

Generic PLA

Polylactic Acid
Generic

Message:

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General Information			
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.23 - 1.24	g/cm³	ASTM D792
23°C	1.24 - 1.26	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR)			
210°C/2.16 kg	6.0 - 78	g/10 min	ASTM D1238
190°C/2.16 kg	1.5 - 36	g/10 min	ISO 1133
Molding Shrinkage			
Flow: 23°C	0.37 - 0.41	%	ASTM D955
23°C	0.30 - 1.1	%	ISO 294-4
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	2020 - 3540	MPa	ASTM D638
23°C	310 - 5620	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	61.0 - 65.5	MPa	ASTM D638
Yield, 23°C	15.5 - 72.0	MPa	ISO 527-2
Fracture, 23°C	48.8 - 56.2	MPa	ASTM D638
Fracture, 23°C	13.8 - 70.0	MPa	ISO 527-2
23°C	47.8 - 68.9	MPa	ASTM D638
Tensile Elongation			
Yield, 23°C	9.8 - 10	%	ASTM D638
Yield, 23°C	1.0 - 8.5	%	ISO 527-2
Fracture, 23°C	0.50 - 9.2	%	ASTM D638
Fracture, 23°C	1.0 - 12	%	ISO 527-2
Flexural Modulus			
23°C	2390 - 4930	MPa	ASTM D790
23°C	305 - 9500	MPa	ISO 178
Flexural Strength			
23°C	47.9 - 110	MPa	ASTM D790
23°C	9.00 - 111	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method

Charpy Notched Impact Strength (23°C)	1.4 - 5.5	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (23°C)	8.5 - 24	kJ/m ²	ISO 179
Notched Izod Impact			
23°C	16 - 47	J/m	ASTM D256
23°C	3.4 - 6.4	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	49.7 - 52.3	°C	ASTM D648
0.45 MPa, not annealed	50.0 - 120	°C	ISO 75-2/B
1.8 MPa, not annealed	48.0 - 50.2	°C	ISO 75-2/A
Glass Transition Temperature			
--	56.4 - 57.5	°C	ASTM E1356
--	43.8 - 62.5	°C	DSC
Vicat Softening Temperature	54.7 - 63.5	°C	ISO 306
Melting Temperature	157 - 170	°C	
Peak Crystallization Temperature (DSC)	130 - 164	°C	ASTM D3418
Injection	Nominal Value	Unit	
Drying Temperature	45.0 - 77.6	°C	
Drying Time	2.9 - 6.0	hr	
Suggested Max Moisture	0.010 - 0.30	%	
Rear Temperature	150 - 185	°C	
Middle Temperature	170 - 210	°C	
Front Temperature	190 - 200	°C	
Nozzle Temperature	190 - 205	°C	
Processing (Melt) Temp	178 - 240	°C	
Mold Temperature	16.0 - 107	°C	
Injection Pressure	78.4 - 79.3	MPa	
Back Pressure	0.500 - 1.10	MPa	
Screw Speed	75 - 153	rpm	
Injection instructions			
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Extrusion	Nominal Value	Unit	
Drying Temperature	48.8 - 90.6	°C	
Drying Time	2.8 - 10	hr	
Suggested Max Moisture	5.0E-3 - 0.30	%	
Cylinder Zone 1 Temp.	164 - 190	°C	
Cylinder Zone 2 Temp.	166 - 192	°C	
Cylinder Zone 3 Temp.	168 - 206	°C	
Adapter Temperature	170 - 199	°C	
Melt Temperature	190 - 230	°C	
Die Temperature	165 - 200	°C	

Extrusion instructions

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