

# Bio dolomer

*Biodegradable Polymers*

**Product Information**

*Version 1.5 July 2017*

## *Biodolomer® T*

*Biodegradable compound for compostable films and sheets  
with 70-90 % of renewable resources*

® = Biodolomer is a registered trademark of GAIA

### **Product Description**

Biodolomer® T is a biodegradable biomaterial developed for the thermoforming process.

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

Because of the high PLA and mineral content, Biodolomer® T consists of 70 - 90 % of renewable resources depending on application.

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Our Biodolomer® T exhibits the following properties compared to PP:

- Opaque, semi-crystalline structure with DSC melting points for PBAT and PLA
- High strength and stiffness
- High, but controllable water vapor transmission rate ( WVTR )
- High melt strength: MFI (190 °C, 2.16 kg): 3-4 g
- Good thermo stability up to 210 °C
- Good processability on conventional sheet extrusion lines, e. g. for PP
- Water based decoration. No corona treatment is necessary

The processing of Biodolomer® T on sheet extrusion lines depends on the formulation, the extrusion technology and processing conditions.

Trials are always recommended to assess the quality of the final product.

**Compostability and Biodegradability**

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

Available Certificates:

Norm	EN 13432 (EU)
Certification Body	Vinçotte
Certification Name	OK COMPOST
Certification Number	S455
Certified product	Biodolomer® Tray

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

**Food Regulatory Status**

Biodolomer® T 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 and US food contact notification for the main components: e. g. FCN 475, 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® T 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

Biodolomer® T has been developed for the conversion to extruded films from 0.3 to 6 - 8 mm thickness using a sheet extrusion process with subsequent thermoforming operation. Typical applications are packaging film for cups, trays, boards and other thermoformed containers or articles. In view of numerous factors influencing functionality and shelf life of Biodolomer® films and finished articles made thereof the production parameters have to be tested by the converters before utilization.

Additionally sufficient field tests are required to ensure the right functionality of the articles made from Biodolomer® T. We supply technical service information concerning the sheet extrusion process with Biodolomer® T on demand.

## Basic Material Properties of Biodolomer® T

\* see Quality Control

Property	Unit	Test Method	Biodolomer® T
Mass Density	g/cm <sup>3</sup>	ISO 1183	1.28
MFI 190 °C, 2.16 kg	g/10min	ISO 1133	3 - 4
Melting Points	°C	DSC	110 - 120
Vicat VST B/50	°C	ISO 306	57

## Typical Material Properties of Biodolomer® T, 1 mm sheet

\*not to be construed as specifications

Property	Unit	Test Method	Biodolomer® T
Transmission	%	ASTM D 1003	Opaque
Tensile Modulus	MPa	ISO 527	2,400 / 2,100
Tensile Strength	MPa	ISO 527	60 / 45
Ultimate Elongation	%	ISO 527	65 / 40
Ultimate Strength	MPa	ISO 527	30 / 20
Permeation rates:			
Oxygen	cm <sup>3</sup> / (m <sup>2</sup> · d · bar)	ASTM D 3985	28
Water vaport	g / (m <sup>2</sup> · d)	ASTM F 1249	3.5

## 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. (May 2017).