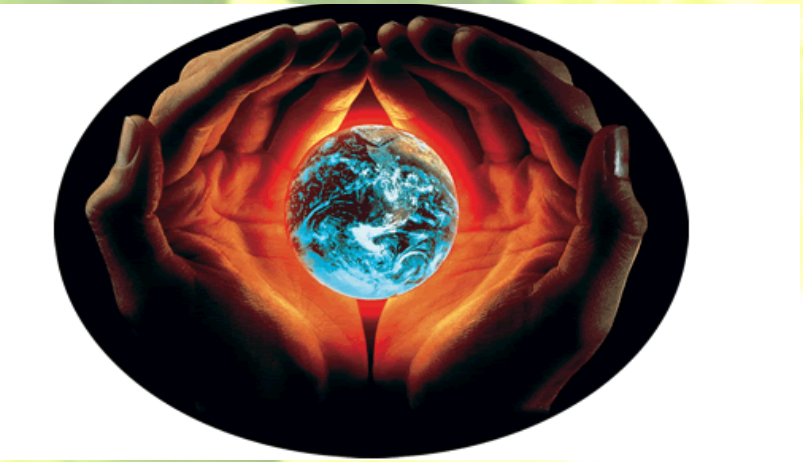
Boris Miksic, *FNACE*
President/CEO



"Nuts and Bolts of How to Build a Global Corrosion Protection Company"

"There are three things Inevitable in life: death, taxes and corrosion."
Thank God for corrosion!"

Founded in 1977 as a fledging company out of a garage in St. Paul, MN

Cortec Corporation World Headquarters - Saint Paul, Minnesota

Worlds largest VpCI/MCI plant

Cortec Technology Campus

Cortec Advanced Films
Cambridge, MN

Cortec Spray Technologies
Spooner, WI

Cortec Coated Products
Eau Claire, WI

EcoCortec

Beli Manastir, Croatia

First Croatian Bioplastics Plant

ISO 9001 -2000 Certified in 1994

(quality of manufacturing process)

ISO 14001 Certified in 1998

(environmental Impact)

ISO 17025 Certified in 2010

(laboratory testing certified)

Distribution network in over 70 countries

World Class research and development

Most diversified product offering of any manufacturer allowing an integrated approach to corrosion protection

VpCI's
Surface Preparation
High Performance Coatings
Water Treatment

MCI's
Process Additives
MRO Products
Electricorr
VpCI Packaging Products

20/20/20 Mission:

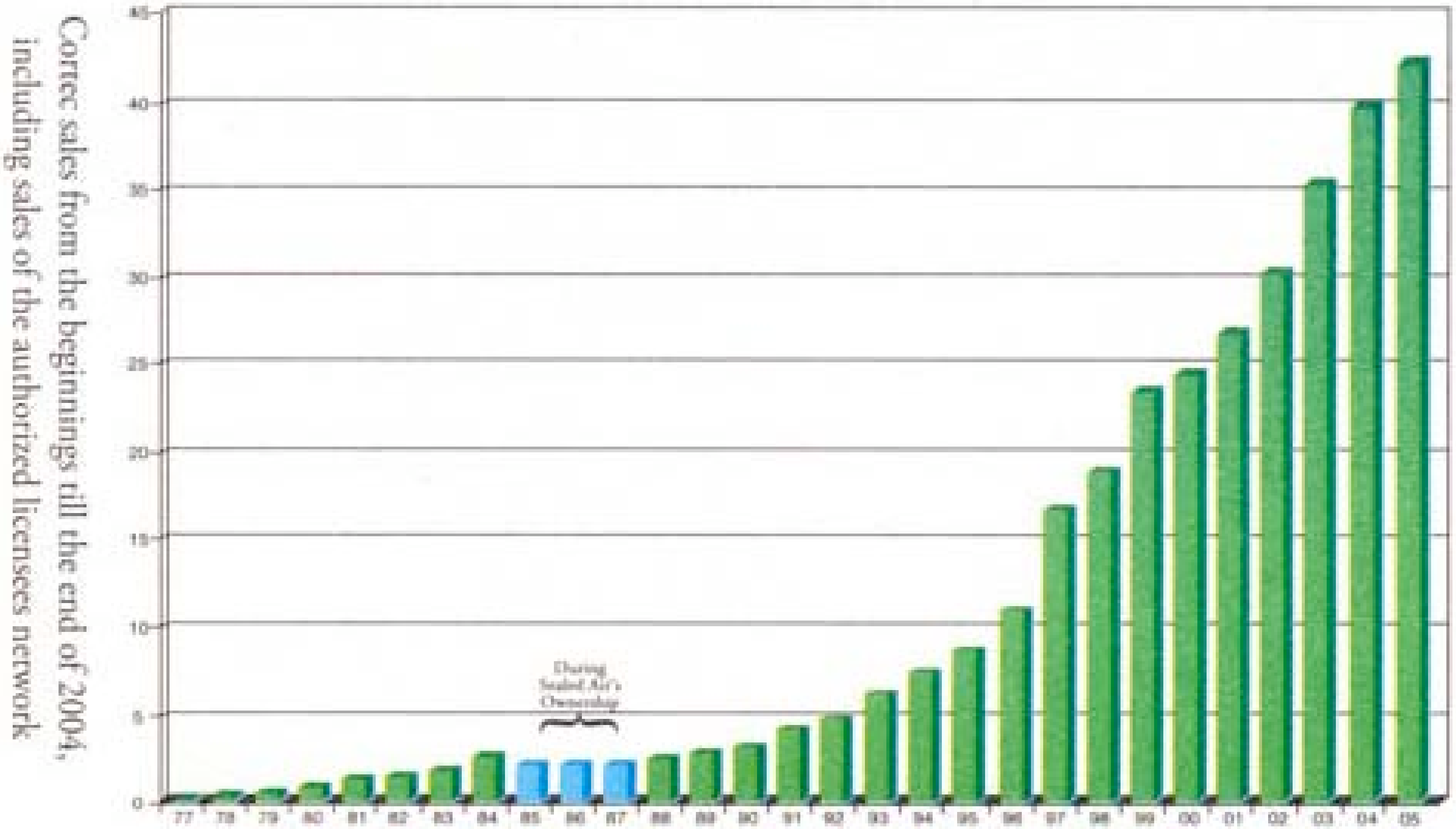
Cortec will :

grow annually by 20%

reduce costs annually by 20%

introduce 20% new products

Cortec® Sales
(in million U.S. dollars)



Cortec's Customer Support Department

Makes regular field visits, provides technical documentation and support

Holds distributor and customer seminars and training, globally

Regional sales and customer support offices in North America, Europe, Middle East, Asia, and soon in South America

