Ingeo™ 3100HP

Polylactic Acid

NatureWorks® LLC

Message:

Ingeo 3100HP is a medium viscosity product from NatureWorks LLC, designed for medium flow injection molding applications. It is designed to crystallize during processing, leading to higher heat deflection temperatures in opaque applications.
The variety of products made with 3100HP is widely varied and growing. Applications include disposables such as cutlery, cups, plates, cosmetic packaging, and durables such as electronics housings and semi-durable building materials.

General Information			
Features	Updatable resources Medium liquidity Compliance of Food Exposure Medium viscosity		
Uses	Cosmetic Packaging Cup Electrical housing Building materials General		
Agency Ratings	EEC 94/62/EC Article 11 FDA Food Exposure, Not Rated Europe 10/1/2011 12:00:00 AM		
Processing Method	Injection molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.24	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (210°C/2.16 kg)	24	g/10 min	ASTM D1238
Molding Shrinkage - Flow			
-- [1]	1.7 - 1.8	%	
-- [2]	0.20 - 0.40	%	
Relative Viscosity [3]	3.1		ASTM D5225
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength			ASTM D638
Yield [4]	64.1	MPa	ASTM D638
Yield [5]	64.8	MPa	ASTM D638
Tensile Elongation			ASTM D638
Fracture [6]	2.2	%	ASTM D638
Fracture [7]	3.4	%	ASTM D638

Flexural Modulus			ASTM D790
-- [8]	4360	MPa	ASTM D790
-- [9]	3590	MPa	ASTM D790
Flexural Strength			ASTM D790
-- [10]	108	MPa	ASTM D790
-- [11]	112	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact			ASTM D256
-- [12]	32	J/m	ASTM D256
-- [13]	18	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM E2092
0.45 MPa, not annealed [14]	149	°C	ASTM E2092
0.45 MPa, not annealed [15]	54.0	°C	ASTM E2092
Peak Crystallization Temperature (DSC) [16]	180	°C	
Optical	**Nominal Value**		
Clarity			
-- [17]	Opaque		
-- [18]	Transparent		
Injection	**Nominal Value**	**Unit**	
Suggested Max Moisture	< 0.025	%	
Hopper Temperature	21.1	°C	
Rear Temperature	185	°C	
Middle Temperature	195	°C	
Front Temperature	200	°C	
Nozzle Temperature	200	°C	
Processing (Melt) Temp	199	°C	
Mold Temperature	120	°C	
Back Pressure	1.72	MPa	
Screw Speed	200	rpm	
Injection instructions			
Note: Amorphous polymer must be dried below 120F (50C).			
NOTE			
1.	Molded crystalline with 120°C mold temperature where formula included 1wt% nucleating agent (LAK-301 from Takemoto Oil & Fat)		
2.	Molded amorphous with 26°C mold temperature		
3.	Measured at 1.0 g/dL in chloroform at 30°C		
4.	Molded crystalline with 120°C mold temperature where formula included 1wt% nucleating agent (LAK-301 from Takemoto Oil & Fat)		

5.	Molded amorphous with 26°C mold temperature
6.	Molded crystalline with 120°C mold temperature where formula included 1wt% nucleating agent (LAK-301 from Takemoto Oil & Fat)
7.	Molded amorphous with 26°C mold temperature
8.	Molded crystalline with 120°C mold temperature where formula included 1wt% nucleating agent (LAK-301 from Takemoto Oil & Fat)
9.	Molded amorphous with 26°C mold temperature
10.	Molded crystalline with 120°C mold temperature where formula included 1wt% nucleating agent (LAK-301 from Takemoto Oil & Fat)
11.	Molded amorphous with 26°C mold temperature
12.	Molded crystalline with 120°C mold temperature where formula included 1wt% nucleating agent (LAK-301 from Takemoto Oil & Fat)
13.	Molded amorphous with 26°C mold temperature
14.	Molded crystalline with 120°C mold temperature where formula included 1wt% nucleating agent (LAK-301 from Takemoto Oil & Fat)
15.	Molded amorphous with 26°C mold temperature
16.	Molded crystalline with 120°C mold temperature where formula included 1wt% nucleating agent (LAK-301 from Takemoto Oil & Fat)
17.	Molded crystalline with 120°C mold temperature where formula included 1wt% nucleating agent (LAK-301 from Takemoto Oil & Fat)
18.	Molded amorphous with 26°C mold temperature

Recommended distributors for this material

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