

The ABMcomposite technology offers bio-based and biodegradable high-performance ArcBiox™ compounds, which can replace oil-based plastics, such as PE, PP, ABS, PS and glass-reinforced PA, PP, PC and PBT.

ArcBiox™ A-series



Key features

- Impact resistant PLA based grades with a **bio-content of 80-95%**
- Designed for injection moulding but also suitable for sheet extrusion
- Grades for food contact applications available
- Heat resistance (HDTb) up to 100 °C with a hot mould (110 °C) and 50-60 °C with a cold mould (20-30 °C)
- Alternative for ABS, PS, PS-HI

Applications

Technical semi-durable products

Property, Test Condition	Standard	Unit	ArcBioX™ A-series Impact resistant PLA based ArcBioX™-grades		
			A1001 Mould 110 °C (Mould 30 °C)	A1005 Mould 110 °C (Mould 30 °C)	A2004 Mould 110 °C (Mould 30 °C)
Mechanical Properties					
Flexural Strength, 23 °C	ISO 178	MPa	98 (79)	87 (81)	92 (84)
Flexural Modulus, 23 °C	ISO 178	MPa	3760 (3580)	3550 (2960)	3600 (3000)
Izod Notched Impact Strength, 23 °C	ISO 180/A	kJ/m ²	28 (9)	55 (19)	50 (7)
Izod Unnotched, 23 °C	ISO 180/U	kJ/m ²	125 (38)	NB (NB)	NB (100)
Charpy Notched Impact Strength, 23 °C / -30 °C	ISO 179/1eA	kJ/m ²	30 / - (7 / 5)	60 / - (20 / 12)	- / - (7 / 6)
Charpy Unnotched, 23 °C / -30 °C	ISO 179/1eU	kJ/m ²	130 / - (65 / 62)	NB / - (NB / 90)	- / - (NB / 80)
Tensile Stress at Yield, 23 °C	ISO 527	MPa	50 (47)	46 (50)	50 (50)
Tensile Strain at Yield, 23 °C	ISO 527	%	2 (2)	2 (2)	2 (2)
Tensile Stress at Break, 23 °C	ISO 527	MPa	40 (5)	37 (10)	37 (30)
Tensile Strain at Break, 23 °C	ISO 527	%	13 (>10)	>5 (>5)	12 (>5)
Tensile Modulus	ISO 527	MPa	3640 (3050)	3400 (2950)	3500 (3000)
Ball Indentation Hardness	ISO 2039-1	N/mm ²	190 / HB 961 (-)	178 / HB 961 (145 / HB 358)	-
Thermal Properties					
Vicat Softening Temperature VST/B/50 (50N, 50°C/h)	ISO 306	°C	90 (-)	85 (57)	-
Heat Deflection Temperature A; (1.8 MPa)	ISO 75	°C	64 (-)	63 (50)	-
Heat Deflection Temperature B; (0.45 MPa)	ISO 75	°C	100 (53)	80 (53)	70 (53)
Other Properties					
Density	ISO 1183	g/cm ³	1,2	1,2	1,2
Melt Flow Rate [190 °C & 2.16 kg / 200 C & 5 kg]	ISO 1133	g/10 min	- / 6	- / 11	- / 10
Linear Mould Shrinkage*	ISO 294-4	%	1,0-1,3 ¹⁾	1,4-1,6 ¹⁾	0,5-0,9 ¹⁾
Biocontent			≈88%	≈90%	≈90%
Food approval**			No	No	Yes
Compostability***	EN 13432		No	No	No

The properties stated above are not for specification purposes.

Values have been measured with samples produced with mould temperature 30°C if not otherwise stated

* Shrinkage value is measured from test part (4x70x150mm) that is moulded at 30°C mould temperature if not otherwise stated. ¹⁾Moulded at 110 °C.

** Please contact your ABM Sales or Technical representative for further information

*** Grades are manufactured from certified compostable plastics according to the EN 13432 standard

ABM -World's strongest biodegradable composite materials

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