

Winterizing Automatic Sprinkler Systems

Cold weather presents special hazards to an automatic sprinkler system. Insufficient building heat can cause a system to freeze up, resulting in burst piping and subsequent water damage to the building and its contents. Should a fire occur while the sprinkler system is incapacitated, the entire building and its contents would be at risk.

To prevent these losses from happening, management should follow certain procedures prior to the approach of winter.

1. The building's heating system should be completely serviced during the autumn. Once cold weather has arrived, the system should be checked at frequent intervals to correct any potential heating problems.
2. The building itself should be inspected for any deficiencies in its integrity. Broken windows and wall cracks should be repaired promptly to prevent drafts from entering the building.
3. The temperature in areas protected by wet pipe systems should be kept above 40°F.
4. Adequate heat should be provided to concealed areas, such as attics and areas above ceilings, where sprinkler piping has been installed.
5. Although dry pipe systems are less susceptible to freeze ups, they should also be included in any winterizing program. Water and condensate should be drained from low points in the system. The valve room should be heated to prevent the dry pipe valve and riser from freezing. Since air pressure fluctuates with changes in temperature, the air pressure on a dry pipe system should be checked daily during winter. Insufficient air pressure could cause the valve to trip, thereby flooding the piping with water that would subsequently freeze.
6. Fire pumps should be located in a heated room and should be tested at periodic intervals. Suction taken from open water should have lines that are buried below the frost level. Intake screens should be kept clear of ice.
7. Gravity tanks should be checked for leaks and overflows. Should leaking or overflowing water freeze, it could cause structural damage to and the subsequent collapse of the tank. If the tank is protected by a heater, that system should also be serviced before cold weather arrives.
8. Hydrants, valves, and fire department connections should be kept clear of ice and snow to prevent freezing. Piping to these outdoor systems should be buried below the frost level for protection. Piping that is exposed to freezing temperatures should be either insulated or heated. Hydrants should be checked for adequate drainage. Post indicator valves should be checked for leakage.

Once winter has arrived, management should keep a close watch on weather conditions. A plan for handling snowfalls, extreme cold spells, and plant heating problems should be established. Supervisory personnel should be provided with a list of emergency numbers to call in case of trouble.

Should a freeze up occur, despite all precautions taken, management should not attempt “do-it-yourself” repairs, but should use experts to repair the damage.

While the system is down, special emphasis should be placed on controlling ignition sources and protecting fire hazards in the operation.

1. Cutting and welding operations should be postponed until repairs have been completed.
2. Smoking should be prohibited throughout the unprotected areas.
3. Supplies of flammable and combustible material should be kept to a minimum.
4. A temporary hose line should be supplied to provide water to the unprotected areas.
5. If possible, a watchman should be posted to monitor the area while repairs are being made.

By emphasizing prompt, efficient repairs, and by controlling present fire hazards, management can minimize losses while the system is down.

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