



The first partly bio-based polycarbonate film from Covestro

Makrofol® EC

- Made from > 50% plant-derived raw material
- Bio-based polycarbonate resin derived mainly from plant feedstock
- Reduction in usage of raw materials based on fossil resources



Product Description

Makrofol® EC is a partly bio-based polycarbonate film made from plant-based raw material.¹ The origin of the raw material is starch, derived from widely available plant feedstock. Compared to fossil-based products, the carbon footprint² is significantly reduced.

Product properties

- Excellent mechanical properties and impact strength
- Outstanding improved chemical resistance and UV resistance
- High abrasion resistance and surface hardness
- Very good optical properties

Product availability

Surface: gloss/gloss (1-1) or gloss/fine matt (1-4)

Thickness: 125 µm, 250 µm, 375 µm

Available as a sheet or roll; roll width of up to 1,270 mm



¹ Not biodegradable

² According to internal calculations

Processing technologies

Makrofol® EC films can be processed by

- Printing
- Thermo- and high pressure forming (HPF)
- Coating (hardcoat, adhesive)
- Cutting
- Lamination

Application areas

Makrofol® EC film can be used in many typical standard polycarbonate application areas such as:



Graphics

Labels
Tags
Overlays



Electrical/electronics applications

Appliances
Electrical insulation film
Housing for electrical devices
Decorated control panels



Packaging

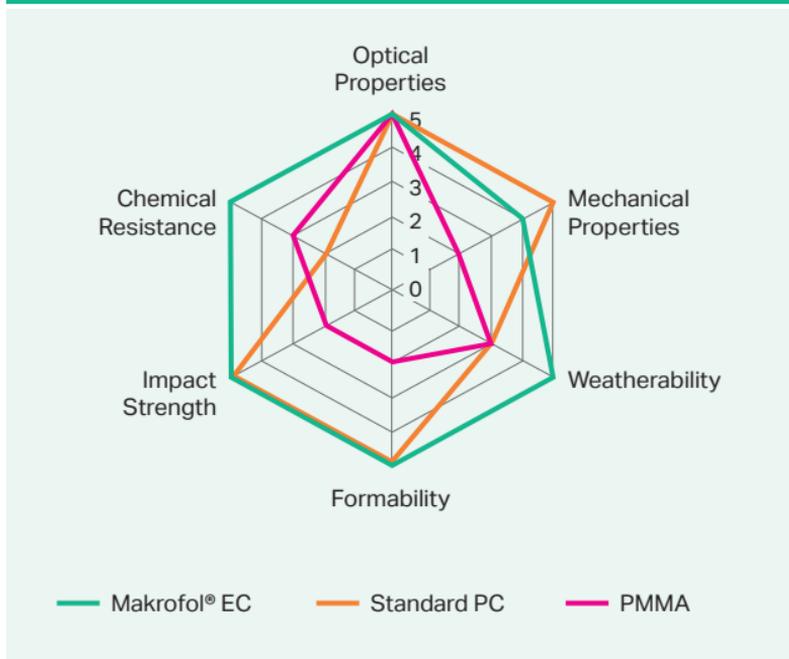
Thermoformed packaging for sensitive goods



Automotive

Speedometer, dials
Decorated trim parts

Comparison to selected technical films



Property*	Unit	Value
Density	g/cm ³	1.36
Light transmittance	%	> 90
UV resistance (color shift after 1,000 h at 50 W/m ²)	ΔL	$\leq \pm 0.3$
	Δa^*	$\leq \pm 0.1$
	Δb^*	$\leq \pm 0.1$
Impact strength (1.4 m/s; 23°C)	Max. strength	N
	Energy at F_{max}	J
	Distortion at F_{max}	mm
E-modulus	MPa	2,371
Tensile strength	MPa	70

* Typical properties for Makrofol® EC 1-4 060041



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