



PREVENTION MANUAL

FIRE EXTINGUISHING SYSTEMS

405.18 SPRINKLER PIPING UNDER ONE INCH IN DIAMETER

EFFECTIVE: MARCH 1999

SCOPE

Requirements for existing sprinkler pipe that is less than one inch in diameter.

PURPOSE

The purpose of this policy is to clarify the requirements for existing sprinkler piping which is less than one inch in diameter.

BACKGROUND

At one time a 3/4-inch diameter pipe was acceptable to serve a single sprinkler head. Although this smaller diameter pipe loses 3 psi in 10 feet for a light hazard application (0.76 psi for 1-inch pipe), there is no need to replace 3/4-inch pipe that has not had its cross sectional flow area reduced by aging.

REQUIREMENTS

After 50 years (and coinciding with a five-year test) 3/4-inch sprinkler pipe shall be detached and inspected to determine if flow capacity has been significantly degraded as follows:

1. If the 3/4-inch pipe is at the highest elevation of an upward sloping branch line, check one of every ten branch lines. If problems are found, test a greater proportion.*
2. If the 3/4-inch pipe is at the lower elevation of an upward sloping branch line, or horizontal, check one of every four branch lines. If problems are found, test a greater proportion.*
3. Check drops and tailbacks for sediment. (Test at least three; if problems are found, test additional pieces.)

Pipe found to be significantly degraded as determined by the Fire Marshal (or designee) shall be replaced. If over 50% of the pipe inspected is significantly degraded, replacement of all 3/4-inch pipe, related fittings, and sprinkler heads with one-inch equivalent parts will be required.

- * If more than three significantly degraded pipes are located, all 3/4 pipe shall be inspected.