

## Fire Detection and Alarm Systems

State and local building codes and fire regulations are determinative as to what and where smoke and fire detection systems and alarms are necessary. Requirements typically vary by occupancy, building height, type of facility, and other physical and human factors. The requirements for a hospital, for example, differ from those for a factory or a dormitory. Many local and state codes are based on several National Fire Protection Association standards, such as the NFPA's Life Safety Code 101, and codes adopted from the International Code Council (ICC), which includes codes from the former Building Officials and Code Administrators (BOCA).

Fire detection and alarm systems are part of an overall fire safety program that includes planning, design, and other essential activities, such as compliance with code requirements, periodic inspections, proper maintenance, training, fire drills, signage, electrical and gas safety, multiple routes of egress, and housekeeping. The following are some basic issues regarding fire alarm and detection systems.

1. Does your building have detection and alarm system?  yes  no
2. Is the system appropriate and adequate for your current occupancy?  yes  no
3. Does the system work?  yes  no
4. Does the system work as it was intended to?  yes  no
5. How often is the system tested? (Recommended: monthly) \_\_\_\_\_
6. Is the system inspected and maintained quarterly, or annually?  yes  no  
(Frequency depends on the severity of the hazards present.)
7. Have the alarms been kept clean and unpainted?  yes  no
8. Have detectors exceeded their life expectancy (8-10 years)  
(Environmental exposure plays a big part in the life span of detectors. Dust and exposure to heat and cold temperatures shortens life. When detectors are installed, write the date on the backside; this will document their age.)
9. Does the system have backup power in the event of power outage?  yes  no  
(Many hardwired systems have battery backup. Some also detect CO<sub>2</sub>.)
10. Is your system a local alarm or a central station alarm?  yes  no
11. Does the alarm go directly to a fire station or alarm company?  yes  no
12. Is the alarm loud enough to warn all occupants?
  - a) Recent studies have shown that children tend to sleep through a buzzer or beeping type smoke detector and react better to an alarm with a message using a parent's voice.
  - b) In many cases the noise from employment work processes is louder than the alarm; flashing lights may be necessary.
13. Do people heed the alarm sound?  yes  no
14. Have they demonstrated what to do when they hear the alarm?  yes  no

Smoke detectors and alarms have become very affordable for all types of occupancy. Occupancy means a building with people, processes, equipment, and activity in it.

Evidence validates that alarms saves lives. For example, in residences with working smoke detectors, the risk of dying in a fire is reduced by fifty percent. Detectors reduce the response time to a fire by several minutes in both business and residential settings. This is critical since every minute counts when there is a fire.

Removing the battery or disconnecting a detector is a violation of the law in many communities. If you are experiencing false alarms due to cooking, cleaning, or other work processes, consider relocating the detector; do not disconnect it.

In a study of residential fires between 2001 and 2004, the United States Fire Administration found that 61% of the operational smoke detectors located in residential buildings in which there was a fire fatality failed to operate during the fire. This high failure rate was not explained by the USFA, but is believed to be due to the absence of working batteries, old detectors, the failure of the owner to test the alarms, and other causes. In some 40% of the residential fires in which there was one or more fatalities, there was no operational smoke alarm. During that period there were an estimated average of 402,500 residential fires, 3,055 fatalities, 14,475 injuries, and \$5.93 billion in residential property damage. (“Investigation of Fatal Residential Structure Fires with Operational Smoke Alarms,” Topical Fire Research Series, Vol. 6, issue 2, August 2006)

### ***October is Fire Safety Month.***

Practice a drill, test your smoke alarms, and keep your exits free and clear of stored items – be safe.

*The risk prevention information and advice presented in this brochure are intended only to advise our insureds and their managers of a variety of methods and best practice strategies based on generally accepted practices for controlling potentially loss producing situations commonly occurring in business premises and/or operations. The recommendations and information contained herein are not intended to warrant that all potential hazards or conditions have been evaluated or can be controlled. This guide is not intended as an offer to write insurance coverage for such conditions or exposures, or to imply that Alteris will write such coverage. The liability of Alteris is limited to the specific terms, limits and conditions of the insurance policies issued.*