

Ecomann® PHA EM10000

Polyhydroxyalkanoate

Shenzhen Ecomann Biotechnology Co., Ltd.

Message:

EM10000 is semi-crystalline biodegradable, aliphatic bio-polyester designed for use in film applications.
EM10000 is certificated to meet EU direct food contact, EN13432 and OK Home compost standards for biodegradable plastics.
Typical applications: Blown and cast film applications, such as paper coating

General Information			
Features	Aliphatic		
	Biodegradable		
	Compostable		
	Excellent Printability		
	Food Contact Acceptable		
	Good Adhesion		
	Good Flexibility		
	Good Heat Seal		
	Good Impact Resistance		
	Good Processability		
	High Gloss		
	High Strength		
	Hydrolysis Resistant		
	Low Moisture Vapor Transmission		
	Semi Crystalline		
Uses	Blown Film		
	Cast Film		
	Paper Coatings		
Agency Ratings	EN 13432		
	EU Food Contact, Unspecified Rating		
Forms	Pellets		
Processing Method	Blown Film		
	Cast Film		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.24	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (170°C/2.16 kg)	3.0	g/10 min	ASTM D1238
Water Absorption (Equilibrium)	< 0.40	%	ASTM D570

Mechanical	Nominal Value	Unit	Test Method
Tensile Strength	13.0	MPa	ASTM D638
Tensile Elongation (Break)	550	%	ASTM D638
Films	Nominal Value	Unit	Test Method
Oxygen Transmission Rate (40°C, 90% RH, 70 µm)	160	cm ³ /m ² /24 hr	
Water Vapor Transmission Rate (25°C, 90% RH, 70 µm)	13	g/m ² /24 hr	
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	85.0	°C	ASTM D1525 ¹
Melting Temperature	120 to 140	°C	DSC
Optical	Nominal Value	Unit	Test Method
Yellowness Index	60	YI	Internal Method
Additional Information	Nominal Value	Unit	
Blow Molding Barrel Temperature			
Compression Section	110 to 125	°C	
Feed Temperature	100 to 115	°C	
Melting Section	110 to 125	°C	
Blow Molding Die Temperature	120 to 135	°C	
Blow Molding Melt Temperature	120 to 140	°C	
Blow Molding Screw Speed	30 to 50	rpm	
Extruder Screw L/D Ratio	20.0:1.0 to 30.0:1.0		
Extruder Screw Compression Ratio	1.5:1.0 to 3.0:1.0		
Extrusion	Nominal Value	Unit	
Drying Temperature	80.0	°C	
Drying Time	3.0	hr	
NOTE			

1. Rate B (120°C/h), Loading 1 (10 N)

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