

**Part 1 General**

**1.1 RELATED REQUIREMENTS**

- .1 Section 01 00 10 – General Instructions.

**1.2 REFERENCES**

- .1 National Fire Prevention Association (NFPA)
  - .1 NFPA 13-2007, Standard for the Installation of Sprinkler Systems.
  - .2 NFPA 20-2007, Standard for the Installation of Stationary Pumps for Fire Protection.
  - .3 NFPA 24-2007, Standard for the Installation of Private Fire Service Mains and Their Appurtenances.
  - .4 NFPA 25-2008, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.
- .2 Underwriter's Laboratories of Canada (ULC)
  - .1 CAN4 S543-M984, Standard for Internal Lug Quick Connect Couplings for Fire Hose.

**1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 00 10 – General Instructions.
- .2 Product Data:
  - .1 Provide manufacturer's printed product literature and data sheets, and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
  - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Ontario.
- .4 Certificates:
  - .1 Submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
- .5 Manufacturers' Instructions:
  - .1 Provide manufacturer's installation instructions.

**1.4 QUALITY ASSURANCE**

- .1 Qualifications:
  - .1 Installer: company or person specializing in wet sprinkler systems approved by manufacturer.
- .2 Supply grooved joint couplings, fittings, valves, grooving tools and specialties from a single manufacturer. Use date stamped castings for coupling housings, fittings, valve bodies, for quality assurance and traceability.

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**Part 2            Products**

**2.1            DESIGN REQUIREMENTS**

- .1      Design automatic wet pipe fire suppression sprinkler systems in accordance with required and advisory provisions of NFPA 13, by hydraulic calculations for uniform distribution of water over design area.
- .2      Include with each system materials, accessories, and equipment inside and outside building to provide each system complete and ready for use.
- .3      Design and provide each system to give full consideration to blind spaces, piping, electrical equipment, ducts, and other construction and equipment in accordance with detailed shop drawings. Locate sprinkler heads in consistent pattern with ceiling grid, lights, and air supply diffusers.
- .4      Devices and equipment for fire protection service: ULC approved for use in wet pipe sprinkler systems.
- .5      Location of Sprinkler Heads:
  - .1          Locate heads in relation to ceiling and spacing of sprinkler heads not to exceed that permitted by NFPA 13.
  - .2          Uniformly space sprinklers on branch.

**2.2            PIPE, FITTINGS AND VALVES**

- .1      Pipe:
  - .1          Ferrous: to NFPA 13.
  - .2          Copper tube: to NFPA 13.
- .2      Fittings and joints to NFPA 13:
  - .1          Ferrous: screwed, welded, flanged or roll grooved.
    - .1              Grooved joints designed with two ductile iron housing segments, pressure responsive gasket, and zinc-electroplated steel bolts and nuts. Cast with offsetting angle-pattern bolt pads for rigidity and visual pad-to-pad offset contact.
  - .2          Copper tube: screwed, soldered, brazed, grooved.
  - .3          Provide threaded fittings into which sprinkler heads, sprinkler head riser nipples, or drop nipples are threaded.
  - .4          Plain-end fittings with mechanical couplings and fittings which use steel gripping devices to bite into pipe when pressure is applied will not be permitted.
  - .5          Rubber gasketed grooved-end pipe and fittings with mechanical couplings are permitted in pipe sizes 32 mm and larger.
  - .6          Fittings: ULC approved for use in wet pipe sprinkler systems.
  - .7          Ensure fittings, mechanical couplings, and rubber gaskets are supplied by same manufacturer.
  - .8          Side outlet tees using rubber gasketed fittings are not permitted.
  - .9          Sprinkler pipe and fittings: metal.
- .3      Pipe hangers:
  - .1          ULC listed for fire protection services in accordance with NFPA.

## **2.3 SPRINKLER HEADS**

- .1 General: to NFPA 13 and ULC listed for fire services.
- .2 Sprinkler Head Type:
  - .1 Type A: upright bronze.
  - .2 Type B: pendant chrome link and lever type.
  - .3 Type C: pendant chrome glass bulb type.

## **Part 3 Execution**

### **3.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

### **3.2 INSTALLATION**

- .1 Install, inspect and test to acceptance in accordance with NFPA 13 and NFPA 25.

### **3.3 PIPE INSTALLATION**

- .1 Install piping straight and true to bear evenly on hangers and supports. Do not hang piping from plaster ceilings.
- .2 Keep interior and ends of new piping and existing piping thoroughly cleaned of water and foreign matter.
- .3 Keep piping systems clean during installation by means of plugs or other approved methods. When work is not in progress, securely close open ends of piping to prevent entry of water and foreign matter.
- .4 Inspect piping before placing into position.

### **3.4 FIELD QUALITY CONTROL**

- .1 Manufacturer's Field Services:
  - .1 Obtain written report from manufacturer verifying compliance of Work, in handling, installing, applying, protecting and cleaning of product and submit Manufacturer's Field Reports as described in PART 1 - ACTION AND INFORMATIONAL SUBMITTALS.
  - .2 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.
  - .3 Schedule site visits, to review Work, as directed in PART 1 - QUALITY ASSURANCE.

**END OF SECTION**