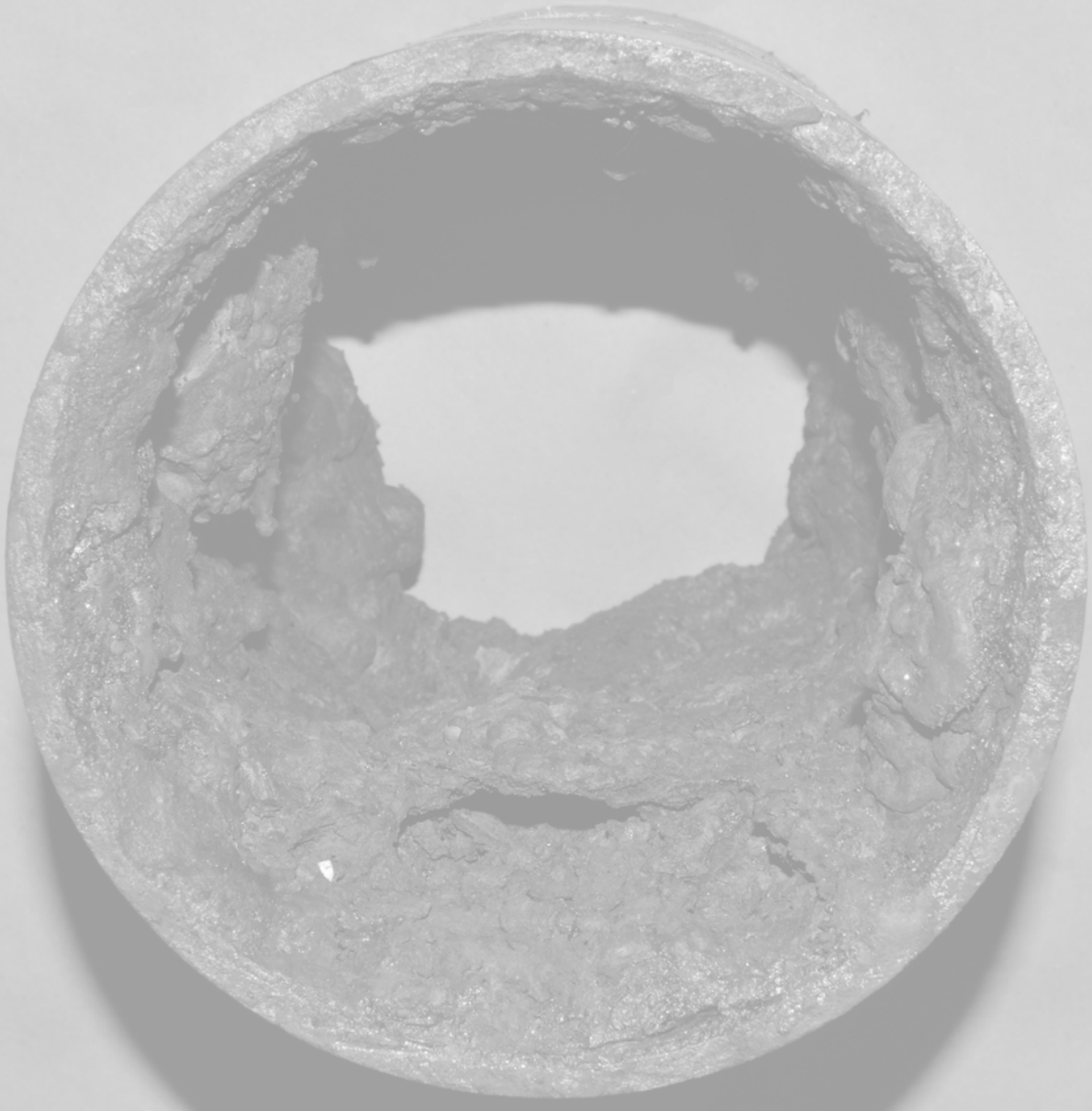
The De Facto Standard in Fire Sprinkler Corrosion Control™

# Corrosion Assessment Program for Water-Based Fire Sprinkler Systems



www.ecscorrosion.com
(314) 432-1377
sales@ecscorrosion.com

ECS™ Engineered Corrosion Solutions™

*Complete Corrosion Control.*

## What is a Fire Sprinkler System Corrosion Assessment?

Using video scoping equipment to view internal pipe conditions, analyzing pipe samples, and reviewing system design data and maintenance records, ECS determines the following:

1. Root cause of corrosion
2. Locations where damage has occurred
3. Severity of existing damage
4. Current level of risk for leaks and obstructions

## Why perform an ECS Corrosion Assessment?

NFPA 25 requires a five (5) year internal investigation, if deposits are found in the fire sprinkler system during the investigation, an obstruction investigation is required. If sufficient obstructions are found a complete flushing protocol must be implemented.

Flushing offers no long term corrosion control benefit and often creates more leaks, uncovers additional risk, and may eventually lead to full system replacement.

