

Editorial Contact:
Cortec® Europe Advertising Agency

Ana Juraga
+ 385 (0) 1 4854 595

ana.juraga@ecocortec.hr

Company Contact:
Cortec® Corporation:

Ivana Radic Borsic
+ 385(0) 31 705 011

ivana@cortecvci.com



Attention: Editor

January 7, 2014

PRESS RELEASE



Cortec® VpCI® Coatings Outperformed Competition in NASA Research Project!



Cortec® Corporation proudly announces that its globally known VpCI® inhibitors performed best among all the corrosion preventive compounds tested in real life test “The Behavior of Environmentally Friendly Corrosion Preventative Compounds in an Aggressive Coastal Marine Environment“ conducted by NASA at their atmospheric test station Kennedy Space Center, Florida. This is known as the most corrosive area in the United States and one of the most corrosive places in the world because of its hot climate, proximity of Atlantic ocean, winds carrying salt spray and fallout of rocket propellants that are highly corrosive.



Location of the beachside corrosion test site at Kennedy Space Center, Florida along the Atlantic Ocean (left) and panels after initial CPC application and exposed to the marine atmosphere at the test site (right).


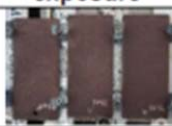
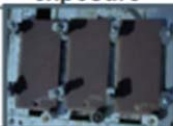
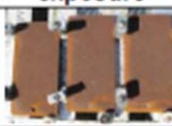
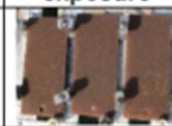
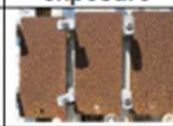



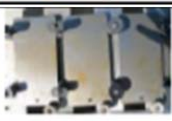


Kennedy Space Center is located within the Merritt Island National Wildlife Refuge therefore, environmentally-friendly alternatives are highly sought after. The shift to use environmentally friendly technologies throughout future space-related launch programs prompted a study aimed at replacing current petroleum and solvent-based corrosion preventive compounds with safer alternatives.

This research focused on identification and evaluation of environmentally friendly CPCs for use in protecting flight hardware and ground support equipment from atmospheric corrosion. The corrosion preventive compounds, needed to survive in the aggressive coastal Space Center, Florida.

The objective was to determine if environmentally-friendly CPCs will provide adequate corrosion protection for spaceport structures and related hardware used at NASA’s center considering large number of environmental and safety issues associated with conventional CPC's. Petroleum-based CPCs have become increasingly impractical for use at this location due to environmental concerns and cumbersome containment procedures required during application and removal.

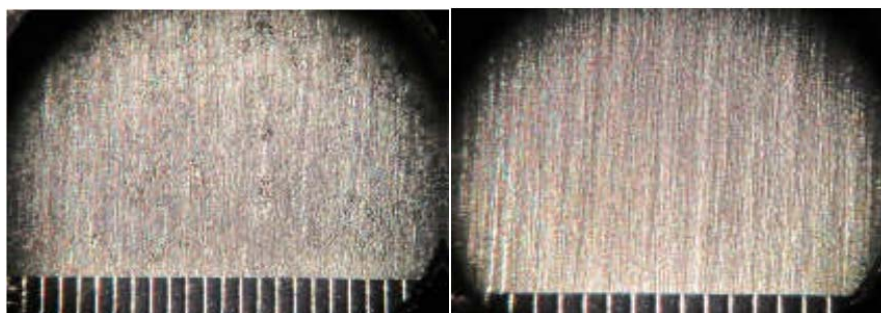
Three of the Cortec' products **VpCI® 368** , **EcoLine® 3690**, and **EcoLine® HD Grease** were tested along with 12 others in this important research project and showed outstanding results.

