

This is a COBRA attack helicopter that was used in active Army Air missions and later flown by Hawaii Air National Guard. The COBRA at the end of its tenure of use was donated to the US Army Museum at Ft. Derussy, Oahu, Hawaii. The COBRA was painted several years back with house paint and had developed corrosion issues as well as coating fatigue due to harsh ultra violet conditions that Hawaii experiences. It was recoated in August of 2006 with Cortec® OD Green VpCl®-386 after degreasing with Cortec® VpCl®-416 and surface prep procedure. These helicopters were designed for short life in mind so the corrosion prevention service is an ongoing project.

# HIGH PERFORMANCE COATINGS



## Cortec® VpCI® Products solve a wide variety of corrosion problems

VpCIs protect a multitude of metal products. Spraying or dipping metals with VpCIs 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.



Courtesy Kijoda Sales  
Products: VpCI®-386, 374, 416, 426  
Fleet of trucks used for coastal transport.  
Location: Rocky Mountains, USA



Courtesy Quimilock SA  
Products: VpCI®-386  
VpCI®-386 used on HVAC Equipment.  
Location: Sevilla, Spain



Courtesy Cortec® Corporation  
Products: VpCI®-396  
VpCI®-396 for 25 years protection in China.  
Location: Beijing, China

## 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 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.



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

Cortec® offers environmentally safe solutions for all of your corrosion problems. Our temporary coatings come off as easily as they go on and last for years when necessary. Cortec® (temporary) coatings provide protection during in-plant processing, shipment, or storage. Our (temporary) coatings offer the same performance/environmental standards as permanent applications and are easily removed with our or any environmentally safe cleaner. In many situations they do not need to be removed at all.



Courtesy Thomas Simone Company  
Products: VpCI®-126, 369D  
Paper Mill Gear coated in 369D and wrapped in VpCI®-126 Blue.  
Location: Ohio, USA

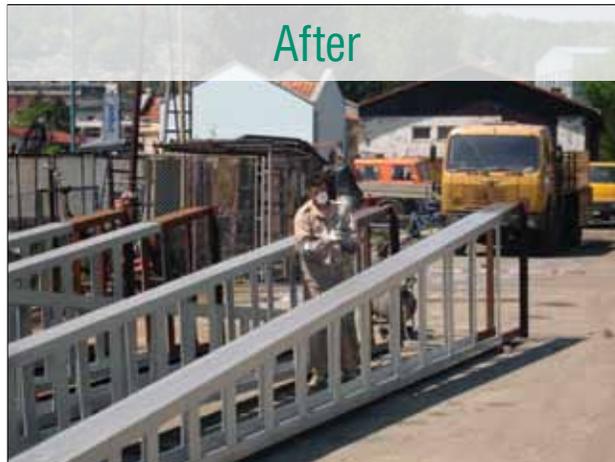
# Cortec® coatings provide permanent protection for field service, anti-corrosive maintenance, and OEM applications

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. Cortec® products also have excellent gloss retention, which is important when aesthetics are a consideration.

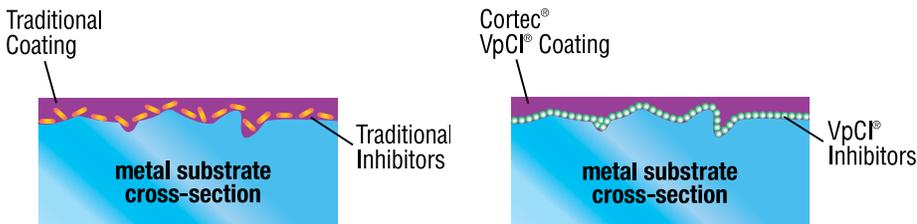
With environmentally safe VpCI® technology, your equipment and products will be effectively protected against humidity, saltwater, and oxidizing atmospheres as well as corrosive industrial, marine, and tropical environments.

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 solution.

Courtesy Cortecros Ltd.  
Products: Corverter® and VpCI®-386 Aluminum  
Location: Croatia



## Traditional coatings vs. Cortec® VpCI® coatings



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® 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.

