

Plantic® R1

Biodegradable Polymers

Plantic Technologies Limited

Message:

Plantic Technologies Limited develops and produces advanced bio-based materials. Plantic® is an innovative product made from corn-starch (maize) that is Australian grown and non-genetically modified. Plantic® is an Australian registered trademark of Plantic Technologies Limited.

Plantic® R1 is an advanced technology sheet manufactured from corn starch that is fully biodegradable and compostable.

Plantic® R1 is suitable for thermoforming applications (e.g. for packing foods & goods with water activity of 35% to 70%). Also suitable for direct contact with fatty foods.

General Information			
Features	Biodegradable		
	Compostable		
	Food Contact Acceptable		
	Renewable Resource Content		
Uses	Food Packaging		
	Sheet		
	Thermoformed Containers		
Agency Ratings	EN 13432 2000		
Forms	Film		
Processing Method	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.35 to 1.45	g/cm ³	ASTM D792
Molding Shrinkage - Flow	1.0	%	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Coefficient of Friction			ASTM D1894
vs. Itself - Dynamic	0.17		
vs. Itself - Static	0.22		
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	250	µm	
Secant Modulus - MD (250 µm)	2200 to 2400	MPa	ASTM D882
Tensile Strength - MD (Yield, 250 µm)	42.0 to 46.0	MPa	ASTM D882
Tensile Elongation - MD (Break, 250 µm)	20 to 36	%	ASTM D882
Elmendorf Tear Strength - MD (250 µm)	3500 to 5500	g	ASTM D1922
Oxygen Permeability ¹ (38°C, 250 µm)	0.130	cm ³ /m ² /24 hr	ASTM D1434
Water Vapor Transmission ²	35 to 40	g/m ² /24 hr	ASTM E96
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	40.0 to 45.0	°C	ASTM E1356
Vicat Softening Temperature	130 to 135	°C	ASTM D1525

Optical	Nominal Value	Unit	Test Method
Gloss (60°, 250 μm)	80 to 85		ASTM D2457
Transmittance (250 μm)	89.0 to 93.0	%	ASTM D1003
Haze (250 μm)	15 to 20	%	ASTM D1003
Additional Information	Nominal Value		Test Method
Water Activity ³	0.500 to 0.650		Internal Method
NOTE			
1.	50%RH		
2.	38°C, 50%RH		
3.	PTM 03		

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