

Automatic Sprinkler Systems – Winter Precautions

Understanding the Risk

Automatic sprinkler systems have an unrivalled ability to automatically detect and control outbreaks of fire, thus enabling effective and successful fire brigade intervention.

However, sprinkler installations need special attention during the winter months to ensure that they effectively perform if called upon in an emergency.

Controlling the Hazards

The following precautions and measures should be taken to control the risks:

Wet Pipe Systems (systems charged with water all year round)

- Maintain sufficient heating throughout all protected areas to prevent frost damage, to be a minimum temperature of 4°C, except in sprinkler pump houses containing diesel engines where 10°C is required.
- Particular attention should be paid during periods, when the premises are unoccupied e.g. outside normal working hours, at weekends and during holiday periods. During periods of occupancy machinery etc can cause the ambient temperature to rise and this loss of heat when the premises are unoccupied should be allowed for, when determining the level of heating required.
- Automatic heating controlled by thermostats and frost-stats located in vulnerable areas should be adequately maintained. Settings of these controls should take into account that in severe weather temperatures may drop suddenly and the heating will need to operate in good time, to prevent frost damage.
- In the case of sprinkler pipes protected by lagging and / or trace heating, lagging should be examined and kept in good repair and electric trace heating systems should be circuit tested, to ensure that they are in good working order.
- Close attention should be given to pipes in concealed and / or roof spaces, which may need additional lagging.
- Where subsidiary stop valves have been installed to control sprinklers in exposed positions these should be closed and the pipework drained during the winter

period – during periods when the pipework has been drained no combustible storage should be undertaken in the affected area(s).

- During the winter period, wherever possible keep all windows and doors tightly closed, to ensure that there are no draughts into infrequently visited areas. In this context it should be ensured that adequate ventilation is maintained, to provide a suitable working environment.

Alternate Wet & Dry Pipe Systems (systems charged with air during the winter months)

- These installations should be changed from the summer water setting to the winter air setting at the end of October. This change should be undertaken either by a competent engineer or an LPCB approved sprinkler contractor, in accordance with the valve manufacturer's service instructions.
- Once the system has been charged with air, a daily check should be made of the pressure gauges to ensure that any gradual escapes of air are made good. Where an automatic air supply is available this should be checked weekly.
- If the air supply is taken from any source other than a dedicated supply, the system pressure should be checked daily to ensure that the system is not over pressurised.
- Any pipework protected by trace heating and / or lagging should be checked and tested to confirm operation.
- Even when set for winter operation the sprinkler control valves and pump houses still have sections of pipework, which contain water. It is essential that the valve chamber be heated to at least 4°C and in the case of pump houses containing diesel engines to 10°C.
- Areas which have trapped sections of pipework should be periodically bled (weekly), to ensure that any residual water which might accumulate is removed from the system.

For further information please contact your local AIG risk engineer.

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