# Product Description

Type	Product	Description	DFT	Dry to touch time	VOC lb/gal (g)
SB - P	VpCI®-365	Available in three colors: black, aluminum, tan. Excellent resistance to salt spray.	3.0-5.0 mils (75-125 um)	16 hours	2.2-2.5 (2 m)
SB - P & T	VpCI®-371	High temperature silicone coating that provides excellent corrosion resistance.	0.5-1.0 mil (12.5-25 um)	20 min.	3.5-3.6 (4 m)
WB - P	VpCI®-373 Clear	Soft, thin, flexible primer for adhesion to aluminum, stainless steel, galvanized and difficult-to-adhere-to surfaces. Must be top coated. Good replacement for chromate treatments.	0.5-1.0 mil (12.5-25 um)	20 min.	1.7-1.8 (2 m)
WB - P	VpCI®-373 Green	Soft, thin, flexible primer for adhesion to aluminum, stainless steel, galvanized and difficult-to-adhere-to surfaces. Must be top coated. Good replacement for chromate treatments.	0.5-1.0 mil (12.5-25 um)	20 min.	0.9-1.0 (1 m)
WB - P	VpCI®-374	Extremely long-lasting primer that can be used with or without topcoat.	1.5-3.0 mils (37.5-75 um)	30 min.	0.7-0.8 (0.8 m)
WB - P	VpCI®-395 Aluminum	A 2K water based epoxy primer designed for immersion situations.	1.50-3.0mils (37.5-75 um)	20-30 min.	1.0-1.1 (1 m)
WB - P	VpCI®-395 White	A 2K water based epoxy primer designed for immersion situations.	1.50-3.0mils (37.5-75 um)	20-30 min.	0.5-0.6 (0.6 m)
WB - P & T	VpCI®-375	One coat system that can be used as a primer & topcoat. 2500+ hours of salt spray resistance.	3.0-5.0 mils (75-125 um)	20 min.	0.7-0.8 (0.8 m)
WB - P	VpCI®-CorrVerter	Non-toxic, water-based primer recommended for application to rusty or poorly prepared steel surfaces.	3.0-5.0 mils (75-125 um) WET	2-3 hours	0.3-0.4 (0.4 m)
SB - P	VpCI®-396	A single package moisture cure urethane designed for long-term performance in severe environments.	2.0-3.0 mils (50-75 um)	2-3 hours	3.1-3.2 (3 m)
WB - T	VpCI®-383	An ideal coating for dip applications. For OEM specs. Clear or colors. Semi-gloss appearance. Can be applied at low thickness.	0.4-1.2 mils (10-30 um)	30 min.	1.6-1.7 (1.7 m)
SB - T	VpCI®-384 Aluminum	A two-part silver colored urethane topcoat designed to be used over a moisture cure urethane primer.	2.0-4.0 mils (50-100 um)	6-8 hours	3.4-3.5 (4 m)
SB - T	VpCI®-384 White	A two-part white urethane top coat designed to be used over a moisture cure urethane primer.	2.0-4.0 mils (50-100 um)	6-8 hours	2.7-2.8 (3 m)
WB - T	VpCI®-385	A non-skid coating. A primer (VpCI-374™) should be used if applying over metal.	5-7 mils (75-125 um) WET	1-2 hours	1.6-1.7 (1.7 m)
WB - P & T	VpCI®-386	Our original top coat for multimetal protection. Clear and colors. High gloss (70).	1.5-3.0 mils (37.5-75 um)	30 min.	1.6-1.8 (1.8 m)
WB - P & T	VpCI®-386 Aluminum	Excellent resistance to salt spray.	1.0-2.5 mils (25-67.5 um)	30 min.	1.9-2.0 (2 m)
WB - T	VpCI®-387	A high-build, self-priming coating (higher than VpCI-386™) for outdoor protection.	6-8 mils (125-175 um)	1 hour	1.8-1.9 (2 m)
WB - T	VpCI®-CorShield® Gold	A brilliant true gold colored water-based coating.	1.5-2.5 mils (37.5-67.5 um)	30 min.	0.6-0.8 (0.8 m)
SB - Temp	VpCI®-368	Our best temporary coating (oil-based). Dries to a non-tacky film. Conforms to MIL-C-16173E (Grade 1). Can be removed.	2-3 mils (50-75 um)	30 min.-3 hours	3.3-3.4 (3 m)
SB - Temp	VpCI®-369	Removable oil-based, outdoor coating that provides a lubricating film. Remains wet to touch.	1-2 mils (25-50 um)	n/a	
SB - Temp	EcoLine®-3690	Biodegradable, biobased, ready to use outdoor coating, easily removable with Cortec's alkaline cleaners.	1-2 mils (25-50 um)	n/a	
WB - Temp	VpCI®-372	Our strippable coating, dries semi-transparent. Protects from damaging nicks and scratches.	2-6 mils (50-150 um)	1-2 hours	0.1-0.2 (0.2 m)
WB - Temp	VpCI®-388	A removable tack free, firm coating. Matte finish. Dilutable. Ideal for dip or spray. Long-term indoor storage, short- to medium-term outdoor storage (sheltered).	2-3 mils (50-75 um)	5-30 min.	0.4-0.5 (0.5 m)
WB - Temp	VpCI®-389	Our most protective water-based temporary coating. Excellent salt resistance, dilutable. Forms a lightly tacky film, dries clear, removable. Medium to long-term outdoor storage.	1-2 mils (25-50 um)	1 hour	0.2-0.3 (0.3 m)
WB - Temp	VpCI®-391	Excellent salt spray resistance. Easily removable. Medium to long term outdoor storage, available in custom colors.	1-2.5 mils (25-62.5 um)	30-60 min.	1.6-1.7 (1.7 m)
WB - Temp	CorShield® Strippable	Strippable coating and available in clear and colors.	2.0-2.5 mils (50-62.5 um)	30-45 min.	0.6-0.7 (0.7 m)
WB - Temp	CorShield® Transit	Excellent for protecting equipment, parts and tools during shipping and storage.	0.5-1 mil (12.5-25 um)	30 min.	

