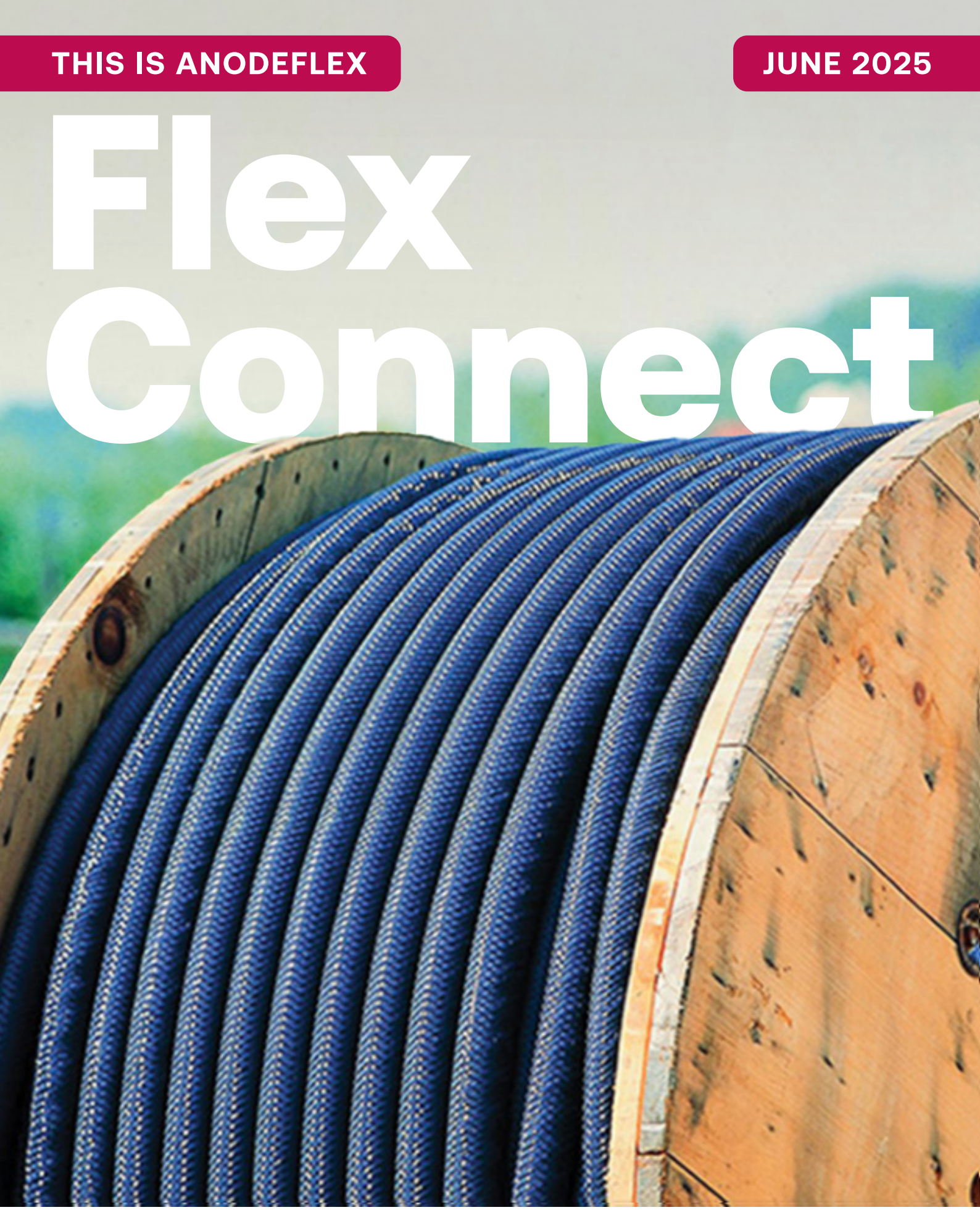
THIS IS ANODEFLEX

JUNE 2025

Flex Connect



SEALFORLIFE Industries

Anodeflex®
Cathodic Protection & AC Mitigation

Flex Connect

Anodeflex®

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JUNE, 2025

Quarterly Newsletter Issue 3:

