SCHULTE & ASSOCIATES
Building Code Consultants
880D Forest Avenue
Evanston, IL 60202
fpeschulte@aol.com
847/866-7479

SPRINKLER PROTECTION BASICS: SYSTEM TYPES

WET SYSTEM:

- Overhead piping filled with water.
- Water discharges immediately when a sprinkler opens.

DRY SYSTEM:

- Overhead piping filled with pressurized air.
- Delay in water application until air pressure is reduced and dry valve opens.

DELUGE SYSTEM:

- All sprinklers are open.
- Water supply controlled by a normally closed deluge valve.
- Deluge valve opened when fire is detected by fire (heat, smoke or infrared) detectors.
- Water discharges from all sprinklers simultaneously.

PREACTION SYSTEM:

- Overhead piping is dry.
- Water supply controlled by a normally closed preaction valve.
- Preaction valve opened when fire is detected by heat or smoke detectors.
- Water is not discharged until both the preaction valve and sprinklers operate (open).

SPRINKLER PROTECTION BASICS:
SYSTEM TYPES
(CONTINUED)

SYSTEM TYPES:

WET SYSTEM - A piping system connected to an automatic water supply, where the piping is continuously filled with water and where water discharges immediately when a sprinkler is activated.

DRY SYSTEM - A piping system connected to an automatic water supply, where the overhead piping is filled with pressurized air and where the water supply is controlled by a dry pipe valve. There is a delay in water discharge when a sprinkler in a dry system activates.

DELUGE SYSTEM - A piping system connected to an automatic water supply, where the overhead piping supplies open sprinklers. The water supply to the overhead piping is controlled by a normally closed (deluge) valve. The deluge valve is activated (opened) and water admitted to the overhead piping system) by a fire detection system. All sprinklers in a deluge system operate simultaneously (because all sprinklers in a deluge system are open).

PREACTION SYSTEM - A piping system connected to an automatic water supply, where the overhead piping is dry and where the water supply is controlled by a preaction valve. The preaction valve is activated (opened and water admitted to the overhead piping system) by a fire detection system. Water is discharged from the piping system only when both the sprinklers and the preaction valve are activated.

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