WB = water based  
 SB = solvent based  
 P = primer  
 T = topcoat  
 Temp = temporary

(g/l) Regulatory	VOC lb/gl (g/l) Actual	Weight Solids	Coverage ft <sup>2</sup> /gl (m <sup>2</sup> /l)	Application Method	Film Type	Removal/Cleanup	Topcoat	Length of protection *
263.6-299.6 mixed	2.2-2.5 (263.6-299.6) mixed	75-80%	240-401(5.6-10)	spray, dip, roll, brush	Hard	VpCl®-433	N	up to 10 Years
119.4-431.4)	2.7-2.8 (323.5-335.5)	58-62%	929-1858(24-46)	spray, roll, brush	Hard	MEK	Y	up to 2 Years
103.7-215.7)	0.9-1.0 (107.8-119.8)	38-48%	592-1185(14.8-30)	spray, dip, roll, brush	Hard	VpCl®-433	N	up to 3 Years
107.8-119.8)	0.6-0.7 (71.9-83.9)	42-50%	672-1345(16.8-33.6)	spray, dip, roll, brush	Hard	VpCl®-433	N	up to 5 Years
183.0-95.0)	0.5-0.6 (59.9-71.9)	46-51%	245-491(6-12.2)	spray, dip, roll, brush	Hard	VpCl®-433	N	up to 15 Years
119.8-131.8) mixed	0.5-0.6 (59.9-71.9) mixed	50-60%	294-588(7.3-14.6)	spray, dip, roll, brush	Hard	VpCl®-433	N	up to 15 Years
159.9-71.9) mixed	0.4-0.5 (47.9-59.9) mixed	55-65%	321-641(8-16)	spray, dip, roll, brush	Hard	VpCl®-433	N	up to 15 Years
183.9-95.9)	0.6-0.7 (71.9-83.9)	40-50%	128-214(3.2-5.3)	spray, dip, roll, brush	Hard	VpCl®-433	Y	up to 15 Years
135.9-47.9)	0.1-0.2 (12.0-24)	52-58%	167-278(5.6-4.2)	spray, dip, roll, brush	Hard	VpCl®-433	N	up to 10 Years
171.5-383.5)	3.1-3.2 (371.5-383.5)	67-72%	358-537(8.9-13.4)	spray, roll, brush	Hard	MEK	Y	up to 25 Years
191.7-203.7)	0.6-0.7 (71.9-83.9)	33-39%	441-1322(11-33)	spray, dip, roll, brush	Hard	VpCl®-433	Y	up to 3 Years
107.4-419.4) mixed	3.4-3.5 (407.4-419.4) mixed	62-65%	248-497(6.2-12.4)	spray, roll, brush	Hard	MEK	Y	up to 10 Years
123.5-335.5) mixed	2.7-2.8 (323.5-335.5) mixed	67-72%	268-537(6.7-13.4)	spray, roll, brush	Hard	MEK	Y	up to 10 Years
191.7-203.7)	0.6-0.7 (71.9-83.9)	46-60%	105-147(2.6-3.7)	roll or brush	Hard	VpCl®-433	Y	up to 6 Years
171.9-95.9)	0.6-0.8 (71.9-95.9)	33-50%	187-374(4.6-9.3)	spray, dip, roll, brush	Hard	VpCl®-433	Y	up to 7 Years
127.7-239.9)	0.8-0.9 (95.9-107.8)	35-40%	224-561(5.2-14)	spray, dip, roll, brush	Hard	VpCl®-433	Y	up to 10 Years
115.7-227.7)	0.8-0.9 (95.9-107.8)	46-51%	92-123(2.6-3.7)	spray, roll, brush	Hard	VpCl®-433	Y	up to 5 Years
171.9-95.9)	0.6-0.8 (71.9-95.9)	37-40%	237-395(5.5-9.9)	spray, dip, roll, brush	Hard	VpCl®-433	Y	up to 5 Years
195.4-407.4)	3.3-3.4 (395.4-407.4)	57-61%	304-457(7.6-11.4)	spray, dip, roll, brush	Waxy	VpCl®-411	N	up to 5 Years
0	0	94-98%	753-1506(18.8-37.6)	spray, dip, roll, brush	Oily	VpCl®-410 series	N	up to 5 Years
0	0	94-98%	753-1506(18.8-37.6)	spray, dip, roll, brush	Oily	VpCl®-410 series	N	up to 5 Years
