# Ingeo™ 3251D

### Polylactic Acid

NatureWorks® LLC

#### Message:

Ingeo biopolymer 3251D is designed for injection molding applications. This polymer grade has a higher melt flow capability than other Ingeo resin grades currently in the marketplace. The higher flow capability allows for easier molding of thin-walled parts. It is designed for injection molding applications, both clear and opaque, requiring high gloss, UV resistance and stiffness.

General Information					
Features	Biodegradable				
	Compostable				
	Food Contact Acceptable				
	Good Stiffness				
	Good UV Resistance				
	High Flow				
	High Gloss				
	Renewable Resource Content				
Uses	Thin-walled Parts				
Agency Ratings	ASTM D 6400				
	EN 13432				
	EU 10/2011				
	EU 94/62/EC				
	FDA Food Contact, Unspecified Rating				
Appearance	Clear/Transparent				
	Opaque				
Forms	Pellets				
Processing Method	Injection Molding				
Physical	Nominal Value	Unit	Test Method		
Specific Gravity	1.24	g/cm <sup>3</sup>	ASTM D792		
Melt Mass-Flow Rate (MFR)			ASTM D1238		
190°C/2.16 kg	35	g/10 min			
210°C/2.16 kg	80	g/10 min			
Molding Shrinkage - Flow	0.30 to 0.50	%			
Relative Viscosity	2.50				
Clarity	Transparent				
Mechanical	Nominal Value	Unit	Test Method		
Tensile Strength (Yield)	62.1	MPa	ASTM D638		
Tensile Elongation (Break)	3.5	%	ASTM D638		

Flexural Strength	108	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	16	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	55.0 to 65.0	°C	ASTM D3417
Peak Crystallization Temperature (DSC)	155 to 170	°C	ASTM D3418
Injection	Nominal Value	Unit	
Suggested Max Moisture	< 0.010	%	
Rear Temperature	166 to 177	°C	
Middle Temperature	182 to 193	°C	
Front Temperature	188 to 205	°C	
Nozzle Temperature	188 to 205	°C	
Processing (Melt) Temp	188 to 210	°C	
Mold Temperature	25.0	°C	
Back Pressure	0.345 to 0.689	MPa	
Screw Speed	100 to 200	rpm	

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#### Recommended distributors for this material

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