

# Design



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## Basic Design Requirements

1. Must provide 500 GPM at 65 PSI to the highest most remote standpipe riser outlet.
2. 250 GPM for each additional standpipe total not to exceed 2500 GPM



# III. Identify the initial installation requirements for standpipe systems. 14-9.3

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## A. Initial installation

1. All devices comply with local requirement
2. Hose cabinets are not over 6 feet from the floor and accessible
3. Each Class II & III system shall be labeled with a sign that reads: "FIRE HOSE" and/or "FIRE HOSE FOR USE BY OCCUPANTS OF BUILDING"
4. Fire department connections have proper fire department hose threads and a sign reading "STANDPIPE".



# Identify the initial installation requirements for standpipe systems

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5. Dry standpipes are posted with a sign reading "DRY STANDPIPE FOR FIRE DEPARTMENT USE ONLY".
6. Piping, feed mains, and connections are flushed to remove all debris.
7. System components are tested at a pressure not less than 200 PSI for 2 hours.



# Identify the initial installation requirements for standpipe systems

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- B. Periodic inspection (usually every 6 months)
  - 1. Proper water level is maintained in water supply tanks
  - 2. If pressurized, a pressure of at least 75 PSI is maintained
  - 3. Precautions against freezing must be taken when necessary
  - 4. Fire pumps start to operate
  - 5. Check records that indicate pumps were run 30 minutes a week for diesel pumps and 3-7 minutes for electric pumps ( 1 minute for each 10 HP)



# Identify the initial installation requirements for standpipe systems

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6. Check that fuel supplies exist for eight hours
7. Hose cabinets and closets are used for firefighting equipment only
8. Water control valves are open and supervised
9. Individual discharge valves
  - a. They operate
  - b. Gaskets are in good condition
  - c. No evidence of leaks



# Identify the initial installation requirements for standpipe systems

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10. Discharge outlets
  - a. Threads are compatible with fire department



# Identify the initial installation requirements for standpipe systems

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11. Fire department connection
  - a. It's accessible
  - b. Protective caps are in place
  - c. Threads are compatible with fire department threads
  - d. No thread or connector damage
  - e. Check valve works properly
  - f. There is no debris in the connection



# Identify the initial installation requirements for standpipe systems

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12. Drains are free of dirt and/or sediment
13. Hose is dry and in good condition (Class II & III)
14. Hose is properly racked (Class II & III)
15. Records of testing the hose (Class II & III)
16. Swing out racks works easily (Class II & III)





## Identify the initial installation requirements for standpipe systems

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17. Threads on hose and connections are not damaged (Class II & III)
18. Gaskets are in good condition (Class II & III)
19. Nozzle not obstructed (Class II & III)
20. Shutoff if so equipped is operating properly (Class II & III)

# IV. Maintenance



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- A. Performed in accordance the literature provided by the manufacturer

# Maintenance



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## B. NFPA 25

1. Hose valve outlets
  - a. Cap missing- replace
  - b. Fire hose connection  
damaged - repair
  - c. Valve handles missing -  
replace

# Maintenance



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- d. Cap gaskets missing or deteriorated - replace
- e. Valve leaking - close or repair
- f. Visible obstructions - remove
- g. Restricting device missing - replace

# Maintenance



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## 2. Piping

- a. Damaged - repair
- b. Control valves damaged - repair or replace
- c. Missing or damaged pipe supports - repair or replace
- d. Damaged supervisory devices - repair or replace

# Maintenance



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3. Hose
  - a. Inspect - follow NFPA 1962
  - b. Mildew, cuts, abrasions and deterioration - replace
  - c. Coupling damage - replace or repair
  - d. Gaskets missing or deteriorated - replace
  - e. Incompatible threads on coupling replace or provide adapter
  - f. Hose not connected to hose rack nipple or valve - connect
  - g. Hose test date outdated - Retest or replace IAW NFPA 1962

# Maintenance



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4. Hose nozzle
  - a. Hose nozzle missing - replace
  - b. Gasket missing or deteriorated - replace
  - c. Obstructions - remove
  - d. Nozzle does not operate smoothly - repair or replace

# Maintenance



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5. Hose storage device
  - a. Difficult to operate - repair or replace
  - b. Damaged - repair or replace
  - c. Obstruction - remove
  - d. Hose improperly packed or rolled - remove
  - e. Nozzle clip in place and nozzle correctly contained (?) replace if necessary
  - f. If in a cabinet will it swing 90 degrees - repair or remove any obstructions



# Maintenance



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## 6. Cabinets

- a. Check overall condition - repair or replace
- b. Difficult to open - repair
- c. Cabinet door will not open fully - repair or remove obstruction
- d. Door glazing cracked or broken - replace
- e. If "breaking glass type", is lock functioning - repair or replace

# Maintenance



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- f. Glass break device missing or not attached - replace or attach
- g. Not properly identified - provide identification
- h. Visible obstruction - remove
- i. All valves, hose, etc. are accessible - remove anything not related



## V. Identify the process to conduct an in service inspection. 14-9.4

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### A. Process

1. All water supply valves are sealed in the open position
2. Power is available to the fire pump (in other words, the pump is in running condition)
3. Individual hose valves are free of paint, corrosion, and other impediments
4. Hose valve threads are not damaged
5. Hose valve wheels are present and not damaged
6. Hose cabinets are accessible



# Identify the process to conduct an in service inspection.

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7. Hose is in good condition, is dry, and is properly positioned on the rack of reel
8. Discharge outlets in dry systems are closed
9. Dry standpipe is drained of moisture
10. Access to the fire department connection is not blocked



# Identify the process to conduct an in service inspection.

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11. The fire department connection is free of obstruction, the swivels rotate freely, and the caps are in place
12. Water supply tanks are filled to the proper level
13. If the system is equipped with pressure-regulating devices, those devices are tested as required by the manufacturer
14. Dry systems are hydrostatically tested every five years