

## INTRODUCTION

There are many common misconceptions about fire sprinkler systems. If you work in a building fully equipped with a system such as this, you may wonder about how activities such as soldering and welding may affect it. Fortunately, the odds of accidental discharge is extremely rare.



## COMMON MYTHS

**Myth #1:** Your fire sprinkler system is likely to go off if there is smoke in the area.

Most fire sprinkler systems are not triggered by smoke the way a smoke detector is. A sprinkler system will typically have sensors in the sprinkler heads that require the air to reach temperatures between 135 and 165 degrees before it will release water – no matter what kind of hot works you are doing, you will be hard pressed to generate heat at this level. However, some systems work in tandem with a smoke detector, meaning that they can be partially or completely activated by smoke in the area.



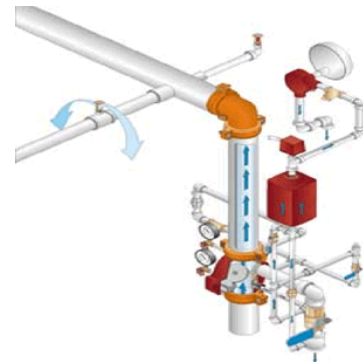
**Myth #2:** If a fire sprinkler system is activated, the whole building will be soaked.

This only applies to a deluge fire sprinkler system, which is the least common. Usually, only one sprinkler head at a time is activated, meaning that only the exact amount of sprinklers needed to fight the fire will be used.

## TYPES OF FIRE SPRINKLER SYSTEMS

### Wet Pipe System:

- This system is typical for most commercial or office buildings.
- Sprinkler heads are connected by pipes to a water source, and the pipes are full of water ready for activation at any moment.
- Pipes are subject to burst in freezing temperatures.



# FIRE SPRINKLER SYSTEMS

## Dry Pipe System:

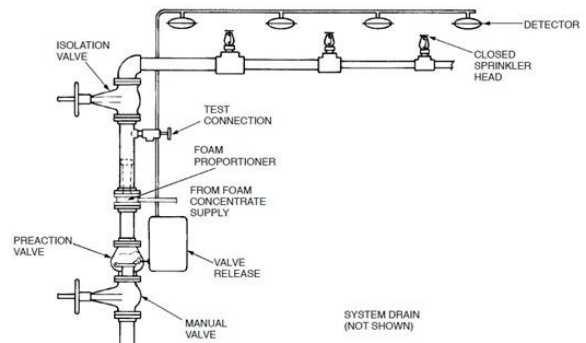
- Very common system for warehouses or in areas that are prone to subzero temperatures.
- These pipes are full of compressed air and upon activation, the sprinkler heads must release the air to allow the system to be filled with water.
- Somewhat slower, but releases a larger amount of water than wet pipe systems.



## Pre-Action System:

- Common for libraries or museums with valuable or sensitive material.
- Upon first detection (usually a smoke or heat detector separate from the sprinklers) the pipes fill with water, and then essentially this turns into a wet pipe system in which the individual sprinkler heads must be activated to spray.

TYPICAL PREACTION SYSTEM



## Deluge System:

- Very common in areas where a fire could easily get out of hand, such as a chemical plant.
- Triggered by a smoke detector or heat detector, but instead of requiring an additional sensor, every sprinkler head is always open and each one goes off without delay.
- Can also have a manual activation switch or lever as an extra precaution.



## CONCLUSION

Although it is highly unlikely that any kind of hot works will activate your building's fire sprinkler system, certain types of vapors and fumes can cause damage to the pipes over time. For this reason, fire sprinkler systems in some industrial environments are treated with a corrosion resistant coating. This is situational and you must consult the manufacturer for guidance.



**Builders' Exchange**  
OF SANTA CLARA COUNTY

# Safety Meeting Report

Employer \_\_\_\_\_

Date \_\_\_\_\_

Location \_\_\_\_\_

Meeting Supervisor \_\_\_\_\_

Safety Meeting Subject: \_\_\_\_\_

Accidents Reviewed: \_\_\_\_\_

\_\_\_\_\_

Suggestions: \_\_\_\_\_

\_\_\_\_\_

## Employee's Attending

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

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