ECOPOND® Compostable Polyesters A300

Product Introduction

A300 is compostable copolymer produced through a polycondensation reaction, containing one monomer based on renewable resources. When put it in the industrial composting environment, A300 will be biodegraded into small monomers. These small monomers will be taken by microorganisms, and eventually biodegrade into carbon dioxide and water.

The high molecular weight of A300 makes it possible for blown or cast film, alone or blended with other materials.

A300 is a compostable alternative to LDPE, with many similar properties including flexibility and resilience. Particular applications include cling wrap for food packaging, compostable plastic bags for gardening, agricultural usage, and as water resistant coatings for other materials.

Properties	Features
● White granulates ● Melting point 100-135 ℃ ● MFR 3.0-5.0 (g/10min, 190 ℃, 2.16 kg) ● MVR 2.8-4.7 (cm^3/10min,190 ℃, 2.16 kg)	● Good processability and printability ● Controllable water vapour transmission rate (WVTR) ● Excellent sealing property ● Down gauging to 10μm

Resin Property

A300 has similar mechanical and process properties to LDPE. The listed values are measured by test specification and used for referential purpose only.

A300 Typical Property					
Properties		**Test Method**	**Test Condition**	**S.I. Units**	**Typical Values**
Mechanical Property	Tensile Strength	ISO 527	50 mm/min	MPa	18
	Elongation	ISO 527	50 mm/min	%	700
	Flexural Strength	ISO 178	2 mm/min	MPa	5.5
	Flexural Modulus	ISO 178	2 mm/min	MPa	80
	Impact Strength, IZOD notched	ISO 180	4 mm，23 ℃	J/m	NB
Thermal Property	Melting Point	DSC	10 ℃/min	℃	100-135
Others	Melt Mass-Flow Rate	ISO 1133	190 ℃, 2.16 kg	g/10min	3.3
	Melt Volume-Flow Rate	ISO 1133	190 ℃, 2.16 kg	cm^3/10min	3.1
	Moisture Content	ISO 15512	Method C	ppm	350
	Specific Gravity	ISO 1183	23 ℃	g/cm^3	1.18
	Acid Number	DIN EN 12634-1998	-	mg KOH/g	1.25
	Bio-based Carbon Content*	—	—	%	37

Before MFR test, the product should be dried at 80°C for 1 hour.

*This value is based on the renewable carbon-share in the formula.

Film Property

A300 Blown Film Typical Property(50 μ m)					
Properties		**Standard**	**S.I. Units**	**Typical Values**	
Mechanical Property Permeation Rate	Tensile Strength	ISO 527	MPa	TD	34
				MD	35
	Elongation	ISO 527	%	TD	800
				MD	800
	Tear Strength	ISO 6383/2	mN	TD	3150
				MD	2650
Permeation Rate	Water vapour (23℃, 85% r.h.)	ASTM F-1249	$g/(m^2*d)$	130	

Processing Information

A300 has good processing stability. It can be used alone or blended with other material through conventional blown film or cast film process.

Well packaged products can be used directly. If package is damaged before use, the product should be dried prior to processing. Moisture levels above 500 ppm may impair film-blowing operation. Effective drying takes place at 80 °C for 4 hours. The dried product should keep away from moisture.

Setting		Typical Value[1]	Range[1]
Melt Temp.		135 ℃	130-140 ℃
Barrel Zone Temp.	Rear	130 ℃	125-135 ℃
	Center	135 ℃	130-140 ℃
	Front	130 ℃	125-135 ℃
Die Head Temp.		135 ℃	130-140 ℃
Processing Temp. Limit		150 ℃	
Pre-Dry Requirements		80 ℃, 4 h	

[1] The data sheet is just for reference. In actual process, the parameter should be adjusted.

Quality Control

A300 is produced through an optimized continuous polycondensation process, with online melt viscosity and MFR control.

Packaging and Storage

A300 is supplied in 800 kg/package. Temperatures during transportation and storage may not exceed 60 ℃ at any time. Storage time in an unopened bag may not surpass 12 month at room temperature (23℃). Use as soon as possible if the package is broken.

Zhuhai Kingfa Biomaterial Co., Ltd.

Address: NO.177, Petrochemical Ninth Road, Nanshui town, Zhuhai, Guangdong ,China

Tel：+86-(0)756-7233666

Fax：+86-(0)756-7233608