



Beobase 25 PE wood INJ025

Material Technical Data Sheet

Date of issue: 08/11/2022 Version: 3.0

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

1.1. Product identifier

| | |
|--------------|--|
| Product form | : Granulate |
| Name | : Beobase 25 PE wood INJ025 |
| Product code | : 2575020025 |
| Application | : Injection moulding |
| Composition | : 25% wood fibres + 75% bio-PE 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 | | >94 | % |
| Relative density | ISO 1183-1 | 0,95-1,05 | g/cm ³ |
| MFI (190°C, 2,16 kg) | ISO 1133-1 | 9,1 | g/10min |
| MFI (230°C, 2,16 kg) | ISO 1133-1 | 24 | g/10min |
| Coloured in mass | | NO | |
| Colour material | | Natural brown | |
| UV package | | NO | |
| Carbon footprint ⁽²⁾ | PAS 2050 | 0,148* | kg CO ₂ Eq/ kg |
| Shelf life ⁽³⁾ | | 6 | Months |
| Mechanical | | | |
| Tensile modulus | ISO 527-1 | 576 | MPa |
| Tensile strength | ISO 527-1 | 14 | MPa |
| Break stress | ISO 527-1 | 13 | MPa |
| Elongation at break | ISO 527-1 | 13 | % |
| Flexural modulus | ISO 178 | 576 | MPa |
| Charpy impact strength (Notched 1eA, 23 °C) | ISO 179-1 | 11 | kJ/m ² |
| (Unnotched 1eU, 23 °C) | ISO 179-1 | 34 | kJ/m ² |
| Vicat softening point (A120) | ISO 306 | 86 | °C |
| HDT (B) | ISO 75-1 | 59 | °C |

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

(2) Carbon footprint calculated by Neutrologic

(3) Only if storage conditions (section 4) 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).

2.3. Other information

No additional information available



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SECTION 3: Processing conditions – guidelines

| | | |
|------------------|-----------|----|
| Hopper | 40 – 60 | °C |
| Feeding zone | 155 – 165 | °C |
| Compression zone | 165 – 175 | °C |
| Metering zone | 175 – 185 | °C |
| Nozzle | 185 – 195 | °C |
| Mold temperature | 30 – 55 | °C |

3.1 Plasticizing

We recommend to keep the residence time as short as possible, use low screw RPM to fill up the screw carefully and have the material in motion as much as possible.

For optimal process ability, the shot size should be between 35% and 75% of the machine's maximum plasticizing capacity. Too small shot size can cause degradation because of the excessive residence time.

3.2 Backpressure

Use minimal backpressure when loading the barrel in order to avoid unwanted, uncontrolled friction heating.

3.3 Hold pressure

Beobase 25 PE wood INJ025 does not require much holding pressure.

3.4 Cooling

Increased mould temperature will normally result in better surface appearance.

Start with 30°C and then increase the mould temperature until the molded piece looks good. Better particle distribution in the mould can normally also be achieved by increased mould temperature.

3.5 Injection speed

High injection speed normally gives the best particle distribution and surface appearance.

3.6 General comments

Because this material cools quickly and the fibres keep the molded part together, many molders can reduce their cycle times up to 40% by using a wood-polymer material compared to unfilled materials.

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.

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

1. Before production, ensure to clean the injection moulding machine and bring temperature to steady state with general purpose PP or PE.
2. Vacuum out hopper system to avoid contamination.
3. Introduce Beobase into the injection moulding machine at the operating conditions proposed in section 3.
4. 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: Drying and storage conditions

We recommend drying Beobase 25 PE wood INJ025 at maximum 80°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 Beobase granules within a time period of maximum 6 months.

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