

PA6 – Polyamide 6 PA6 GF50

AKROMID® B3 GF 50 1 black (2488)

Tensile modulus

17000 MPa

1 mm/min

ISO 527-2

Stress at break

230 MPa

5 mm/min

ISO 527-2

Charpy impact strength

100 kJ/m²

23°C

ISO 179-1/1eU

AKROMID® B3 GF 50 1 black (2488) is a 50% glass fibre reinforced, heat ageing resistant polyamide 6 with very high rigidity and strength

Typical applications

Mainly components in mechanical engineering and in the automotive industry



Mechanical Properties

Tensile modulus (1 mm/min | ISO 527-2)

d.a.m.

17000 MPa

conditioned

10300 MPa

Stress at break (5 mm/min | ISO 527-2)

d.a.m.

230 MPa

conditioned

145 MPa

Strain at break (5 mm/min | ISO 527-2)

d.a.m.

2,5 %

conditioned

4,5 %

Flexural modulus (2 mm/min | ISO 178)

d.a.m.

14900 MPa

Flexural strength (2 mm/min | ISO 178)

d.a.m.

340 MPa

Charpy impact strength (23°C | ISO 179-1/1eU)

d.a.m.

100 kJ/m²

conditioned

110 kJ/m²

Charpy impact strength (-30°C | ISO 179-1/1eU)

d.a.m.

90 kJ/m²

Charpy notched impact strength (23°C | ISO 179-1/1eA)

d.a.m.

20 kJ/m²

conditioned

26 kJ/m²

Charpy notched impact strength (-30°C | ISO 179-1/1eA)

d.a.m.

16 kJ/m²

Ball indentation hardness (961N/30s | ISO 2039-1)

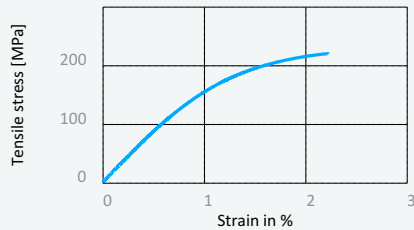
d.a.m.

270 MPa

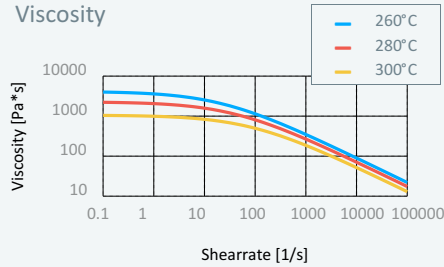
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Stress strain chart at 23°C



Viscosity

**Thermal Properties**

Temperature of deflection under load HDT/A (1,8 MPa ISO 75)	220 °C
Temperature of deflection under load HDT/B (0,45 MPa ISO 75)	220 °C
Temperature of deflection under load HDT/C (8 MPa ISO 75)	185 °C
Melting temperature (DSC, 10K/min DIN EN 11357-1)	220 °C
Coefficient of linear thermal expansion, parallel (23°C bis 80°C ISO 11359-1/2)	0,11 1,0E-4/K
Coefficient of linear thermal expansion, transverse (23°C bis 80°C ISO 11359-1/2)	0,94 1,0E-4/K
Temperature index for 50% loss of tensile strength after 5.000h (5.000 h IEC 60216)	160 - 175 °C
Temperature index for 50% loss of tensile strength after 20.000h (20.000 Std. IEC 60216)	130 - 150 °C

**Flammability**

Burning rate (UL 94) 0,8mm Wall thickness	HB Class
GWFI (IEC 60695-2-12) 1,6mm Wall thickness	650 °C
Burning rate (<100 mm/min) (> 1 mm Thickness FMVSS 302)	+

**General properties**

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

**Electrical Properties**

Volume resistivity (IEC 60093) d.a.m. conditioned	1,0E+13 Ohm x cm 1,0E+10 Ohm x cm
Surface resistivity (acc. to IEC 60093) d.a.m. conditioned	1,0E+12 Ohm 1,0E+10 Ohm
Comparative tracking index (Test liquid A IEC 60112)	600 V

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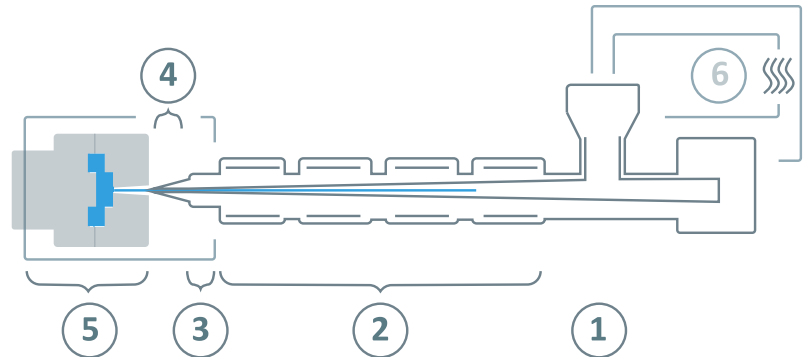
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Processing information

The listed values are recommendations. Higher values should be used for higher glass loadings. We recommend only dehumidifying or vacuum dryers. Extensive drying can cause filling problems and surface defects.



⑥	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	Melting 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

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