BEOGRADE RTM050

Material Technical Data Sheet

Date of issue: 03/12/2021 Version: 2.0

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

1.1. Product identifier

Product form	:	Powder
Name	:	Beograde RTM050
Product code	:	9802070050
Application	:	Rotomoulding
Composition	:	100% biodegradable compound and additives

1.2. Details of the supplier of the material specification sheet

Manufacturer

Beologic
Jolainstraat 44
8554 Sint-Denijs
info@beologic.com

SECTION 2: Physical, mechanical and thermal properties

2.1. Information on basic physical, mechanical and thermal properties

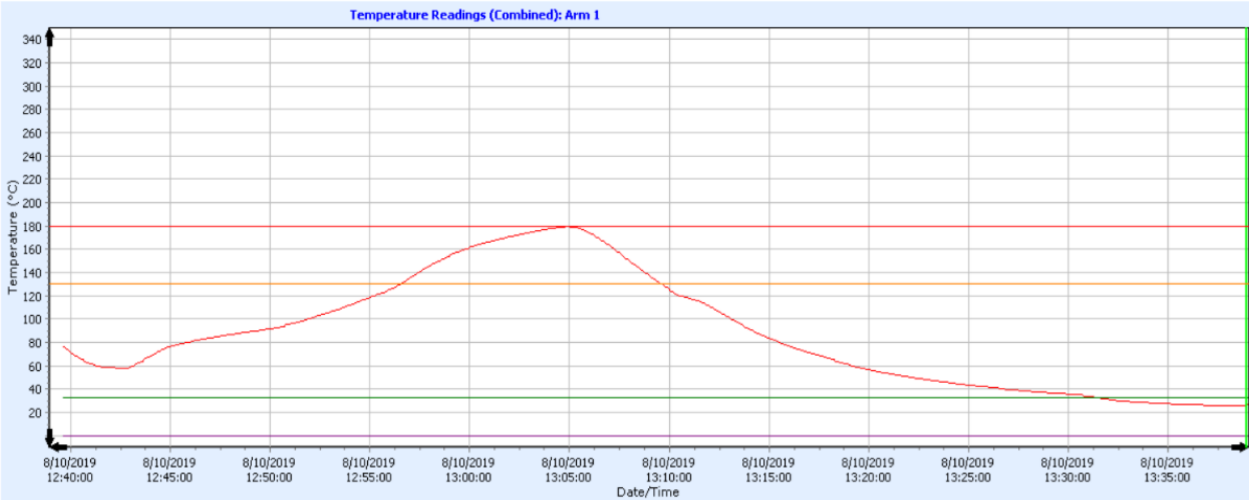
Properties[1]		Method	Typical Value	Unit
Composition / Physical				
Content			Complex blend of biopolymers	
Renewable content			≥ 35	
Colour material			White	
Coloured in mass			NO	
Physical state			Solid	
Relative density		ISO 1183-1	1,15-1,25	g/cm³
UV package			NO	
Carbon footprint [2]		PAS 2050	*6,2848	Kg CO_2 Eq/ kg
Shelf life [3]			6	Months
Mechanical				
Tensile modulus		ISO 527	1200	MPa
Tensile strenght		ISO 527	19	MPa
Break stress		ISO 527	20	MPa
Elongation at break		ISO 527	298	%
Flexural modulus		ISO 178	997	MPa
Charpy impact strength	(Notched 1eA , 23 °C)	ISO 179	84	kJ/m²
Thermal				
MFI	(190°C, 2.16 kg)	ISO 1133-1	6,5-7	g/10min
Vicat softening point	(B120)	ISO 306	45-50	°C

(1) Typical properties; not to be construed as specifications.
(2) Carbon footprint calculated by Neutrologic
(3) Only if storage conditions were followed

*Our Beograde grades are made carbon neutral by offsetting through certified climate projects.

2.2. Processing Procedure – lab scale environment

1. Procedure based on inner mould temperature/inner air temperature (IAT) measured on lab scale.
2. IAT start at 120°C – 130°C and gradually increase with step of 5°C to 150°C – 165°C.
3. PIAT < 175°C.
4. Residence time : depending on application or product fe. 100 gr – 20 minutes.
5. Check energy absorption of the product.
6. Typical temperature flow chart IAT – see chart below.



2.3. Processing measurements – lab environment

	Beograde	HDPE	PP
Powder pick-up temperature (°C)	50 - 55	70 - 80	100
Optimum PIAT (°C)	175	180-190	230
Demolding temperature (°C)	40-45	90	95
Light transmission	Opaque	Opaque	Transparent
Particle size distribution (µm)	500 - 650	500 - 650	500 - 650
Dry flow	Good	Good	Good
Thickness distribution	Excellent	Excellent	Excellent

General remark : All moulders should test these products before starting large industrial runs – set PIAT at 175°C - increase or decrease temperature with 5°C according to the achieved mechanical properties.

2.4. 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.

Beologic 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).

SECTION 3: Drying conditions and storage

Beograde RTM050 is a compound of biodegradable polymers (such as PLA). Residual moisture content can lead to hydrolysis degradation. **We recommend drying Beograde RTM050 at 50-55°C for a period of 2 – 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 bigbag 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 …).

SECTION 4: Biodegradability and compostability

Beograde RTM050 fulfills the requirements of the existing standards for compostable and biodegradable polymers (EN 13432), because it can be degraded by microorganisms.

As the compostability of the end product is 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: Food regulation

Beograde RTM050 complies in its composition with the European food stuff legislation for food contact, EU Directive 10/2011/EC (and the amendments 2018/213 and 2018/831).

The material also complies with the US food contact notification for the main components: e.g. FCN 178, 475 and 907. A detailed food law status can be given on request. Whether the article is suitable for the application, has to be checked by the converter or packer.

SECTION 6: General info

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

1. Before production, ensure to clean equipment and check oven temperature to a controlled condition.
2. Vacuum out any hopper/blending or other mixture equipment system to avoid contamination.
3. Introduce Beograde into the equipment at the operating conditions used in step 2.2.
4. Once Beograde is introduced check inner air temperature.
5. At shutdown, clean your equipment/machine with high viscosity cleaning material.

At higher temperature, the dwell time of the material inside the machine shall be reduced to a minimum in order to lower the risk of degradation. Do not leave the material hot inside the machine for long periods as the material will degrade.