CPC-coated Carbon Steel Panel from Initial Exposure through 6 Months, No 10 showing VpCI® 368

CPC Type	0 days exposure	3 days exposure	6 days exposure	13 days exposure	22 days exposure	6 months exposure
Blank						
10						

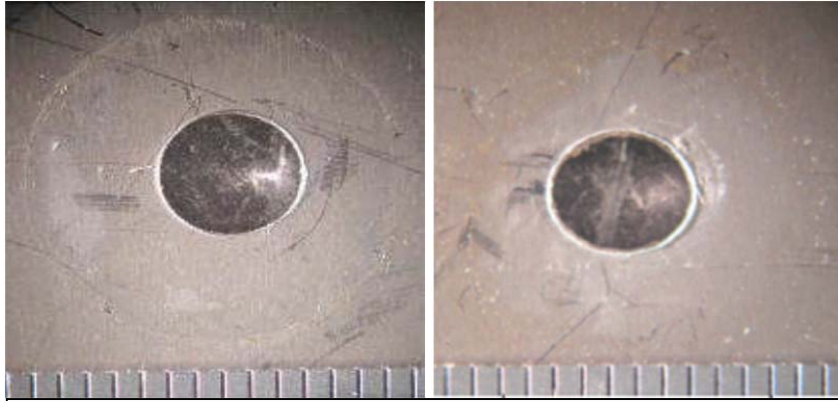
The different protection behaviors of 15 different soft film CPCs, both common petroleum-based and newer environmentally friendly types, were evaluated on various steel and aluminum substrates. The CPC and substrate systems were subjected to atmospheric testing at the test site located in Kennedy Space Center as well as cyclic accelerated corrosion testing. Each CPC also underwent physical characterization and launch-related compatibility testing.

CPC Applications of Interest: spaceport ground support equipment, aircraft applications marine applications, ground operations applications, launch applications.



Examples of pitting results for long-term atmospheric exposure of CPC-coated UNS A92219: control (left) and Cortec’s VpCI® 368 (right).

The summary of current results and analysis performed by NASA showed that of all the CPC's tested Cortec's inhibitors exhibited the least amount of both crevice and galvanic corrosion and have penetrated successfully under the fastener as well as provided good protection considering the long atmospheric exposure time period. VpCI® 368 was the only inhibitor tested to resist corrosion for all of the aluminum alloys!



Examples of crevice corrosion for atmospheric exposure of CPC-coated stainless steel (left -control and right - Cortec's EcoLine 3690)

VpCI® 368 is a time-proven coating that provides excellent protection to metal substrates exposed to harsh outdoor conditions.

EcoLine® 3690 is a bio-based/bio-degradable ready-to-use temporary coating designed for severe marine and high humidity conditions. The product is non-hazardous, non-toxic, perfect for sensitive areas where environmentally-friendly alternatives are highly sought after. It provides excellent outdoor protection on any metal surface. The film is self-healing and moisture-displacing, providing superior protection against aggressive environments.

EcoLine® HD Grease – bio-based/bio-degradable Heavy Duty Grease, formulated with American-grown natural seed oil that surpasses the lubricity of most conventional petroleum based greases. Utilizing the latest biotechnology, It is an environmentally friendly replacement for harmful greases.

Reference:

E.L. Montgomery, Kennedy Space Center, L.M. Calle, NASA: "The Behavior of Environmentally Friendly Corrosion Preventive Compounds in an Agressive Marine Environment", Paper # 2720, Corrosion 2013, NACE.

Need a High-Resolution Photo? Please Visit: www.cortecadvertising.com

Cortec® Corporation is the global leader in innovative, environmentally responsible VpCI® and MCI® corrosion control technologies for Packaging, Metalworking, Construction, Electronics, Water Treatment, Oil & Gas, and other industries. Our relentless dedication, sustainability, quality, service, and support is unmatched in the industry. Headquartered in St. Paul, Minnesota. Cortec® manufactures over 400 products distributed worldwide. ISO 9001, ISO 14001:2004, & ISO 17025 Certified

Cortec Website: <http://www.cortecvci.com>