

BIODEGRADABLE FILM PLANT



# EcoCortec®

*First Croatian Bioplastics Plant*



All Eco Film® and Eco Works® formulations are certified compostable per ASTM D 6400 by BPI and DIN Certco.



[www.ecocortec.hr](http://www.ecocortec.hr)

## Our mission

At EcoCortec we are continually improving and expanding our facilities, equipment, processes, and ourselves to meet our customer's needs and expectations for consistent high quality films and bags delivered on time.



EcoCortec, in Beli Manastir, Croatia, specializes in manufacturing Cortec's innovative Vapor phase Corrosion Inhibitor (VpCI®) films and offers customers complete converting, extruding and printing capabilities.

Located on 10,000 square meters site it places this facility in an excellent geo-strategic location. Situated in Central Eastern Europe, our plant can be reached by truck, railway, river Danube, and by air.

EcoCortec is positioned on a crossroad of state highways and is only 3 km away from trans-European corridor C5.

EcoCortec manufactures films and bags according to customer specifications in terms of the product size and performance. We are very flexible when it comes to the order size and meeting special customer requests for just in time deliveries.

At present, we have 2 extruder which consists of:

- one 3-layer (co-extruded) blown film line
- one mono blown film line
- two color inline printing capabilities
- inline bag on the roll (BOR)

EcoCortec has sideweld and bottomweld converting machines with zip-lock attachment. We also have a machine for making bags, including a zip-lock bag machine, which can be of different designs, offline BOR (bag making machine on the roll) and individual bags, film Rewinder machine and Recycling machine with which we rounded up the process of production and processing film without waste.

## EXTRUDING

The first step in manufacturing is the extrusion process, where raw resin is manufactured into film. Our blown film extrusion line can produce flat tubing, gusseted tubing, single wound sheeting, centerfold sheeting, and other custom configurations. Color concentrates, VpCI®, and other specialized additives such as static dissipative, flame retardant, and ultraviolet inhibitors can all be added to the formulations to precisely attain our customer's individual needs. EcoCortec is capable of extruding linear low blends of up to 100%. The size ranges from 1050mm minimum lay flat width up to 2100mm maximum width, depending on the film configuration and the film thickness.



## Biodegradable & Compostable Packaging Films

Cortec® has pioneered two new technologies of biodegradable and compostable films, Eco Film® and Eco Works®. Both Eco Film® and Eco Works® offer a certified biodegradable alternative to polyethylene films and bags while still offering performance characteristics superior to both low and high density poly films. Both product lines were designed with their entire lifecycle in mind.

Eco Film® and Eco Works® can also be combined with VpCI® technology (Eco Corr®) and ESD protection (Eco Corr® ESD). We are also able to coat adhesives on Eco products (Eco Wrap®). All of these innovative and patented products offer the most extensive biodegradable packaging lineup in the world.

Eco Film® and Eco Works® are available in a range of sizes and forms, as well as in retail packs and boxes.





## Laboratory

EcoCortec has world-class laboratory that can perform testing compliant to Military Specifications (MIL-STD 3010) and ASTM standards (Section 8 series D). All VpCI™ film batches are tested for Vapor phase Corrosion Inhibitor (VpCI®) ability. A Fourier Transform – Infrared (FT-IR) Spectrometer is used to examine VpCI™ and other additive concentrations. Mechanical properties and coefficient of friction are measured with Instron precision instrument. Water vapor transmission and Electrostatic Discharge (ESD) rates are determined using desiccant chamber designed for 0% RH.

ESD films are manufactured in compliance with Military Specification MIL-PRF-81705D. Each ESD production order is tested on-site for static decay and surface resistivity. Static decay testing complies with Federal standard 101 Method 4046. Surface Resistivity exceeds ESD S 11.11 specifications.

Custom VpCI™ films are developed and tested on site. Specific strengths, tear resistance, tackiness, and slip qualities can all be formulated according to the customer's needs.

## Converting

In our converting department the film is fabricated into bags in a wide variety of sizes, shapes, and styles for packaging foods, equipment, hardware, spare parts, or just about anything you require. Specialized tooling enables us to manufacture unique bags such as V-sealed contour, or other custom designs. Many different shapes and sizes of holes can be punched for venting, hanging, or carrying products. We are well equipped to manufacture the hem reinforced handle, draw tape handle, and the popular bag-on-roll and zip lock bags. This department solves packaging requirements with creativity and experience.



