Cortec® VpCI® Technology

PROTECT AUTOMOTIVE INDUSTRIES

The Automotive Industry has presented difficult challenges to researchers in fighting the effects of corrosion — in economic loss and environmental safety. Cortec’s capability offers highly efficient and economical corrosion protection for Automotive applications. Cortec® products have been developed using proprietary VpCI® Technology. Cortec® VpCIs are a safe, cost-effective method for preventing and diminishing the severe damage caused by corrosive process streams.

PROTECT THE ENVIRONMENT

VpCIs offer an environmentally safe method of treatment with low toxicity and low polluting effects. Unlike corrosion inhibiting systems of the past, many of Cortec® VpCIs do not contain chromates or other heavy metals, nitrites, or chlorinated hydrocarbons. With Cortec® VpCIs you can turn the tables on corrosion. With the support of our corrosion scientists, engineers, and testing facility, Cortec® can provide simple, environmentally friendly, cost-effective solutions to corrosion problems.

PROTECT CONTINUOUSLY

Unlike conventional methods, such as filming amine corrosion inhibitors, you can inject Cortec® VpCIs into any part of your system. Cortec® VpCIs go to work immediately and are self-replenishing. Continuous, uninterrupted protection in the liquid phase, interphase, and vapor phase can be added at multiple points. For example, the automatic injection of Cortec® VpCIs into a system — with no attendance operator — provides protection immediately, even on pre-rusted or scaled surfaces.

Vapor phase Corrosion Inhibitors (VpCI®)

VpCI® technology is an innovative, environmentally safe, cost-effective option for corrosion protection. Cortec® products protect with a thin, mono-molecular protective barrier. The barrier re-heals and self-replenishes, and can be combined with other functional properties for added protective capabilities. VpCIs form a physical bond on the metal surface creating a barrier layer against aggressive ions.

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Vertical Integration and ISO Total Quality to Reduce Risk

ISO Accredited Laboratories for Validation Testing
Automotive Applications

PPAP

The Pre Production Approval Process (PPAP) is a set of steps originally developed by the Automotive Industry Action Group. PPAP is followed by Cortec® Corporation to ensure that safety risks are removed from the product before it reaches the distributor and customer; This is accomplished by anticipating possible sites of failure, eliminating them in the design, assessing accuracy of measuring systems, assuring consistency, and the documenting and planning for success. Cortec® works with engineers to develop the most cost effective method to make sure corrosion doesn’t undermine a successful new product launch.

RAW MATERIALS

Cortec® will work with vendors of in-bound materials to make sure rust never enters your company’s production process. Corrosion on raw materials often re-emerges in later processes. But with Cortec® solutions you can be assured that corrosion will not reappear.


BioPad® - is a unique flexible corrosion inhibiting device constructed from 100% biobased non-woven material, resulting in a finished good containing 66% biobased content. BioPad® provides an eco-friendly sustainable packaging option for corrosion inhibition and has been awarded USDA BioPreferred™ designation (www.biopreferred.gov). Patent Pending.

BioCorr® Rust Preventative - is a water-based, biobased, and biodegradable rust preventative that is intended for preservation of metals in storage and during transportation. BioCorr® Rust Preventative provides multi-metal protection and is an excellent environmentally sound alternative to petroleum derived products. Also available in ATF and FT Versions. USDA BioPreferred™ designation.

VpCI®-329 Oil-Based Concentrates - is a vapor corrosion inhibiting concentrate for use with lubricating, hydraulic, and preservation oils. It provides excellent protection in sheltered outdoor/indoor conditions. VpCI®-329 protects in two unique ways: by offering a tenacious film which clings to metal surfaces, as well as vapor phase inhibitors into the air above the oil.

VpCI®-377 - is a water-based concentrate designed as a complete replacement for oil-based preventives for indoor protection of equipment and components. VpCI®-377 is a corrosion preventive liquid that meets tough antipollution requirements.

VpCI®-130 Series - Unique, flexible packaging materials that combine VpCI® protection, cushioning, and desiccant action, plus excellent antistatic capabilities all in one step! Cortec® VpCI®-130 Series Foams provide effective corrosion protection. Patented.

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Automotive Applications

**WIP PROCESS**

Cortec® will evaluate the total time required to produce a product from when the product enters the factory to when it leaves (the WIP cycle), including processing, transport, and time spent waiting in queue. Cortec® will use this information along with analyzing the work-in-progress (WIP) to implement corrosion inhibitors at the best point in manufacturing. Rust preventatives can be introduced in machining, washing, and post production applications.

**HIGH PERFORMANCE COATINGS**

The total economic loss from corrosion can approach a staggering 5% of total profit. This huge loss comes from products that must be sold as a lower grade or must be repickled, reprocessed, or scrapped due to corrosive attack while in the plant. This leads to lost productivity. The high cost of corrosion also includes rust claims and freight costs for returned goods.

Cortec® can recreate your current colors with a customized formula or simply match it from our extensive list of standard colors. Most Cortec® coatings have outstanding UV resistance and gloss retention, which is important when aesthetics are a consideration.

With environmentally safe VpCI® technology, your equipment and products will be effectively protected against humidity, saltwater, and oxidizing atmospheres as well as corrosive industrial, marine, and tropical environments.

Traditional coatings can not protect the micro-cavities due to the relative large size of corrosion inhibitor particles such as nitrate, aluminum, zinc, and so on. That’s where micro-corrosion starts when using traditional coatings.

