

# ecovio<sup>®</sup> T2308

## Biodegradable compound for compostable films or sheets with high biobased content

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

### Product Description

ecovio<sup>®</sup> T2308 is a biodegradable cast film product containing renewable resources. It is basically a compound of our biodegradable copolyester ecoflex<sup>®</sup> and polylactic acid (PLA). Due to ecoflex<sup>®</sup> the compound is benefitting of unique properties like increased impact resistance and processing behaviour.

ecovio® T2308 exhibits the following properties:

- 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
- Medium oxygen barrier (OTR)
- Good thermostability up to 205 °C in processing
- Good processability on conventional sheet extrusion lines, e. g. for PP
- Printable
- Sealable

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 extrusion.

The processing of ecovio® T2308 on sheet extrusion lines depends on the extrusion technology and processing conditions.

Trials are always recommended to assess the quality of the final product. ecovio® T2308 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

ecovio® T2308 is a biodegradable & compostable compound. Available Certificates:



Norm	EN 13432 (EU)		ASTM D 6400 (USA)
Certification Body	DIN Certco	TÜV Austria	BPI
Certification Number	7W0085	017-2588-A	890989-26

### 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 as well as with the regulations of the US food and drug administration for food packaging. A specific food law status is given in our specific certificates which are send on request via a local BASF representative or Plastic Safety (plastics.safety@basf.com). The converter or packer has to check the suitability of the article for the application.

### Form Supplied and Storage

ecovio® T2308 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® T2308 is produced as a standard material in a continuous production process according to DIN EN ISO 9001. 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® T2308.

## Applications

ecovio® T2308 has been developed for the conversion to extruded films using a sheet extrusion process with subsequent thermoforming operation. Depending on the application higher wall thickness is possible upon extra testing according to DIN EN13432. 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® T2308. We supply technical service information concerning the sheet extrusion process with ecovio® T2308 on demand.

## Typical Basic Material Properties of ecovio® T2308 at 23 °C

Property	Unit	Test Method	values
Density	kg/m <sup>3</sup>	ISO 1183	1400
Melt volume rate	MVR (190°C/5 kg)	ISO 1133	9.5 [cm <sup>3</sup> /10min]
E-modulus	MPa	ISO 527-2	2680/2240
Strain at break (v = 50 mm/min)	%	ISO 527-2	56/38
<b>Drying:</b>			
Moisture uptake, max.	ppm	-	800
Moisture, to process	ppm	-	300-600
Drying temperature	°C	-	70
Drying time	h	-	6
<b>Processing:</b>			
Melt temperature range	°C	-	180-205
Melt temperature, ideal	°C	-	195
Chill roll temperature range	°C	-	10-40
Chill roll temperature, ideal	°C	-	30
Residence time, max.	min.	-	2

### Typical Basic Material Properties of ecovio® T2308 at 23 °C

Property	Unit	Test Method	values
<b>Machine settings:</b>			
Temperature flange (hopper)	°C	-	25
Barrel temperature 1 (feeding zone)	°C	-	160
Barrel temperature 2 (compression zone)	°C	-	180
Barrel temperature 3 (metering zone)	°C	-	190
Barrel temperature 4 (nozzle)	°C	-	190
<b>Shrinkage:</b>			
Processing shrinkage, parallel	%	ISO 2577, 294-4	0.4
Processing shrinkage, vertical	%	ISO 2577, 294-4	0.4
<b>Thermal properties:</b>			
HDT B (0.45 MPa)	°C	ISO 75-1/-2	55

#### 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. (February 2019)