



# The LEADING Edge

## BUILDING A FRAMEWORK FOR VpCI®/ESD SOLUTIONS

Cortec® returned to the annual EOS/ESD Symposium in early October to continue our venture into the world of ESD packaging. This year, our R&D Laboratory Manager, Pavlo Solntsev, joined VP of Sales (Eastern North America), Mike Gabor, at the show, where a dedicated following of ESD experts were gathering for the event's 45<sup>th</sup> year. Both Pavlo and Mike noticed a particular interest in sustainable solutions for the ESD market and thus directed attendee attention to possibilities such as EcoSonic® ESD paper technology.

Our team also had the chance to get a better grasp on what is currently available in the world of ESD packaging, noting a clear hierarchy of pink poly (first generation), blue permanent ESD (second generation), and ESD shielding (third generation) bags. This underscored Cortec's position on the cutting edge of ESD/VpCI® packaging, since Desco, a manufacturer and distributor of static control products, was present at the show sharing their new co-branded version of permanent ESD bags with Cortec® VpCI® Technology. Most recently, Desco and Cortec® have been working together to take ESD/VpCI® packaging to the next level by combining VpCI® with static shielding technology for the ultimate protection of sensitive components.

For Pavlo, the best part was being able to try ESD testing equipment in person. This hands-on learning offered a completely different perspective than simply reading through testing standards. When Pavlo later visited the QC lab at our Cortec®



Mike Gabor (VP Sales ENA) and Pavlo Solntsev (R&D Laboratory Manager).

Advanced Films division in Cambridge, Minnesota, he immediately recognized equipment from the same companies exhibiting at the show. Equipped with this background knowledge and experience, Cortec® will continue to look for new ways to bring the dual benefit of corrosion protection and ESD to the packaging industry.

# Lab News

## Have You Noticed Our New Lab Accreditation Logo?

If you have recently received a test report from Cortec® Laboratories, Inc., you may have noticed the new logo at the top of the cover page. This is because in May 2023, we changed our ISO/IEC 17025:2017 lab accrediting registrar to Perry Johnson Laboratory Accreditation, Inc. (PJLA), which is internationally recognized and has a long record of trusted accreditation services.

The laboratory's fulfillment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results. Through accreditation with PJLA, Cortec® Laboratories Inc. is listed on the ILAC international list of proficiency testing providers whose testing has been validated against other labs in the industry. To see the lab's certificate with the full scope of accreditation and the official PJLA logo, please click here: <https://www.corteclaboratories.com/wp-content/uploads/2023/10/Cortec-L23-670-AC-Final.pdf>.

## Amping up for AMPP!

We are proud to be making a significant contribution to the AMPP 2024 symposia with the submission of five papers by members of Cortec® Laboratories. Be sure to look for the following topics when you attend the conference next March 3<sup>rd</sup>-7<sup>th</sup> in New Orleans, Louisiana!

- "Gearbox Corrosion Mitigation During Storage And Intermittent Operation" (submitted by Pavlo Solntsev, R&D Laboratory Manager)
- "High-Temperature-Stable Vapor Corrosion Inhibitor for CUI" (submitted by Ming Shen, Manager of Green Chemistry Initiative)
- "Compostable VCI Film Brings Corrosion Protection 'Back to Nature'" (submitted by Ming Shen, Manager of Green Chemistry Initiative)
- "Evaluating The Flash Rust Protection Of Water-Based Cleaners And Their Role In Surface Preparation" (submitted by Lisa Marston and Luke Stone, Technical Service Engineers)
- "Redefining Conventional With Biobased Alternatives" (submitted by Lisa Marston and Luke Stone, Technical Service Engineers)

Learn more about AMPP 2024 here: <https://ace.ampp.org/home!>

## New Chemist Set to Take Cortec® Coatings to the Next Generation

In case haven't heard, we welcomed a new Coatings Chemist this summer! Jake Hemberger joined our team on June 12<sup>th</sup> to fill this niche position. His friendly demeanor combined with chemistry knowledge and formulation experience serves as a strong foundation on which to improve and expand Cortec's line of corrosion inhibiting paints for metal while providing critical technical support to customers. Jake (B.Sc., Chemical Engineering) spent more than a decade in laboratory and manufacturing work, with six of those years as a formulation chemist at Valspar/Sherwin Williams. Coming from a background in solvent borne and powder coating systems, Jake is intrigued by the challenge of turning his focus to a deeper technical understanding of water-based and ecofriendly coatings at Cortec®.

Jake's day-to-day work will include plenty of benchtop experimentation as well as close interaction with the production team to ensure smooth scale-ups and high quality results. Jake will also be developing relationships with raw material suppliers and end users and participating in customer attended line trials. His clear "bird's eye" view of the coatings workflow from benchtop to customer will play a critical role in smoothing the path from coatings conception to application. We are excited to have Jake on the team and look forward to seeing him create a new generation of Cortec® Coatings that can be carried to the next generation of Cortec® customers!



