



# FLOWER MOUND FIRE DEPARTMENT

## FIRE MARSHAL'S OFFICE

3911 SOUTH BROADWAY AVENUE | FLOWER MOUND, TEXAS 75028

PHONE (972) 874.6270 | [www.flower-mound.com](http://www.flower-mound.com)

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## FIRE SPRINKLER SYSTEMS AND SEVERE COLD WEATHER

With the cold weather of winter approaching, the Flower Mound Fire Department would like to remind business owners/building owners about the importance of maintaining your building's fire sprinkler system to prevent freezing issues. A physical inspection of all facilities and areas protected by fire sprinklers should be conducted before the cold weather season arrives. The inspection must ensure that there are no areas with insufficient heat. In addition, there should be physical features and precautions set in place to ensure that sprinkler systems are not exposed to freezing temperatures.

Below are some helpful tips about your fire sprinkler system:

### **I) COMMON CAUSES OF FIRE SPRINKLER SYSTEM PIPES FREEZING**

- A) Insufficient heat provided in/throughout a building
- B) Cold air entering broken windows/cracks in walls
- C) Insufficient insulation material in ceilings/walls

### **II) PREVENTIVE MEASURES BEFORE AND DURING COLD WEATHER**

- A) Have employees look out for and report potential or existing cold weather issues.
- B) Check fire protection systems more frequently than usual during cold weather.
- C) Do not attempt do-it-yourself repairs on fire safety equipment. Obtain the services of a trained service professional.
- D) Do not use torches or other open flame devices to thaw pipes or other equipment.
- E) Do not use temporary heating equipment such as salamanders and other un-vented portable fuel-burning heaters, as these heaters introduce fire and health hazards. Portable electric heaters also present unnecessary fire and health hazards.
- F) During your licensed contractor's annual servicing of the sprinkler system, have them demonstrate the operation of all valves. Have appropriate personnel rehearse closing the valves so they can shut down the system in the event of a burst pipe.

### **III) WET PIPE FIRE SPRINKLER SYSTEMS (THE MOST COMMON TYPE OF FIRE SPRINKLER SYSTEM)**

- A) Freezing of wet pipe fire sprinkler systems occurs due to inadequate heat.
- B) Keep doors, windows and vents closed when not used, as drafts will allow freezing air to contact sprinkler piping. Repair broken windows, doors, and other items in need of fixing. Remember that high winds may accompany periods of low temperatures.
- C) The pipe should be heated or insulated when sprinkler piping may be exposed to outside temperatures.
- D) Provide heating of adequate capacity to maintain the temperature of no less than 40°F near sprinkler piping. Particular attention should be given to piping in attics, entries, penthouses, stairways, under-floor areas, above ceilings, shipping, and similar out-of-the-way areas where low temperatures might occur.
- E) Adequate heat should be provided to all affected areas by extension of the existing heating



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- system rather than other means, such as space heaters or other localized heating appliances.
- F) If the sprinkler system is exposed to freezing temperatures, such as when a building's heating system is planned to be shut off or interrupted for some time, precautionary measures must be taken. The system's water may have to be drained and a fire watch established or temporary heating provided.
  - G) For loading docks or other sections of the system that may have an antifreeze loop system, the specific gravity of the antifreeze solution must be checked before the cold weather season to ensure that it has the proper proportions of antifreeze and water. Make sure the valve is open.

### IV) DRY PIPE FIRE SPRINKLER SYSTEMS

- A) Dry pipe systems are less likely to freeze than wet pipe systems because they do not contain water in their piping. However, certain precautions should be taken to ensure that freezing does not occur in such systems when cold weather arrives.
- B) Drain all water/condensation from auxiliary drains and all low points. Check drains under stairs or platforms. Use a checklist when possible.
- C) Ensure the dry pipe valve and riser are adequately protected against freezing. Heat the valve enclosure or use electrical heater strips under thermostatic controls so that a minimum of 50°F can be maintained.
- D) Verify that sufficient air is in the system to allow pressure drops during low temperatures. Pressures should be checked daily during cold weather (preferably at night when temperatures are lowest) or provide pressure supervision and low-pressure alarms. Inadequate pressures result in the system tripping and freezing the water entering the piping.
- E) Air is usually supplied to a dry pipe system by a compressor. The air intake into the compressor should be located in a cool, dry atmosphere. Avoid warm, damp areas since moisture introduced with the air condenses in the piping and collects at low points where it may freeze. Air dryers should be installed on the air intake.
- F) Repair, replace or refasten broken, missing, or loose sprinkler pipe hangers to ensure the proper piping pitch and good drainage.
- G) Temperature-signaling devices monitored by a central station alarm service can be installed in the valve room or enclosure.

If you have questions or concerns about your fire sprinkler system, don't hesitate to contact the Flower Mound Fire Marshal's Office at 972.874.6270.

Should a frozen fire sprinkler pipe break occur, please dial 911.