



"Your Corrosion Inhibitor Partner"

# Micro-Corrosion Inhibiting **COATINGS** *Powered by Nano VpCl*



"Your Corrosion Inhibitor Partner"

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# Cortec® VpCI® Coatings

## Solve A Wide Variety Of Corrosion Problems

VpCI® Coatings protect a multitude of metal products. Applying VpCI® Coatings provides fast and economical protection for exterior and interior surfaces. Our technical staff can help you decide which product you need for long lasting and complete protection of your corrosion sensitive products.



VpCI®-395 & VpCI®-384

### Productivity, Investment Protection, And Cost Reduction

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 repainted, reprocessed, or scrapped due to corrosive attack while in the plant or in the field. This leads to lost productivity. The high cost of corrosion also includes rust claims and freight costs for returned goods.



VpCI®-398

VpCI®-391

VpCI®-396

## The Industrial-Strength Edge In Safe VpCI® Corrosion Protection

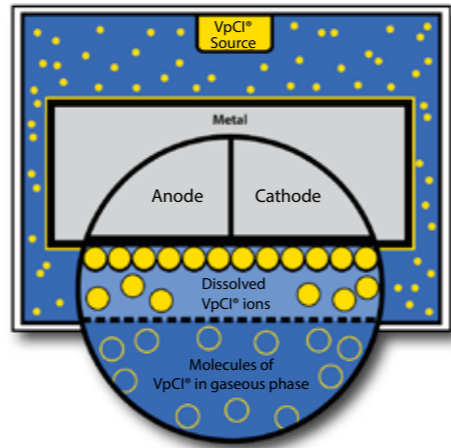
Whether it's sea or land, Cortec® industrial-strength coatings withstand some of the harshest environments and climates. Cortec® offers a broad range of high-quality, innovative, environmentally safe coatings. Our goal is to provide you with the highest technical and intelligent solutions to protect your assets. Our performance is reliable globally, and our products provide excellent adhesion to substrates and exceptional resistance for reduced environmental impact.



VpCI®-391

# 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, self-replenishes, and can be combined with other functional properties for added protective capabilities. VpCI® forms a physical bond on the metal surface creating a barrier layer against aggressive ions.



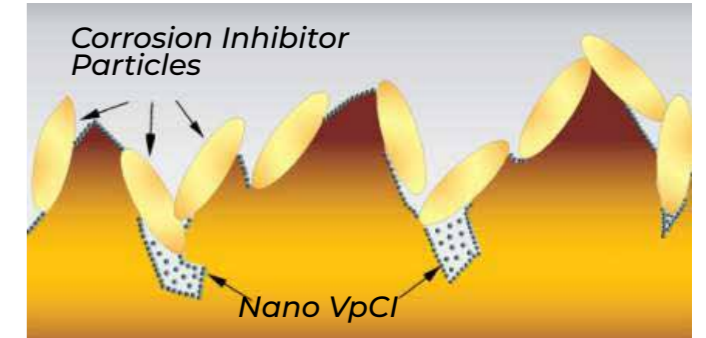
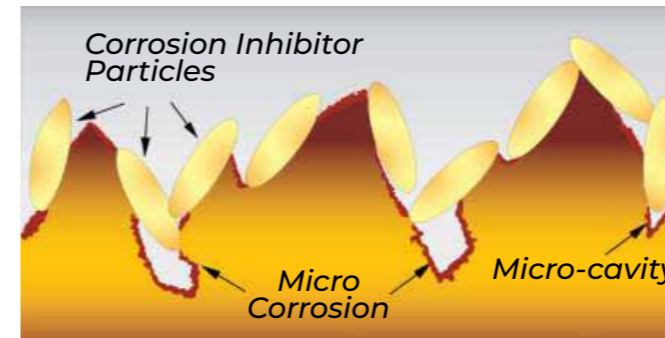
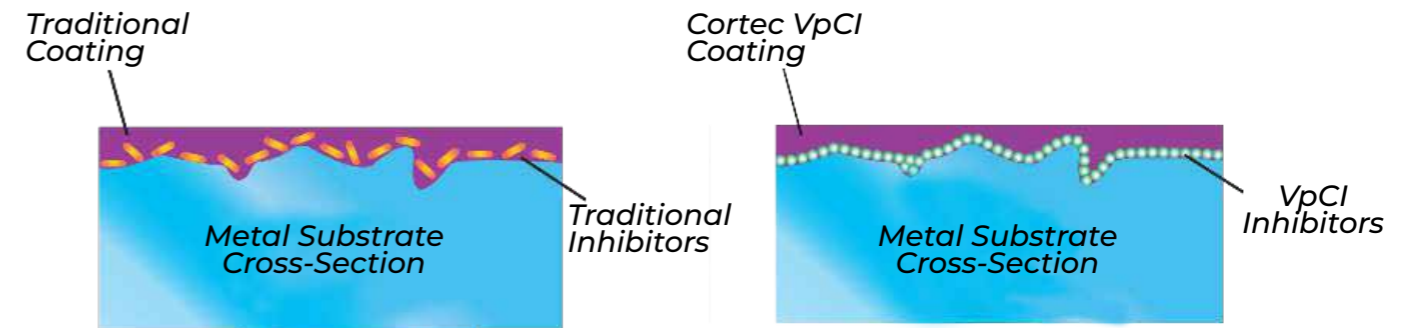
## How VpCI® Works?