Cortec's Marketing Resources

82 Web Sites in 28 Languages

PDS/MSDS
Press Releases
Newsletters
Advertising
Samples
Trade Shows
Brochures
Manuals
Product Spotlights
CDs/DVDs/Videos
News Alerts
Direct & E-Mailings

CORTEC

Patents

United States & International

35 Granted

11 Pending

Trademarks

United States

55 Registered

11 Pending

International

16 Registered

8 Pending

VpCI Basic Concepts

Definition:

Vapor-phase corrosion inhibitors condition an enclosed atmosphere with a protective vapor that condenses on all metal surfaces (recessed areas, cavities)

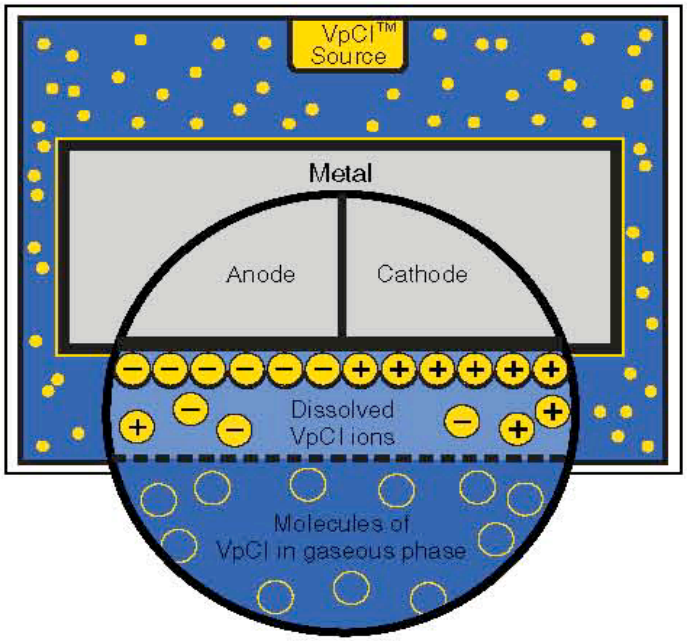
"A multi-metal corrosion inhibitor that protects in 3 phases, contact, vapor and inter-phase."

Practical:

"Prevents corrosion, even if not in direct contact allowing cost effective, easy application, use and disposal. Clean, dry and effective protection."

Physically Adsorbed

Ionic Action of VpCI™ Creates a Molecular, Inhibiting Layer.



VpCI Emitters

Original Emitter Machine

1977-1987

Investment

$150

R.O.I.

$4,999,850

Eco Emitter

The first Product
of our newest Line
of Products

EcoEarth

BIO CORTEC®

YOUR SOURCE FOR SUSTAINABLE, ENVIRONMENTALLY FRIENDLY RESOURCES

Connecticut College
Inherit The Earth Award; 1997

2000 Governor's Award for Excellence in
Waste and Pollution Prevention

2005 Frost and Sullivan; Specialty Plastic
Films Technology Innovation Award

ENVIRONMENTAL
ISO 14001
CERTIFIED
SYSTEM REGISTERED

EcoWorks®

COMPOSTABLE

Eco Film®

100% BIODEGRADABLE

CORTEC® PRODUCTS DERIVED FROM SUSTAINABLE RESOURCES

Cortec® proudly and ambitiously develops products from sustainable resources to provide a better world for future generations.

We take the responsibility in conserving our natural resources seriously—we develop Cortec® products from annually renewable materials such as herbaceous plants from soybeans to the coconut fruit of the palm tree species.

SOYBEAN

- VpCI®-629 Bio
- VpCI®-705 Bio
- S-14 Bio
- BioCorr™ RP
- MCI® EcoCure
- EcoLine® All Purpose Lubricant
- EcoLine® Cutting Fluid
- EcoLine® Rust Preventative
- EcoLine® Bearing Chain and Roller Lubricant
- EcoLine® Cleaner/Degreaser
- EcoLine® Food Machinery Lubricating Grease

RAPESEED

- EcoLine® 3220
- EcoLine® 3690: Open Air Corrosion Inhibitor

SUGAR BEET

- MCI®-2005
- MCI®-2005 NS
- MCI®-2006
- MCI®-2006 NS

CORN

- EcoWorks®
- EcoClean® Dispersant 600

ORANGE PEEL

- VpCI®-411
- VpCI®-422/423

COCONUT OIL

- BioClean-610

www.CortecVCI.com • www.CortecMCI.com

LIMITED WARRANTY

All statements, technical information and recommendations contained herein are based on tests Cortec® Corporation believes to be reliable, but the accuracy or completeness thereof is not guaranteed.

Cortec® Corporation warrants Cortec® products will be free from defects when shipped to customer. Cortec® Corporation's obligation under this warranty shall be limited to replacement of product that proves to be defective. To obtain replacement product under this warranty, the customer must notify Cortec® Corporation of the claimed defect within six months after shipment of product to customer. All freight charges for replacement product shall be paid by customer.

Cortec® Corporation shall have no liability for any injury, loss or damage arising out of the use of or the inability to use the products.

BEFORE USING, USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR ITS INTENDED USE, AND USER ASSUMES ALL RISK AND LIABILITY WHATSOEVER IN CONNECTION THERE WITH. No representation or recommendation not contained herein shall have any force or effect unless in a written document signed by an officer of Cortec® Corporation.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. IN NO CASE SHALL CORTEC® CORPORATION BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

CORTEC CORPORATION
Environmentally Safe VpCI®/MCI® Technologies

Distributed By:

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
Printed on recycled paper ♻ 100% Post Consumer

Revised: 02/09 Supersedes: 03/08.

