

AKROMID®

A3 ICF 40 black (5116)

PA66 CF40

AKROMID® A3 ICF 40 black (5116) is a high-performance Polyamide 6.6 with 40% carbon fiber reinforcement, offering exceptional stiffness and flexural strength. Compared to glass fiber-reinforced PA 6.6, it provides an optimized strength-to-weight ratio. Thanks to its low density and high mechanical durability, this material is ideal for load-bearing components in the automotive industry, such as lightweight structural parts, as well as for sports and leisure applications, including high-stress sports equipment and technical components.

Features

- recycled content
- reduced density
- antistatic/conductive
- tribological modified
- Sports & leisure
- lightweight construction

Properties



Sustainability

Recycled content	40 %
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Mechanical Properties

Tensile modulus ISO 527-2	1 mm/min d.a.m.	33000 MPa
	1 mm/min conditioned	20000 MPa
Tensile stress at break ISO 527-2	5 mm/min d.a.m.	270 MPa
	5 mm/min conditioned	200 MPa
Tensile strain at break ISO 527-2	5 mm/min d.a.m.	1,5 %
	5 mm/min conditioned	2,5 %
Flexural modulus ISO 178	2 mm/min d.a.m.	30000 MPa
	2 mm/min conditioned	22000 MPa
Flexural strength ISO 178	2 mm/min d.a.m.	370 MPa
	2 mm/min conditioned	300 MPa

Flexural strain at break	2 mm/min d.a.m.	1,8 %
ISO 178	2 mm/min conditioned	2,5 %
Charpy impact strength	23°C d.a.m.	60 kJ/m²
ISO 179-1/1eU	23°C conditioned	70 kJ/m²
	-30°C d.a.m.	55 kJ/m²
Charpy notched impact strength	23°C d.a.m.	9 kJ/m²
ISO 179-1/1eA	23°C conditioned	12 kJ/m²
	-30°C d.a.m.	7 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A	1,8 MPa	255 °C
ISO 75		
Temperature of deflection under load HDT/B	0,45 MPa	265 °C
ISO 75		
Temperature of deflection under load HDT/C	8 MPa	235 °C
ISO 75		
Melting temperature	DSC, 10K/min	262 °C
ISO 11357-3		
Temperature index for 50% loss of tensile strength	5.000 h	155 °C
IEC 60216	20.000 h	130 °C
Thermal conductivity		0,47 W/mK
DIN 52612		

Flammability

Flammability	1,6 mm Wall thickness	HB Class
UL 94		
Burning rate (<100 mm/min)	> 1 mm Thickness	+
FMVSS 302		

General Properties

Density	23°C	1,34 g/cm³
ISO 1183		

Humidity absorption

ISO 1110

70°C, 62% r.H.

1,5 %

Molding shrinkage

ISO 294-4

flow

0,1 - 0,3 %

transverse

0,4 - 0,6 %

Electrical Properties

Surface resistivity

IEC 62631-3-2

d.a.m.

10³ Ω

conditioned

10³ Ω

Rheological Properties

Flowability

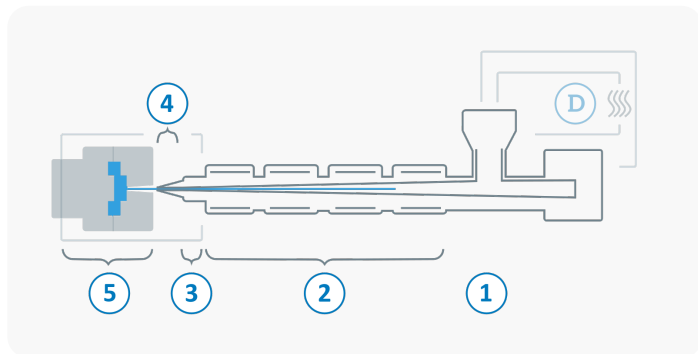
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2 mm Thickness

360 mm

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	260 - 310 °C
3	Nozzle temperature	270 - 310 °C
4	Melt temperature	280 - 310 °C
5	Mold temperature	80 - 140 °C
→	Holding pressure, spec.	300 - 800 bar
←	Back pressure, spec.	50 -150 bar
	Injection speed	medium to high
	Screw speed	8 - 15 m/min

Diagrams

