

## FIRE ALARM SYSTEM INSPECTION, TESTING, AND MAINTENANCE, GUIDELINE

The owner is responsible to maintain the fire alarm system in operational condition at all times. The system must be inspected and tested in conformance with CAN/ULC-S536, “Inspection and Testing of Fire Alarm Systems” by a person acceptable to the authority having jurisdiction. Authority having jurisdiction means the governmental body responsible for the enforcement of any code.

Fire alarm systems are expected to help protect people, property, and assets. But it is hard to tell if they’re fully operational just by looking at them. As with other electronics, components can degrade over time and compromise the system’s operation. Dust, dirt, and other contaminants can cause problems with smoke detectors. Such things as vandalism, remodeling, and improper maintenance procedures can also damage fire protection equipment. The good news is that with proper testing, inspection, and maintenance fire alarm systems can be kept at optimum operating performance. In addition to ensuring protection, keeping your system in good condition reduces emergency repairs and false alarms.

### RECORDS



Accurate and detailed records of routine checks, inspection, testing, and maintenance of the fire protection equipment and systems in the building are required. These records must be retained for a period of two years and be presented to the fire department representative upon request. Some fire departments also require the records to be submitted to them annually.

A “check” means a visual observation to ensure the device or system is in place and is not obviously damaged or obstructed.

An “inspection” means a physical examination to determine that the device or system will perform in accordance with its intended function.

A “test” means actual operation of a device or system to ensure that it will perform in accordance with its intended function.

## DAILY CHECK

A visual check should be made every day to make sure the annunciator panel or the fire alarm control panel indicates normal operation. Any fault indicated must be recorded and receive immediate attention. Check the principle and remote trouble lights for trouble indication and make sure the AC power-on light indicates normal operation. Most jurisdictions do not require the daily check to be recorded.

## MONTHLY INSPECTION

Once a month a more detailed inspection of the fire alarm system is required. The person conducting the monthly inspection must:

- ✓ Confirm the system power lamp is illuminated
- ✓ Test one initiating device on a rotating basis to ensure it sets off the audible and visual signaling devices
- ✓ Confirm the annunciator indicates the correct zone where the initiating device was activated
- ✓ Visually inspect the standby power batteries to make sure the terminals are clean, tight and lubricated
- ✓ Test the system's "trouble indicator"
- ✓ Test one emergency telephone if the system is so equipped
- ✓ Test paging capability to one zone
- ✓ Record the inspection in the maintenance log book.



The monthly inspection does not need to be performed during the month when an annual test is conducted.

Most alarm maintenance companies will conduct the monthly inspection, but some are also willing to train on-site people to perform this inspection.

## ANNUAL TEST

An annual in-depth test of the entire fire alarm system is required and must be performed by a qualified person acceptable to the authority having jurisdiction. The person performing the annual test and inspection should be familiar with the ULC Standard (CAN/ULC-S536). They should also have completed formal training or have sufficient experience acceptable to the authority having jurisdiction. All aspects of the system must be tested including:

- ✓ An overall system check to ensure proper installation and examine any changes, alterations, additions or damage.
- ✓ Access to, and functioning of, every connected device such as heat detectors, smoke detectors, pull stations and signaling devices. This includes devices in all common areas as well as any device inside dwelling units.
- ✓ All auxiliary and ancillary functions and connections.
- ✓ Internal fire alarm control panel.



## REPLACEMENT PLAN

Systems under five years old should require little effort to maintain.

Systems between five and ten years old may experience some component breakdown caused by normal wear, but this should be identified by the maintenance and inspection program.

Systems between ten and fifteen years old can still provide appropriate life-safety response but need close attention. Even with proper maintenance it's likely that failure of some components will occur. Owners should develop a replacement plan.

Systems over 15 years of age may be beyond their life expectancy. These systems may continue to work satisfactorily if properly maintained but need continuous testing and inspection by trained specialists to ensure their reliability in an emergency.