Cortec's VpCI -309

1st Nitrite-Free Product in the world

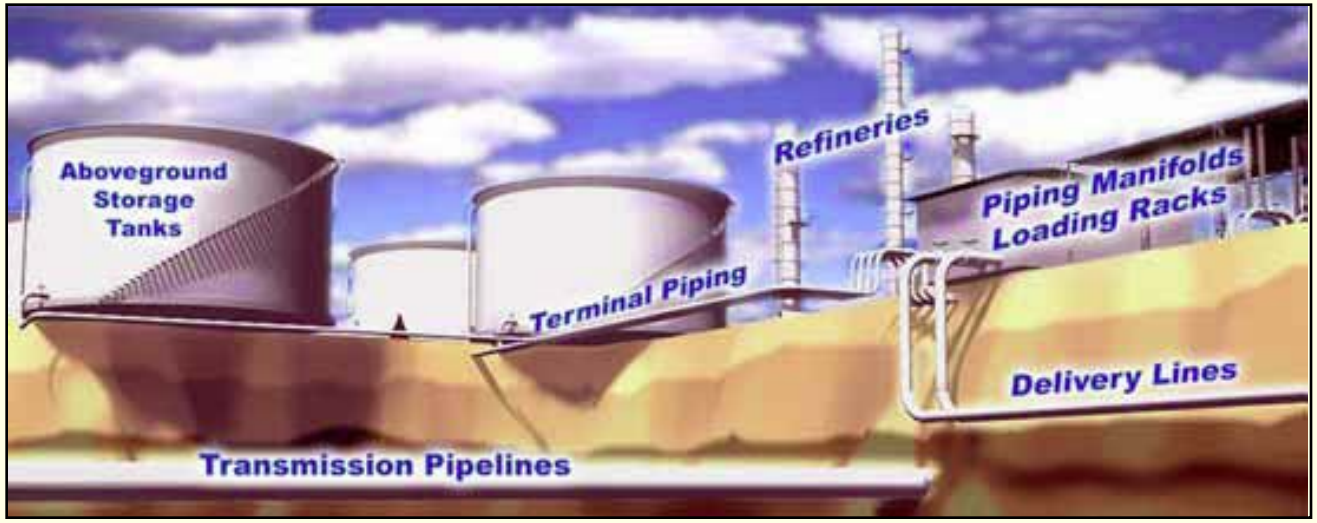
CORTEC
CORROSION ENGINEERING
& FIELD SERVICES

Engineering and Field Services

The primary focus of CEFS includes:

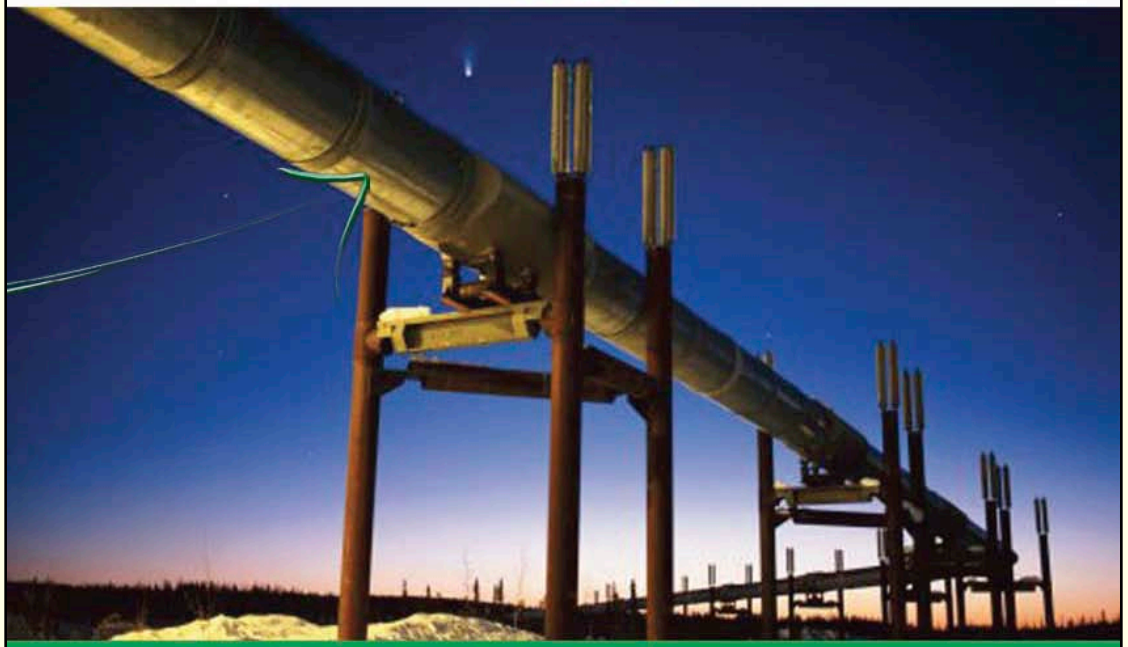
Delivery of exceptional design and engineering for development of cost effective corrosion control solutions and comprehensive corrosion management programs

Delivery of advanced applications and installations of corrosion control and monitoring systems worldwide



