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PRODUCT RELEASE



Cortec® Presents EcoShield® VpCI®-144 Super Barrier: A Fully Recyclable Moisture Barrier Alternative to Polycoated and Waxed Papers!

Cortec® Corporation has developed a new Super Barrier version of its EcoShield® VpCI®-144 paper for protecting metal parts from corrosion! EcoShield® VpCI®-144 Super Barrier combines the corrosion protection of VpCI® paper coating with a high gloss water-based barrier coating that prevents moisture from reaching metal parts wrapped inside the paper. The enhanced moisture barrier of EcoShield® VpCI®-144 Super Barrier is an excellent environmentally friendly alternative to polyethylene and waxed papers.



Under recent ASTM E-96 testing, EcoShield® VpCI®-144 Super Barrier exhibited a water vapor transfer rate (WVTR) highly comparable to that of polycoated paper.

Sample	WVTR (g/hr*m ²)
NEW EcoShield [®] VpCI [®] -144 Super Barrier	0.21-0.30
Commercial PE Coated Paper	0.19-0.34

Past testing has also shown EcoShield[®] VpCI[®]-144 Super Barrier to rival the moisture barrier properties of polycoated paper and commercial waxed paper. This is an important advantage since poly and wax coatings are not recyclable through normal channels and therefore create an environmental problem. In contrast, EcoShield[®] VpCI[®]-144 Super Barrier paper is environmentally safe and fully recyclable/repulpable into other types of paper products such as boxes, cardboard, and other corrugated materials.

EcoShield[®] VpCI[®]-144 Super Barrier, the premium moisture barrier corrosion inhibiting paper in the industry, combines corrosion protection, moisture barrier properties, and oil and grease resistivity into one material to protect both ferrous and non-ferrous metals. This eliminates the need to inventory multiple types of papers for different types of metal. Protected metals include:

- Carbon Steel
- Stainless Steel
- Galvanized Steel
- Cast Iron
- Aluminum Alloys
- Copper
- Brass ($\leq 30\%$ Zn)
- Solder

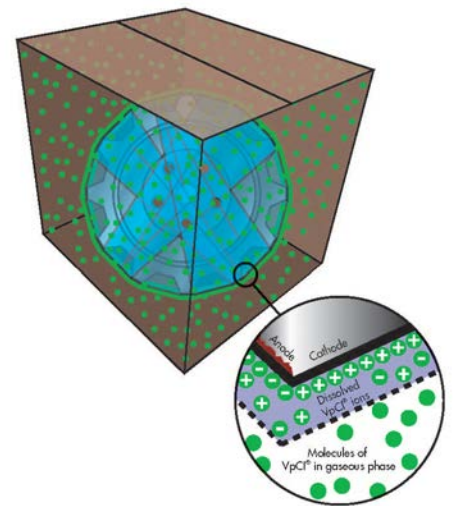


VpCIs on the inside face of the EcoShield[®] VpCI[®]-144 Super Barrier paper vaporize and condense on metal surfaces to form a thin protective film that doesn't influence physical properties of most sensitive electrical and electronic components, including conductivity and resistivity. The protective film does not

need to be removed prior to further surface finishing or coating application, and protected parts can be painted, welded, or soldered.

EcoShield[®] VpCI[®]-144 Super Barrier is useful in a variety of different applications:

- Metal production: coils, wire reels, plate, bar, etc.
- Metal forging and die casting: raw and machined forgings and castings
- Metalworking: stamping, sheet metal work, springs, bearings, fasteners, tubes, pipes, jewelry, silverware, etc.
- Finished products: engines, machinery, equipment, tools, hardware, appliances, instruments, motors, etc.
- Electrical and electronic products: components, controls, printed circuit boards, etc.



EcoShield[®] VpCI[®]-144 Super Barrier eliminates the package contamination found with other competing VCI/VPI papers because it is made from the highest quality neutral natural kraft paper without the use of chlorine or other bleaching chemicals. It contains no nitrites, phosphates, silicones, chromates, other heavy metals, or toxic products.

