





# BIODEGRADABLE/ COMPOSTABLE PACKAGING TECHNOLOGIES



EcoWorks\*

COMPOSTABLE



ofilm.com

100% BIODEGRADABLE

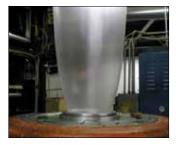


**Cortec® Corporation** is an ISO 14001:2004, ISO 9001:2008, and ISO/IEC-17025 certified manufacturer of over 400 environmentally preferable products, including our latest technologies in biodegradable/compostable films and bags. As sustainable packaging has become increasingly important, Cortec® has led the way, offering packaging films that bridge the gap between performance/usability and certified compostability.

State-Of-The-Art Production. Unparalleled ISO Quality Standards. High Performance Range of Products. Global Support and Availability.

We are proud of what we do and how we do it.









# **Certified Biodegradable/Compostable Packaging Technologies**

#### All Compostable/ Biodegradable Films from Cortec®:

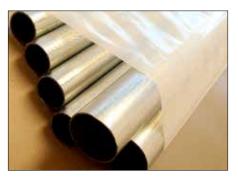
- · Moisture resistant, heat stable and shelf stable
- · Can be printed with a multitude of inks and processes
- · Available in bulk roll stock for subsequent converting
- · Customized to your precise needs: thickness, form, and packaging













### **EcoWorks®**

## Compostable Films and Bags, US Patented No. 6,984,426

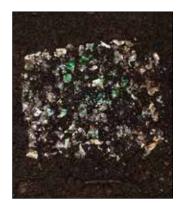
EcoWorks® is a range of formulations, not a single product and can be customized to your precise needs. It contains renewable raw materials, designed to replace traditional low density and high density films. EcoWorks® films will fully biodegrade into carbon dioxide and water within a matter of weeks.

- Certified Compostable per ASTM D6400 and EN 13432
- · Renewable content
- · Superior strength, shelf-life, and curb-life











### **EcoWorks®** Resin

# Compostable Resin for Film

EcoWorks® Resin is a proprietary blend of aliphatic and aromatic polyesters designed for compostable film extrusion applications. EcoWorks® also contains Ingeo™ Biopolymer, an annually renewable resource derived from plant sugars. Formulating with EcoWorks® Resin is customizable; it can be used as is or blended with other biodegradable materials and process additives to obtain desired properties. Films produced from EcoWorks® Resin are certifiable as 100% compostable per ASTM D6400 and EN 13432.

- \* Ingeo™ is a trademark of Nature Works LLC
- Composed of FDA approved ingredients
- Can be processed on traditional blown or cast film extrusion equipment





### **EcoWorks® AD**

### Biobased Film and Bags for Compost and Anaerobic Digestion Markets

EcoWorks® AD film and bags are constructed from the latest biobased polymer technology designed with the environment in mind. EcoWorks® AD film and bags are the first bioplastic product suitable for both commercial and backyard (low temperature) composting. EcoWorks® AD is anaerobically digestible and marine degradable, all without compromising on flexibility and strength!



- High renewable content: 77% biobased
- USDA BioPreferred<sup>SM</sup> certified
- BPI certified to meet ASTM D6400 for compostable plastics
- Marine biodegradable per ASTM D7081
- 100% anaerobically digestible per ASTM D5511



### EcoOcean®

# Biobased Film and Bags for Marine Biodegradable and Anaerobic Digestion Markets

EcoOcean® film and bags are constructed from the latest biobased polymer technology. EcoOcean® is designed to biodegrade in marine environments, anaerobic digestion, natural soil and water environments, backyard composting systems, and municipal composting facilities. EcoOcean® can help reduce the increasing and persistent problem of marine litter. EcoOcean® is heat, moisture, and chemical resistant making it an ideal film for compostable bags and many flexible film packaging applications.



- · High renewable content: 77% biobased
- USDA BioPreferred<sup>SM</sup> certified packaging material
- BPI certified to meet ASTM D6400 for compostable plastics
- Marine biodegradable per ASTM D7081
- 100% anaerobically digestible per ASTM D55111







### **Eco Film®**

# Compostable Film

EcoFilm® is designed to replace traditional nondegradable films such as low density and high density polyethylenes. It provides superior mechanical properties and stability in comparison to other compostable films on the market. EcoFilm® is available in a variety of sizes and constructions offering an environmentally friendly alternative for applications ranging from grocery bags to export shipping.

- Certified per ASTM D6400 and EN 13432
- · Shelf and curb stable









# **Eco Wrap**® Tension Film

Eco Wrap® is a unique combination of biodegradable polyester film and a cling coating. Eco Wrap® is more than a stretch film alternative, it can also be used for masking applications, mechanical protection, and corrosion protection. Eco Wrap® uses controlled adhesion to stick firmly to smooth surfaces, and leaves no residue upon removal.

