



City of Ramsey
Fire Prevention Bureau
7550 Sunwood Drive NW
Ramsey, MN 55303
Business (763) 427-4452



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 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 design.
- D. The manufacturer's specifications for all heads to be installed.
- E. A check made out to the City of Ramsey based on the valuation table on 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. Permit 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 for the accuracy of hydraulic calculations.
- B. The remote hydraulic area for a combustable attic must be increased 30% for dry systems and an additional 30% for roof slope. (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.

Automatic Fire Suppression Installation Requirements

Page 2 of 2

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. On 13D systems designer must provide calculations documenting that the water line can supply both domestic and fire system demands.

Installation Requirements:

- A. All areas of a building shall be sprinklered including: attics, electrical rooms, under stairs, under overhead doors, each landing in stairwell, concealed combustible areas, elevator mechanical room, ect.
- B. Where required by the International Mechanical Code, automatic sprinklers shall be provided in ducts conveying hazardous exhaust, 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 inspectors 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 that are in areas subject to freezing are required to be continuously heated and have a low temperature alarm installed that will read a supervisory signal at 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, maximum 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 area of the building that is controlled by that valve or riser.
- E. Power supply breakers for all alarm system components must have approved locking devices to prevent the accidental disconnection of power.
- 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 combination 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. Flow switch setting of 35-60 second delay when flowing through the inspectors 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% 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.