

Corrosion Management for Sprinkler Systems

Existing Facilities

A close-up photograph of two pressure gauges and various brass fittings on a green surface. The gauges have white faces with black markings and are labeled 'psi'. One gauge shows a reading of approximately 150 psi. The fittings are made of brass and are connected to a green pipe or manifold. The background is a dark grey and green geometric pattern.

ECS



Engineered
Corrosion
Solutions

Sprinkler Corrosion Science

Oxygen: Primary Cause of Corrosion

Nitrogen: Inert Gas

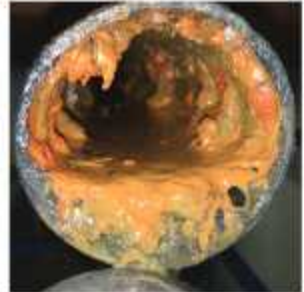
Remove Oxygen, Replace with Nitrogen = **Corrosion Stops!**



Dry Pipe Systems Trap Water



Wet Pipe Systems Trap Air



RISK

1. Business Downtime + Property Loss = \$\$
2. Life Safety - Blocked Sprinkler Heads

Corrosion Prevention Methods

Dry Pipe and Preaction Systems

Dry Pipe Nitrogen Inerting - Nitrogen Generators



Wall-Mount Nitrogen Generator
Up to 3,500 Gal.
100,000 sf approx.



Stand Alone Nitrogen Generator
Up to 22,500 Gal.
650,000 sf approx.



Wet Pipe Systems

Air Venting

Wet Pipe Nitrogen Inerting



ECS Ejector Automatic Air Vent
(PAV-W)



ECS Protector Nitrogen Inerting Vent
(PAV-WN)



The 2016 Edition of NFPA 13 requires a means of venting air on all wet pipe fire sprinkler systems.

Installation Schematics

Dry Pipe and Preaction Systems

Wall Mount Nitrogen Generator



Stand Alone Nitrogen Generator



Wet Pipe Systems



Air Vent Installation
(Remote High Point)

Wet Pipe Nitrogen Inerting
Equipment Configuration



Return on Investment

Dry Pipe and Preaction Systems

98% Nitrogen: >4x Service Life Multiplier

Cost of Full System Replacement: \$3.00 - \$5.00 per sf

Average Dry System Service Life: 20 years

Cost of Nitrogen Implementation: \$0.20 - \$0.40 per sf



Real-Life Scenario: Resort - Hilton Head, SC

Complete dry system replacement after 20-year service life

Facility size: 142,500 sf

Full System Replacement Cost: \$480,000 (\$3.37/sf)

Nitrogen Implementation Cost: \$34,850 (\$0.24/sf)

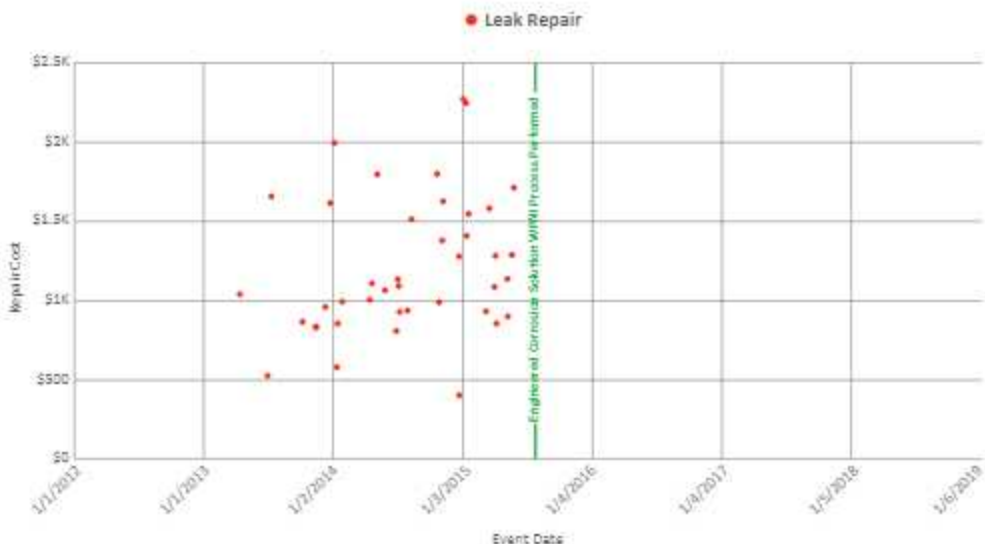
Nitrogen Savings/Yr, 80-year expected service life: **\$18,000**

Nitrogen Return on Investment (ROI): **1.9 Years**

Return on Investment

Wet Pipe Nitrogen Inerting (WPNI)

Big Box Store – Wilmington, NC



Years in service: 26

Pinhole leak repairs: 41

Total repair cost: \$49,929

WPNI performed on: 8/11/2015

Cost of WPNI implementation: \$12,000

Pinhole leaks since WPNI: 0

WPNI: **Stop pinhole leaks in their tracks**

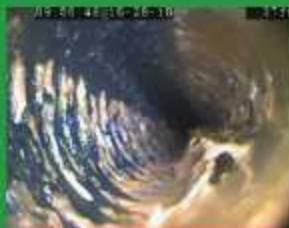
Avoid complete system replacement for **less than 10% of the cost!**

Analytical Services

Corrosion Assessments

Primary Investigative Tools:

- 1 Internal Video Scoping
- 2 Pipe Sample Analysis
- 3 EDS Deposit Analysis



Branch line at 37ft with significant corrosion deposits, clear air-water interface



Same branch line at 16ft with no corrosion, water filled with no air-water interface

Fire Sprinkler Corrosion is Highly Localized!

Corrosion Assessment Combined with Surgical Pipe Replacement

+

Corrosion Control Program

=

90% Savings vs. Total System Replacement!

Pipe sample,
as received



After
media
blasting



Our Mission

We are not your typical fire protection equipment manufacturer. We think differently. We are innovators at the intersection of corrosion and fire protection who set out to become the world's best. Our laser focus on the industry is the reason why we're the leader in corrosion control solutions and services.

Our focus on service keeps our customers coming back. Our clients often remark on how easy it is to receive technical support, all you have to do is call us to immediately get in touch with a product specialist who can solve your problem. Our technical background and extensive fire protection experience allows us to provide services that simply cannot be matched by manufacturers that work through a distributor. We are invested in the success of our partners. We realize that our success is tied to yours.



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