## Printing

Our printing department produces some of the most appealing packaging films available. We can print films from 1000 mm to 1830 mm wide in two colors. By using varying halftones we can obtain numerous shading effects as well.



## ECOCORTEC EXTRUSION CAPABILITIES

### VpCI 126 & VpCI 125

|                        | WIDTH       |                 |              |                 | THICKNESS |              |         |              |
|------------------------|-------------|-----------------|--------------|-----------------|-----------|--------------|---------|--------------|
|                        | Minimum     |                 | Maximum      |                 | Minimum   |              | Maximum |              |
|                        | Inch        | Millimeter [mm] | Inch         | Millimeter [mm] | Mil       | Microns [µm] | Mil     | Microns [µm] |
| Tubing                 | 13,8        | 350             | 82           | 2100            | 2         | 50           | 6       | 150          |
| Single wound sheeting  | 10          | 254             | 75           | 1900            | 2         | 50           | 6       | 150          |
| Double wound sheeting  | 10          | 254             | 75           | 1900            | 2         | 50           | 6       | 150          |
| Centerfold sheeting    | 19,75       | 500             | 75           | 1900            | 2         | 50           | 6       | 150          |
| Slit - gusseted tubing | Opens to 79 | 2000            | Opens to 165 | 4200            | 2         | 50           | 6       | 150          |

### VpCI 126 Shrink film

|                        | WIDTH       |                 |              |                 | THICKNESS |              |         |              |
|------------------------|-------------|-----------------|--------------|-----------------|-----------|--------------|---------|--------------|
|                        | Minimum     |                 | Maximum      |                 | Minimum   |              | Maximum |              |
|                        | Inch        | Millimeter [mm] | Inch         | Millimeter [mm] | Mil       | Microns [µm] | Mil     | Microns [µm] |
| Tubing                 | 72          | 1830            | 82           | 2100            | 8         | 200          | 10      | 250          |
| Single wound sheeting  | 10          | 254             | 75           | 1900            | 8         | 200          | 10      | 250          |
| Double wound sheeting  | 10          | 254             | 75           | 1900            | 8         | 200          | 10      | 250          |
| Centerfold sheeting    | 19,75       | 500             | 75           | 1900            | 8         | 200          | 10      | 250          |
| Slit - gusseted tubing | Opens to 79 | 2000            | Opens to 165 | 4200            | 8         | 200          | 10      | 250          |

### VpCI 126 Stretch

|                       | WIDTH   |                 |         |                 | THICKNESS |              |         |              |
|-----------------------|---------|-----------------|---------|-----------------|-----------|--------------|---------|--------------|
|                       | Minimum |                 | Maximum |                 | Minimum   |              | Maximum |              |
|                       | Inch    | Millimeter [mm] | Inch    | Millimeter [mm] | Mil       | Microns [µm] | Mil     | Microns [µm] |
| Single wound sheeting | 12      | 300             | 60      | 1520            | 1         | 25           | 2       | 50           |

### Eco Wrap

|                       | WIDTH   |                 |         |                 | THICKNESS |              |         |              |
|-----------------------|---------|-----------------|---------|-----------------|-----------|--------------|---------|--------------|
|                       | Minimum |                 | Maximum |                 | Minimum   |              | Maximum |              |
|                       | Inch    | Millimeter [mm] | Inch    | Millimeter [mm] | Mil       | Microns [µm] | Mil     | Microns [µm] |
| Single wound sheeting | 20      | 508             | 30      | 760             | 1         | 25           | 1       | 25           |

### Compostable

|                        | WIDTH       |                 |              |                 | THICKNESS |              |         |              |
|------------------------|-------------|-----------------|--------------|-----------------|-----------|--------------|---------|--------------|
|                        | Minimum     |                 | Maximum      |                 | Minimum   |              | Maximum |              |
|                        | Inch        | Millimeter [mm] | Inch         | Millimeter [mm] | Mil       | Microns [µm] | Mil     | Microns [µm] |
| Tubing                 | 13,8        | 350             | 82           | 2100            | 0,75      | 20           | 4       | 100          |
| Single wound sheeting  | 10          | 254             | 75           | 1900            | 0,75      | 20           | 4       | 100          |
| Double wound sheeting  | 10          | 254             | 75           | 1900            | 0,75      | 20           | 4       | 100          |
| Centerfold sheeting    | 19,75       | 500             | 75           | 1900            | 0,75      | 20           | 4       | 100          |
| Slit - gusseted tubing | Opens to 79 | 2000            | Opens to 165 | 4200            | 0,75      | 20           | 4       | 100          |

