

Risks associated with corrosion

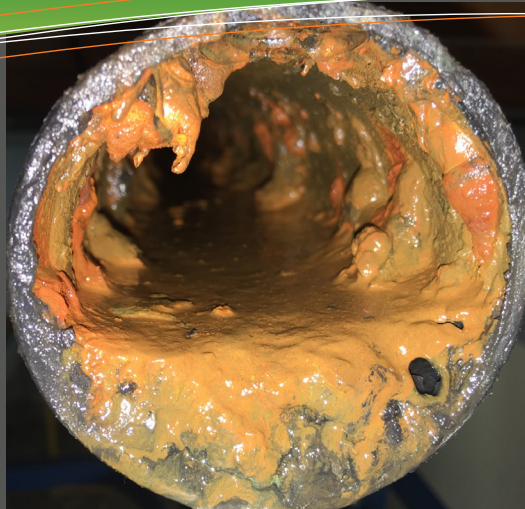
Risks include life safety risk, structure risk, property risk and business continuity risk. Corrosion in fire sprinkler systems leads to plugging problems, reduced sprinkler performance, water leak damage and reduced service life.

About ECS

ECS provides products and services to manage corrosion in fire sprinkler systems. Products include nitrogen generators, wet and dry system vents, and corrosion monitoring devices. Services include analytical testing, corrosion assessment and pipe replacement recommendations, project commissioning, and training.

Resources

Please visit our website for more information: ecscorrosion.com



Pervasive myths regarding corrosion have hindered the implementation of effective corrosion control strategies in fire sprinkler systems

The most common myths regarding corrosion

1. MIC, MIC, MIC - Microbiologically Influenced Corrosion is the primary cause of leaks in fire sprinkler systems.
 - *Bacteria are always present, but oxygen is the primary cause of corrosion in fire sprinkler systems.*
2. Bad water causes fire sprinkler system leaks.
 - *Almost all fire supply water comes from fresh, clean municipal water supplies that are not corrosive.*
3. Materially defective sprinkler pipe causes leaks, particularly at the weld seam.
 - *Pipe materials used today meet or exceed ASTM requirements and root cause analysis very rarely identifies material defect as the cause.*
4. Once a fire sprinkler system begins to have frequent pin-hole leaks, it must be completely replaced.
 - *Corrosion in sprinkler systems is highly localized. Typically less than 20% of system piping shows significant signs of corrosion.*

The case of galvanized steel sprinkler pipe

Perhaps the most costly myth of all is that galvanized steel piping performs better than black steel to prevent corrosion in dry pipe and pre-action fire sprinkler systems. Almost all dry pipe systems trap water. In areas with trapped water galvanized pipe will fail 3-4 times faster than black steel due to the highly localized nature of oxygen corrosion on galvanized material. Pin hole leaks will form in as little as 2 years in areas where trapped water collects.

The use of black steel pipe with a nitrogen generator as the source of supervisory gas is the most effective method of corrosion control in dry pipe and pre-action fire sprinkler systems.