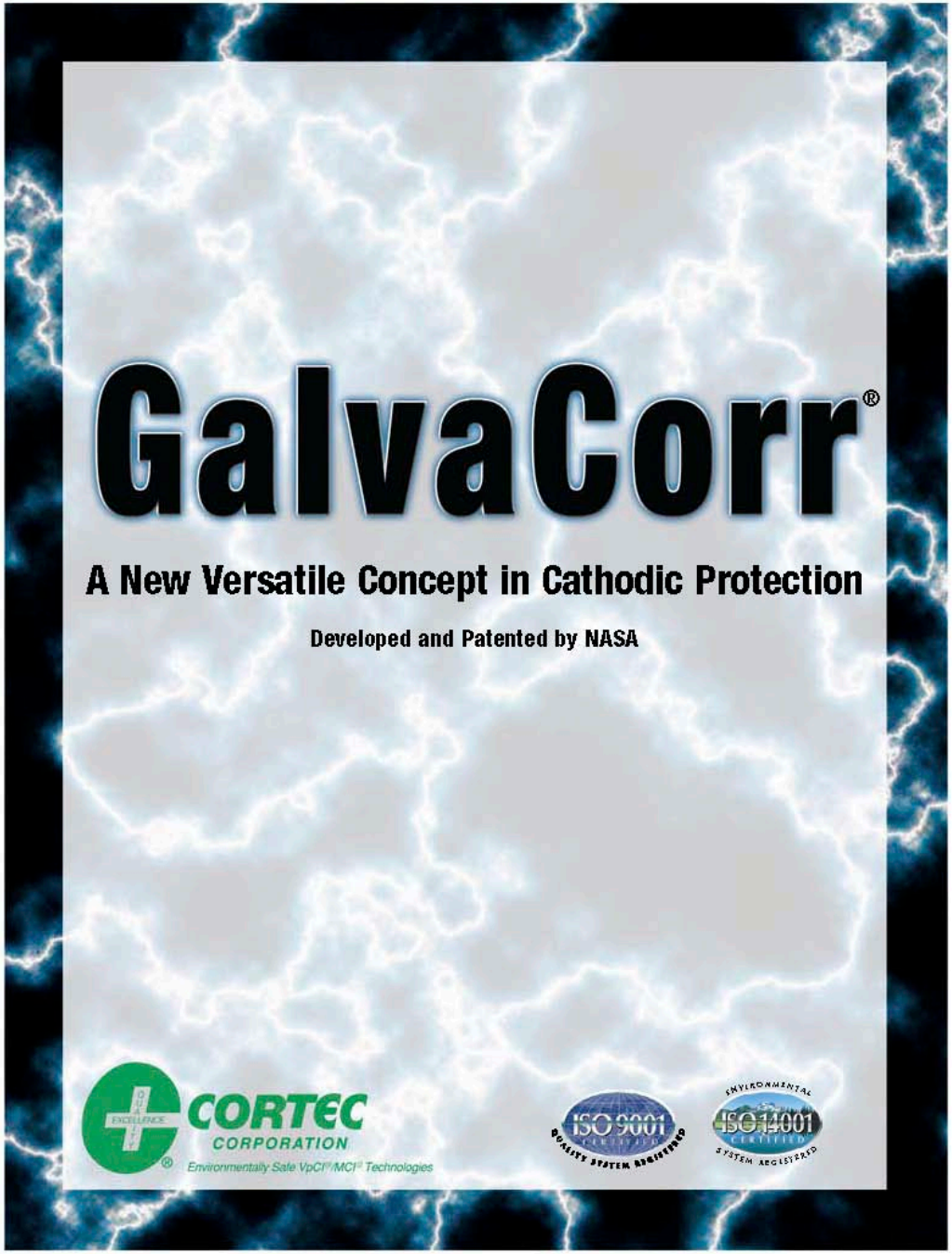
CORTEC CPS™

PIPELINE SOLUTIONS



ECO FLOW™ SYSTEM

Reduce Cost & Increase Production


GalvaCorr®
A New Versatile Concept in Cathodic Protection
Developed and Patented by NASA
CORTEC
CORPORATION
Environmentally Safe VpCI®/MCI® Technologies
ISO 9001
QUALITY SYSTEM REGISTERED
ENVIRONMENTAL
ISO 14001
CERTIFIED
SYSTEM REGISTERED

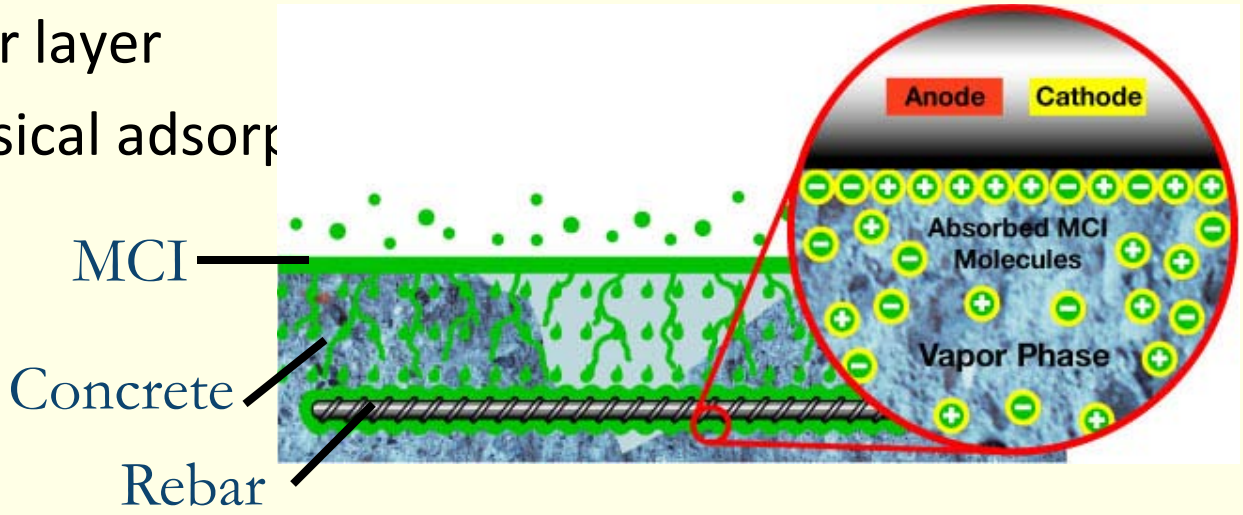
Migrating Corrosion Inhibitors (MCI®)

- Cortec's MCI product line was specifically designed to protect embedded reinforcement in concrete structures, both in new construction and restoration and repair.
- MCI can extend the service life of your structure by up to five times.

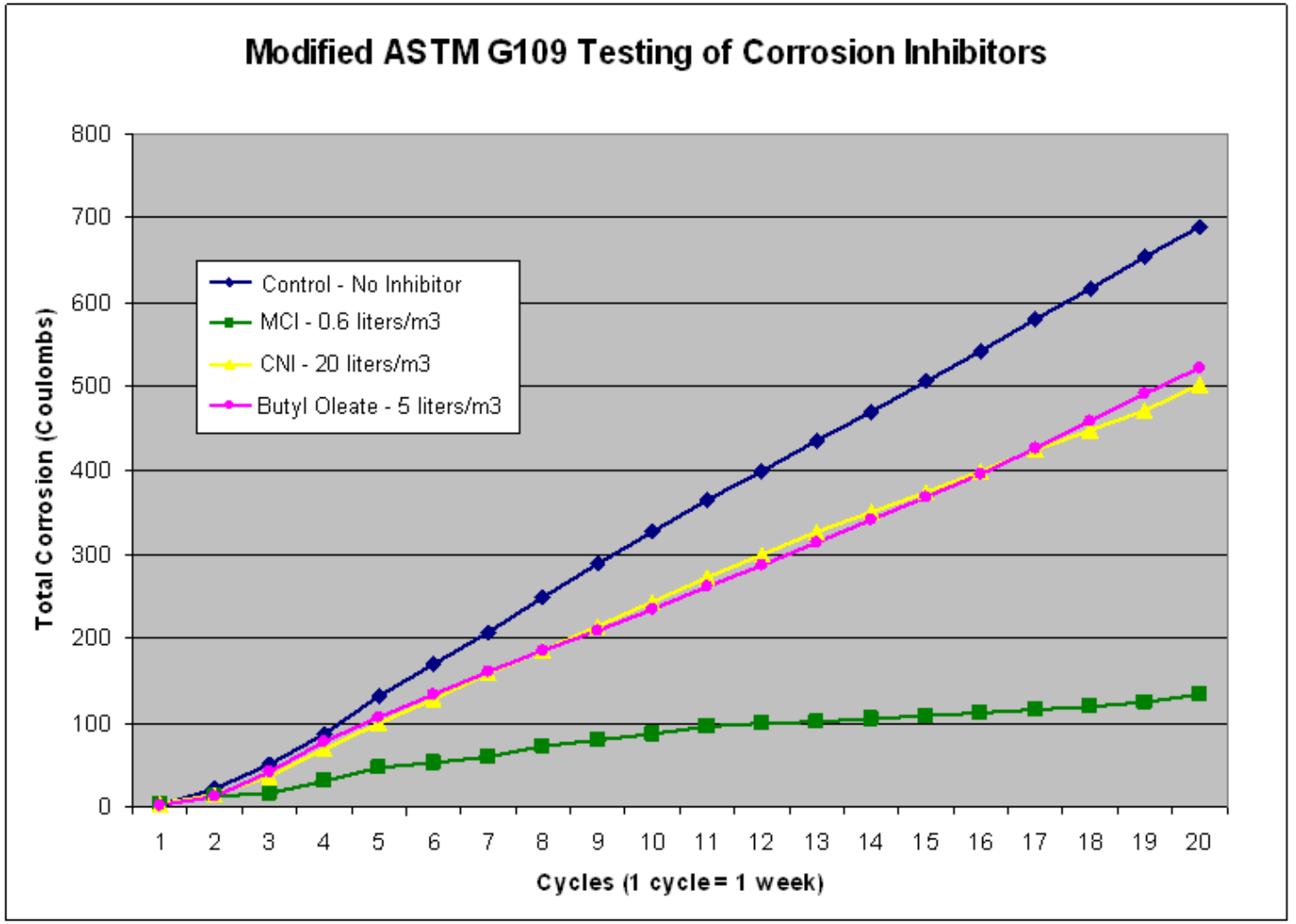
How Do Migrating Inhibitors Work?

