DuPont Packaging & Industrial Polymers

DuPont™ Biomax® Strong 100

Biomax® Strong resins Product Data Sheet

Description

Product Description	Biomax® Strong 100 is an ethylene copolymer designed to modify Polylactic Acid (PLA) for improved toughness properties in packaging and industrial applications. Some of the attributes of Biomax® Strong 100 in PLA include: · Special Chemistry for PLA. Even small amounts provide toughness benefits; · Engineered for PLA, rapid melt-dispersion, even with single screw extruders; · Pelletized, efficient extruder feeding; separately or as a pellet-bend with PLA; Blends containing 5% (wt.) or less modifier maintain contact clarity similar to clarified Polypropylene (PP), while blends in the 5 – 15% range presents different degrees of translucence, similar to unclarified PP.

Restrictions

Material Status	• Commercial: Active

Typical Characteristics

Uses	• Polymer Modifier
Characteristics / Benefits	Impact Strength / Toughness Impact strength of BIOMAX® Strong 100 modified PLA, both in the amorphous and crystalline estates, is significantly improved even at 2wt% addition level. Brittleness BIOMAX® Strong 100 greatly improves the cutting & trimming of PLA 3001 & 2002. While unmodified PLA 3001 & 2002 exhibits breakage at the edge of the sheet, blends with 2 to 5 wt.% of BIOMAX® Strong 100 show no breakage. There is also a marked improvement of “pinning”. While unmodified PLA 3001 breaks at the edge of the sheet, there is no breakage once BIOMAX® Strong 100 is added.
Applications	Polylactic Acid (PLA) Modification

Typical Properties

Physical	Nominal Values	Test Method(s)	
* Density ()	0.94 g/cm³	ASTM D792	ISO 1183
* Melt Flow Rate (190°C/2.16kg)	12 g/10 min	ASTM D1238	IS0 1133
Thermal	**Nominal Values**	**Test Method(s)**	
* Melting Point (DSC)	72°C (162°F)	ASTM D3418	ISO 3146

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Processing Information

General

*	Maximum Processing Temperature	280°C (536°F)
	General Processing Information	Handling & Storage

Biomax® Strong 100 is supplied in polyethylene bag lined boxes or bags. The product does not require drying but the material should be handled in a way that minimizes moisture pick-up. For example reseal bags or box liners when partial bags or boxes are not being used.

Processing of blends of Biomax® Strong 100 and PLA

Blends of Biomax® Strong 100 and PLA can be processed in the same equipment and under the same processing conditions recommended for PLA

The melting point of Biomax® Strong 100 is 72C (162F) so a split feed extruder hopper will be required in cases where the PLA resin is dried on line and temperature of the hot dried PLA exceeds the melting point of the modifier.

Melt Viscosity and Melt Thermal Stability

Under typical processing conditions melt viscosity of PLA melt blends with BIOMAX® STRONG is not significantly different from that of unmodified PLA.

Melt Thermal stability of PLA is improved through addition BIOMAX® Strong 100 as it has been shown by extended hold-up time (up to two hours) in a capillary viscometer.

FDA Status Information	DuPont Biomax® Strong 100 is designed for non food packaging applications. For more specifics, please contact your DuPont representative.
Safety & Handling	For information on appropriate Handling & Storage of this polymeric resin, please refer to the Material Safety Data Sheet..
	A Product Safety Bulletin, Material Safety Data Sheet, and/or more detailed information on extrusion processing and/or compounding of this polymeric resin for specific applications are available from your DuPont Packaging and Industrial Polymers representative.

Read and Understand the Material Safety Data Sheet (MSDS) before using this product

Regional Centres

DuPont operates in more than 70 countries. For help finding a local representative, please contact one of the following regional customer contact centers:

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