

BrightBio® LOIMU-D11 BIOPLASTIC

TECHNICAL DATA SHEET



PRODUCT DESCRIPTION

BrightBio® LOIMU-D11 is a renewable polyester made using bio-based polymers, such as polylactic acid (PLA), sidestream soybean oil and our BrightBio® component. LOIMU-D11 has high impact resistance and good toughness even at low temperatures. The bio-based content of the material is 68 %.

Applications: Cups, containers, trays, etc.

Processing methods: Injection moulding

Technical benefits: Semi-rigid, toughness

Environmental benefits: Biobased content is 68 %

PHYSICAL PROPERTIES	VALUE	UNIT	STANDARD
Density	1.2	g/cm ³	ISO 1183
Melt Flow Rate 190 °C/2.16 kg	10	g/10 min	ISO 1133

MECHANICAL PROPERTIES	VALUE	UNIT	STANDARD
Tensile Strength, 23 °C	21	MPa	ISO 527
Tensile Strain at Break, 23 °C	75	%	ISO 527
Tensile Modulus, 23 °C	1600	MPa	ISO 527
Tensile Stress at Yield, 23 °C	21	MPa	ISO 527
Tensile Strain at Yield, 23 °C	4.5	%	ISO 527
Charpy Impact Strength Notched, 23 °C	-	kJ/m ²	ISO 179
Charpy Impact Strength Notched, - 20 °C	12	kJ/m ²	ISO 179

THERMAL PROPERTIES	VALUE	UNIT	STANDARD
Heat Deflection Temperature, Method A, 1.8 MPa	46	°C	ISO 75
Vicat softening point, 10 N, 50 °C / h	71	°C	ISO 306

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PROCESSING ADVICE



PROCESSING CONDITIONS FOR INJECTION MOULDING¹

SHRINKAGE	VALUE	UNIT
Linear Mould Shrinkage	-	%

PRE-DRYING	VALUE	UNIT
Pre-drying Temperature	40 - 60	°C
Pre-drying Time ²	12 - 24	h

PROCESSING TEMPERATURES	VALUE	UNIT
Feeding zone	25 -30	°C
Zone 1	165- 175	°C
Zone 2	175 -190	°C
Zone 3	185 – 200	°C
Nozzle	190 – 205	°C
Mould Temperature	35 - 40	°C

PROCESSING PARAMETERS	VALUE	UNIT
Screw Speed	Low-Medium	rpm
Injection Speed	Medium	rpm
Back Pressure	0.6 - 1	MPa
Holding Pressure (half of injection pressure)	50	%

¹These general guidelines are only to use as reference. Exact settings must follow the product and machine conditions. ²Pre-drying to < 0.025% moisture content is recommended to avoid property losses.

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PROCESSING ADVICE



MACHINE CLEANING

After processing BrightBio® LOIMU-D11, the machinery should be purged with polypropylene to clean the machinery. For further technical information, please contact our tech support, support@brightplus.com, with your specific processing requirements.

STORAGE, DRYING AND HANDLING

It is recommended to store BrightBio® LOIMU-D11 in its closed, original packaging in a normal room temperature. Storage in direct sunlight and in humid conditions should be avoided. It is recommended to dry BrightBio® LOIMU-D11 carefully before processing. Please notice, that a very long drying time in combination with high temperature may cause degradation and agglomeration of pellets.

PRODUCT SAFETY

Please, refer to the material safety datasheet (MSDS) of BrightBio® LOIMU-D11 for detailed information.

DISCLAIMER

The information in this Data Sheet is given according to our best knowledge at the date shown in footer. These are only typical values and actual product specification may deviate at industrial range. The information is guidance for safe handling, use, processing, and storage. The customer himself is required to verify whether the product is suitable for the further processing or application intended and whether the product complies with the relevant statutory requirements. This data sheet is for informative purpose only and all specifications need to be discussed and agreed with Brightplus Oy separately.