

# The LEADING Edge

## Cortec® at NACE 2014

**NACE International, established in 1943 is the world's leading professional organization for the corrosion control industry. Serving over 33,000 members in over 130 countries.**

Cortec® had a strong showing at the recently held NACE 2014 conference and exposition. Four peer-reviewed presentations on Cortec® products were well received at the Technical Symposia. The "Preservation, Lay-up and Mothballing Handbook" authored by Cortec's CEO Boris Miksic FNACE was unveiled for sale in the NACE Bookstore. It is also available on the NACE Website Bookstore.

The presentation on CorroLogic™ VpCI® Filler, entitled "Development and Application of a New Solution for Mitigation of Carrier Pipe Corrosion inside Cased Pipeline Crossings", by Tim Whited of MESA and Len Krissa of Enbridge Pipelines, Inc., was attended by more than 200 people with standing room only. With the aging of pipelines and recent boom in oil and natural gas exploration in the U.S., there is great interest in the CorroLogic™ product line.

A case study on VCI products in the protection of offshore infrastructure, entitled "Protection of Offshore Platform Caisson Legs with a Vapor Corrosion Inhibitor", by Talal A. Rahman Al-Sayed, Ahmed Fathi Eid, and Mahdi Mohamed Al-Marzobai, Abu Dhabi Marine Operating Company, and Usama Jacir of Cortec® Middle East showcased a successful application of Cortec's VpCI®-337, VpCI®-609 and EcoPouch.

A potential application of EcoPouch in protecting fire sprinkler systems, entitled "A New Method for Corrosion Control in Dry Fire Protection Systems", by Cliff Cracauer and Josh Hicks of Cortec®, illustrated how EcoPouch can protect critical assets in fire protection.

The presentation on a new admixture, MCI®-2012 IntegraPel, entitled "Protecting Concrete Reinforcement Using Admixture with Migrating Corrosion Inhibitor and Water Repellent", by Ming Shen, Alla Furman, and Andrea Hanson of Cortec®, introduced a new type of admixture to the market. MCI®-2012 IntegraPel is a synergistic formulation that directly protects rebar by forming a barrier layer with migrating corrosion inhibitor while simultaneously repelling ingress of corrosive species.

Many people visited the Cortec® Exhibition booth. Old friendships were renewed and new contacts were made. "Collaborate. Educate. Innovate. Mitigate", the NACE motto guides us in our contribution to a more "green" and safer world.



**Left to Right:** Jessi Meyer, Spencer Taylor, Ming Shen, Boris Miksic, Cliff Cracauer, Usama Jacir, PK Mathew, and Caleb Phenegeter



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THE CORROSION SOCIETY

# New Products

## VpCI®-143 Paper Emitters

Cortec® offers another new innovative product to its line of corrosion control papers for packaging, VpCI®-143 Paper Emitters. These emitters are a convenient and cost effective solution to corrosion problems. The unique vapor action of Cortec's patented VpCI® forms a thin, effective protective layer reaching all metal surfaces to provide complete corrosion protection. The inhibiting coating does not alter the appearance of products or require removal before further finishing or use. The paper is coated on both sides for fast vaporization, excellent contact protection, and superior corrosion protection for both ferrous and non-ferrous metals.

Made from the highest quality recycled neutral, natural Kraft linerboard, VpCI®-143 Paper Emitters are fully recyclable / repulpable. These easy to use, environmentally safe, non-toxic paper emitters are made without the use of chlorine or other chemical bleaching, which eliminates package contamination. VpCI®-143 Paper Emitters are biodegradable; and do not contain any nitrites, phosphates, silicates, or other hazardous compounds.

Cortec® VpCI®-143 Paper Emitters are a very convenient way to protect products for storage and shipment. With VpCI®-143 Paper Emitters there are no chemical concentrations to calculate, no chemical tanks or application systems to maintain. Use approximately One 1" x 1" (6.4 cm<sup>2</sup>) emitter for every 25 cubic inches (390 cm<sup>3</sup>) of void space. Just keep the VpCI®-143 Paper Emitters as close to the surface of the product as practical. For long-term storage of up to ten years, enclose the product (with the emitters) in an airtight package.

Typical applications are for packaging of finished products: engines, machinery, equipment, tools, hardware, appliances, instruments, motors, electrical and electronic components, and controls. Parts protected with VpCI®-143 Paper Emitters can be painted, welded, and soldered. The protective layer does not influence physical properties of most sensitive electrical components, including conductivity and resistance.

## M-531 T

Cortec's newest product M-531 T is an oil-based additive package of ash free corrosion inhibitors for petroleum or synthetic oil based lubricants such as rust and oxidation preventative, hydraulic, paper machining, industrial, and automotive gear oils.

M-531 T is readily compatible and very effective in naphthenic, paraffinic, isoparaffinic, or poly-alpha-olefin (PAO) based lubricants.

M-531 T is particularly recommended for enhancing corrosion protection of industrial lubricant applications where filterability, and water separability are required. It is superior for use with turbines or hydraulics and many other industrial applications in either operating, intermittent, or lay-up conditions. M 531T is soluble in petroleum and synthetic lubricant base stocks and most common solvents; Insoluble in water. When added at recommended concentrations it does not affect water separability, pour point, or viscosity, resists gelling when contaminated with water. It is available in 5 gallon (19 liter) plastic pails and 55 gallon (208 liter) metal drums.

## S 10 FA

S 10 FA is an addition to the line of Cortec® products for controlling corrosion in boiler condensate systems. This product forms a protective film on the elements of steam condensate system.

