

# AKROMID®

## B3 ICF 20 black (5103)

PA6 CF20

AKROMID® B3 ICF 20 black (5103) is a high performance Polyamide 6 with 20% carbon fiber reinforcement, offering medium stiffness and flexural strength. Compared to glass fiber-reinforced PA 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

Modulus

13.500 MPa

Strength

150 MPa

Impact

55 kJ/m<sup>2</sup>

## Sustainability

Recycled content 20 %

## Mechanical Properties

<b>Tensile modulus</b> ISO 527-2	1 mm/min   d.a.m.	<b>13500 MPa</b>
	1 mm/min   conditioned	<b>7000 MPa</b>
<b>Tensile stress at break</b> ISO 527-2	5 mm/min   d.a.m.	<b>150 MPa</b>
	5 mm/min   conditioned	<b>100 MPa</b>
<b>Tensile strain at break</b> ISO 527-2	5 mm/min   d.a.m.	<b>2,5 %</b>
	5 mm/min   conditioned	<b>6 %</b>
<b>Flexural modulus</b> ISO 178	2 mm/min   d.a.m.	<b>12000 MPa</b>
	2 mm/min   conditioned	<b>7000 MPa</b>
<b>Flexural strength</b> ISO 178	2 mm/min   d.a.m.	<b>240 MPa</b>
	2 mm/min   conditioned	<b>155 MPa</b>

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<b>Flexural strain at break</b>	2 mm/min   d.a.m.	<b>3 %</b>
ISO 178	2 mm/min   conditioned	<b>5 %</b>

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<b>Charpy impact strength</b>	23°C   d.a.m.	<b>55 kJ/m<sup>2</sup></b>
ISO 179-1/1eU	23°C   conditioned	<b>70 kJ/m<sup>2</sup></b>
	-30°C   d.a.m.	<b>52 kJ/m<sup>2</sup></b>

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<b>Charpy notched impact strength</b>	23°C   d.a.m.	<b>7 kJ/m<sup>2</sup></b>
ISO 179-1/1eA	23°C   conditioned	<b>13 kJ/m<sup>2</sup></b>
	-30°C   d.a.m.	<b>5 kJ/m<sup>2</sup></b>

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## Thermal Properties

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<b>Temperature of deflection under load HDT/A</b>	1,8 MPa	<b>202 °C</b>
ISO 75		

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<b>Melting temperature</b>	DSC, 10K/min	<b>220 °C</b>
ISO 11357-3		

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## Flammability

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<b>Flammability</b>	1,6 mm Wall thickness	<b>HB Class</b>
UL 94		

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## General Properties

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<b>Density</b>	23°C	<b>1,22 g/cm<sup>3</sup></b>
ISO 1183		

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<b>Humidity absorption</b>	70°C, 62% r.H.	<b>2,6 %</b>
ISO 1110		

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<b>Molding shrinkage</b>	flow	<b>0,1 %</b>
ISO 294-4	transverse	<b>0,6 %</b>

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## Electrical Properties

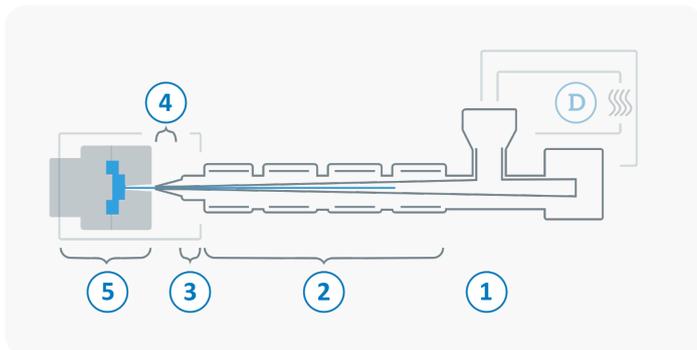
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<b>Surface resistivity</b>	d.a.m.	<b>10<sup>4</sup> Ω</b>
IEC 62631-3-2	conditioned	<b>10<sup>4</sup> Ω</b>

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## 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.



<b>D</b>	Drying time	0 - 4 h
	Drying temperature ( $\tau \leq -30^{\circ}\text{C}$ )	80 °C
	Processing moisture	0,02 - 0,1 %
<b>1</b>	Feed section	60 - 80 °C
<b>2</b>	Temperature Zone 1 - Zone 4	240 - 300 °C
<b>3</b>	Nozzle temperature	270 - 300 °C
<b>4</b>	Melt temperature	270 - 300 °C
<b>5</b>	Mold temperature	80 - 130 °C
<b>→</b>	Holding pressure, spec.	300 - 800 bar
<b>←</b>	Back pressure, spec.	50 - 150 bar
	Injection speed	medium to high
	Screw speed	8 - 15 m/min