

ArcBiox™ materials are bio-based and/or biodegradable compounds. These high-performance materials provide sustainable green alternatives for demanding technical applications.

## Description

BioPBS (Polybutylene succinate) with 30% degradable long glass fiber reinforcement for injection moulding

## Features

- Medium temperature resistance
- Good stiffness and strength
- Good scratch resistance

## Applications

- Consumer electronic housing
- Houseware
- Furniture
- Accessories

Property, Test Condition	Standard	Unit	Values
<b>Mechanical Properties</b>			
Flexural Strength, 23 °C	ISO 178	MPa	139
Flexural Modulus, 23 °C	ISO 178	MPa	4910
Izod Notched Impact Strength, 23 °C	ISO 180/A	kJ/m <sup>2</sup>	34
Izod Unnotched, 23 °C	ISO 180/A	kJ/m <sup>2</sup>	70
Charpy Notched Impact Strength, 23° C	ISO 179/1eA	kJ/m <sup>2</sup>	30
Charpy Unnotched, 23 °C	ISO 179/1eU	kJ/m <sup>2</sup>	76
Tensile Stress at Yield, 23 °C	ISO 527	MPa	97
Tensile Strain at Yield, 23 °C	ISO 527	%	3,2
Tensile Stress at Break, 23 °C	ISO 527	MPa	97
Tensile Strain at Break, 23 °C	ISO 527	%	3,2
Tensile Modulus	ISO 527	MPa	5820
Ball indentation hardness	ISO 2039	N/mm <sup>2</sup>	108 (HB 358)
<b>Thermal Properties</b>			
Vicat Softening Temperature VST/B/50 (50N, 50 °C/h)	ISO 306	°C	110
Heat Deflection Temperature A; (1,8 MPa) *	ISO 75	°C	109
Heat Deflection Temperature B; (0,45 MPa)	ISO 75	°C	114
<b>Other Properties</b>			
Density	ISO 1183	g/cm <sup>3</sup>	1,50

Typical values for uncolored products. The properties stated above are not for specification purposes.

\* Mold temperature 30°C

ArcBiox™ materials are bio-based and/or biodegradable compounds. These high-performance materials provide sustainable green alternatives for demanding technical applications.

## Processing

ArcBiox™ materials must be always dried before processing with dehumidifying dryer, due to fact that insufficient drying before processing will cause loss of mechanical properties. Please note that a combination of a very long drying time and high temperature may cause degradation and agglomeration of pellets and may cause yellowing.

Property, Test Condition	Standard	Unit	Values
<b>Processing</b>			
Linear Mold Shrinkage (Note 2.)		%	0,2-0,5
Melt Temperature Range		°C	180-200
Feed Throat		°C	30-50
Feed Temperature		°C	180-200
Compression Section		°C	180-200
Metering Section		°C	180-200
Nozzle		°C	180-200
Mold Temperature Range		°C	20-40
Injection Velocity		mm/s	low / medium
Back Pressure		bar	5-10
Screw Surface Speed		m / s	< 0,3 / low
Drying Temperature, Dew point -40°C (Note 1.)		°C	80
Drying Time		h	5

Note 1. Moisture content less than 0,025% (250 ppm) is recommended to prevent loss of mechanical properties.

Note 2. Shrinkage value is measured from test part (4x70x150mm) that is moulded at 30°C mould temperature.

Change-over point should be always checked visually by setting holding pressure to 0 bar/MPa to avoid over filling and flashes. Part should be 95 – 98% filled before changing to holding pressure.

Use low MFR Polypropylene to clean the screw and barrel.

**DISCLAIMER:** The product(s) mentioned herein are not intended and are restricted to be used for medical, pharmaceutical or healthcare applications. Determining the suitability of these materials for any applications, complying with legal requirements for any such applications, are the sole responsibility and obligation of anyone purchasing these materials for such applications. The information in this Data Sheet is given according to our best knowledge at the date shown in footer. The information is guidance for safe handling, use, processing and storage. This data sheet is for informative purpose only and all specifications need to be discussed and agreed with Arctic Biomaterials Oy separately.

ARCTIC BIOMATERIALS OY MAKES NO WARRANTY, EXPRESS OR IMPLIED, REGARDING THE INFORMATION CONTAINED HEREIN OR ITS PRODUCTS, INCLUDING BUT NOT LIMITED TO ANY WARRANTY AS TO ACCURACY OR COMPLETENESS OF INFORMATION, OR ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.