The ECS Corrosion Assessment exceeds code requirements and provides useable data that offers more cost effective system specific remediation options outside of system replacement.

| | ECS Corrosion Assessment | NFPA 25 Internal Investigation |
|---|---|---|
| Meets Code Requirement | Yes | Yes |
| Scope of Investigation | Hundreds of linear feet | Four (4) discrete points in system |
| Purpose | Identify localized corrosion, pipe leak risk and obstruction risk | Attempt to identify obstruction risk |
| Pipe Replacement Recommendations | Included | Not Included |
| Long Term Corrosion Management Strategy | Included | Not Included |

## DID YOU KNOW?

According to a 2017 NFPA report, 81% of fire sprinkler systems that activated but failed to control the fire were due to *no water* or *insufficient water* delivered to the sprinkler. As systems age and corrode the ability of the system to perform as originally designed is **significantly compromised**.

Reference: “U.S. Experience with Sprinklers” by Marty Ahrens, National Fire Protection Association Data and Analytics Division - July 2017

## SUPPORTING ACTIVITIES

### Video Scoping of Internal Piping

Rather than removing an end cap for visual inspection of the piping, as required by NFPA 25, ECS video scopes extensive lengths of system piping to gain a clear understanding of the areas where corrosion is occurring in the system.

### Analyzing Pipe Samples

Sectioning, cleaning, and analyzing pipe samples quantifies the metal loss that has occurred and is the only way to identify the root cause of corrosion in a fire sprinkler system and evaluate if existing piping can remain in the system.

### Review of System Drawings

Provides understanding of the fire sprinkler system configuration and allows determination of the most likely locations of corrosion activity before the investigation begins.

### Identification of "Hot Spots"

Ensures investigation at locations where failures have occurred in the past, and identification of most likely locations for accelerated rates of corrosion (trapped air or water, higher temperatures, potential obstruction locations).

### Interview of Maintenance Staff

Gain information of the system history (location of failures, repairs, history of tenant modifications, and results of previous inspections.)

## Who Should Perform a Corrosion Assessment?

- **Fire Sprinkler Contractors**: proactive value add service for your customers to reduce costs and provide long term solution to ongoing corrosion problems
- **Mission Critical Facilities**: discover corrosion risks before they disrupt critical business operations or damage essential property
- **Property Owners and Managers**: corrosion assessments prevent unnecessary pipe replacement costs and identify obstruction risks
- **Due Diligence** study before property lease or purchase; *know before you buy*


Branch line with significant corrosion deposits, clear air-water interface


Same branch line with no corrosion, water filled with no air-water interface

Investigating four locations within a fire sprinkler system, as required by NFPA 25, is not an appropriate method of evaluating corrosion activity and does not insure that locations most likely to experience corrosion will be investigated. It is imperative to identify locations that have been damaged by corrosion or are obstructed by corrosion by-products.

## An ECS Corrosion Assessment Provides:

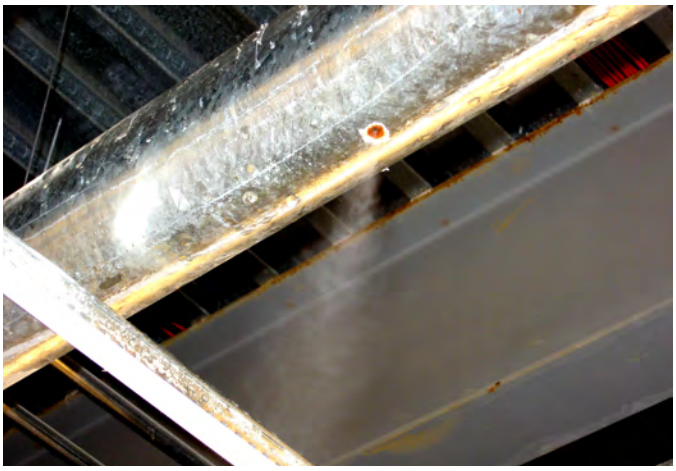
- Root cause analysis
- Extensive video of the internal piping
- Pipe replacement and flushing recommendations for specific, localized areas
- A long term corrosion remediation plan based on useable system data – puts a stop to leaks

## SPRINKLER SYSTEM PIPE FAILURE HIERARCHY OF RISK

| |
|---|
| Galvanized Pipe Systems of Any Age (Dry or Wet Pipe) |
| Black Steel Systems over 10 years old (Dry Pipe) |
| Thin-wall Black Steel Systems with Leak History (Wet Pipe) |
| Black Steel Systems over 25 years old (Wet Pipe) |

## DID YOU KNOW?

An ECS Fire Sprinkler System Corrosion Assessment combined with surgical pipe replacement and a corrosion control program can ***save up to 90%*** of total system replacement costs and significantly extend the useful life of the existing sprinkler system.



Galvanized Pipe Leak

## IDENTIFY RISKS:

### Life Safety Risk

Will the fire sprinkler system provide the appropriate level of response to prevent injury or loss of life?

### Catastrophic Structure Risk

Will the fire sprinkler system prevent loss of the structure?

### Piping Failure Risk

Will the sprinkler piping fail and leak resulting in water damage to the structure and building contents?

### Business Continuity Risk

Will the failed (leaking) fire sprinkler system cause business interruption or downtime?

## Contact ECS to find out how we can help!

(314) 432-1377

sales@ecscorrosion.com

# The De Facto Standard in Fire Sprinkler Corrosion Control™