- Vaporizes
- Conditions enclosed atmosphere with a protective vapor.
- Vapor condenses on all metal surfaces.
- Ions dissolve in moisture layer (water electrolyte).
- Protective ions are attracted to metal surfaces.
- Ions form a thin molecular protective layer at the metal surface.
- Protective layer re-heals and self-replenishes through further condensation of the vapor.
- VpCI® combines with other functional properties. Antistatic, Lubricating, Cleaning, Paint Removing, Desiccant, Polymeric, Coatings, Rust Removing, Fire Retarding.

## Traditional Coatings vs. Cortec® Micro-Corrosion Inhibiting Coatings™ With Nano VpCI®

Traditional coatings rely on sacrificial metals (zinc, chromates, aluminum) for inhibition. Due to the large particle size of these inhibitors, gaps exist which allow corrosion to start and eventually expand, causing coating failure.

Cortec® Nano VpCI® coatings use the patented VpCI® technology to protect the metal substrate with a tight bonding molecular structure. This system eliminates the gaps which occur with traditional inhibitors and prevent corrosion from starting.



# Choosing The Correct Coating

- Type of protection needed (short term, long term)
- Type of metal to protect
- Type of exposure (indoor, outdoor)
- How it will be applied (spray, dip, brush)
- What are the application parameters
- Cost parameters



## One Component Topcoats

	VpCI®-280	VpCI®-371	VpCI®-375	VpCI®-380	VpCI®-381	VpCI®-383	VpCI®-386	VpCI®-387	VpCI®-390	VpCI®-392	VpCI®-398
<b>System Type</b>	Solvent	Solvent	Water	Water	Water	Water	Water	Water	Water	Water	Solvent
<b>Resin</b>	Alkyd	Silicone	Acrylic	Fluoropolymer	Urethane/Acrylic	Acrylic	Acrylic	Acrylic	Alkyd	Urethane	Sulphonate
<b>Exterior Durability</b>	Very Good	Very Good	Very Good	Very Good	Very Good	Good	Very Good	Very Good	Very Good	Very Good	Very Good
<b>Chemical Resistance</b>	Poor	Good	Fair	Good	Very Good	Fair	Fair	Fair	Fair	Good	Very Good
<b>Direct To Metal</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Salt Spray</b>	336	600 hrs	750 hrs +	1000 hrs +	1000 hrs +	168 hrs	168 hrs	500 hrs	500 hrs	200 hrs +	2000 hrs +
<b>Gloss</b>	80+	80+	30-50	80+	80+	80+	80+	80+	80+	80+	15-25
<b>VOC</b>	2.8	3.3	0.7	1.6	0.29	0.6	0.6	0.8	1.12	1.1	2.6
<b>Solids</b>	54-57	37.1	39	33.9	33.7	12	31	30.9	26.2	34.1	64.9
<b>Recommended DFT</b>	1.0-3.0	0.5-1.0	3.0-5.0	3.0-5.0	1.5-3.0	0.4-1.2	1.5-3.0	6.0-8.0	1.5-2.0	1.0-2.0	4.0-5.0
<b>Dry To Touch</b>	30 min	20 min	20 min	30 min	20-30 min	30 min	30 min	1 hrs	1-2 hrs	30-40 min	4-6 hrs

## One Component Primers

	VpCI®-373	VpCI®-375	VpCI®-386	VpCI®-396	CorrVerter®	EcoPrimer™	CorrBarrier
<b>System Type</b>	Water	Water	Water	Solvent	Water	Water	Water
<b>Resin</b>	Acrylic	Acrylic	Acrylic	Urethane	PVC	Acrylic/Alkyd	PVC
<b>Exterior Durability</b>	Poor	Very Good	Very Good	Very Good	Poor	Poor	Very Good
<b>Chemical Resistance</b>	Poor	Fair	Fair	Good	Very Good	Good	Very Good
<b>Direct To Metal</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Salt Spray</b>	72 hrs	750 hrs+	168 hrs	750 hrs+	500 hrs	200 hrs	500 hrs
<b>Gloss</b>	15+25	30-50	80+	30-50	15-25	15-25	15-25
<b>VOC</b>	0.6	0.7	0.6	3.1	0.1	0.1	0.2
<b>Solids</b>	30.9	39	31	56.2	34.5	41.7	44.3
<b>Recommended DFT</b>	0.5-1.0	1.5-3.0	1.5-3.0	2.0-3.0	3.0-5.0	1.5-4.0	2.0-2.5
<b>Dry To Touch</b>	20 min	20 min	30 min	2-3 hrs	2-3 hrs	20-30 min	20-30 min

\* VpCI®-386 Clear - colors will have less hrs SS

## Cortec Pre-Treatment Typical 5 Stage System



### Two Component Primer

	VpCI®-395
System Type	Water
Resin	Epoxy
Exterior Durability	Poor
Chemical Resistance	Excellent
Direct To Metal	Yes
Salt Spray	1000 hrs +
Gloss	15-25
VOC	0.2
Solids	48.6
Recommended DFT	1.5-3.0
Pot Life	2-3 hrs
Dry To Touch	20-30 min