It is a blend of a long chain aliphatic amine with emulsifiers/surfactants. The advantage of this particular formula is that it can be dispersed in water for the convenience of application, but when applied, its cohesive tenacious film forms a strong bond to the metal. When used in combination with neutralizing amines it provides additional protection against oxygen and carbon dioxide corrosion.

*continued on page 3...*



The advantages of S-10 FA, in comparison with well-known filming amines such as octadecylamine, are the superior uniform coverage and adhesion to metal which dramatically reduce possibility of fouling. S 10 FA performance characteristics were studied employing ISO 17025 certified test methods.

For maximum efficiency, S 10 FA should be fed directly to the steam header. Dosage rate of S 10 FA is based on steam amount and also depends on many factors. The recommended starting point is ten pounds of S 10 FA to one million pounds of boiler feed water.

## Coming Soon!

### VpCI®-386 Winterized Acrylic Primer/Topcoat

VpCI®-386 Winterized coating was developed to withstand Freeze/Thaw damage during transportation in cold temperatures down to -0° (-18°C) passing 3 Freeze/Thaw cycles.

VpCI®-386 Winterized is a unique water-based acrylic primer/topcoat that successfully provides protection in harsh, outdoor, unsheltered applications. The complex mixture of nontoxic organic inhibitors offers protection that can compete with most paints and zinc-rich primers.

It is superior to many coatings with inorganic pigments because the resistance has been improved by replacing pigments and metal oxides with more effective organic corrosion inhibitors. The special combination of additives provides a composite polymer barrier that significantly retards the reaction of metal ionization. A protective film is adsorbed onto metal surfaces. VpCI®-386 protects against corrosive electrolytes and aggressive environments; preventing corrosion.

This coating provides a fast-drying thixotropic coating that is resistant to sagging or running, forming a tough, non-flammable, protective barrier. This dry-to-touch film offers extended protection for outdoor or indoor conditions. Thermally stable when dried from -150°F to 350°F (-78°C to 180°C). VpCI®-386 is ultraviolet resistant giving optimal outdoor performance without cracking or chipping upon prolonged exposure to sunlight.

### VpCI®-386 HP Acrylic Primer Topcoat

VpCI®-386 HP is the next generation of high performance water-based acrylic coatings that provide superior corrosion protection in harsh outdoor, unsheltered applications. The unique formulation contains a mixture of non-toxic organic inhibitors and pigments that offer extended coating protection which strongly competes with heavy metal zinc-rich primers and paints.

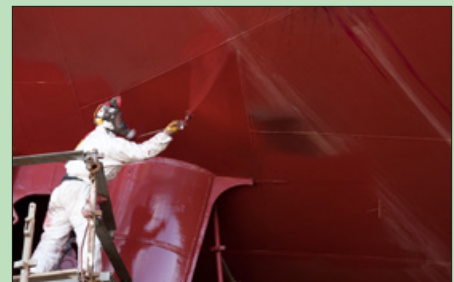
It is much more effective than most conventional coatings because the corrosion resistance has been improved by replacing traditionally used toxic materials with more effective, non-toxic, heavy metal free, corrosion inhibitors. This special combination of additives provides a composite polymer barrier that significantly retards the reaction of metal ionization by ion scavenging and passivation. The coating provides a protective long lasting film that is bonded onto the metal surface which defends against corrosive electrolytes and aggressive environments. VpCI®-386 HP is recommended for a verity of applications especially where the uses of toxic materials are of concern.

This coating provides a fast-drying primer/topcoat film that forms a tough, non-flammable, protective barrier that was developed to protect in both indoor and outdoor conditions. VpCI®-386 HP is thermally stable when dried from -150°F-350°F (-78°C-180°C) and is UV (ultraviolet) resistant giving optimal outdoor performance without cracking or chipping upon prolonged exposure to sunlight.



**Left Paint Can:** Unwinterized paint sample after exposure to cold winter conditions

**Right Paint Can:** VpCI®-386 Winterized sample after exposure to cold winter conditions



**Q: What does HP mean?**  
**A: High Performance**

**This coating provided 500+ hours of corrosion protection in salt spray chamber (ASTM B-117), which is about three times longer than the majority of water-based acrylic coatings**

## Technical Service Section

When trying to protect metal from corrosion using VpCI® products, the most important factor to consider is surface preparation, or surface cleanliness. The effectiveness of VpCI® can be greatly diminished by the presence of contamination on the metal surface. This could include dirt, oil, grease, corrosion, other process (cutting, grinding) fluids, or other rust preventives. VpCI® molecules need direct access to the metal surface if they are to provide maximum protection.

In order to achieve this level of cleanliness, surfaces should be treated appropriately. For dirty, oily, or greasy surfaces, utilize an alkaline cleaner such as VpCI®-414 or VpCI®-418LM. For corroded surfaces, a 30 minute dip in VpCI®-422 or VpCI®-423 is usually enough to do the job. Alternatively, corroded surfaces can be painted and primed with CorrVerter. This will leave a surface ready to be top coated with one of our high performance coatings, such as VpCI®-395.


Please contact Cortec® Technical Service for specific recommendations regarding the use and selection of VpCI® Surface Preparation products.



The online “Test Request Form” at [www.corteclaboratories.com](http://www.corteclaboratories.com) has been very successful for providing us with the information needed to perform our customer’s testing. There are a few information items that we want to highlight: <http://www.corteclaboratories.com/index.php?id=testing>

- Please include End Users name and complete address
- Manufacturers name should be included with film samples
- See “Guidelines” for sample size submission of films, liquids and powders



4119 White Bear Parkway, St. Paul, MN 55110 USA  
Phone (651) 429-1100, Fax (651) 429-1122  
Toll Free (800) 4-CORTEC, E-mail [info@cortecvci.com](mailto:info@cortecvci.com)  
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