

NFPA 13 REQUIREMENTS

CRITERIA FROM NFPA 13, 1999 EDITION 9-1.5 WATER SUPPLY TREATMENT.

In areas with water supplies known to have contributed to microbiologically influenced corrosion (MIC) of sprinkler system piping, water supplies shall be tested and appropriately treated prior to filling or testing of metallic piping systems.

CRITERIA FROM NFPA 13, 2002 EDITION

4.3 Owners' Certificate.

The owner(s) of a building or structure where the fire sprinkler system is going to be installed or their authorized agent shall provide the sprinkler systems installer with the following information prior to the layout and detailing of the fire sprinkler system:

- (1) Intended use of the building including the materials within the building and the maximum height of any storage
- (2) A preliminary plan of the building or structure along with the design concepts necessary to perform the layout and detail for the fire sprinkler system
- (3) Any special knowledge of the water supply including known environmental conditions that might be responsible for microbiologically influenced corrosion (MIC)

15.1.5* Water Supply Treatment.

Water supplies and environmental conditions shall be evaluated for the existence of microbes and conditions that contribute to microbiologically influenced corrosion (MIC). Where conditions are found that contribute to MIC, the owner(s) shall notify the sprinkler system developed to treat the system using one of the following methods:

- (1) Install a water pipe that will not be affected by the MIC microbes.
- (2) Treat all water that enters the system using an approved biocide.
- (3) Implement an approved plan for monitoring the interior conditions of the pipe at established time intervals and locations.

A.15.1.5 Evaluation of the water supply and environmental conditions does not necessarily require a water sample analysis by a laboratory. Instead, general knowledge of the long-term condition of sprinkler systems with similar piping materials in similar environments on the same water supply can be a sufficient evaluation.

There are several options to address the effects of MIC on sprinkler systems. Some types of sprinkler pipe such as CPVC have not shown to be affected by MIC. Other types of pipe are being manufactured with a biofilm that resists the effects of MIC.

Where water supplies are treated with biocides, evaluation of the effects of the biocide on sprinkler system components (pipe, fittings, sprinklers, gaskets, valves, and seals) is just as important as evaluating the effect the biocide has on the organisms. Where water treatment is selected as the method to deal with MIC, all water entering the system during testing or flushing needs to be treated so that the organisms don't get a chance to establish themselves.

Since all of the conditions that can effect the growth of MIC are unknown, a plan to sample randomly selected interior positions in the system can be effective. The frequency and location of the interior inspections will depend on the extent of the known MIC problem with the same water supply and similar environmental conditions.