

SECTION 21 1300
FIRE SUPPRESSION SPRINKLERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Wet Type Sprinkler System
- B. System design, installation, and certification.

1.02 RELATED REQUIREMENTS

- A. Section 21 0510 - General Fire Suppression Requirements
- B. Section 21 1100 - Fire Suppression Piping: Pipe, fittings, and valves.

1.03 REFERENCE STANDARDS

- A. FM P7825 - Approval Guide; Factory Mutual Research Corporation; current edition.
- B. NFPA 13 - Standard for the Installation of Sprinkler Systems; 2019.
- C. NFPA 25 - Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems; 2017.
- D. UL (DIR) - Online Certifications Directory; Current Edition.

1.04 SUBMITTALS

- A. See Section 21 0510 - General Fire Suppression Requirements for submittal procedures.
- B. Product Data: Provide data on sprinklers, valves, and specialties, including manufacturers catalog information. Submit performance ratings, rough-in details, weights, support requirements, and piping connections.
- C. Shop Drawings:
 - 1. Submit preliminary layout of finished ceiling areas indicating only sprinkler locations coordinated with ceiling installation.
 - 2. Indicate hydraulic calculations, detailed pipe layout, hangers and supports, sprinklers, components and accessories. Indicate system controls.
 - 3. Submit shop drawings, product data, and hydraulic calculations to Fire Marshall for approval and to Architect for review. Submit to Architect prior to submitting to Fire Marshal. Submit proof of approval to Architect. Install no piping until receipt of approved shop drawings.
- D. Project Record Documents: Record actual locations of sprinklers and deviations of piping from drawings. Indicate drain and test locations. Provide two (2) CD and three (3) paper copies of as-built drawings. CD's shall be in Autocad release 14 or later or in microstation V8 format.
- E. Manufacturer's Certificate: Certify that system has been tested and meets or exceeds specified requirements and code requirements. All certificates shall be signed by certificate holder.
- F. Operation and Maintenance Data: Include components of system, servicing requirements, record drawings, inspection data, replacement part numbers and availability, and location and numbers of service depot.

1.05 QUALITY ASSURANCE

- A. Maintain one copy of referenced design and installation standard on site.
- B. Conform to UL requirements.
- C. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.
- D. Equipment and Components: Provide products that bear UL label or marking.
- E. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Store products in shipping containers and maintain in place until installation. Provide temporary inlet and outlet caps. Maintain caps in place until installation.
- B. Store piping off floor and out of elements. Provide cover for piping to prevent dirt and debris from entering piping. Piping and fittings shall be rust free when installed.

1.07 EXTRA MATERIALS

- A. Provide extra sprinklers of type and size matching those installed, in quantity required by referenced NFPA design and installation standard.
- B. Provide suitable wrenches for each sprinkler type.

PART 2 PRODUCTS

2.01 SPRINKLER SYSTEM

- A. Sprinkler System: Provide coverage for the renovated area.
- B. Occupancy is primarily: Ordinary hazard, Group 1; comply with NFPA 13.
- C. Water Supply: Contractor shall perform or have performed an NFPA-13 water flow test and a 24 hour static pressure test. Adjust flow test to lowest pressure recorded by 24 hour test of one hour duration.

2.02 SPRINKLERS

- A. Tyco and affiliates, Victaulic, Viking, Reliable, Globe, & Grinnell.
- B. All sprinklers installed shall be by the same manufacturer.
- C. Contractor shall select temperature ratings in accordance with NFPA 13.
- D. Suspended Ceiling Type: Semi-recessed pendant type with matching flush push on two piece escutcheon plate.
 - 1. Finish: Enamel, color White. Match existing sprinkler heads.
 - 2. Escutcheon Plate Finish: Enamel, color White.
 - 3. Fusible Link: Quick response Glass bulb type temperature rated for specific area hazard.
 - 4. Orifice: 1/2".

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with referenced NFPA design and installation standard and these specifications.
- B. Install equipment in accordance with manufacturer's instructions.
- C. Place pipe runs to minimize obstruction to other work.
- D. Place piping in concealed spaces above finished ceilings.
- E. Center sprinklers in two directions in ceiling tile and provide piping offsets as required.
- F. Apply masking tape or paper cover to ensure concealed sprinklers, cover plates, and sprinkler escutcheons do not receive field paint finish. Remove after painting. Replace painted sprinklers.
- G. Flush entire piping system of foreign matter.
- H. Hydrostatically test entire system.

3.02 INTERFACE WITH OTHER PRODUCTS

3.03 SCHEDULES

- A. System Hazard Areas:
 - 1. Laboratory Areas: Ordinary Hazard, Group 1.

END OF SECTION