· Works on most existing automated machines





### **BioCushion®**

### Biodegradable Air Cushion, US Patented No. 6,617,415

BioCushion® is a certified biodegradable air cushion for protective packaging applications providing an environmentally friendly alternative to traditional void fill materials. BioCushion® is available in different constructions, including biobased and VpCl® formulations, to meet your protective packaging needs. BioCushion® is designed for Cushion Fill Impact equipment manufactured by CPI Packaging Incorporated.



- Certified compostable per ASTM D6400 and EN 13432
- Superior mechanical properties
- · Packaging material reduction compared to traditional void fill materials

### **Eco-Corr®**

VpCI® Film, US Patented No. 6,028,160

Eco-Corr® provides contact, barrier and Vapor phase Corrosion Inhibitor (VpCI®) protection. Metal parts packaged in Eco-Corr® receive continuous protection against salt, excessive humidity, condensation, moisture, aggressive industrial atmosphere and dissimilar metal corrosion.

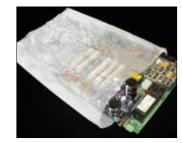


- Certified compostable ASTM D6400 and EN 13432
- Provides better tensile strength, tear strength and ultimate elongation than low density polyethylene films.

### **Eco-Corr® ESD**

# VpCI® Static Dissipative Film and Bags

EcoCorr® ESD film utilizing Cortec's patented VpCl® technology along with eliminating static electricity. It provides contact, barrier, Vapor phase Corrosion Inhibitor (VpCl®) and anti-static protection



- Certified compostable ASTM D6400 and EN 13432
- Static Decay rate conformance to MIL-PRF-81705D

### **Eco-Tie®**

# Biodegradable Tie

Eco-Tie<sup>®</sup> is a high-strength, completely compostable per ASTM D6400 standards alternative to twine and metallic/plastic ties used in agricultural and industrial markets.



# **Buyers Guide**

Product	Common Applications	Unique Properties	Base Chemistry	Appearance	Forms Available	Certifications Avaiable	Tint	Heat Sealable	Shelf Stable	Moisture Proof
BioCushion® Patented	biodegradable air cushion for protective packaging applications for retail, crafts, medical, automo- tive, and consumer products	compostable per ASTM D6400, shelf and water stable, packaging material reduction	synthetic compostable polyester	silky, elastic	8" with perforations at 5" or 8", 12" with perforations at 5" (two tubes per perf), custom formulations	BPI	yes	yes	yes	yes
Eco Film®,	collection bags, packaging film for retail items, and convertible films	soft, elastic, up to 300% stonger than LDPE	synthetic compostable polyester	silky, elastic	stock bags, retail packs, custom film, and master rolls	Din Certco, BPI	yes	yes	yes	yes
EcoOcean®	film is also marine protective and in the event that this product should reach the waterways it will biodegrade in months in- stead of remaining in the ocean for hundreds of years	USDA BioPreferred <sup>SM</sup> certified packaging material, BPI certified to meet ASTM D6400 for compostable plastics, marine biodegradable per ASTM D7081, 100% anaerobically digestable per ASTM D5511	synthetic compostable polyester	silky elastic	stock bags, retail packs, custom film, and master rolls	USDA BioPreferred, BPI	yes	yes	yes	yes
EcoWorks®, Patented	collection bags, produce bags, handle bags, pouches, and convertible films	customized rigidty from slightly elastic to highly ridig, includes biobased raw materials (5-70%)	blend of bio and synthetic polyesters	slightly elastic (EcoWorks® 5) to highly rigid (EcoWorks® 70)	custom formulations, custom films, bags, and master rolls	Din Certco, BPI	yes	yes	yes	yes
EcoWorks® AD	film for community composting programs, anaerobic digestion programs, organic waste diver- sion, lawn and leaf bags, and retail packaging	USDA BioPreferred <sup>5M</sup> certified packaging material, BPI certified to meet ASTM D6400 for compostable plastics, marine biodegradable per ASTM D7081, 100% anaerobically digestible per ASTM D5511	blend of bio and synthetic polyesters	slightly elastic	custom formulations, custom films, bags, and master rolls	USDA BioPreferred, BPI	yes	yes	yes	yes
EcoWorks® Resin	potential applications for garbage and mulch bags, community com- posting programs, grocery bags, t-shirt bags, retail packaging	compostable by BPI according to ASTM D 6400, certified compostable per ASTM D6400 and DIN EN 13432 (all films produced from EcoWorks® Resin must be independently certified)	blend of aliphatic and aro- matic polyesters designed for compostable film extru- sion applications	pellets	custom formulations	BPI	NA	NA	NA	NA
Eco Wrap®,	stretch film replacement for Agricultural shipments	stronger than many regular stretch films	synthetic compostable polyester	highly elastic	20" and 30" rolls, custom lenghts		yes	yes	yes	yes
Eco-Tie®	replacement of twine, rope, string, and metal ties	heatsealable, adjustable rigidity	blend of bio and sythentic polyesters	slightly elastic to highly rigid	custom length spools		yes	yes	yes	yes
Eco-Corr® (VpCI®) Patented	corrosion preventative packaging, replace oil, and RP's	prevents corrosion for up to twenty-four months	synthetic compostable polyester	silky, elastic	stock bags, custom films, bags, shrouds, and master rolls	BPI	yes	yes	yes	yes
Eco-Corr® ESD (VpCI®)	corrosion and static protective packaging for electronics	prevents corrosion and static damage for up to twenty-four months	synthetic compostable polyester	silky, elastic	custom films, bags, shrouds, and master rolls	BPI	yes	yes	yes	yes