- **Migrate via:**
  - Capillary Action
  - Vapor Diffusion
  - Ionic Attraction
- **On the Rebar Surface:**
  - Monomolecular layer
  - Establish a physical adsorp

- **Resulting in:**
  - A change in potential at both anodic & cathodic sites
  - Nitrogen allows for a tenacious bond



Effectiveness in Cracked Concrete



CASE HISTORY
Round Butte Reservoir

***PROBLEM*:**

Preservation of these large steel flex-floats that are air tight, but were designed to be opened and loaded with sand for ballast.

***APPLICATION*:**

MCI® 309 powder was selected to be blown throughout the cavity.

***CONCLUSION*:**

The contractor, owner, and specifier were all pleased with the ease of application, effectiveness and more cost effective system versus paint.

CASE HISTORY

MCI® Anti Graffiti Coating Used to Protect Reykjavik City Tunnel

PROBLEM:

The city of Reykjavik wanted a durable coating for easy graffiti removal.

APPLICATION

The pedestrian tunnel was coated with MCI® Anti Graffiti Coating.

CONCLUSION

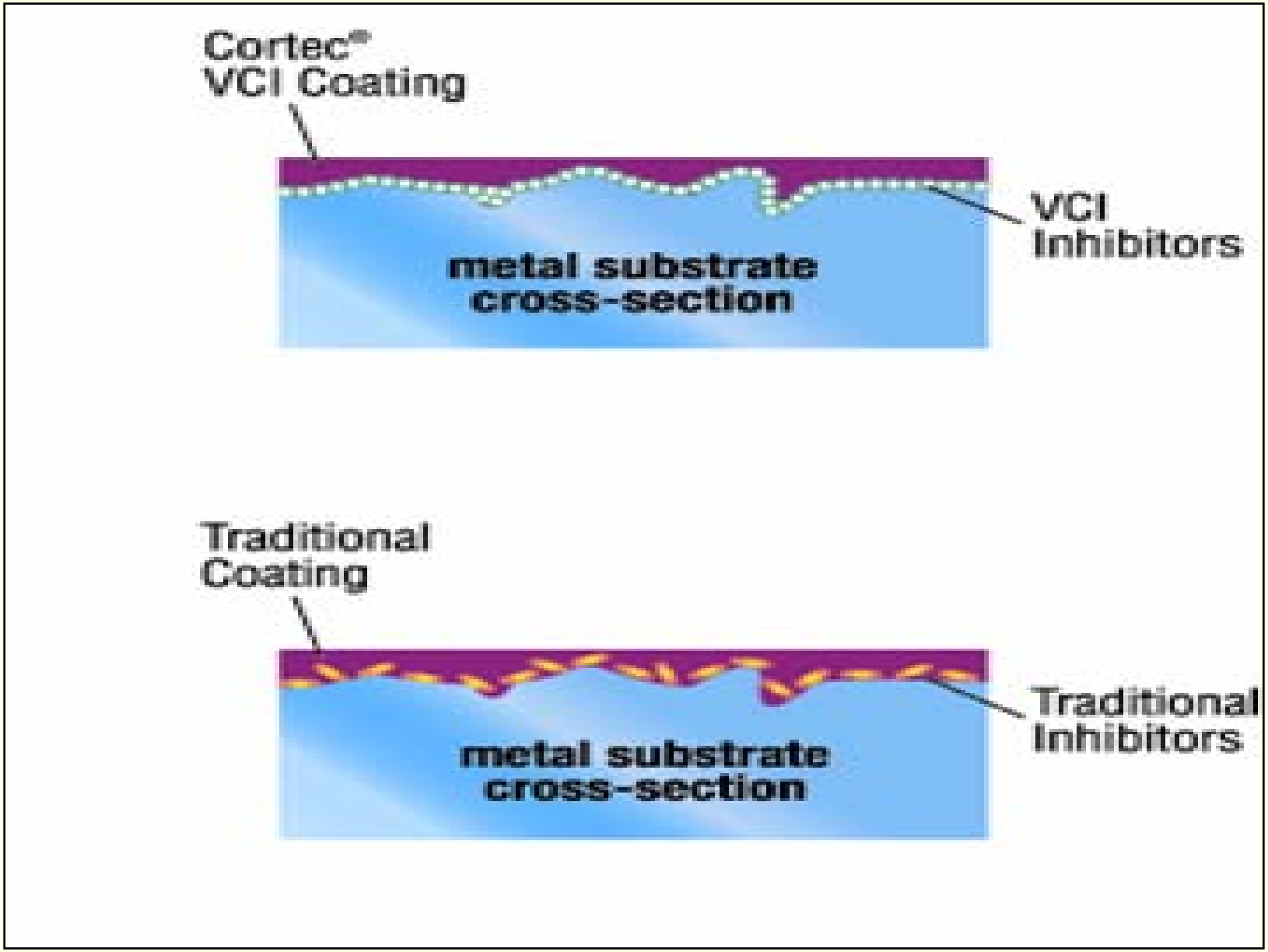
The customer was very pleased with the ease of application and look of the coating on the concrete.