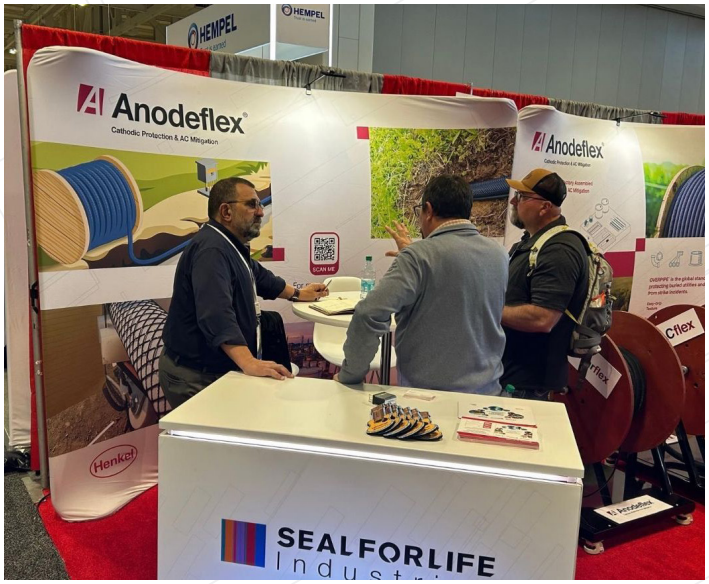
Anodeflex - AMPP Nashville

Anodeflex & Seal For Life Take Nashville by Storm at AMPP Corrosion 2025

On April 6th and 7th, Nashville, TN, was drenched by a powerful storm, but inside the city's convention halls, another kind of storm was brewing. At the AMPP Corrosion 2025 Conference, Anodeflex and Seal For Life showcased their innovative solutions, making waves across the industry.

With three dynamic booths, Henkel's Seal For Life, CSNRI / Loctite, and Anodeflex presented a range of industry-leading products that are shaping the future of corrosion control. Among the highlights, Henkel's Pradhyumna Ingle shared Henkel's vision on how the company is redefining infrastructure repair and protection.

The Anodeflex booth drew plenty of attention, featuring a host of game-changing solutions. From the state-of-the-art **Linearflex** linear anode and the **ACflex** performance mitigation system, to **OverPipe,** our pipeline excavation strike incident protection system, the booth offered a full spectrum of solutions. Attendees also got an overview of the upcoming **Verticalflex** deep anode system, poised to revolutionize the industry.



Beyond the products, the event was a celebration of collaboration and connection. Henkel, Seal For Life, and Anodeflex engaged in meaningful, solution-oriented conversations with our loyal customers, strengthening existing relationships and forging new ones.

AMPP Corrosion 2025 left a lasting impression. We are deeply thankful to our customers for making this event a resounding success and look forward to continuing our journey toward innovation and excellence together.

Anodeflex

Trends and Technologies Affecting AC Stray Current on Pipelines

What are the current trends and technologies affecting AC induced voltages on pipelines collocated with HVAC/HVDC transmission line rights-of-way?

With the increased constraints on land use and regulatory pressures, more pipelines are being collocated with HVAC and HVDC transmission lines in shared rights-of-way. This trend is increasing the risk of electromagnetic interference (EMI) and AC-induced corrosion.[4]

Today there is a massive growth of power demand driven by AI data centers.[1] By 2030, it is estimated that AI data centers will triple their power consumption. AI requires high-density server racks, which draw enormous continuous current loads.[1] These data centers are also often located near transmission corridors for direct access to the needed power, which increases the likelihood of pipeline collocation and electromagnetic field (EMF) coupling.[2]

Electric vehicles (EVs) and their charging station infrastructure need is driving the growth of new charging sub-stations often located near HVAC corridors. This is another technology and trend that is adding to the electromagnetic environment affecting pipelines.