(12.0-24)	0.05-0.1 (6-12)	36-42%	96-288(2.4-7.2)	spray, dip, roll, brush	Hard	VpCl®-433	N	up to 3 Years
(47.0-59.9)	0.2-0.3 (24-35.9)	37-42%	198-296(4.9-7.4)	spray, dip, roll, brush	Hard	VpCl®-411, 414	N	up to 3 Years
(24-35.9)	0.2-0.3 (24-35.9)	35-43%	280-561(7-14)	spray, dip, roll, brush	Waxy	VpCl®-411, 414	N	up to 3 Years
191.7-203.7)	0.7-0.8 (83.9-95.9)	34-45%	218-545(5.4-13.6)	spray, dip, roll, brush	Hard	VpCl®-411, 414	N	up to 3 Years
171.9-83.9)	0.4-0.5 (47.9-59.9)	42-48%	269-336(6.7-8.4)	spray, dip, roll, brush	Hard	VpCl®-433	N	up to 2 Years
0	0	10-20%	160-320(4-8)	spray, dip, roll, brush	Waxy	VpCl®-410 series	N	up to 2 Years

\* Length of protection given is based on the most common application conditions. Many factors will affect the length of protection offered such as environment, application technique and the equipment to be protected.

## Permanent Primers:

Typically applied as a base coat prior to topcoat. Enhances the long-term performance of the total corrosion control coating system.

### VpCI®-365

Replacement for Coal Tar Epoxies

- High flash point
- Ideal for outdoor or wet environments
- Medium to severe environment applications
- 2K system

### VpCI®-371

A high temperature aluminum solventborne silicone coating

- 600 hour salt spray resistance
- 9H pencil hardness
- No hard settling of aluminum
- Brilliant aluminum appearance
- Passes ASTM D2485:91 (Method A & B)

### VpCI®-373

Fast Drying Primer

- Excellent intercoat adhesion
- Wash primer for aluminum substrates
- Good replacement for chromate primers

### VpCI®-374

Long Lasting Primer

- High solids
- Works well with waterborne topcoats
- Resists sagging
- Effective in indoor and outdoor environments

### VpCI®-375

Water-based acrylic single coat system

- Works as both a primer & topcoat
- High solids
- Works well with waterborne topcoats
- Resists sagging
- Effective in indoor and outdoor environments
- 2500 hours salt spray resistance

### VpCI®-395

Fast drying waterbased epoxy primer

- Excellent for immersion situation when used with VpCI®-Corrverter®
- Low VOC
- 2K system

### VpCI®-396

Our Most Durable Long Lasting Coating Available

- Moisture-cure
- Single component package
- Can be applied at low temperatures
- Excellent chemical resistance
- Extremely long-lasting
- Excellent immersion resistance

### CorrVerter®

VpCI® Rust Converter and Primer

- Excellent for rusty or poorly prepared steel surfaces
- Penetrates and converts rust
- Stops further rusting
- Can be used as a primer

## Permanent Topcoats

Designed for long-term durability, Cortec® coatings are the second component of the total corrosion control coating system.

