



Eco Works® ESD – Patented Compostable Films & Bags

PRODUCT DESCRIPTION

Eco Works® ESD is a range of formulations, not a single product and can be customized to your precise needs. Designed with the environment in mind, Eco Works® ESD contains renewable raw materials ranging from 5 – 45%, depending upon the formulation as well as anti-static properties, which reduce or eliminate static buildup. Designed to replace traditional low density and high density films, Eco Works® ESD is suitable for industrial uses.

All Eco Works® ESD formulations are certified compostable per ASTM D6400 and EN 13432 and by Biodegradable Products Institute with BPI/USCC logo. The exact time needed for Eco Works® ESD products to biodegrade is dependent upon the conditions and activity of the disposal environment (temperature, soil quality, activity of microorganisms). When placed in a typical commercial composting environment, Eco Works® ESD films will fully biodegrade into carbon dioxide and water within a matter of weeks. There is no eco-toxicity to the soil, plants or microorganisms involved in this process. Since microorganisms are the means for biodegradation, Eco Works® ESD is shelf and curb stable and will retain its integrity until disposed of properly.

Eco Works® ESD films can be curtailed to meet the requirements of your application ranging from flexible to rigid films. Mechanical properties for various formulations are outlined in the table below.



FEATURES

- Renewable content (5-45%)
- Contains NO POLYETHYLENE
- Leaves no residue in finished compost
- Superior strength, shelf-life, and curb-life
- Comparable to HDPE
- Biodegrades at the same rate as common organic material when disposed of properly
- Conversion to CO₂ and H₂O in weeks under commercial composting
- Contains permanent anti-static agent
- Does not affect optical properties
- Does not affect plastics used in electronics industry
- Conforms to ASTM D 6400 and EN 13432
- Certified compostable by Biodegradable Products Institute with BPI/USCC logo
- No ill effects on solderability of PCB, meeting the requirements of IPC-J-STD-003C, Am1 (Edge Dip Solderability Tests)

APPLICATION

Eco Works® ESD film and bags are recommended for packaging of static-sensitive components where triboelectric charge generation is concern. They are recommended for packaging integrated circuits, printed circuit boards, PCB components, telecommunications equipment, electronic and electrical panels, and enclosures.

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Laboratory Compostability Study



Eco Works® ESD is intended to be disposed of in a commercial composting facility

Antistatic Properties

Military Standards: MIL-PR8-81705 Test Method No101C, Method 4046 International standard: IEC 61340-5-1			
Surface Resistivity (Ohm/Sq)		Static Decay Rate (sec)	
Limit 1.0×10^5 to 1.0×10^{12}		Limit 2 seconds	
Outside	Inside	+ 5000 Volts	- 5000 Volts
$1,8 \times 10^{10}$	$1,7 \times 10^{10}$	0,19	0,23

Mechanical Properties

Property		Test Method	Units	Eco Works® ESD
Caliper		ASTM D6988	µm	35
Breaking Factor	MD	ASTM D882-02	N	27,52
	CD			21,90
Tensile Strength at Break	MD	ASTM D882-02	MPa	29,60
	CD			24,59
Elongation at Break	MD	ASTM D882-02	%	252,0
	CD			609,8
Tear Strength	MD	ASTM D1922	mN	6906,24
	CD			3139,20
Impact Puncture		ASTM D3420-0495 B	N	19567,68
			J	1,69

Typical mechanical properties represent average laboratory values and are intended as guides only, not as specifications. Film properties are typical of blown film extruded at a blowup ratio of 2.5:1, but are dependent upon operating conditions.



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