



**Biodegradable Polymers**

**Product Information**

**Version 1.1**

January 2015

G-PM/PB

# ecovio® T2308

**Biodegradable compound for compostable films or sheets  
with min 80% of renewable resources**

® = ecovio and ecoflex are registered trademarks of BASF SE.

## **Product Description**

ecovio® T 2308 is a biodegradable film product containing renewable resources. It is basically a compound of our biodegradable copolyester ecoflex® and polylactic acid (PLA). Because of the PLA content ecovio® T 2308 consists of 80% of renewable resources. PLA is the continuous phase in the structure of ecovio® T 2308 transferring the beneficial properties of ecoflex® into the new product:

 **BASF**  
We create chemistry

Our ecovio® T 2308 exhibits the following properties compared to PP:

- Opaque, semi-crystalline structure with DSC melting points for ecoflex® and PLA
- High strength and stiffness
- High, but controllable water vapor transmission rate (WVTR)
- High melt strength: MVR (190 °C, 2.16 kg): < 1.0 ml/10 min.

MVR (190 °C, 5 kg): < 6 ml/10 min.

- Good thermo stability up to 230 °C
- Good processability on conventional sheet extrusion lines, e.g. for PP
- Printable

Because of the moisture sensitivity of PLA at melt temperatures in the order of 170- 180 °C we have to assure a maximum moisture content of below 1,000 ppm prior to sheet extrusion.

The processing of ecovio® T 2308 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. ecovio® T 2308 fulfills the requirements of the European standard DIN EN 13432 for compostable and biodegradable polymers up to 1.1 mm sheet thickness, because it can be degraded by microorganisms. The biodegradation process in soil depends on the specific environment (climate, soil quality, population of micro-organisms).

**Certification of Compostability and Biodegradability**

Norm	EN 13432 (EU)		ASTM D 6400 (USA)
Certification Body	DIN Certco	Vinçotte	BPI
Certification Number	7W0085		

**Food Regulatory Status**

ecovio® T2308 is one of the few compostable polymers, which complies in its composition with the European food stuff legislation for food contact, EU Directive 2002/72/EC (as amended) and US food contact notification for the main components: e.g. FCN 178, 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**

ecovio® T 2308 is supplied as pearl-shaped pellets in 1,000kg Big Bags. Temperatures during transportation and storage may not exceed 60 °C at any time. Storage time in an unopened bag may not surpass 12 month at room temperature (23 °C).

**Quality Control**

ecovio® T 2308 is produced as a standard material in a continuous production process according to DIN EN ISO 9001 : 2000. The melt volume rate, MVR, at 190 °C, 5 kg, according to ISO 1133 has been defined as specified parameter for quality control. A certificate of the MVR value can be provided with each lot number upon request. Other data given in our literature are typical values, which are not part of our product specification for ecovio® T 2308.

## Applications

ecovio® T 2308 has been developed for the conversion to extruded films up to a maximum thickness of 1.1mm using a sheet extrusion process with subsequent thermoforming operation. Typical applications are packaging film for cups, trays and other thermoformed containers or articles. In view of numerous factors influencing functionality and shelf life of ecovio® 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 ecovio® T 2308. We supply technical service information concerning the sheet extrusion process with ecovio® T 2308 on demand.

### Typical basic material properties of ecovio® T2308

\*see Quality Control

Property	Unit	Test Method	ecovio® T2308
Mass density	g/cm <sup>3</sup>	ISO 1183	1.24 - 1.26
Melt flow rate MFR 200°C, 5 kg	g/10 min	ISO 1133	-
Melt volume rate MVR 190°C, 5 kg*	ml/10 min	ISO 1133	7.5 - 11.5
Melting Points	°C	DSC	110 - 120
	°C	DSC	140 - 155
Vicat VST B/50	°C	ISO 306	55

### Typical material properties of ecovio® T2308, 1mm sheet

Property	Unit	Test Method	ecovio® T2308
Transmission	%	ASTM D 1003	Opaque
Tensile modulus	MPa	ISO 527	2,680/2,240
Tensile strength	MPa	ISO 527	56/40
Ultimate strength	MPa	ISO 527	27/20
Ultimate Elongation	%	ISO 527	56/38
<b>Permeation rates:</b>			
Oxygen	cm <sup>3</sup> /(m <sup>2</sup> ·d·bar)	ASTM D 3985	32
Water vapour	g/(m <sup>2</sup> ·d)	ASTM F 1249	3.8

## 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. (January 2015)