



Biodegradable Polymers

Product Information

Version 1.0

December 2016

G-PM/PB

ecovio[®] F23B1

Biodegradable compound for compostable film

® = ecovio and ecoflex are registered trademarks of BASF SE

Product Description

ecovio[®] F23B1 is one of our biodegradable film products. It is basically a compound of our biodegradable, aliphatic-aromatic copolyester ecoflex[®] F and a small amount of polylactic acid (PLA). Due to its outstanding mechanical strength ecovio[®] F23B1 offers a great down gauging potential needed for very thin film applications like T-shirt bags, organic waste bags etc. ecovio[®] F23B1 already contains anti-blocking and slip agents required for easy processing on film extrusion and film conversion equipment.

For more information please visit us at www.ecovio.com

 **BASF**
We create chemistry

ecovio® F23B1 exhibits the following properties:

- High melt strength
- Good thermostability up to 230°C
- Excellent processability on conventional LDPE blown film lines
- Good mechanical properties
- Down gauging to 10 µm possible, typical thicknesses: 20-120 µm
- Good processability on bag making equipment
- Wet strength (e. g. needed in organic waste bag applications)
- Nice white translucent color
- Excellent welding properties
- Printable in 8 colors by flexo printing
- Ready to use grade

ecovio® F23B1 exhibits excellent compatibility to ecoflex®, polylactic acid and other biodegradable polymers. The processing of ecovio® F23B1 on extrusion lines depends on the formulation, the extrusion technology and processing conditions. Trials are always recommended to assess the quality of the final product. ecoflex® masterbatches are available to tailor the properties of the final product. Detailed information concerning our ecoflex® masterbatches will be sent on request. According to our experience pre-drying of ecovio® F23B1 is not required if the granules are taken from an unopened bag.

Certification of Compostability and Biodegradability

ecovio® F23B1 is a biodegradable & compostable compound. Available certificates:



Certification body	DIN Certco	Vinçotte		BPI
Norm/Certification scheme	EN 13432	OK Compost (EN 13432)	OK Compost Home	ASTM D 6400
Certification Number	7W0188	O12-1010-D	O13-1093-C	J-00114714

Food Regulatory Status

ecovio® F23B1 is one of the few biodegradable plastics, 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 detailed food law status is given in our specific certificates which are sent 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® F23B1 is supplied as lenticular pellets in 1 t big bags. Temperatures during transportation and storage may not exceed 60°C at any time. Storage time of unopened bags may not surpass 12 months at room temperature (23 °C).

Quality Control

ecovio® F23B1 is produced as a standard material in a continuous production process according to DIN EN ISO 9001:2008. 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 can be provided with each lot number upon request. The ecovio® granules have to be pre-dried (6 hours at 70°C) before MVR measurement in order to obtain accurate values. Other data given in our literature are typical values, which are not part of our product specification for ecovio® F23B1.

Applications

ecovio® F23B1 has been developed for the conversion to flexible films using a blown film process. 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® F23B1.

We supply technical service information concerning the blown film process with ecovio® F23B1 on demand.

Typical Basic Material Properties of ecovio® F23B1

*see Quality Control

Property	Unit	Test Method	ecovio® F23B1
Mass Density	g/cm ³	ISO 1183	1.36-1.40
Bulk Density	kg/m ³	DIN EN ISO 60	800
Melt Volume Rate MVR 190°C, 5 kg	ml/10 min.	ISO 1133	5.0-11.0
Melting Points	°C	DSC	110-120
	°C	DSC	140-155

Typical Properties* of ecovio® F23B1 Blown Film, 25 µm

*not to be construed as specifications

Property	Unit	Test Method	ecovio® F23B1
Tensile Modulus MD/TD	MPa	ISO 527	260/130
Tensile Strength MD/TD	MPa	ISO 527	25/25
Ultimate Elongation MD/TD	%	ISO 527	480/570
Dart Drop	g	ASTM D 1709-04 Method A	250
Tear Resistance MD/TD	mN	DIN EN ISO 6383-2	1600/1300

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. (December 2016)