the detector sounds. This unit would be especially helpful at the top of a stairway outside the bedrooms.

Hearing-impaired individuals can buy an alarm that can be connected to a bed vibrator, flashing light or both.

## Maintenance

**Batteries** – Batteries weaken with age and should be regularly checked and replaced once a year. Never disable an alarm by “borrowing” its battery for another use.

**Testing** – Test your alarm at least once a month, following the manufacturer's instructions. Both battery-operated and electric alarms lose their sensitivity with age. Therefore, it is recommended that smoke alarms be replaced every 10 years.

**Cleaning** – Follow the manufacturer's instructions for cleaning your smoke alarms. Debris and dust can generally be removed by using a vacuum cleaner attachment. Never paint any part of a smoke alarm.

Ensuring that your facility has working smoke alarms in place is a small price to pay for life-saving protection.