

AKROMID® PRELIMINARY

NEXT U28 ICF 30 1 black (8233)

PA11 CF30

AKROMID® NEXT U28 ICF 30 1 black (8233) is a Polyamide 11 reinforced with 30% recycled carbon fibre. The PA 11 is made from castor seed oil (bio-based content > 92%). The compound's low density as well as excellent ductility even at lower temperatures combined with high stiffness and strength enable the use for demanding applications, e.g., for lightweight construction or sports & leisure.

Features

heat stabilised 130 recycled content reduced density reduced moisture 3D printing / additive manufacturing

Sports & leisure lightweight construction

Properties

Modulus

15.300 MPa

Strength

165 MPa

Impact

75 kJ/m²

Sustainability

Biobased carbon content 52 %

Recycled content 30 %

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

15300 MPa

1 mm/min | conditioned

10900 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

165 MPa

5 mm/min | conditioned

140 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

4,8 %

5 mm/min | conditioned

4,8 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

15000 MPa

2 mm/min | conditioned

12000 MPa

Flexural strength	2 mm/min d.a.m.	260 MPa
ISO 178	2 mm/min conditioned	220 MPa
Flexural strain at break	2 mm/min d.a.m.	3,7 %
ISO 178	2 mm/min conditioned	4,2 %
Charpy impact strength	23°C d.a.m.	75 kJ/m²
ISO 179-1/1eU	23°C conditioned	70 kJ/m²
	-30°C d.a.m.	70 kJ/m²
	-30°C conditioned	65 kJ/m²
Charpy notched impact strength	23°C d.a.m.	13 kJ/m²
ISO 179-1/1eA	23°C conditioned	12 kJ/m²
	-30°C d.a.m.	9 kJ/m²
	-30°C conditioned	8 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A	1,8 MPa	180 °C
ISO 75		
Melting temperature	DSC, 10K/min	189 °C
ISO 11357-3		

General Properties

Density	23°C	1,22 g/cm³
ISO 1183		
Humidity absorption	70°C, 62% r.H.	0,7 - 0,9 %
ISO 1110		
Water absorption	23°C, saturated	1,3 - 1,7 %
ISO 62		
Molding shrinkage	flow	0,3 - 0,5 %
ISO 294-4	transverse	0,7 - 0,9 %

Processing

The values mentioned are recommendations. We only recommend desiccant / dry air dryers or vacuum dryers. Too long a drying time and the resulting residual moisture content below the lower limit can lead to filling problems and surface defects. The specified drying time refers to closed and undamaged bagged material. When processing from previously opened bags or from octabins with polyolefin inliners, a longer drying time may be necessary. It is recommended to check the residual moisture content after the drying process.



D	Drying time	0 - 4 h
	Drying temperature ($\tau \leq -30^{\circ}\text{C}$)	80 °C
	Processing moisture	0,02 - 0,1 %
1	Feed section	60 - 80 °C
2	Temperature Zone 1 - Zone 4	240 - 300 °C
3	Nozzle temperature	230 - 300 °C
4	Melt temperature	240 - 290 °C
5	Mold temperature	80 - 100 °C
→	Holding pressure, spec.	300 - 800 bar
←	Back pressure, spec.	50 - 150 bar
	Injection speed	medium to high
	Screw speed	8 - 15 m/min