



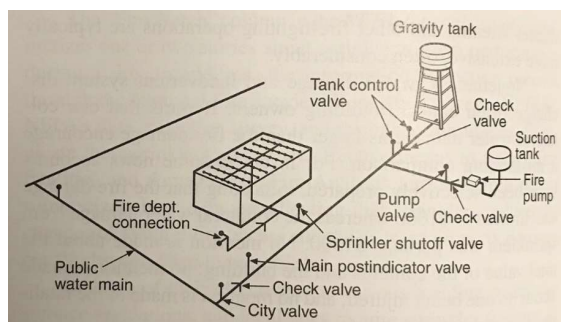
FPST 1213 Fire and Safety Hazard Recognition

Introduction to Water-based Suppression Systems

1



System Configuration



p. 16-34, National Fire Protection Association. (2008). Fire Protection Handbook (20th ed.). (A. E. Cote, Ed.) Quincy, Massachusetts, USA: NFPA.

2



Types of Sprinkler Systems



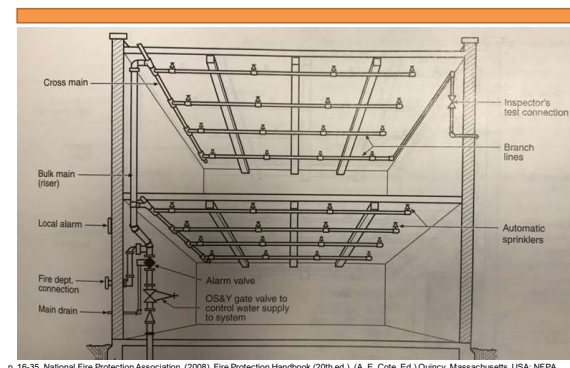
- Wet
 - Easiest to design, install, and maintain in non-freezing environments
- Dry
 - Pressurized air in pipes
 - Most common in freezing conditions
- Pre-action
 - Water held back by a valve tied to a fire alarm panel
 - Purpose is to keep water out of the pipes to protect sensitive/expensive equipment
- Deluge
 - Open heads
 - A lot of water in the entire protected area
- P. 505, 506

3



Typical Wet Sprinkler System

P. 511



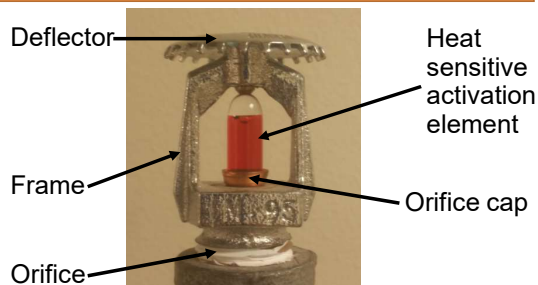
p. 16-35, National Fire Protection Association, (2008). Fire Protection Handbook (20th ed.). (A. E. Cote, Ed.) Quincy, Massachusetts, USA: NFPA.

4



Parts of Sprinkler

p. 512-515



5



Orientation: Upright



6



Orientation: Pendant



7



Orientation: Sidewall



8



9



Standard Response



10



ESFR



11



Duraspeed Cap



12



Large Drop (CMSA)



13



Residential



14



PIV



- Post Indicating Valve
- P. 509



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Other Systems



- Water spray
 - Exposure protection
- Water mist
 - Prevent extensive water damage
- Foam system
 - Addition of foam
 - Flammable liquids like tank farms

16



Water mist



17




Water Spray





18






Water Spray








19




Foam Systems






- Video:
 - Aircraft Hangar Foam Fire Suppression Test - Prince George.wmv
- Video:
 - Oil tank foam systems
 - 1:50
 - 4:10




20



Other components



- Standpipe systems



21



Other components



- Fire pumps
 - Provide additional water pressure to suppression systems
 - P. 532 - 538

22



Pages 538 Part II – 559 will not be
on next exam

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