VpCI Coatings

Combine the properties of traditional coatings and oils with enhanced corrosion protection

VpCI Coatings offer three levels of protection:

- **Contact corrosion inhibitors**
- **Barrier protection**
- **VpCI**

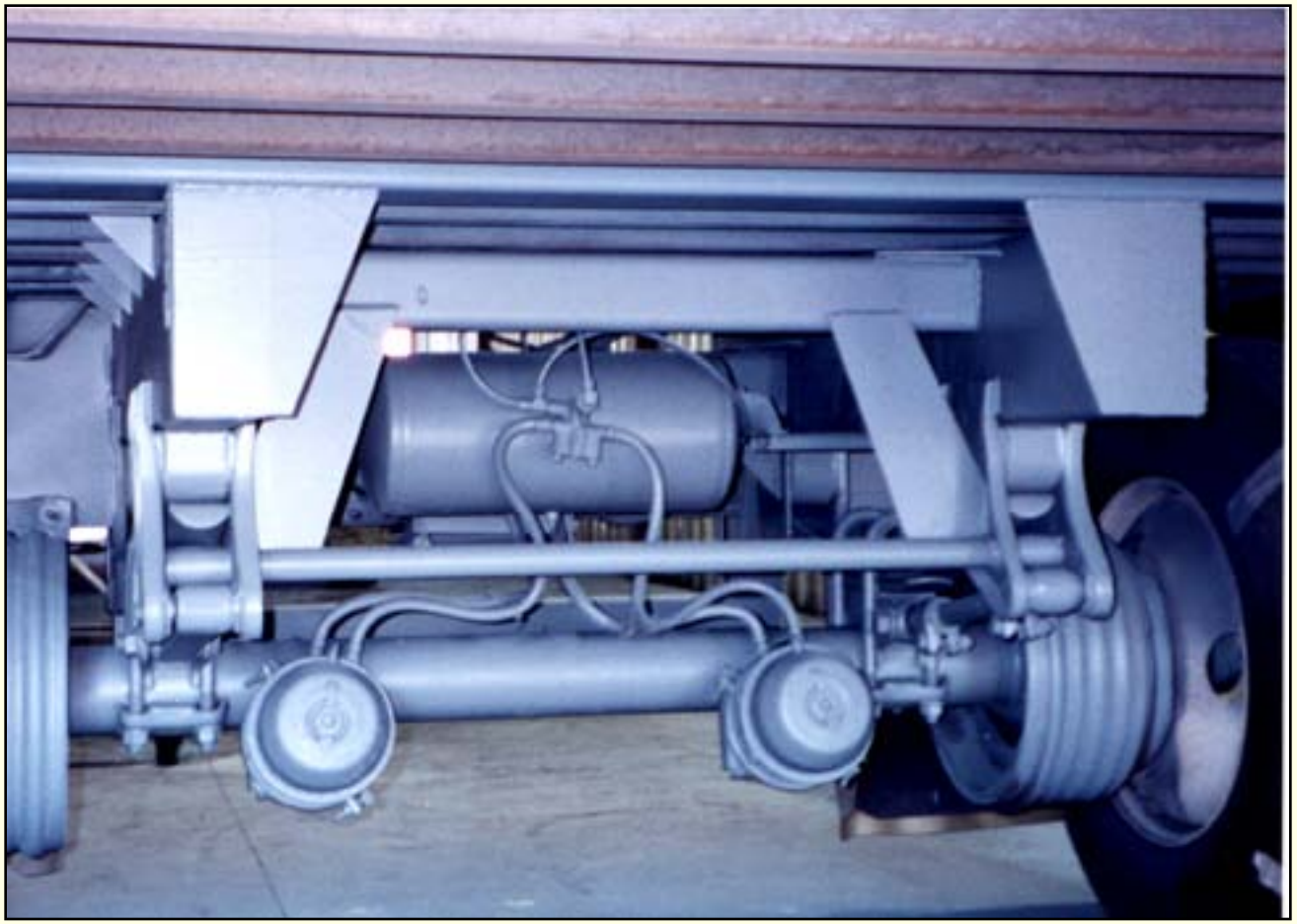

Cortec®
VCI Coating
VCI
Inhibitors
metal substrate
cross-section
Traditional
Coating
Traditional
Inhibitors
metal substrate
cross-section

Example of VpCI vs Non VpCI Coatings

Bridge Beam Coated w/VpCI 396

Transit Coatings

Maintenance Applications



CASE HISTORY
Corrosion Protection for Steel Tank Farm

PROBLEM:

The customer was looking for an easy, long lasting, cost effective solution to their corrosion problem that complied with 2011 National Fire Protection Association regulations.

APPLICATION:

The tanks and piping were prepped with VpCI® -415 cleaner/degreaser, coated with CorrVerter®, and then VpCI® -386 White was sprayed on as a topcoat.

CONCLUSION:

The tanks and piping have lasting corrosion protection and will continue to be regulation compliant.

Process Additives

Fuels/Lubes

Turbine transmission lubes
Product storage
Product transmission lines
Fuel system layup
Product storage tanks and process equipment

Upstream

Oil and gas drilling and completion fluid
Sub-sea pipelines, riser and separators
Hydrate control
Oxygen scavenger
Crystalline modifiers
Production chemicals
Foam based under balanced drilling

Downstream

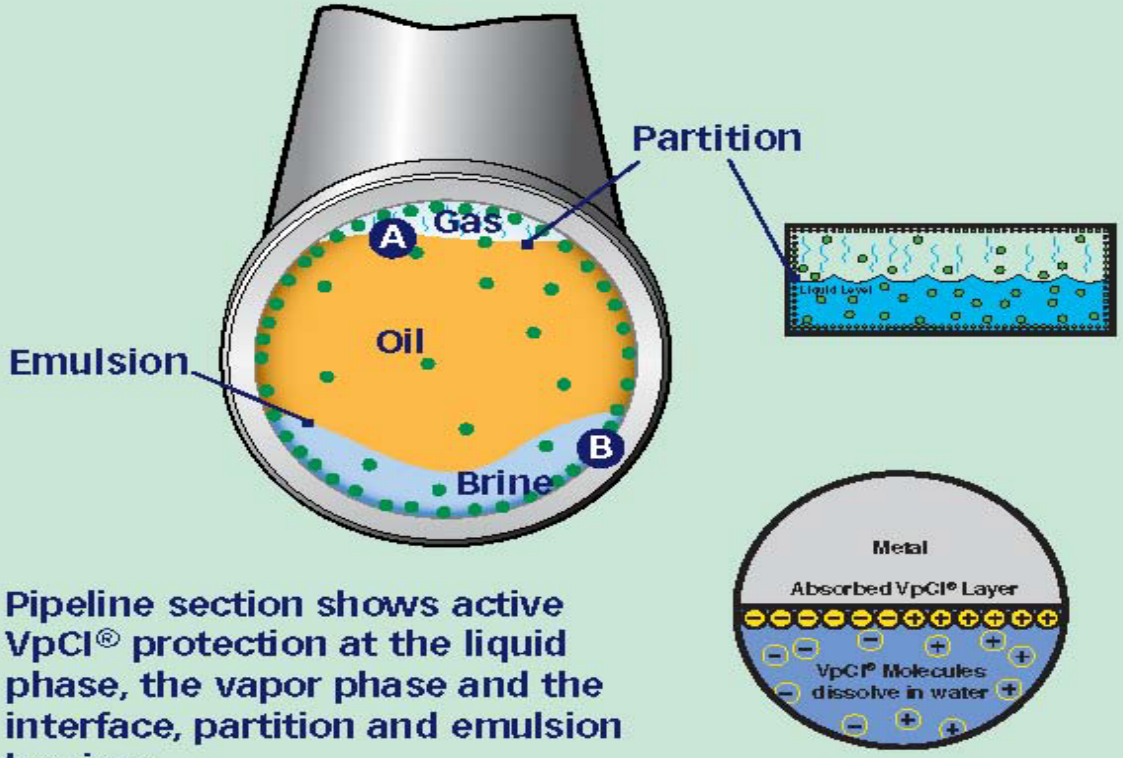
Refinery crude storage
Overheads, condensers, accumulators, morpholine replacement
Organic sulfite replacement
Lubes
Amine systems

