

DeOx™ | Corrosion Solutions for Wet Fire Protection Systems



DeOx™

Choose *your* level of protection.



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DeOx™

Corrosion Inhibiting Solutions

At South-Tek Systems, we understand the science behind corrosion and have always been committed to ongoing testing, having provided the Fire Protection Industry with the first and longest running corrosion study of sprinkler piping exposed to both compressed air and nitrogen. And we not only advise on corrosion, but we manufacture the most efficient and cost effective engineered corrosion solutions on the market.

Our solutions have successfully inhibited corrosion and maximized the customer's sprinkler pipe service life in more than 7,500 Fire Protection Systems worldwide.

UNDERSTANDING CORROSION

Wet Sprinkler System Corrosion

Sprinkler pipe corrosion is a serious threat for organizations that rely on wet sprinkler systems to protect their facilities. Internal corrosion, resulting in the formation of localized pinholes, leads to costly damage from leaks and catastrophic losses when compromised sprinkler systems are rendered inoperable during a fire.

Under the law of simple physics, air migrates through wet sprinkler piping to the highest points of the system, where it accumulates in pockets under compression due to the water pressure in the system. The oxygen within the trapped air pockets drives the corrosion of the sprinkler pipe at the air-water interface. Another driving factor of corrosion is the freshly oxygenated water that fills the system. The dissolved oxygen in the fill water reacts with the steel to form a layer of corrosive black iron oxide (magnetite) along the interior pipe wall, thereby contributing to sprinkler pipe corrosion in areas of the system other than the air-water interface at high points.

CHOOSE YOUR LEVEL OF PROTECTION

DeOx™ Corrosion Solutions

South-Tek Systems' full suite of wet sprinkler system solutions offers the right level of corrosion protection for any facility. The patent pending **DeOx™ - Dual Vent O₂-Release System™** provides baseline defense by helping to eliminate the corrosive air-water interface along the high points of the sprinkler pipe network.

For proactive defense, we recommend combining the *O₂-Release System™* with the **DeOx™ - N₂-Inert System™**. The *N₂-Inert System™* introduces 98%+ pure nitrogen into the system, eliminating the air-water interfaces that may still exist in undetected areas.

And for maximum corrosion protection, look no further than the patent pending **DeOx™ - DeOxygenation System™**. Utilizing the most advanced corrosion inhibiting technology in the world, the *DeOxygenation System™* not only employs the *N₂-Inert System™* to preinert with ultra-high purity nitrogen, but removes the dissolved oxygen and filters the harmful bacteria from the fill water prior to it entering the wet sprinkler piping.



DeOx™

Wet Air Vent Solutions

DeOx™ - *Single Vent O₂-Release System™*

- | Displaces corrosive trapped air from within the sprinkler piping
- | Eliminates the air-water interface, the typical location of wet pipe corrosion
- | Does not create a water trap; the valve fully drains back to FPS
- | Install one (1) per high point of the FPS
- | Mounts horizontally on either a vertical or horizontal section of the FPS piping
- | Low clearance height allows for an easy high point install
- | Not to be installed in water-sensitive area
- | Clearance Height: 7.65"

Single Vent O₂-Release System™



DeOx™ - *Dual Vent O₂-Release System™*

- | Includes all of the benefits of the *Single Vent O₂-Release System™*, plus the following:
- | Dual valve provides redundancy and eliminates failure concerns
- | Eliminates over spill and can be installed in water sensitive areas
- | Water accumulation automatically drains back to the FPS by depressurization
- | Eliminates the need for a scissor lift or ladder
- | Low clearance height allows for an easy high point install
- | Provided with FM/UL Approved valve
- | Secondary air vent valve can be purchased separately and added to single vent installations
- | Clearance Height: 7.65"

