



# Beograde FLM046 T

## Material Technical Data Sheet



Date of issue: 11/04/2023 Version: 3.1

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

<b>Product form</b>	: Granulate
<b>Name</b>	: Beograde FLM046 T
<b>Product code</b>	: 9802070046
<b>Application</b>	: Film extrusion
<b>Composition</b>	: 100% biodegradable compounds and additives

#### 1.2. Details of the supplier of the material specification sheet

##### Manufacturer

Beologic  
Jolainstraat 44  
8554 Sint-Denijs  
[info@beologic.com](mailto:info@beologic.com)

### SECTION 2: Physical, mechanical and thermal properties

#### 2.1. Information on basic physical, mechanical and thermal properties

Properties <sup>(1)</sup>	Method	Typical Value	Unit
<b>Physical</b>			
Content		Complex blend of biopolymers	
Physical state		Solid	
Renewable content		≥ 35	%
Relative density	ISO 1183-1	1,15-1,25	g/cm <sup>3</sup>
MFI (190°C, 2,16 kg)	ISO 1133-1	4,5-5,5	g/10min
Melting temperature range	ISO 11357	120-130	°C
Coloured in mass		NO	
Colour material		/	
Transmission		Transparent	
UV package		NO	
Carbon footprint <sup>(2)</sup>	PAS 2050	6,285*	kg CO <sub>2</sub> Eq/ kg
Shelf life <sup>(3)</sup>		6	Months
<b>Mechanical</b>			
Tensile modulus	ISO 527-1	1200	MPa
Tensile strength	ISO 527-1	22	MPa
Break stress	ISO 527-1	20	MPa
Elongation at break	ISO 527-1	298	%
Flexural modulus	ISO 178	998	MPa
Charpy impact strength (Notched 1eA , 23 °C)	ISO 179-1	84	kJ/m <sup>2</sup>
HDT (B)	ISO 75-1	58	°C
Decomposition temperature (TGA)	ISO 3451-1	300	°C
Ash content (TGA)	ISO 3451-1	≤5	%

(1) Typical properties; not to be construed as specifications.

(2) Carbon footprint calculated by Neutrologic

(3) Only if storage conditions (section 5) were followed

\*Due to continuous variation of feedstock this figure reflects value of September 2022. Update latest carbon footprint available on request.

#### 2.2. Product Carbon footprint

The product carbon footprint helps to define the amount of greenhouse gas emissions generated by a product along its life cycle, it quantifies the ghg-emissions related to the production of our products.

Neutrologic calculates the carbon footprint of all sales products and this from cradle to gate.

The calculation of the carbon footprint is in accordance with the internationally recognized Greenhouse Gas Protocol Product Standard which is based on the standard ISO-14067 norm and PAS2050.

The carbon footprint is mentioned in our datasheet - by offsetting or compensating the calculated emissions we can present our products as Carbon Neutral compounds. This compensation is according the Verified Carbon Standard – more info via ([www.v-c-s.org](http://www.v-c-s.org)).

#### 2.3. Other information

No additional information available



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### SECTION 3: Processing conditions – guidelines

Hopper	40 – 60	°C
Feeding zone	160 – 165	°C
Compression zone	165 – 170	°C
Metering zone	165 – 170	°C
Die	170 – 175	°C
Blow up rotation	2-4	

If melt is too viscous, the temperatures can be increased stepwise by 5°C up to a maximum of 200°C melt temperature.

#### General comments

Discoloured molded parts and/or a burnt smell is a symptom of a too high temperature, too long residence time or uncontrolled friction heat. To prevent burning or damaging of the screw, barrel or tool, it's obliged to stop the machine only after it has been cleaned with pure PP,PE or cleaning compound.

Beograde is not compatible with a wide variety of other resins, and special purging sequences should be followed:

1. Before production, ensure to clean the extruder and bring temperature to steady state with general purpose PP or PE.
2. Vacuum out hopper system to avoid contamination.
3. Introduce Beograde into the extruder at the operating conditions proposed in section 3.
4. Once Beograde has purged, reduce barrel temperatures to desired set points.
5. At shutdown, purge machine with PP or PE or cleaning compound. It's obliged to stop the machine only after it has been cleaned with pure PP or cleaning compound.

### SECTION 4: Biodegradability and compostability

Composting of organic waste helps to divert organic waste from landfill or incineration. Composting is a biological process in which organic wastes are degraded by microorganisms into carbon dioxide, water and humus, a soil nutrient. **Beograde FLM046 T** PLA polymers are in compliance with the EN-13432 standard.

As the compostability of the end product is also dependent on the geometry of product, it is the responsibility of the manufacturer of the end product to ensure compliance with the regulations.

### SECTION 5: Drying and storage conditions

**Beograde FLM046 T is a compound of biodegradable polymers (such as PLA). Residual moisture content can lead to hydrolysis degradation. We recommend drying Beograde FLM046 T at maximum 70°C for a period of 2 hours to maximum 4 hours.** Don't overheat or dry it longer than recommended. Residual moisture content (> 0.2%) can result in lower melt stability, surface mark or bubble formation during processing.

We recommend to store the material in dry conditions below 50°C and protected from UV-light. Opened (big)bags should be used immediately or adequately sealed back up after use to avoid moisture uptake and have negative effects on the physical properties of the product. It is recommended to use Beograde granules within a time period of maximum 6 months.

Finished product made from Beograde should be stored dry and cold. Storage time and lifetime of finished products depends on processing parameters and on storage conditions (moisture, UV radiation ...).