

AKROMID®

A3 ICF 20 black (5102)

PA66 CF20

AKROMID® A3 ICF 20 black (5102) is a high-performance Polyamide 6.6 with 20% carbon fiber reinforcement, offering high 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 20 %

Mechanical Properties

Tensile modulus ISO 527-2	1 mm/min d.a.m.	16000 MPa
	1 mm/min conditioned	9500 MPa
Tensile stress at break ISO 527-2	5 mm/min d.a.m.	190 MPa
	5 mm/min conditioned	135 MPa
Tensile strain at break ISO 527-2	5 mm/min d.a.m.	2,5 %
	5 mm/min conditioned	4 %
Flexural modulus ISO 178	2 mm/min d.a.m.	14000 MPa
Flexural strength ISO 178	2 mm/min d.a.m.	280 MPa

Flexural strain at break ISO 178	2 mm/min d.a.m.	3 %
Charpy impact strength ISO 179-1/1eU	23°C d.a.m.	50 kJ/m²
	23°C conditioned	60 kJ/m²
	-30°C d.a.m.	40 kJ/m²
Charpy notched impact strength ISO 179-1/1eA	23°C d.a.m.	6 kJ/m²
	23°C conditioned	8 kJ/m²
	-30°C d.a.m.	4 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A ISO 75	1,8 MPa	250 °C
Melting temperature ISO 11357-3	DSC, 10K/min	262 °C
Thermal conductivity DIN 52612		0,34 W/mK

Flammability

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

General Properties

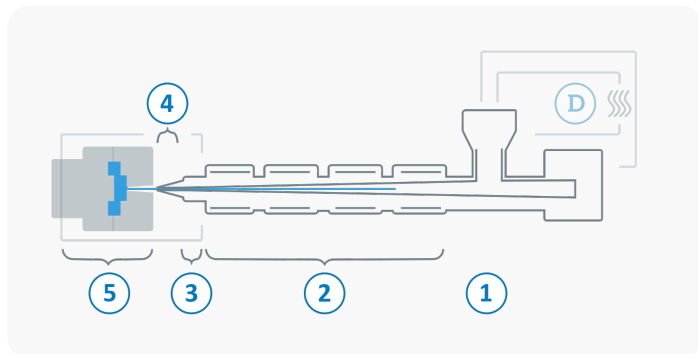
Density ISO 1183	23°C	1,23 g/cm³
Humidity absorption ISO 1110	70°C, 62% r.H.	2,2 - 2,4 %
Molding shrinkage ISO 294-4	flow	0,2 - 0,4 %
	transverse	0,6 - 0,8 %

Electrical Properties

Surface resistivity	d.a.m.	10⁴ Ω
IEC 62631-3-2	conditioned	10⁴ Ω

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

