



SPRINKLER SYSTEMS

In the United States, a fire occurs in a home or building every 80 seconds; and arson is the leading cause of all commercial building fires. The thought of a fire is especially terrifying for a senior living community. Even a small fire can cause smoke and water damage that shuts the facility down for weeks. And, if the facility is severely damaged or destroyed, it could be closed indefinitely.

An automatic fire sprinkler system is one of the most effective methods of controlling or suppressing a fire. When sprinklers are present, the average property loss per fire is cut by one-half to two-thirds, compared to fires where sprinklers are not present. Sprinklers are generally highly reliable; and when present in the fire area, they operate in all but seven percent of fires large enough to activate the system. Human error was a factor in almost all of the failures. This fact sheet will cover items that should be addressed to help ensure your sprinkler system will properly function if an accidental fire would occur.

INSPECTION AND SERVICING

- ❑ Have an annual inspection and service performed by a fire protection contractor.
 - Service should include an annual flow test.
 - Keep records of these tests on file.
- ❑ Train the custodian or maintenance personnel to visually inspect the sprinkler system each month.
 - Training to make the monthly inspection can be obtained from the sprinkler service company.



This photo is an example of a sprinkler system main valve. Note the inspection report attached to the sprinkler main. The report will contain information on the sprinkler system, when it was last inspected, and details regarding the inspection.

- ❑ The monthly inspection should at a minimum include the following:
 - The area around the sprinkler system shut-off valve is clear of obstacles.
 - The sprinkler main control valve should be in the open position.
 - Sprinkler heads should be inspected for deficiencies.
 - The fire department connection on the exterior of the building should be unobstructed and have appropriate caps covering the connection.
 - If the sprinkler system is monitored with a central station fire alarm, test the station alarm.
 - Protect the sprinkler system pipes from freezing during cold weather.
 - Wet pipe sprinkler systems are at the greatest risk of freezing during extreme cold temperatures. If the system may be exposed to temperatures below 40 degrees Fahrenheit, provide heat to prevent the system from freezing. The use of temporary heating units, such as space heaters or salamanders, is **not** recommended.
 - Monitor the air temperature at all times by placing thermometers in the coldest areas of the buildings. These should be checked frequently.
 - Adding anti-freeze solution to the system can be done as long as the proper ratio of water to anti-freeze is maintained. Contact your sprinkler service contractor for specifics.
 - If a dry pipe system is installed, make sure the dry pipe valve control room is provided with heat.

SPRINKLER HEADS

Sprinkler systems are designed to strategically locate sprinkler heads throughout the building to provide full protection by overlapping the sprinkler heads coverage area.

The sprinkler heads are set to operate as soon as the air temperature surrounding the head reaches a factory set temperature, which is generally set at 160 to 165 degrees Fahrenheit. Many fires will generate this temperature in as little as 45 seconds.

Factors Affecting Sprinkler Heads

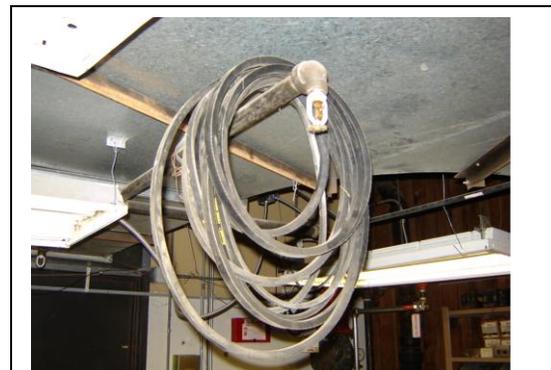
Many circumstances can affect sprinkler head effectiveness, including the following:

- ❑ **Corroded or painted sprinkler heads** cannot respond efficiently or quickly (or may not operate at all) because corrosion or paint acts as a heat insulator preventing the fusible link from separating.
- ❑ **Old-style sprinkler heads** (not the modern, spray sprinkler head), which are still found in service today, are not capable of providing the fine spray required for an effective system. Many types of sprinkler heads have had manufacturer recalls. Therefore, your system should be inspected to ensure that the sprinkler heads are not a brand that has been recalled. For more information on recalled sprinkler heads, visit the Consumer Product Safety Commission Web site at <http://www.cpsc.gov/cgi-bin/prod.aspx> and search for *Sprinklers (Fire)*.



This photo is an example of a sprinkler head that was installed too close to the wall and would not have an adequate spray pattern.

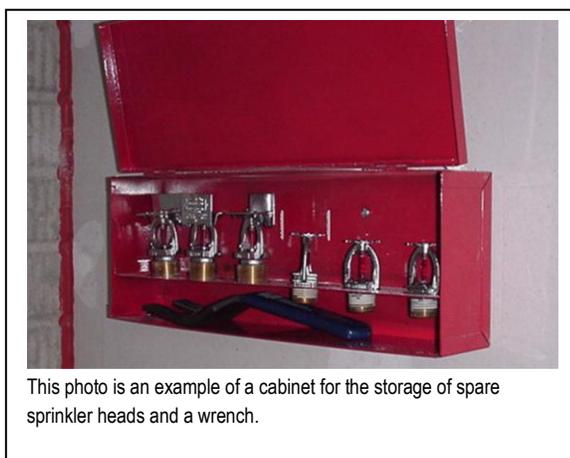
- ❑ **Clearance.** To ensure a sprinkler head will disperse a proper spray pattern, maintain an 18 inch vertical clearance between items being stored and any sprinkler heads.
 - To help keep items from being stored within 18 inches of the sprinkler heads, a good working practice is to draw a horizontal line around the entire closet, 18 inches vertically below the sprinkler heads. This eliminates any question as to how high items can be stacked.
- ❑ **Items being hung from sprinkler heads.**
 - Remove all items being hung from sprinkler heads.
 - Hanging holiday or other decorations from sprinkler heads could result in damaging the sprinkler head, leaving it inoperable, or even changing the spray pattern, making the sprinkler head less effective.



This photo is an example of items that are being hung from the sprinkler piping. This practice would change the spray pattern and possibly cause damage to the sprinkler head.

Maintain Spare Sprinkler Heads

- ❑ Maintain no fewer than six spare sprinkler heads on the premises so that damaged sprinklers can be promptly replaced.
- ❑ These sprinklers should correspond to the types and temperature ratings of the sprinklers on the property.
- ❑ Keep the sprinklers in a cabinet located where the temperature to which they are subjected will at no time exceed 100 degrees Fahrenheit.
 - Keep a wrench in the cabinet to be used for sprinkler removal and installation.



This photo is an example of a cabinet for the storage of spare sprinkler heads and a wrench.

To better protect your facility against fires and smoke damage, sprinkler systems are a "must have." By following the tips and recommendations on this fact sheet, your facility will be better prepared to reduce damages from a fire.

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You are encouraged to consult with your own attorney or other expert consultants for a professional opinion specific to your situation.



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