Petrochemical

Polymerization Processes
Acid process control
High alloy systems
Quench water control

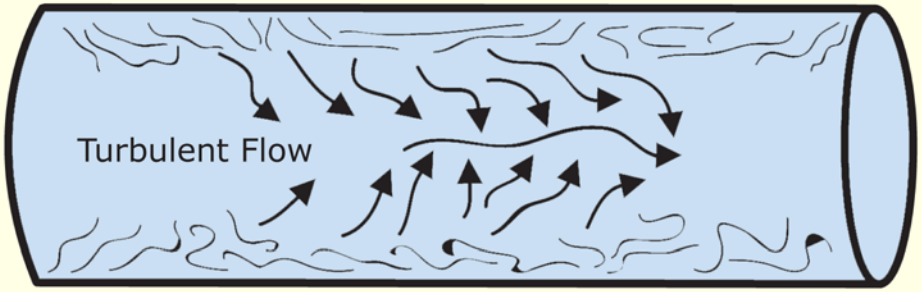
Vapor phase Corrosion Inhibitors (VpCI®)

VpCI® technology is a revolutionary, environmentally safe and 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. Vapor phase Corrosion Inhibitors form a physical bond on the metal surface and form a barrier layer to aggressive ions. For use in pipelines, oil and gas wells, refinery units and fuels.

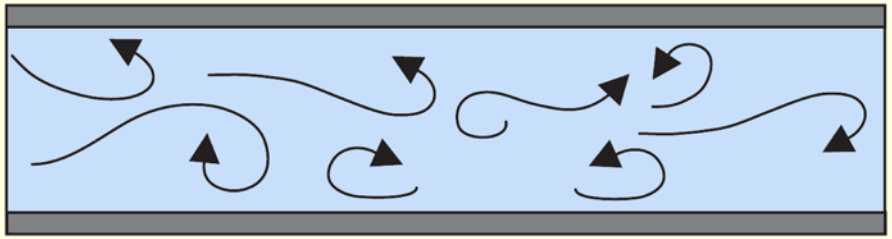


Pipeline section shows active VpCI® protection at the liquid phase, the vapor phase and the interface, partition and emulsion barriers.

Choked Down Pipe

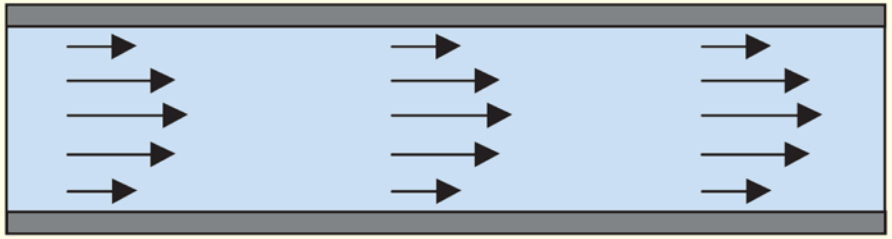


Turbulent (without Eco Flow™)



Eco Flow™ Enhancer

Laminar (with Eco Flow™)



CORTEC CORPORATION

Environmentally Safe VpCI® MCI® Technologies

THE MOTHBALLING HANDBOOK

< Home

CHAPTERS | CASE HISTORIES | PRODUCT DATA SHEETS | CLASSES OF RP's

A Corrosion Protection Guide

VpCI® Solutions for Preservation, Lay-up, and Mothballing

(Click on the buttons above to view Chapters, Case Histories, PDS's, & Charts in PDF format)

Download Adobe PDF Reader - www.Adobe.com

http://www.cortecvci.com - info@cortecvci.com

Classes of Rust Preventative Compounds

Class	I Thin Film	II Grease	III Open Atmosphere Soft Coating	IV Open Atmosphere Hard Coating	V VpCI® Fluid	VI VpCI® Crystals	VII VpCI® Wrap	VIII VpCI® Emitter	IX VpCI® Water Treatment	X Desiccant
Product *(Linked to PDS)*	VpCI®-337 water based VpCI®-238 solvent based .	CorrLube Grease VpCI®-369 EcoLine® Bearing, Chain, & Roller Lube	VpCI®-369 oil based concentrate VpCI®-389 water based concentrate	VpCI®-368 VpCI®-386 VpCI®-391	VpCI®-326 VpCI®-329 M-529 M-530 VpCI®-705 Fuel Additive	VpCI®-308 VpCI®-309 S-69 Powder water soluble (carboxylate)	VpCI®-125 static dissipative VpCI®-126 Blue MilCorr® Shrink Film	VpCI®-101 Device VpCI®-111 Emitter VpCI®-105 Emitter	VpCI®-649 M-640 L	Desicorr® Desicorr® VpCI®
Use	Displace Moisture	Anti-friction Bearings	Exterior Surfaces	External Surfaces	Oil Reservoirs Crankcases, Sealed Internal Surfaces, Fuel Tanks	Pipes, Tanks, & Tubulars	Equipment & Spare Parts	Electrical, Electronics, Instruments Enclosures	Cooling Loops, Boilers, & Hydrotesting	Sealed Internal Surfaces
Type	Solvent or Water Carrier	Number 2 Grease	Self-healing Grease	Solvent or Water Carrier	Oil & Fuel Soluble Fluid	Amino Carbox-ylate Powder	Plastic Film, Bags, or Tubing	Foam or Plastic Capsules	Water Carrier	Granular Absorbent
Protective Period Months, unshel-tered outdoors	Not Recommended	Up to 6 months	12-24	24-48	Up to 12 months	Up to 12 months	Up to 60 months	Up to 12 months	N/A	Up to 6 months
Protective Period Months, shel-tered outdoors	3-6	6-12	24-48	24-48	Up to 24 months	Up to 24 months	Up to 72 months	24	N/A	Up to 12 months
Protective Period Months, indoors	6-12	12-24	36	48	Up to 36 months	Up to 36 months	Up to 120 months	24	Up to 24 months	Up to 24 months
Applicable Standards *(Linked to doc)*	NACE Standard RP0487-2000	NACE Standard RP0487-2000	NACE Standard RP0487-2000	NACE Standard RP0487-2000	NACE Standard RP0487-2000	NACE Standard TM0208	NACE Standard TM0208	NACE Standard TM0208	NACE Standard RP0487-2000	MIL-D-3464 Type I & II

Lay-up of GE Gas Turbine

Lay-up of GE Gas Turbine

Setting discharge to a light fog

Fogging through the inlet

Exhaust Sealed with Poly Film

Inlet covered with VpCI 126 film

CASE HISTORY
Terminale LNG Adriatico Srl - ExxonMobil - Qatar -Edison Snamprogetti Srl

PROBLEM:

The customer needed to prevent the progression of corrosion to the interior of 1300 pipes stored for several months in an outdoor, harsh environment..