The new trend of reconductoring – the upgrading of high-temperature low-sag (HTLS) or aluminum composite core conductors on transmission lines - is having tremendous effects of AC induced voltages on collocated pipelines. These new conductors are carrying much higher current loads, which increases the EMF intensity around the transmission lines. This leads to higher induced current and voltages on their nearby pipelines.[4]

[1] McKinsey & Company - How Data Centers and the Energy Sector can sate AI's hunger for power (2025)
[2] Technology Magazine – The New Era of AI and its Impact on Data Centers (2024)
[3] US Department of Energy – Powering AI and Data Center Infrastructure
[4] TRC Companies – Enhancing Pipeline Integrity: HVAC/DC Interference Studies and EMF Analysis (2025)
[5] PHMSA – 49CFR 192.473 – External Corrosion Control: Interference Currents

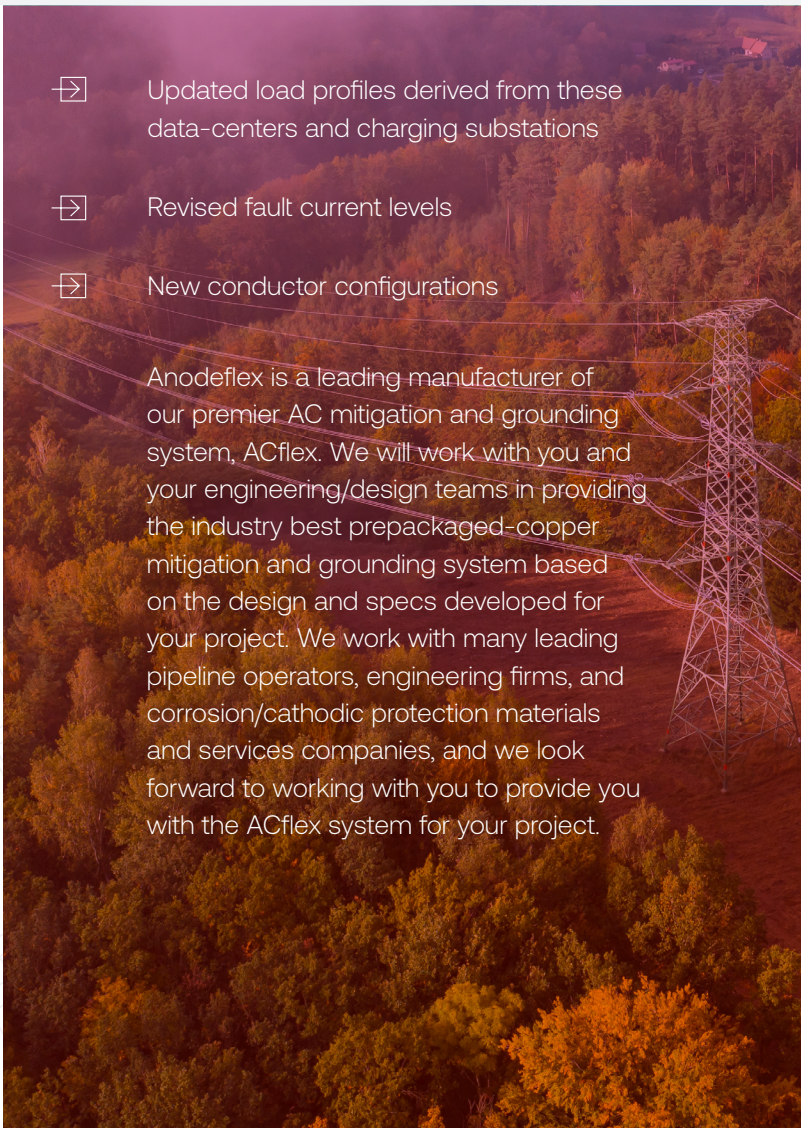
Why does this matter to operators of pipelines?

These higher EMF ranges are leading to greater induced AC voltages, which can exceed the standards and thresholds for coating integrity and cathodic protection, even on pipelines that currently have well applied coatings and cathodic protection.[1]

The touch step voltage hazards and risks to personnel and the public, becomes a serious issue.

