

AKROMID®

B3 GF 50 1 black (20008)

PA6 GF50

AKROMID® B3 GF 50 black (20008) is a 50% glass fiber reinforced polyamide 6. It is characterised by a very high stiffness and strength. Furthermore, the material is heat stabilised and therefore perfectly suitable for technical parts in industrial engineering and in the automotive industry, e.g. strut bearings.

Features

heat stabilised 130

Properties

Modulus

17.000 MPa

Strength

210 MPa

Impact

80 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.

210 MPa

5 mm/min | conditioned

140 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.

16200 MPa

2 mm/min | conditioned

11000 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

310 MPa

2 mm/min | conditioned

210 MPa

Flexural strain at break

ISO 178

2 mm/min | d.a.m.

3 %

2 mm/min | conditioned

5 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

80 kJ/m²

23°C | conditioned

88 kJ/m²

-30°C | d.a.m.

83 kJ/m²

Charpy notched impact strength	23°C d.a.m.	14 kJ/m²
ISO 179-1/1eA	23°C conditioned	22 kJ/m²
	-30°C d.a.m.	10 kJ/m²

Ball indentation hardness	961N/30s d.a.m.	270 MPa
ISO 2039-1		

Thermal Properties

Temperature of deflection under load HDT/A	1,8 MPa	220 °C
ISO 75		

Temperature of deflection under load HDT/B	0,45 MPa	220 °C
ISO 75		

Temperature of deflection under load HDT/C	8 MPa	185 °C
ISO 75		

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

Coefficient of linear thermal expansion	23°C to 80°C parallel	0,11 10⁻⁴/K
ISO 11359-1/2	23°C to 80°C transverse	0,94 10⁻⁴/K

Temperature index for 50% loss of tensile strength	5.000 h	160 - 175 °C
IEC 60216	20.000 h	130 - 150 °C

Flammability

Flammability	1,6 mm Wall thickness	HB Class
UL 94		

GWFI	1,6 mm Wall thickness	650 °C
IEC 60695-2-12		

Burning rate (<100 mm/min)	> 1 mm Thickness	+
FMVSS 302		

General Properties

Density	23°C	1,56 g/cm³
ISO 1183		

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.

$10^{13} \Omega \times \text{cm}$

conditioned

$10^{10} \Omega \times \text{cm}$

Surface resistivity

IEC 62631-3-2

d.a.m.

$10^{12} \Omega$

conditioned

$10^{10} \Omega$

Comparative tracking index

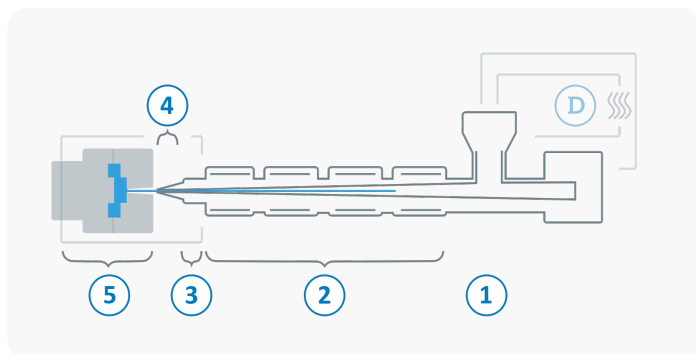
IEC 60112

Test liquid A

600 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