APPLICATION:

VpCI 609® Powder was fogged inside each pipe with a specially designed pipe coater, VpCI™-389 was then applied to the cut-back, and both ends of each pipe were covered with VpCI-126® Film

CONCLUSION

Customer was very satisfied their corrosion problems were addressed and solved in a timely manner.


285


285

CASE HISTORY

Deep Storage Preservation of U.N.L.B. Vehicles

PROBLEM:

customer required a preservation system that would be efficient, economical, and keep vehicles rust-free.

APPLICATION:

The vehicles were refilled with new oil, coolant, and fuel with Cortec Additives, washed, wax and wrapped with MilCorr® VpCI™ Shrink Film.

CONCLUSION:

Cortec® products provided excellent results; the vehicles were inspected after 1 year of storage and had no signs of corrosion.

CORTEC CORPORATION

RIG STACKING SPECIALIST

CASE HISTORY

Lay-up Preservation System For Offshore Equipment

PROBLEM:

Customer needed to store equipment for one year on the deck of an offshore platform.

INSTRUCTIONS FOR PROTECTION:

All exterior and inside surfaces of units were protected with various Cortec products

START UP AFTER STORAGE:

All outside surface of. units were washed with EcoLine® Biodegradable Cleaner/Degreaser and all surfaces were inspected.

REASON CORTEC® WAS SELECTED:

Cortec® Corporation offered a preservation system, along with world class technical, logistical support, and supervision of the entire project.

General Motors Build Ahead

MilCorr in Russia

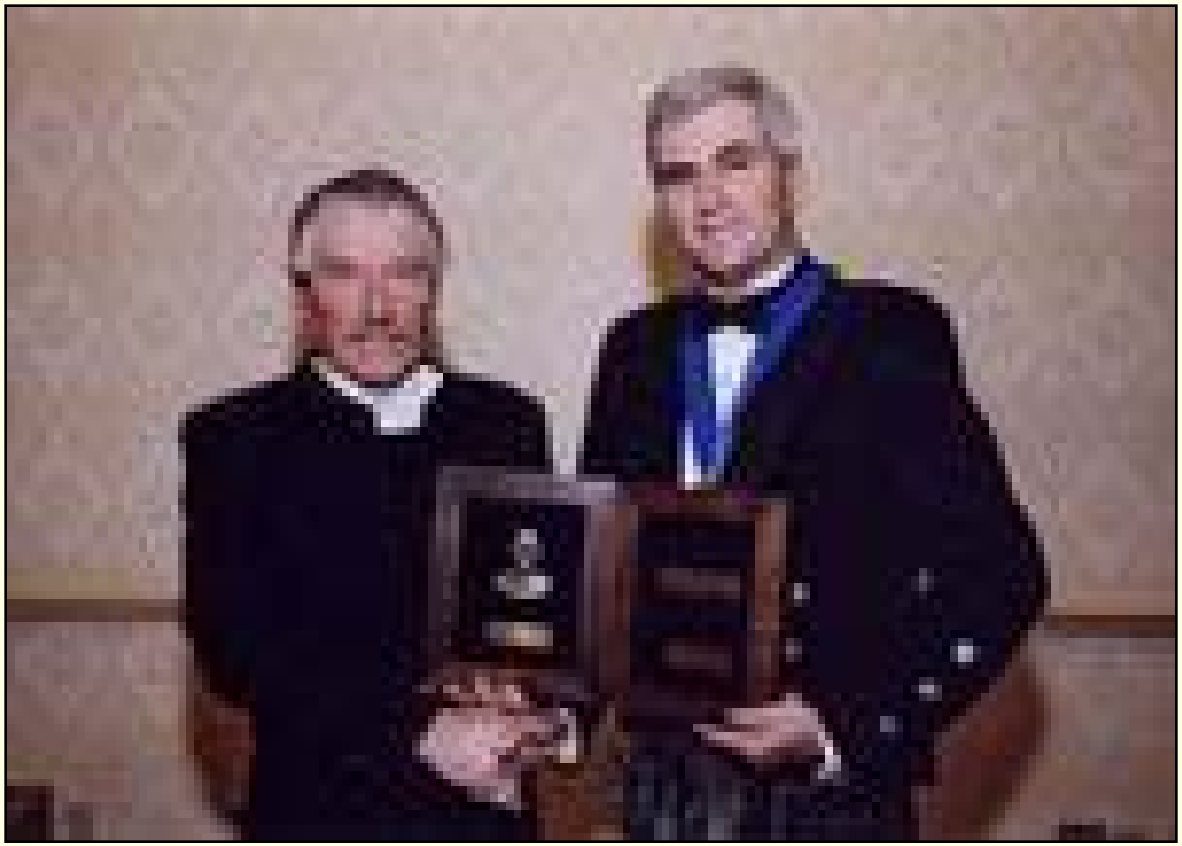
TRANE USA - Industrial Chillers

NASA Tool Preservation

Marathon Preservation

Thank You
Gracias

www.cortecvci.com



Pierre Crevolin, President of NACE International delivers the Frank Newman Speller Award to Boris Mikšić during NACE Expo 2004

Zagreb City Assembly, February 26, 2009.
Giving criticism to Mayor Milan Bandic

With Governor Tim Pawlenty, Croatian Ambassador Dr. Grdesic, and Ivana Radic at the Minnesota State Capitol

Boris' billboard from the Presidential elections 2005
"Good and honest guy for a better Croatia"

Boris' billboard Parliamentary elections, 2007
"Sky is the limit-we are making greenfield investments not taking away from the people

Campaigning with Croatian legend Miso Kovac, 2004

With Cardinal Bozanic, during the benediction of the Croatian Martyrs Church, Hrnetic, 2004

Submitting 10,000 support signatures required fro presidential nomination, Zagreb, 2004

Election Night at Headquarters in Duke Mislav Street, after the famous announcements from The State Electoral Committee that Mesic and Kosor were going to the run off, January 2, 2005

Street Protests after electoral fraud of the presidential elections, January 2005

After the trial where the president of Republic of Croatia Stjepan Mesic, sued citizen Boris Miksic for slander. Judicial farce was over in record time of 2 hours, Sambor 2006