Regulations are changing with stricter standards (i.3. IEEE, IEC, AMPP, PHMSA) for EMF exposure and AC mitigation[3][5])

There is a need for updated and re-visited AC interference modeling for pipelines collocated along these trends and technology affected high-voltage transmission corridors. Without updated modeling, any existing AC/DC mitigation systems may be under designed. These updated and revisited models need now to also account for[4]:



- Updated load profiles derived from these data-centers and charging substations
- Revised fault current levels
- New conductor configurations

Anodeflex is a leading manufacturer of our premier AC mitigation and grounding system, ACflex. We will work with you and your engineering/design teams in providing the industry best prepackaged-copper mitigation and grounding system based on the design and specs developed for your project. We work with many leading pipeline operators, engineering firms, and corrosion/cathodic protection materials and services companies, and we look forward to working with you to provide you with the ACflex system for your project.

Webinar **Speaker**

19 JUNE, 2025

10:00 AM CST

DEAN LIOLIOU

US Sales Manager

Anodeflex

A Webinar to the Steel Tank Institute/Steel Plate Fabricators Association (STI/SPFA)

Join **Dean Lioliou** for a **Webinar on "An Introduction to Cathodic Protection – CP 101" to the Steel Tank Institute/Steel Plate Fabricators Association (STI/SPFA)** on June 19, 2025.

STI/SPFA is the leading representative of the steel fabrication industry for tank and pipe fabrication, education, advocacy, and industry networking.

I will address:

- What is Corrosion
- What are the Effects of Corrosion on US Infrastructure
- What is Cathodic Protection
- Understanding Cathodic Protection Techniques
- Where is Cathodic Protection Used
- Cathodic Protection Materials and Types of Cathodic Protection Systems

Link to webinar: Cathodic Protection 101 – STI/SPFA

Anodeflex

Linear Anodes vs. Re-Coating on Poorly Coated Pipelines – which one to use and when?

On June 25th, at the University of Oklahoma Corrosion Control Course and on Sept 9th at the AMPP Central Area Conference, Dean Lioliou will be presenting “Linear Anodes – When to use them for Poorly Coated Pipelines?”

We have a very old and aging pipeline infrastructure with over 3 million miles of pipelines in the US and 1/3 in serious risk of coating degradation and corrosion. How do you know what solution is best for addressing this issue with your assets? Linear Anodes? Re-Coating? It depends.

Typically, it is viewed to use:

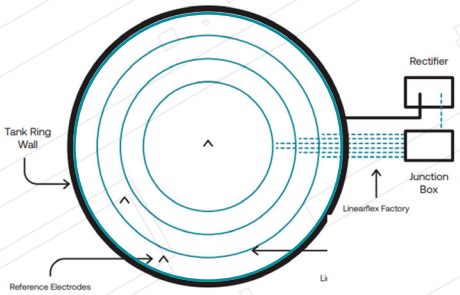
- Re-coating for high-risk or accessible segments
- Linear anodes for long stretches, inaccessible areas, and more cost-effective solutions

This presentation evaluates the different methods of corrosion control on aging, poorly coated pipelines using linear anodes vs. recoating. An analysis and comparison of the different types of coatings – epoxies, viscoelastics, PE/PP coatings – vs linear anodes – ICCP, shallow/distributed beds, linear beds, MMO, HSCI, graphite anodes – and which system is more effective on addressing poorly coated pipeline and coating degradation issues. The presentation has a direct focus on linear anodes, when to choose linear anodes, picking the right linear anode materials, and understanding the key performance indicators of linear anodes to address coating degradation on aging pipelines.

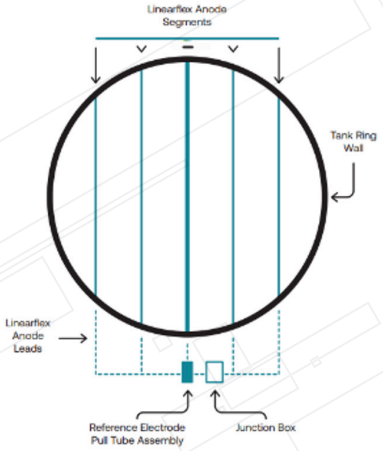
Linearflex Linearflex for Above Ground Storage Tanks

Above Ground Storage Tanks (AST's) have unique needs for protecting the tank's floor from corrosion. Anodeflex's Linearflex system is designed to perfectly work in a concentric ring pattern between the secondary liner and the tank floor and pad or installed through horizontal directional drill (HDD) under the tank to protect the tank's floor from corrosion.

