

Product Description

Natur-Tec™ BM3002HT is a bio-based and compostable, impact modified, highly filled polymer masterbatch made with Ingeo™. It is intended for injection molded PLA applications that require high heat. BM3002HT is designed to be blended with virgin Ingeo™ grades where the final blend is molded either in (1) a single-step using in-mold crystallization at much reduced cycle times and minimum part warpage (BF3002IM) or (2) in a two-step economical process where parts are crystallized in a secondary oven (BF3002HT).

A key advantage of this blend is that the resin going through two heat histories is limited to the percent (%) masterbatch letdown (typically 15-50%). This helps maintain the molecular weight, resulting in improved mechanical strength for the final part, as compared to a part manufactured with the 100% fully-compounded resin.

Natur-Tec resins are engineered for high performance. Please refer to the Material Safety Data Sheet and the Processing Guide for specific handling and processing instructions.

Applications

Natur-Tec® BM3002HT when blended with Ingeo™ at 15-50% can be used for injection molded plastic applications requiring high heat performance such as cutlery and coffee stir sticks.

Properties

Physical Properties			BM3002HT	
Property	Unit	Test Method	Value	
Specific Gravity	g/cm ³	ASTM D792	1.7 – 1.9	
Physical Properties			BF3002IM*	BF3002HT**
Property	Unit	Test Method	Value	Value
Specific Gravity	g/cm ³	ASTM D792	1.3 – 1.4	1.4 – 1.5
Melt Flow Rate (190 °C with 2.16 kg)	g/10 min	ASTM D1238	6 – 9	5 – 8
Mold Shrinkage	%	ASTM D955	Perpendicular to Flow: 1.1 – 1.3 Parallel to Flow: 0.6 – 0.7 (when molded at 100 °C)	Perpendicular to Flow: < 0.1 Parallel to Flow: 0.2 – 0.3
Mechanical Properties			BF3002IM*	BF3002HT**
Property	Unit	Test Method	Value	Value
Tensile Strength at Break	MPa	ASTM D638	56	64
Tensile Elongation at Break	%	ASTM D638	9	7
Tensile Modulus	MPa	ASTM D638	2350	2629
Flexural Modulus	MPa	ASTM D790	6300	7436
Notched Izod Impact Strength	J/m	ASTM D256	35	34.8
Thermal Properties			BF3002IM*	BF3002HT**
Property	Unit	Test Method	Value	Value
Heat Deflection Temperature (Un-annealed)	°C	ASTM D648 (0.455 MPa)	56	60
Heat Deflection Temperature (Annealed)	°C	ASTM D648 (0.455 MPa)	97	125

* Data obtained from standard test bars molded at 100°C with 25/75 blend of Natur-Tec® BM3002HT masterbatch and Ingeo™ 3100HP

** Data obtained from standard annealed test bars molded with 50/50 blend of Natur-Tec® BM3002HT masterbatch and Ingeo™ 3001D

The property values listed above are calculated under standard temperature and humidity conditions. These property values should be viewed as guidelines only, and may vary based on processing conditions. No warranties of any kind, either expressed or implied are made regarding products described or regarding designs, data or information set forth.

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