

AKROMID®

B3 GF 50 4 RM-M black (3221)

PA6+X GF50

AKROMID® B3 GF 50 4 RM-M black (3221) is a 50% glass fiber reinforced polyamide 6, which is distinguished by outstanding surface properties even though its high glass fiber content. Due to its lower moisture uptake, the material is characterised by less mechanical changes in the conditioned state. Furthermore, it is chemically stabilised and therefore perfectly suitable for components in the automotive industry with demands for high resistance against CaCl₂ solvents.

Features

hydrolysis / chemically stabilised surface modified reduced moisture

Properties

Modulus

16.500 MPa

Strength

210 MPa

Impact

75 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

16500 MPa

1 mm/min | conditioned

13000 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

210 MPa

5 mm/min | conditioned

160 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

2 %

5 mm/min | conditioned

2,7 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

16800 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

320 MPa

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

75 kJ/m²

23°C | conditioned

75 kJ/m²

-30°C | d.a.m.

60 kJ/m²

-30°C | conditioned

60 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

20 kJ/m²

23°C | conditioned

20 kJ/m²

-30°C | d.a.m.

16 kJ/m²

-30°C | conditioned

20 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A

ISO 75

1,8 MPa

205 °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

0,1 10⁻⁴/K

23°C to 80°C | transverse

0,93 10⁻⁴/K

Flammability

Flammability

UL 94

0,8 mm Wall thickness

HB Class

Burning rate (<100 mm/min)

FMVSS 302

> 1 mm Thickness

+

General Properties

Density

ISO 1183

23°C

1,6 g/cm³

Humidity absorption

ISO 1110

70°C, 62% r.H.

1,1 - 1,3 %

Molding shrinkage

ISO 294-4

flow

0,1 - 0,3 %

transverse

0,4 - 0,6 %

Rheological Properties

Flowability

AKRO

1 mm Thickness

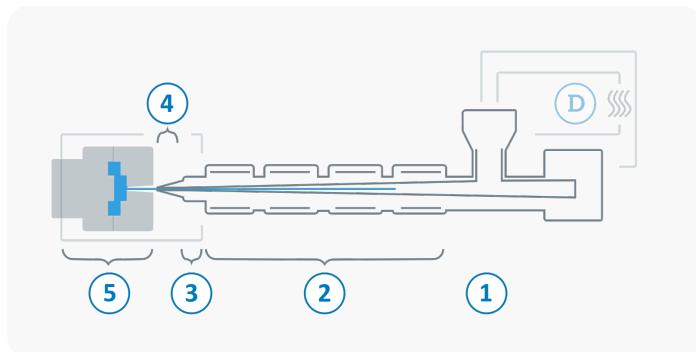
180 mm

2 mm Thickness

550 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	220 - 280 °C
3	Nozzle temperature	240 - 290 °C
4	Melt temperature	240 - 280 °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