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™ MFA20-B2000

Technical data sheet

Description

PLA-based compound with mineral reinforcement for injection moulding

Features

- Cold mould and fast cycle
- Good temperature resistance
- Manufactured from certified compostable plastic according to the EN 13432 standard
- Suitable for food contact
- Bio-based content 75%

Applications

- Cosmetics
- Food containers
- Good alternative for PP materials

Property, Test Condition	Standard	Unit	Values
Mechanical Properties			
Flexural Strength, 23 °C	ISO 178	MPa	79
Flexural Modulus, 23 °C	ISO 178	MPa	3980
Izod Notched Impact Strength, 23 °C	ISO 180/A	kJ/m²	5
Izod Unnotched, 23 °C	ISO 180/A	kJ/m²	36
Charpy Notched Impact Strength, 23° C	ISO 179/1eA	kJ/m²	5
Charpy Unnotched, 23 °C	ISO 179/1eU	kJ/m²	44
Tensile Stress at Yield, 23 °C	ISO 527	MPa	45
Tensile Strain at Yield, 23 °C	ISO 527	%	3
Tensile Stress at Break, 23 °C	ISO 527	MPa	28
Tensile Strain at Break, 23 °C	ISO 527	%	10
Tensile Modulus	ISO 527	MPa	4500
Ball Indentation Hardness	ISO 2039-1	N/mm²	125 (HB 358)
Thermal Properties			
Vicat Softening Temperature VST/B/50 (50N, 50 °C/h)	ISO 306	°C	77
Heat Deflection Temperature A; (1.8 MPa) *	ISO 75	°C	57
Heat Deflection Temperature B; (0.45 MPa)	ISO 75	°C	83
Other Properties			
Density	ISO 1183	g/cm³	1,4
Melt flow rate (200 °C / 5 kg)	ISO 1133	g/10min	29

Typical values for uncolored products. The properties stated above are not for specification purposes.
* Mold temperature 30°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.)	ISO 294-4	%	0,2-0,5
Melt Temperature Range		°C	180-200
Feed Throat		°C	30-50
Feed Temperature		°C	170-190
Compression Section		°C	180-200
Metering Section		°C	180-200
Nozzle		°C	180-200
Mold Temperature Range		°C	20-40
Injection Velocity		mm/s	medium
Back Pressure		bar	10-20
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.