Cortec® Coatings are unique because the Nano VpCI® (Vapor phase Corrosion Inhibitors) penetrates and protects the micro-cavities against micro-corrosion.
Automotive Applications

**SHIPPING**

Simply wrap, shroud, or pack your products or equipment; protection is continuous for transit. A continuous self-replenishing vapor emits to protect all exposed metal surfaces regardless of temperature or humidity swings.

Cortec’s VpCI® films, papers, liners, corrugated, foams and devices are made exclusively from high technology resins using proprietary extrusion techniques to ensure 100% quality of the physical, mechanical, and corrosion inhibiting properties of all products produced. Our products meet the most rigorous international quality standards for corrosion inhibiting films. Using Cortec’s VpCI® films will ensure that valued assets are clean, dry, corrosion free, and ready for shipping.

**STORAGE**

*Banks/Build-Aheads* – When a manufacturer makes more than standard production of parts in order to have extra on hand (a bank). Often done while transitioning to a new supplier or during re-tooling of production lines so the stream of parts is still available to feed to other processes. Also done for holiday shut downs to make sure parts are available.

*All-Time-Buys/End-of-Life* – This is the service parts requirement for up to 15 years the automotive must plan for. Once a vehicle/engine/part is no longer going to be needed the manufacturer often prefers to make all the service parts and parts for future needs (including re-manufacturing) at one time. This allows them to avoid very costly, small volume parts runs in the future.
DE-RUSTING

Cortec’s OEM approved de-rusting process has been utilized to de-rust millions of production parts including many different types of critical transmission components.

Cortec’s rust removers easily and effectively remove rust and tarnish from steel, iron, copper, brass, chrome, and aluminum. They will not harm human skin or adversely affect most paints, plastics, wood, textiles, ceramics, or rubber. Long lasting, cost-saving solutions provide a time efficient, superior outcome that’s gentle yet thorough on corroded tools, parts, and equipment.

VpCI®-422 - Organic rust removers effectively remove rust and tarnish from steel, iron, copper, brass and chrome. Non-polluting. Will not harm human skin or adversely affect most paints, plastics, wood, textiles, ceramics or rubber. USDA BioPreferred™ designation.

VpCI®-423 - is a rust remover that is harmless to people while effectively removing rust and tarnish from steel, iron, copper, brass, chrome, and aluminum. VpCI®-423 removes corrosion from metal without creating waste disposal difficulties. USDA BioPreferred™ designation.

VpCI®-414 - is a cleaner and degreaser that also removes temporary coatings such as Cosmoline™, Cortec VpCI-368, VpCI®-388, VpCI®-389, and non-silicone-based waxes from metal and painted surfaces.

*Cosmoline™ is a registered trademark of Houghton International, Inc.

VpCI®-416 - While most cleaning compounds available on the market today are simple blends of surfactants and detergents which limit their cleaning effectiveness, VpCI®-416 offers improved cleaning plus multmetal corrosion protection action in one step, resulting in significant savings.

VpCI®-418 - This heavy duty alkali cleaner/detergencer contains inhibitors to protect metal parts from corrosion after cleaning. It has a unique ability to remove difficult deposits such as heavy hydrocarbons, greases, drawing and buffing compounds, and mill and machinery oils.
FACILITY AND ASSET PROTECTION WITH GLOBAL SERVICES

Preservation. Simplified.

Cortec® Global Services provides customers and clients with best-in-class technology, project management, engineering, design, application, and training services to ensure zero defect, low-cost preservation. For over 35 years, Cortec® has delivered high performance turn-key solutions for manufacturers, engineering firms, and project owners from industries ranging from automotive, telecommunications, construction, aerospace, military, power generation, oil and gas, and mining.

By transferring knowledge of best practices between industries, Cortec® can ensure your preservation goals are attained at the lowest possible environmental impact and cost.

TOTAL SOLUTION PROVIDER

Global Services is focused on providing our customers with optimum corrosion control solutions to meet their everyday needs. The scope for Cortec® Global Services includes a variety of corrosion control design, engineering, and field applications serving Cortec® customers worldwide. Our group is committed to providing a cost effective service designed to ensure our customers receive the correct products, technologies, and applications the first time, every time.

<table>
<thead>
<tr>
<th>Training and Supervision</th>
<th>Advisory and Consultancy</th>
<th>Engineering and Design (CEFS)</th>
<th>Turnkey Application Services</th>
<th>Laboratory Testing and Product Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cortec® Certified Applicator Training</td>
<td>Subject Matter Expert Liaison with Client Engineering</td>
<td>Full Service System Design</td>
<td>Single Purchase Order Full Service Preservation Execution</td>
<td>ISO/IEC 17025 Certified Independent Laboratory</td>
</tr>
<tr>
<td>On-the-job-training (OJT) Modular Programs</td>
<td>Application Method and Specification</td>
<td>Corrosion Monitoring and Inspection</td>
<td>Value-Added, Turn-Key Solutions</td>
<td>Technical Specification</td>
</tr>
<tr>
<td>Supervision of Client Crews Including Short and Prolonged Deployment</td>
<td>Onsite Liaison: Including Short and Prolonged Deployment</td>
<td>Onsite or Offsite</td>
<td>Assistance Through Entire Project Life-Cycle</td>
<td>Product Design</td>
</tr>
</tbody>
</table>
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Cortec’s CEO Boris Miksic is a car enthusiast having his own collection of rare and antique cars.