### Two Component Topcoats

	VpCI®-382	VpCI®-384	VpCI®-2026
System Type	Water	Solvent	%100 Solid
Resin	Urethane	Urethane	Novolac Epoxy
Exterior Durability	Very Good	Very Good	Very Good
Chemical Resistance	Very Good	Very Good	Excellent
Direct To Metal	No	No	Yes
Salt Spray	1000+ hrs	500+ hrs	500+ hrs
Gloss	80+	80+	80+
VOC	0.02	3.5	0.1
Solids	67.9	50-55	100
Recommended DFT	1.5-3.0	2.0-4.0	11.0-13.0
Pot Life	2-3 hrs	2-3 hrs	25 min
Dry To Touch	2.5-3 hrs	5 hrs	30 min

## Cortec® Coatings Provide Permanent Protection For Field Service,

### Anti-Corrosive Maintenance, And OEM Applications

Cortec® can match 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. Cortec® products also have excellent 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.



After



Before

Right: The customer required long term protection of metal pillars used in electrical transmission lines. Sand blasting and water blasting were prohibited from being done on this project. Additionally, the customer required an easy to apply, cost effective, and environmentally friendly



***STOP CORROSION,  
NOT PRODUCTION***



# Removable Coatings

Cortec's removable coatings deliver exceptional multimetal protection for outside applications and salt-spray resistance. These removable coatings are an advanced, safe replacement for hazardous oil-based products. They are an excellent choice for long-term indoor protection that lasts up to 5 years and short to medium-term (6-24 months) unsheltered outdoor protection.

These completely safe and easy to use coatings cure to a soft film and eventually harden. They are very efficient in SO2 and H2S environments. The products leave a translucent, waxy coating that are easily removable, and are low in VOC's. Cortec's removable coatings can be easily removed with alkaline cleaners, such as Cortec® VpCI®-414. Metals protected are: aluminum, steel, cast iron, copper alloy and tin plated steel.

Cortec's removable coatings are the best solution on the market for applications such as equipment lay-up, parts processing protection, overseas shipping, maintenance repairs, and parts storage. Traditional coatings rely on sacrificial metals (zinc, chromates, and aluminum) for inhibition. Due to the large particle size of these inhibitors, gaps exist which allow corrosion to start and eventually expand, causing coating failure.

Cortec's removable coatings use the patented VpCI® technology to protect the metal substrate with a tight bonding molecular structure. This system eliminates the gaps which occur with traditional inhibitors and prevents corrosion from starting. With environmentally safe VpCI® technology, the equipment and products will get superior corrosion protection.



# Typical Applications

- Equipment lay-up
- Parts processing protection
- Overseas shipping
- Maintenance repairs
- Parts storage



	VpCI®-368	VpCI®-369	VpCI®-372	VpCI®-388	VpCI®-389	VpCI®-391	CorShield®
System Type	Solvent	Oil	Water	Water	Water	Water	Water
Exterior Durability	Very Good	Good	Good	Good	Very Good	Very Good	Good
Salt Spray	1500 hrs	3500 hrs+	168 hrs	100 hrs	600 hrs	250 hrs+	100 hrs
VOC	2.9	0	0.2	0.2	0.1	0.4	0
Solids	52.3	99.2	33.4	26.7	37.1	34.4	10-20
Recommended DFT	2.0-3.0	1.0-3.0	2.0-10.0	2.0-3.0	1.0-2.0	1.0-3.0	0.5-1.0
Dry To Touch	30 min	-	1-2 hrs	20-30 min	10-60 min	30-60 min	30 min
Removal	VpCI®-414	VpCI®-414	VpCI®-414	VpCI®-414	VpCI®-414	VpCI®-414	VpCI®-414

**VpCI®-368M :**

Qualified to MIL-PRF-16173E (Grades 1)

- NSN 8030-01-430-4898
- QPL 4620-1535(1)

**VpCI®-369M :**

Qualified to MIL-PRF-16173E (Grade 2)

- Listed QPL 4260-1535 (Grade 2)
- NSN 8030-00-244-1298
- NSN 8030-01-149-1731



# DENİZ YAPI

SAN. VE TIC. AS

## DEYAP ABOUT US

*Deniz Yapi Sanayi ve Tic. A.S. in 1992 to carry out corrosion prevention and surface cleaning works, DEYAP is the Turkish distributor and licensor of Cortec Corporation and Mykal, the leading companies in the world.*

*Our company, which realized the supply (1992), production and project design (1995) of VpCI for the first time in Türkiye, provides the production of VpCI film and paper products specific to the demands of its customers in its 2500 m<sup>2</sup> production area located in Kocaeli Dilovasi and the supply of anti-corrosion chemicals, dehumidifiers, surface cleaning chemicals and auxiliary packaging materials. All of its production is carried out under ISO - 9001:2015 quality system.*

“YOUR CORROSION  
INHIBITOR PARTNER”

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