# Product News

## Meet the Cooling Loop Croc™!

In September, we introduced a new addition to our water treatment “menagerie”! The new Cooling Loop Croc™ is designed for protection of cooling water systems during startup. It helps water treatment service providers and maintenance crews get off to a better start and reduce initial chemical consumption by introducing a powerful dose of Vapor phase Corrosion Inhibitors paired with an organic-dispersant. These powders are packaged in water-soluble bags that should be added directly to an area of turbulent water just after the cooling tower has been filled. The pouch dissolves and releases a combination of contact and Vapor phase Corrosion Inhibitors that circulate throughout the system, protecting multi-metals, including galvanized steel and yellow metals such as copper and brass. Contact us to pre-order for next spring: <https://www.cortecwatertreatment.com/contact-us/>!

# Cooling Loop Croc

## Cortec® Awarded Patent for Compostable Stretch Wrap Technology



Cortec® continues to build on its decades-long legacy of compostable packaging R&D! One of the most recent developments was the receipt of a US patent for its commercially compostable industrial strength stretch film technology, also known as Eco Wrap® Film. This patent is a significant milestone in Cortec's ongoing quest to develop environmentally responsible products and distinguishes Cortec® as a leader in “green” packaging technology.

Eco Wrap® is a specialty wrapping film that meets the EN 13432/ASTM D6400 standards for commercial composting and was certified industrially compostable by TÜV Austria (#TA8012106218) in 2021. It is extremely elastic and suited for general machine stretch wrapping applications. It can be used to replace conventional plastic stretch wrap with the goal of improving the user's environmental image and reducing conventional plastic waste when the material is properly disposed in a commercial composting environment.\* Learn more: <https://www.cortecpackaging.com/cortec-awarded-patent-for-industrially-compostable-stretch-wrap-technology/>

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## Corrosion Protection + Heat Sealable Paper

We were excited to release a new VCI specialty paper in November! CorShield® VpCI®-146 Heat Sealable Paper combines the heat sealable properties of EcoShield® Heat Sealable Paper with the corrosion inhibiting properties of CorShield® VpCI®-146 Paper for a dual corrosion inhibiting heat sealable paper that opens the door to a wide variety of recyclable custom packaging solutions for metal parts. With the merging of these two papers, we have expanded the potential applications for each. CorShield® VpCI®-146 Heat Sealable Paper can be made into custom-sized heat sealable pouches to package and protect metal parts from corrosion. Manufacturers who could previously only wrap or interleave parts with VCI/VpCI® paper can now make custom bags out of CorShield® VpCI®-146 Heat Sealable Paper, automatically fill them with metal parts, and seal them shut for delivery to the customer. Learn more about the new custom packaging solution here: <https://www.cortecpackaging.com/press-release-corrosion-protection-heat-sealable-paper-new-custom-packaging-solution/>



**\* This product is intended to be composted in a commercial composting facility operated in accordance with best management practices. Check locally to see if such a facility exists in your community and if they will accept this product. Not suitable for backyard composting.**

# Testing

## How Familiar Are You with Immersion Testing?

Cortec® Laboratories can perform a variety of tests, but one that is almost always going on is immersion testing. Immersion testing follows the guidelines of ASTM G31 and is a quick way for Cortec® R&D to screen new corrosion inhibitors that look promising. It also helps Cortec® R&D evaluate the effectiveness of product variations or reformulations.

The basic method is to clean metal panels, dry and weigh them, then place them in a solution that has either been left untreated (to serve as the control) or treated with a Cortec® corrosion inhibitor. The specimens are typically placed in an oven to accelerate the corrosion process. A typical test might go on for two weeks, but sometimes tests continue for two years to study long-term protection effects. At the end of the test, corrosion is removed from the panels using a strong cleaner that dissolves the rust but not the metal. The remaining panels are weighed, and the results are used to calculate the corrosion rate.

While immersion testing primarily tests the ability of a corrosion inhibitor to protect in the contact phase, it can also be carried out with different variations. For example, panels can be dipped in a corrosion inhibitor and left to sit for two hours before removing the panels and placing them in jars in a heated oven. This simulates hydrotesting applications where products such as VpCI®-649 are circulated and then drained. Immersion testing can also be performed in a glycol solution, in a partial immersion situation to test vapor phase protection, in different atmospheres (e.g., by injecting CO<sub>2</sub> or N), or with different types of metal. Overall, it is a very versatile and useful test for the corrosion control industry. You may have performed a similar test if you have ever put together one of our steel wool bottle demos!



*ASTM G31 Immersion Testing. After approximately 10 days in immersion testing in a 104 °F (40 °C) oven, the control panel (left) shows corrosion while the panel in a 0.3% solution of VpCI®-649 BD (right) is still bright, corrosion-free metal.*



*Variation on ASTM G31 Immersion Testing. These jars simulate hydrotesting conditions. The panel at left was treated with a 0.3% solution of VpCI®-649 BD. The panel at right was untreated in DI water and shows signs of corrosion.*

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