## BAG MACHINE CAPABILITIES

### In line BOR

|             | WIDTH   |                 |         |                 | THICKNESS  |              |            |              |
|-------------|---------|-----------------|---------|-----------------|------------|--------------|------------|--------------|
|             | Minimum |                 | Maximum |                 | Minimum    |              | Maximum    |              |
|             | Inch    | Millimeter [mm] | Inch    | Millimeter [mm] | Mil        | Microns [µm] | Mil        | Microns [µm] |
| In line BOR | 13,8    | 350             | 75      | 1900            | 7,5 tubing | 190          | 6 Gusseted | 150          |

### Bottom Seal Machine

|             | WIDTH   |                 |         |                 | THICKNESS |              |         |              |
|-------------|---------|-----------------|---------|-----------------|-----------|--------------|---------|--------------|
|             | Minimum |                 | Maximum |                 | Minimum   |              | Maximum |              |
|             | Inch    | Millimeter [mm] | Inch    | Millimeter [mm] | Mil       | Microns [µm] | Mil     | Microns [µm] |
| Bottom seal | 10      | 250             | 33      | 850             | 2         | 50           | 6       | 150          |

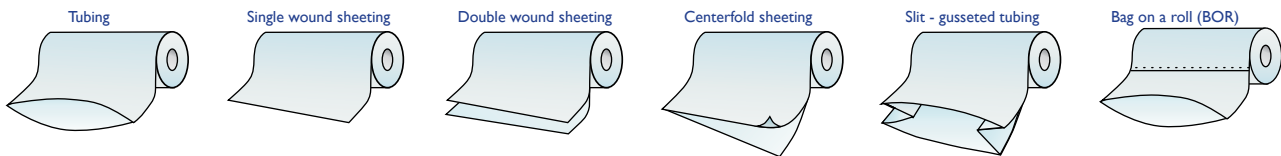
### Sideweld Bag machine

|               | Bag size |                 |         |                 | THICKNESS |              |         |              |
|---------------|----------|-----------------|---------|-----------------|-----------|--------------|---------|--------------|
|               | Minimum  |                 | Maximum |                 | Minimum   |              | Maximum |              |
|               | Inch     | Millimeter [mm] | Inch    | Millimeter [mm] | Mil       | Microns [µm] | Mil     | Microns [µm] |
| Heat sealable | 3 x 3,25 | 76x83           | 54x60   | 1370x1520       | 0,75      | 20           | 8       | 200          |
| Zipper        | 3 x 3,25 | 76x83           | 42x60   | 1065x1520       | 2         | 50           | 6       | 150          |

### Printing

|                            | WIDTH   |                 |         |                 | Printing repeat |  |         |  |
|----------------------------|---------|-----------------|---------|-----------------|-----------------|--|---------|--|
|                            | Minimum |                 | Maximum |                 | Minimum         |  | Maximum |  |
|                            | Inch    | Millimeter [mm] | Inch    | Millimeter [mm] |                 |  |         |  |
| 1 or 2 colors 1 or 2 sides | 39,5    | 1000            | 72      | 1830            |                 |  |         |  |

### LEGEND



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printed on recycled paper 100% post consumer

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Cortec®, VpCI®, VpCI® Film Color of Blue®, VpCI-126®, VpCI-609®, VpCI-137®, VmCI-307®, Migrating Corrosion Inhibitors™, MCI®, MCI Grenade®, EcoWorks®, EcoAir®, Eco-Corr®, EcoFilm®, EcoLine®, EcoClean®, EcoShield®, EcoWeave®, EcoSpray®, EcoCoat®, Eco Emitter™, EcoSol™, Eco-Tie™, Eco-Card™, Eco-Shrink™, EcoWrap™, Eco Film™, Cor-Mitt®, Cor-Pak®, CorShield®, Corrosorbors®, CorWipe®, CorVerter®, Cor Seal®, CorLam™, Corr-Fill™, Corlube™, ElectriCorr®, MilCorr®, GalvaCorr®, Super Corr®, HPRS®, Boiler Lizard®, Cooling Tower Frog®, Closed Loop Toad®, Pine Tree Logo®, CRIP®, Metacor™ and Rust Hunter™ are trademarks of Cortec® Corporation.  
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