

Part 1 General

1.1 References

- .1 American National Standards Institute/National Fire Prevention Association (ANSI/NFPA)
 - .1 ANSI/NFPA 13-2002, Installation of Sprinkler Systems
- .2 Underwriters Laboratories of Canada (ULC)
 - .1 ULC S543-1984, Internal Lug Quick Connect Couplings for Fire Hose.

1.2 Related Sections

- .1 Section 15122 – Thermometers and Gauges.

1.3 Shop Drawings and Product Data

- .1 Submit shop drawings and product data in accordance with Section 01330 – Submittal Procedures and in accordance with ANSI/NFPA 13, working plans and design requirements.

1.4 Samples

- .1 Submit samples in accordance with Section 01330 – Submittal Procedures.
- .2 Submit samples of following:
 - .1 Each type of sprinkler head.
 - .2 Signs.

1.5 Engineering Design Criteria

- .1 Design system in accordance with ANSI/NFPA 13, using following parameters:
 - .1 Hazard:
 - .1 To suit occupancy as indicated.
 - .2 Pipe size and layout:
 - .1 Hydraulic design.
 - .2 Sprinkler head layout: to ANSI/NFPA 13 and as directed by authorities having jurisdiction.
 - .3 Water supply:
 - .1 Conduct flow and pressure test of water supply in vicinity of project to obtain criteria for bases of design in accordance with ANSI/NFPA 13.

- .4 Zoning:
 - .1 System zoning as indicated.

1.6 Closeout Submittals

- .1 Provide maintenance data for incorporation into manual specified in Section 01780 – Closeout Submittals.

1.7 Extra Materials

- .1 Provide maintenance materials in accordance with Section 01780 – Closeout Submittals.

Part 2 Products

2.1 Pipe, Fittings and Valves

- .1 Pipe
 - .1 Ferrous: to ANSI/NFPA 13.
 - .2 Copper tube: to ANSI/NFPA 13.
- .2 Fittings and joints to ANSI/NFPA 13:
 - .1 Ferrous: screwed, welded, flanged or roll grooved.
 - .2 Copper tube: screwed, soldered, brazed.
- .3 Valves:
 - .1 ULC listed for fire protection service.
 - .2 Up to NPS 2: bronze, screwed ends, OS& Y; gate.
 - .3 NPS 2 ½ and over: cast iron, flanged or roll grooved ends, indicating butterfly valve.
 - .4 Swing check valves.
 - .5 Ball drip.
- .4 Pipe hangers:
 - .1 ULC listed for fire protection services.

2.2 Sprinkler Heads

- .1 General: to ANSI/NFPA 13 and ULC listed for fire services.

2.3 Sprinkler Head Type A

- .1 Upright bronze.

2.4 Sprinkler Head Type B

- .1 Pendant chrome link and lever type.

2.5 Sprinkler Head Type C

- .1 Pendant chrome glass bulb type.

2.6 Sprinkler Head Type D

- .1 Recessed chrome, glass bulb type with ring and cup.

2.7 Sprinkler Head Type E

- .1 Flush chrome, link and lever type.

2.8 Sprinkler Head Type F

- .1 Side wall chrome, link and lever type.

2.9 Alarm Check Valve

- .1 Alarm check valve with retard chamber to ANSI/NFPA 13 and ULC listed for fire service.

2.10 Supervisory Switches

- .1 General: to ANSI/NFPA 13 and ULC listed for fire service.
- .2 Valves:
 - .1 Mechanically attached to valve body, with normally open and normally closed contacts and supervisory capability.
- .3 Flow switch type:
 - .1 With normally open and normally closed contacts and supervisory capability.
- .4 Pressure alarm switch:
 - .1 With normally open and normally closed contacts and supervisory capability.

2.11 Water Gong

- .1 To ANSI/NFPA 13 and ULC listed for fire service. Location as indicated.

2.12 Fire Department Connection

- .1 To ANSI/NFPA 13 and ULC S543 listed, Siamese type, location as indicated. Thread specifications to be compatible with local fire department.
- .2 Polished bronze, chrome plated exposed, with identifying sign cast on plate. Threaded metal caps and chains.

2.13 Excess Pressure Pump

- .1 Pumps: double acting displacement type, open cylinder design, direct drive, ULC listed, complete with relief valve.
- .2 Motor: EEMAC Class B squirrel cage induction 1725 rpm, continuous duty, drop proof, ball bearing, maximum temperature rise 50°C (90°F), 0.25kW (1/3 hp), 120/1/60.
- .3 Capacity: 7.6 L/min. (120 USgpm).
- .4 Pump operation switch: to operate excess pressure pump with pressure differential of 103 kPa (15 psi).
- .5 Electrical wiring by Division 16.
- .6 Shut-off valve and strainer on pump inlet. Relief valve, check valve and shut-off valve on discharge connections.

2.14 Pressure Gauges

- .1 ULC listed and to Section 15122 – Thermometers and Gauges.
- .2 Shall have maximum limit of not less than twice normal working pressure at point where installed.

2.15 Signs

- .1 Signs for controls drain and test valves: to ANSI/NFPA 13.

2.16 Anitfreeze

- .1 Anitfreeze loops to ANSI/NFPA 13, locations as indicated.

2.17 Spare Parts Cabinet

- .1 For storage of maintenance materials, spare sprinkler heads and special tools.
- .2 Construct to sprinkler head manufacturer's standard.

Part 3 Execution

3.1 Installation

- .1 Install, inspect and test to acceptance in accordance with ANSI/NFPA 13.
- .2 Install excess pressure pump across alarm valve in accordance with manufacturer's instructions.
- .3 Testing to be witnessed by the Engineer and the authority having jurisdiction.
- .4 Install water gong as indicated.

END OF SECTION