Beograde RTM050

Material Technical Data Sheet

Date of issue: 06/01/2023 Version: 3.0

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 compounds 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
Physical				
Physical state			Solid	
Renewable content			≥35	%
Relative density		ISO 1183-1	1,13-1,23	g/cm³
MFI	(190°C, 2,16 kg)	ISO 1133-1	6,5-7	g/10min
Coloured in mass			NO	
Colour material			White	
Transmission			Opaque	
UV package			NO	
Carbon footprint [2]		PAS 2050	6,285*	kg CO_2 Eq/ kg
Shelf life [3]			6	Months
Mechanical				
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	997	MPa
Charpy impact strength	(Notched 1eA , 23 °C)	ISO 179-1	84	kJ/m²
Vicat softening point	(B120)	ISO 306	49	°C

(1) Typical properties; not to be construed as specifications.
(2) Carbon footprint calculated by Neutrologic
(3) Only if storage conditions (section 6) were followed
*Our Beograde grades are made carbon neutral by offsetting through certified climate projects.
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).

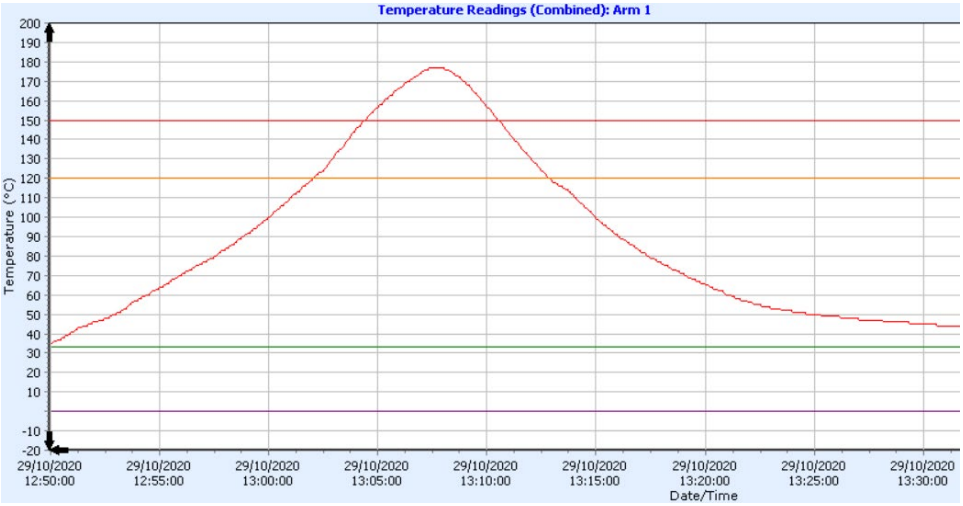
2.3. Other information

No additional information available

SECTION 3: Processing conditions-guidelines

3.1. Processing procedure – lab environment:

1. Procedure based on inner mould temperature/inner air temperature (IAT) measured on lab scale.
2. IAT start at 130°C – 140°C and gradually increase with step of 5°C to 175°C – 185°C.
3. PIAT ≤ 185°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.



3.2. Processing measurements- lab scale environment

Powder pick-up temperature (°C)	55 - 65
Optimum PIAT (°C)	175 - 185
Demolding temperature (°C)	40 - 50
Thickness distribution	Excellent

SECTION 4: General advice

4.1. General info

Beograde RTM050 is not compatible with a wide variety of polyolefins some special sequences should be followed:

1. Before production, ensure to clean equipment and check oven temperature to a controlled condition.
2. Vacuum out on any hopper/blending or other mixture equipment system to avoid contamination.
3. Introduce **Beograde RTM050** into the equipment at the operating conditions.
4. Once **Beograde RTM050** is introduced, check inner air temperature.
5. At shutdown, clean your equipment and remove all remaining residue from the mall.

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.

SECTION 5: 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 RTM050** 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 6: Drying and storage conditions

Beograde RTM050 is supplied with a low residual moisture content and does not need any drying. If the material needs to be dried, we recommend drying Beograde RTM050 at max 70°C for 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 powder 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 …).