Linearflex Concentric Ring Application



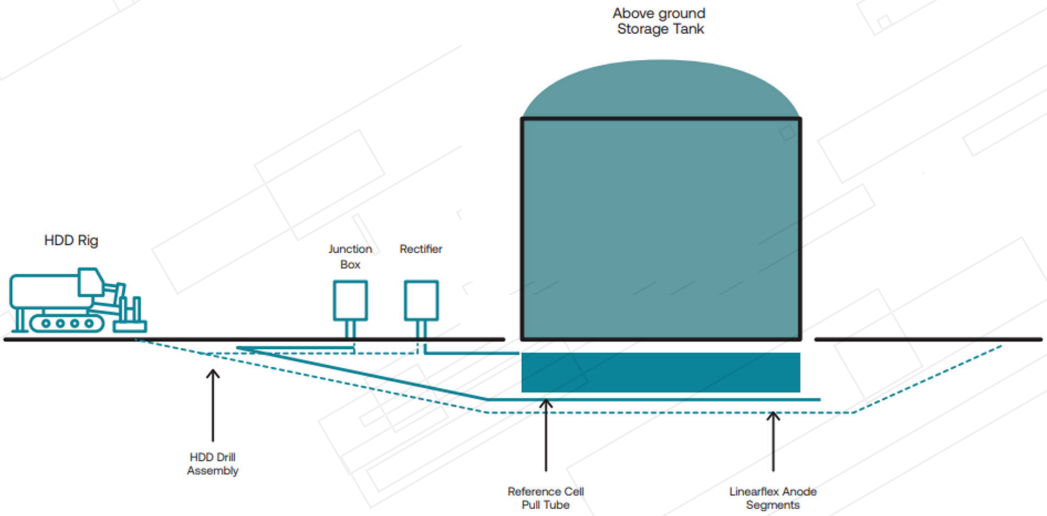
Linearflex HDD Application (Top View)



Linearflex is factory assembled so installation is fast and easy in new tank construction, retrofit CP systems if the floor is replaced, between double bottom floors, or HDD installed on existing tanks. There is no welding, cutting or field assembly required. Linearflex is comprised of a MMO anode system with either a Titanium or Copper Core, option of cable sizes from #6AWG, #8AWG, 1/0 or 2/0, Loresco™SC-3 carbon backfill in an acid-resistant fabric braided sock. The current output of each system is also manufactured to the specific design, from 25mA to 400mA if needed. The design life of the system can range from 25 yrs to 100+ years. Linearflex is factory tested prior to shipping and provides superior current distribution to address the tanks CP design. Each Linearflex system ring is manufactured and cut to the length of the customers' drawings and design, with lead tail lengths to specification for the distance to the junction box and the rectifier.

Linearflex provides excellent cathodic protection (CP) for new tank construction and existing tank replacement CP systems. It helps mitigate corrosion on tank bottoms and allows for tanks to be individually protected by cathodic protection, while eliminating stray current issues that may be present.

Linearflex HDD Application (Side View)



Anodeflex At the Events

Anodeflex will be attending and exhibiting at:

19 **JUNE '25**

STI/SFPA Webinar - Introduction to Cathodic Protection (CP 101)

Online Webinar Presenting - Introduction to CP - CP 101

25-26 **JUNE '25**

71st Annual OU Corrosion Conference

Norman, OK Presenting - Linear anodes - When to use them for poorly coated pipelines

19-20 **AUG '25**

Western Regional Gas Conference

Tempe, AZ

08-10 **SEP '25**

AMPP Central Area Conference

Odessa, TX Presenting - Linear anodes - When to use them for poorly coated pipelines

16 **SEP '25**

AMPP Kansas City Quarterly Chapter Meeting

Kansas City, KC

Stop by our booths to learn more about Anodeflex and our products, including Linearflex, ACflex, OverPipe, and the upcoming Verticalflex. Explore our other evolutionary products, including the Linearflex T-Splice Anode, and discover how we can serve you.

Stay tuned for our next issue in September 2025.

WE'RE HERE TO HELP

Get In Touch For More Information

We look forward to hearing from you. If you wish to contact us, please send us an email at info@sealforlife.com

Anodeflex®
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SCAN ME