



City of Ramsey
Fire Prevention Bureau
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City Hall 763-427-1410 • www.cityoframsey.com

Automatic Fire Suppression Installation Requirements

Automatic sprinkler systems shall be installed or modified with a fire suppression permit and be in compliance with the following requirements:

General Information

- A. All Sprinkler systems must be designed and installed per current applicable standards to meet the minimum requirements of the Minnesota State Fire Code and National Fire Protection Association (NFPA) 13 standards.

Submittal Requirements

- A. A permit application signed by a state-licensed sprinkler contractor.
- B. A minimum of two sets of scaled plans signed by a state-licensed sprinkler contractor. Permit and one set of City-approved plans must be kept at the site.
- C. A minimum of one set of remote area hydraulic calculations for each area of different sprinkler designs.
- D. The manufacturer's specifications for all heads to be installed.
- E. A check was made to the City of Ramsey based on the valuation table on the permit application form.

Permit Issuance

- A. After plans are reviewed, a permit will be issued. You will receive one (1) copy of the reviewed plans to be placed on the job site.
- B. No work shall begin until a permit is issued and an approved set of plans are on the job site. Permits shall be posted in a conspicuous place on the job site.
 - A temporary permit may be issued. Each job will be considered independently for the issuance of a temporary permit. At a minimum, plans, specifications and calculations shall be submitted.

Calculations

- A. Sprinkler contractor is responsible for choosing the appropriate density and the accuracy of hydraulic calculations.
- B. The remote hydraulic area for a combustible attic must be increased by 30 percent for dry systems and an additional 30 percent for roof slopes. (2535 square feet)
- C. Sprinkler systems in buildings used for storage must have a minimum remote area designed for 2000 square feet.
- D. Sprinkler systems in industrial buildings with an undetermined use must have a minimum sprinkler design of Ordinary Hazard Group 2 over 3000 square foot design area and have 8.0 or higher K-factor sprinkler heads.
- E. Sprinkler systems with specialized design criteria (i.e., high pile storage, flammable liquids) must include a code analysis of the proposed design, including specific code references.

Water Supply

- A. All doors on the interior and exterior of the building providing access to sprinkler system controls must be clearly labeled as such.
- B. All systems, except 13D systems, must have a fire supply line separate from the domestic line. The 13D systems designer must provide calculations documenting that the water line can supply domestic and fire system demands.

Installation Requirements

- A. All building areas shall be sprinkled, including attics, electrical rooms, under stairs, overhead doors, each landing in stairwell, concealed combustible areas, elevator mechanical room, etc.
- B. Where required by the International Mechanical Code, automatic sprinklers shall be provided in ducts conveying hazardous exhaust and flammable or combustible materials. Exception: Ducts where the largest cross-sectional diameter of the duct is less than 10 inches.
- C. Main drain and primary inspector's test must terminate at the exterior of the building.
- D. The maximum height of indicating control valves and main drains shall not exceed 6 feet. You should be able to read all gauges from the floor.
- E. All systems in areas subject to freezing must be continuously heated and have a low-temperature alarm installed that will read a supervisory signal at the alarm panel.

System Components and Hardware

- A. Fire Department connection shall be a minimum of 15 feet from gas meters and electric transformers.
- B. Fire Department connection shall be a minimum of 2 feet above grade and a maximum of 4 feet above grade.
- C. Fire Department connection must be located on the address side of the building.
- D. All indicating control valves and risers shall have permanent signs identifying the building area controlled by that valve or riser.
- E. Power supply breakers for all alarm system components must have approved locking devices to prevent accidental power disconnection.
- F. A control valve will be required on all flammable storage rooms, hazardous materials storage rooms, spray booths, hoods, and other locations involving special consideration.
- G. Control valves are required before and after the check valve on systems that are a combination of domestic and fire served by one underground line.
- H. All indicating control valves must be secured and electronically supervised.
- I. All sprinkler systems containing air pressure shall have the air pressure electronically supervised.
- J. Monitoring of the system shall be in service prior to testing the sprinkler system.

Inspections Required

- A. 24-hour advance notice to the Fire Inspection Division is required for inspections and witnessing tests.
- B. Rough-in inspection required.
- C. 2-hour, 200# wet pressure test, including the fire department connection.
- D. 24-hour, 40psi air pressure test (for dry systems only).
- E. Main drain and alarm test.
- F. The flow switch setting is 35-60 seconds delayed when flowing through the inspector's test.
- G. Permit and one set of City-approved plans for work must be kept at the site, or inspections will not be performed.
- H. System must be 100 percent tested prior to calling for inspection. If an acceptance test of a system fails, a re-inspection must be scheduled. Re-inspection fees are \$50.00