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

ABM COMPOSITE
Arctic Biomaterials

ArcBiox™ BGF30-JA

Technical data sheet

Description

Partially bio-based high heat resistant material for injection moulding

Features

- High heat resistance
- Good stiffness
- Bio content 20%

Applications

- Applications requiring high heat and mechanical strength

Property, Test Condition	Standard	Unit	Values
Mechanical Properties			
Flexural Strength, 23 °C	ISO 178	MPa	180
Flexural Modulus, 23 °C	ISO 178	MPa	8800
Izod Notched Impact Strength, 23 °C	ISO 180/A	kJ/m²	22
Izod Unnotched, 23 °C	ISO 180/A	kJ/m²	29
Charpy Notched Impact Strength, 23° C	ISO 179/1eA	kJ/m²	21
Charpy Unnotched, 23 °C	ISO 179/1eU	kJ/m²	24
Tensile Stress at Yield, 23 °C	ISO 527	MPa	99
Tensile Strain at Yield, 23 °C	ISO 527	%	1
Tensile Stress at Break, 23 °C	ISO 527	MPa	105
Tensile Strain at Break, 23 °C	ISO 527	%	1
Tensile Modulus	ISO 527	MPa	9120
Ball Indentation Hardness	ISO 2039	N/mm²	190 (HB 961)
Thermal Properties			
Vicat Softening Temperature VST/B/50 (50N, 50 °C/h)	ISO 306	°C	170
Heat Deflection Temperature A; (1,8 MPa) *	ISO 75	°C	210
Other Properties			
Density	ISO 1183	g/cm³	1,50

Typical values for uncolored products. The properties stated above are not for specification purposes.
* Mold temperature 80°C

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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
Processing			
Linear Mold Shrinkage (Note 2.)		%	0,3-0,5
Melt Temperature Range		°C	240-260
Feed Throat		°C	40-60
Feed Temperature		°C	240-260
Compression Section		°C	240-260
Metering Section		°C	240-260
Nozzle		°C	240-260
Mold Temperature Range		°C	80-100
Injection Velocity		mm/s	low - medium
Screw surface speed		m/s	<0,3 / low
Back Pressure		bar	5-10
Drying Temperature, Dew point -40°C (Note 1.)		°C	120
Drying Time		h	4-5

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 80°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.