

Bio dolomer

Biodegradable Polymers

Product Information

Version 1.6 March 2018

Biodolomer® I

Biodegradable Compound for Injection Molding

® = Biodolomer is a registered trademark of GAIA

Product Description

Biodolomer® I is a biodegradable biomaterial developed for the injection molding process.

It is basically a compound of a biodegradable aliphatic-aromatic copolyester (PBAT), polylactic acid (PLA) and calcium carbonate.

Biodolomer® I is made from 70 - 85 % renewable resources depending on application.

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Compostability and Biodegradability

Biodolomer® I fulfills the requirements of the existing standards for compostable and biodegradable polymers, because it can be degraded by microorganisms.

The biodegradation process in soil depends on the specific environment (climate, soil quality, population of microorganisms).

Food Regulatory Status

Biodolomer® I is one of the few compostable polymers, which complies in its composition with the European food stuff legislation for food contact, EU Directive 10 / 2011 / EC with amendment 2016/1416 and US food contact notification for the main components: e. g. FCN 475 and 907. Specific limitations and more details are given on request. The converter or packer has to check the suitability of the article for the application.

Form Supplied and Storage

Biodolomer® I is supplied as lenticular pellets in big bags.

Temperatures during transportation and storage may not exceed 60 °C at any time.

Storage time of unopened bags may not surpass 12 month at room temperature (23 °C).

Applications

Injection-moldable products made from Biodolomer® I benefit from an optimum balance of rigidity and toughness. Biodolomer® I is very versatile in its range of application by injection molding. They also enable customers to produce biodegradable plastic components on conventional injection-molding machines. With our innovative Biodolomer® I grade, it is possible not only to fill thin-walled molds but also to achieve cycle times comparable with standard materials in the packaging industry. Furthermore, Biodolomer® I exhibit a noticeably increased flowability relative to comparable biodegradable injection-molding grades.

Typical Material Properties of Biodolomer® I at 23°C

*not to be construed as specifications

Property	Unit	Test Method	Value
Polymer abbreviation	-	-	PLA/PBAT
Density	kg / m ³	ISO 1183	1370
Melt flow rate	g / 10 min (190 °C / 2.16 kg)	ISO 1133	35
E-modulus	MPa	ISO 527-2	4000
Strain at break (v = 50 mm / min)			
Drying:			
Drying temperature	°C		60
Drying time	h		1
Processing:			
Melt temperature range	°C	-	180 - 210
Melt temperature, ideal	°C	-	195
Tool temperature range	°C	-	10 - 25
Residence time, max.	min.	-	2
Machine settings:			
Temperature flange (hopper)	°C		40
Barrel temperature 1, (feeding zone)	°C		190
Barrel temperature 2, (comp. zone)	°C		210
Barrel temperature 3, (metering zone)	°C		210
Barrel temperature 4, (nozzle)	°C		210
Shrinkage:			
Processing shrinkage, test box, 1 mm	%		0.14

Note

The information submitted in this document is based on our current knowledge and experience. In view of the many factors that may affect processing and application, these data do not relieve processors of the responsibility of carrying out their own tests and experiments; neither do they imply any legally binding assurance for a special purpose. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed. (March 2018).