

AKROMID®

B3 GF 50 black (4907)

PA6 GF50

AKROMID® B3 GF 50 black (4907) is a 50% glass fibre reinforced high-flow polyamide 6 with very high rigidity and strength. The material is suitable for technical components in mechanical engineering, automotive industry as well as construction industry.

Features

easy flow

Properties

Modulus

17.000 MPa

Strength

240 MPa

Impact

100 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

17000 MPa

1 mm/min | conditioned

11000 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

240 MPa

5 mm/min | conditioned

160 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

3 %

5 mm/min | conditioned

5 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

16000 MPa

2 mm/min | conditioned

11000 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

360 MPa

2 mm/min | conditioned

250 MPa

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

100 kJ/m²

23°C | conditioned

105 kJ/m²

-30°C | d.a.m.

90 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

20 kJ/m²

23°C | conditioned

23 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A ISO 75	1,8 MPa	220 °C
Temperature of deflection under load HDT/B ISO 75	0,45 MPa	220 °C
Temperature of deflection under load HDT/C ISO 75	8 MPa	185 °C
Melting temperature ISO 11357-3	DSC, 10K/min	220 °C
Coefficient of linear thermal expansion ISO 11359-1/2	23°C to 80°C parallel	0,11 10 ⁻⁴ /K
	23°C to 80°C transverse	0,94 10 ⁻⁴ /K
Temperature index for 50% loss of tensile strength IEC 60216	5.000 h	150 - 165 °C
	20.000 h	120 - 140 °C

Flammability

Flammability UL 94	1,6 mm Wall thickness	HB Class
GWFI IEC 60695-2-12	1,6 mm Wall thickness	650 °C
Burning rate (<100 mm/min) FMVSS 302	> 1 mm Thickness	+

General Properties

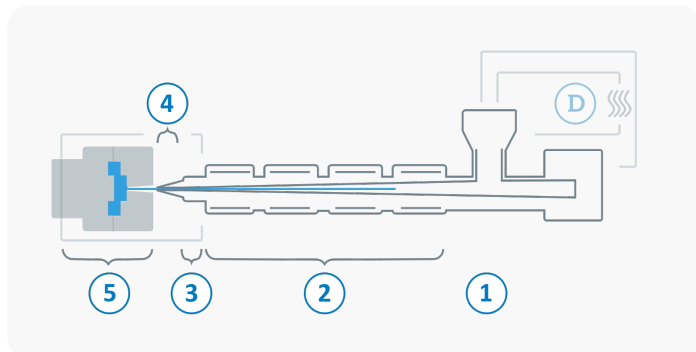
Density ISO 1183	23°C	1,56 g/cm ³
Humidity absorption ISO 1110	70°C, 62% r.H.	1,3 - 1,6 %
Water absorption ISO 62	23°C, saturated	4,5 - 5,1 %
Molding shrinkage ISO 294-4	flow	0,1 - 0,3 %
	transverse	0,4 - 0,6 %

Electrical Properties

Volume resistivity IEC 62631-3-1	d.a.m.	$10^{13} \Omega \times \text{cm}$
Surface resistivity IEC 62631-3-2	d.a.m.	$10^{12} \Omega$
Comparative tracking index IEC 60112	Test liquid A	550 V

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 - 290 °C
3	Nozzle temperature	260 - 300 °C
4	Melt temperature	270 - 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

Diagrams