Dual Vent O₂-Release System™



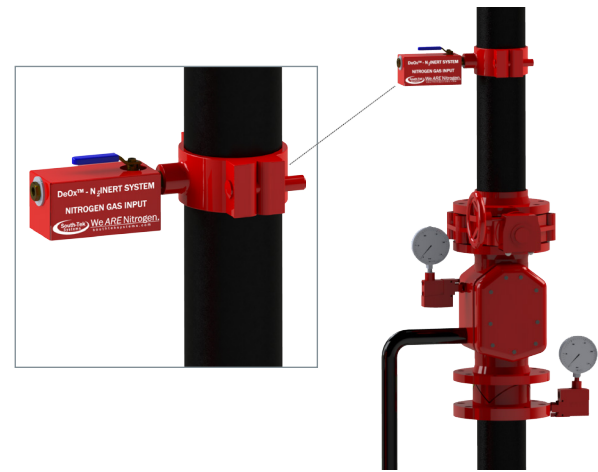
DeOx™

N₂-Inert & DeOxygenation Systems

DeOx™ - N₂-Inert System™

- | Reduce oxygen levels within any wet FPS
- | Achieve high purity N₂ pre-fill within minutes
- | Displace all trapped air within a wet system with pure Nitrogen
- | Reduce the air-water interface and lessen the likelihood of electrochemical corrosion developing within the sprinkler system
- | Includes injection port and exhaust manifold
- | Allows for up to 40 PSIG N₂ fill
- | Operating temperature range of 40°F - 120°F
- | Fully pneumatic, no electrical required
- | Easy installation and zero maintenance

N₂-Inert System™



DeOx™ - DeOxygenation System™

- | Easily integrates into a new or pre-existing FPS
- | Targets both aerobic and anaerobic bacteria
- | Filters particulates and removes impurities from the fill water
- | Reduces oxygen content from 10 PPM to less than 1.0 PPM
- | Water containing 1.0 PPM or less oxygen inhibits the corrosion reaction
- | Eliminates the problematic oxygen-water interface
- | Protects the installation and extends the life of the sprinkler piping



DeOx™ | Corrosion Solutions

for Wet Fire Protection Systems

CHOOSE YOUR LEVEL OF CORROSION PROTECTION



Level 1

- One O₂-Release System recommended per high point of piping network to eliminate corrosive air-water interface at point of installation.
- Baseline corrosion protection.

Level 2

- O₂-Release Systems required - one recommended per high point of piping network.
- N₂-Inert System eliminates corrosive air-water interface at trapped air pockets that may still exist in undetected areas.
- Proactive corrosion defense.

Level 3

- Reduces fill water dissolved oxygen content to level where corrosion is inhibited.
- Eliminates bacteria in fill water
- Inhibits corrosive air-water interface throughout entire piping network.
- The ultimate in corrosion protection.

DeOx™

O₂-Release

DeOx™

N₂-Inert

DeOx™

DeOxygenation

South-Tek Systems

- *DeOx™ Certification Program*
- *On-site Commissioning*
- *Warranties*



DEOX™ CERTIFICATION PROGRAM

We invite you and your team to South-Tek's headquarters in Wilmington, NC to take part in the one (1) day, all-inclusive DeOx™ Certification Program. This program provides the knowledge to successfully educate, install and maintain the entire line of DeOx™ Corrosion Inhibiting Solutions for wet systems.

DEOX™ ON-SITE SYSTEM COMMISSIONING

South-Tek provides on-site commissioning for all DeOx™ products anywhere in the world. Protect your installation by having an in-house, manufacturer's technician visit the site to commission the system. Ensure a proper installation and learn how to operate, troubleshoot and maintain the equipment.

DEOX™ WARRANTIES

South-Tek Systems warrants to the purchaser that all products manufactured by South-Tek Systems shall be free of defects in material and workmanship for a period of one (1) year from the date of shipment to the purchaser (per South-Tek Systems' Terms & Conditions). The South-Tek Systems warranty only applies to products manufactured by South-Tek Systems.



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