Sprinkler Systems

In the United States, arson is the leading cause of all commercial building fires. Even a small fire can cause smoke and water damage that shuts a building down for weeks. And, if the building is severely damaged or destroyed, the operations could be disrupted 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, and. according to data from the National Fire Protection Association (NFPA), while sprinklers are present in roughly 11% of fires, only 1% of all U.S. fire deaths occur in sprinklered properties.

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 staff to visually inspect the sprinklers each month.
- 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 is **not** recommended.
    - Monitor the air temperature and checking it 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.



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.

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. 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.
- 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.
- 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.

To better protect your religious organization against fires and to reduce the possibility of a disruption to your ministry from fire or smoke damage, sprinkler systems are a "must have." By following the tips and recommendations on this fact sheet, your religious organization will be better prepared to reduce damage from a fire.

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