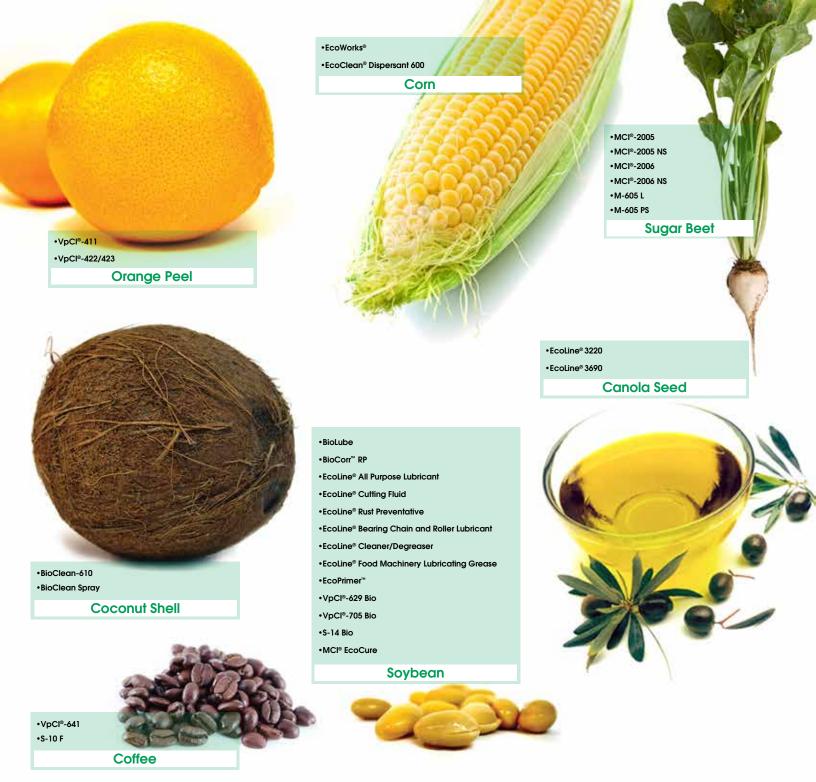












### Cortec® products derived from sustainable resources

Visit our websites for more information on Cortec® Corporation.

#### CortecVCI.com and CortecMCI.com

#### **LIMITED WARRANTY**

All statements, technical information and recommendations contained flerent are based on tests. Corporation believes to be reliable, but the accuracy or completeness thereof is not guaranteed. Corporation warrants Cortec\* products will be free from defects when shipped to customer. 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 oustomer. All freight charges for replacement. ment 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 writte document signed by an officer of Cortec\* Corporation.

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Cortec®, BioCortec®, BioCushion™, Boiler Lizard®, Closed Loop Toad®, Cooling Tower Frog®, VpCl®, VmCl-307®, BioCortec®, BioCushion™, Boiler Lizard®, Closed Loop Toad®, Cooling Tower Frog®, VpCl®, VmCl-307®, Eco Works®, EcoAir®, Eco-Card®, EcoLine®, EcoClean®, EcoCorea®, EcoShield®, EcoWeave®, Eco Enitter®, Ecosonic®, Cor-Pak®, Corshield®, Corsol®, Corrosobers®, Covilpe®, CorrVerter®, Corr Seal®, CorrLam®, CRl®, Desicorr®, Electricorr®, GalvaCorr®, Super Corr®, HPRS®, CRl®, MCl®, MCl®, Corroboter®, Corporation.

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