### VpCI®-383

A topcoat for dip applications

- Permanent acrylic coating
- Strong adhesion at thin mil thickness
- Custom matched colors
- Weldable

### VpCI®-384

A Two Part Urethane Top Coat

- Excellent adhesion to moisture cure urethanes even when fully cured
- High gloss
- Excellent flexibility
- Excellent solvent resistance
- Very hard coating
- White & aluminum stock colors
- Available in other colors upon request

### VpCI®-385

Non-Skid Coating

- Good adhesion
- Formulated for floors, ramps, stairs

### VpCI®-386

Our Original Topcoat for Multiple Uses

- Permanent acrylic coating
- Available in standard and custom colors
- Can be overcoated
- Gloss finish
- Can be used as a primer & topcoat

### VpCI®-387

A High Build Topcoat

- High build acrylic coating
- Effective with or without a primer
- UV resistance
- Gloss appearance

### CorrShield® Gold

True Gold Water-Based Coating

- Permanent acrylic coating
- Attractive gold appearance
- Gloss finish



## Temporary Coatings

Used over both painted and unpainted surfaces. Provides protection during assembly, storage and shipment. Cortec® coatings are easily removed.

### **EcoLine®-3690**

Open Air Corrosion Inhibitor

- Biodegradable
- Biobased: made with sustainable resources
- Non-hazardous, non-toxic
- Excellent indoor and outdoor protection
- Provides multi-metal corrosion protection

### **Water based**

#### **VpCI®-372**

Strippable, Peelable Coating

- Dry film
- Fast drying
- Can be disposed of as solid waste when removed
- Effective for masking operations
- Excellent salt spray resistance

#### **VpCI®-388**

Removable Tack Free Coating

- Excellent for long-term indoor corrosion protection
- Dries clear, firm
- Environmentally friendly disposal

#### **VpCI®-389**

Waxy Film Coating for Severe Conditions

- Excellent for long-term outdoor applications
- Excellent salt spray resistance
- Stays slightly tacky

#### **VpCI®-391**

Non-Tacky Water Based Coating

- Excellent salt spray resistance
- Dries hard, non-tacky
- Easily removed
- Custom colors available

#### **CorrShield®**

##### **Strippable Coating**

- Excellent salt spray resistance
- Dry film
- Provides mechanical and corrosion protection
- Custom colors available

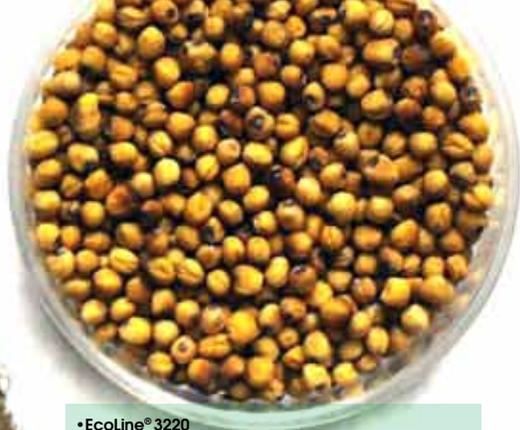
##### **CorrShield® Transit Coating**

- Waxy film
- Zero VOC
- Easily removable
- Dilutable



- BioClean-610
- BioClean Spray

**Coconut Shell**



- EcoLine® 3220
- EcoLine® 3690

**Canola Oil**



- EcoWorks®
- EcoClean® Dispersant 600

**Corn**

# Cortec® products derived from sustainable resources



- VpCI®- 411
- VpCI®- 422/423

**Orange Peel**



- M-605L
- MCI® 605L
- MCI® 2005
- MCI® 2005 NS
- MCI® 2006
- MCI® 2006 NS
- MCI® 2020M

**Sugar Beet**

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

**Soybean**



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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)

For more information contact: [www.CortecVCI.com](http://www.CortecVCI.com)

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