EcoShield[®] VpCI[®]-144 Super Barrier conforms to ASTM E-96, NACE TM0208-2008 (Vapor Inhibiting Ability), NACE RPO487-2000 (Selection of Rust Preventives), TAPPI T-410 (Basis Weight), TAPPI T-411 (Caliper Thickness, Tear Strength), TAPPI T-414 (Tear), TAPPI T-494 (Dry Tensile/TEA), TAPPI T-404 (Stretch), TAPPI T-530 (Ink Float), TAPPI T-538 (Smooth), TAPPI T-541 (Internal Bond), TAPPI T-476 (Abrasion), and is commercially equivalent to military specification MIL-P-3420E. It is fully repulpable according to the Fibre Box Association Voluntary Standard.

To learn more about EcoShield® VpCI®-144 Super Barrier Paper, please visit:

http://www.cortecvci.com/Publications/PDS/EcoShield_VpCI-144_VpCI-144_Super_Barrier.pdf

To find out more about Cortec's innovative packaging solutions, please visit:

<http://www.cortecpackaging.com/>

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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 to 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> Phone: 1-800-426-7832 FAX: (651) 429-1122



High Performance VpCI® Packaging

EcoShield® VpCI®-144/VpCI®-144 Super Barrier
Environmentally Friendly Moisture Barrier Paper
Powered by Nano-VpCI™, Patented (US 5,894,040)

The new production using Nano-VpCI™ allows physical separation of most water-soluble and petroleum-based contaminants, and provides superior moisture barrier properties.

FEATURES

- Combines corrosion protection, moisture barrier properties, and anti-static properties into one roll.
- Fully recyclable according to Fibre Box Association (FBA) Standard.
- Suitable for printing, die-cutting, slitting, laminating, other heat-seal, or heat products.
- Natural grade paper alternative package construction.
- One product protects against corrosion of ferrous and non-ferrous metals.
- Complies with ISO 9001 and ISO 14001.
- Complies with FBA Standards 142/146/2008 and 142/146/2010.
- Resistant to cutting, tearing and used to be removed prior to further surface finishing or coating application.

PRODUCT DESCRIPTION

EcoShield® VpCI®-144 is the premium moisture barrier corrosion inhibiting paper in the industry. This premium paper provides superior moisture barrier performance for both ferrous and non-ferrous metals, which allows the resulting moisture barrier to be used for all the different types of metal products and parts. The product also offers excellent oil and grease resistance.

Our EcoShield® VpCI®-144 paper is coated with a water-based barrier coating. Historically, polyethylene and wax coatings have been used to seal metal surfaces against moisture barrier and/or moisture barrier coating. However, these coatings may be difficult to apply and may not be as effective as the EcoShield® VpCI®-144 paper coating. The EcoShield® VpCI®-144 paper coating is polyethylene and wax-free, with water-based barrier properties that are compatible to pre-painted and painted surfaces.

EcoShield® VpCI®-144 Super Barrier is a high-gloss version of EcoShield® VpCI®-144. It offers superior barrier and other corrosion control properties by utilizing the paper's water vapor barrier rate. This gives VpCI®-144 Super Barrier more water vapor barrier properties than typical uncoated and waxed papers.

EcoShield® VpCI®-144 is environmentally safe, non-toxic, and fully recyclable. This means EcoShield® VpCI®-144 can be recycled into other types of paper products such as boxes, cardboard, and other corrugated materials. It also means that EcoShield® VpCI®-144 can be made into a metal with only to make new paper products.

TYPICAL APPLICATION

EcoShield® VpCI®-144 paper can be used to protect products for storage and shipment in a wide variety of sizes, and shapes for shipping within most sizes for standard sizes in large packages, and other sizes of moisture barrier products.

The typical applications are:

- Metal production, coils, wire, mesh, sheets, bars, etc.
- Metal stamping and finishing (oil and treatment) stamping and coating.
- Manufacturing stamping, sheet metal work, springs, bearings, brackets, tubes, pipes, ready fabricated etc.
- Finished products: engines, machines, equipment, tools, hardware, appliances, instruments, vehicles, etc.
- Corrosion and moisture components, vessels, printed circuit boards, etc.

METALS PROTECTED

- Aluminum Alloy
- Carbon Steel
- Copper
- Inconel®
- Stainless Steel
- Titanium
- Zinc