

AKROLOY®

PA GF 50 black (2706)

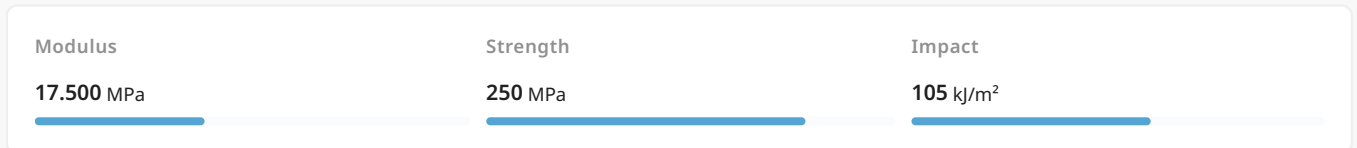
PA66+PA6I/6T GF50

AKROLOY® PA GF 50 black (2706) is a 50% glass fibre reinforced, semi-aromatic polyamide-blend with very high stiffness and strength, even in conditioned state. The advanced version of this Product is AKROLOY® PA GF 50 black (6507) with a modern stabilization technology, featuring improved weld-line strength and an even wider process window.

Features

reduced moisture metal substitution

Properties



Mechanical Properties

Tensile modulus ISO 527-2	1 mm/min d.a.m.	17500 MPa
	1 mm/min conditioned	16500 MPa
Tensile stress at break ISO 527-2	5 mm/min d.a.m.	250 MPa
	5 mm/min conditioned	220 MPa
Tensile strain at break ISO 527-2	5 mm/min d.a.m.	3 %
	5 mm/min conditioned	3 %
Flexural modulus ISO 178	2 mm/min d.a.m.	16400 MPa
Flexural strength ISO 178	2 mm/min d.a.m.	380 MPa
Charpy impact strength ISO 179-1/1eU	23°C d.a.m.	105 kJ/m ²
	23°C conditioned	100 kJ/m ²
	-30°C d.a.m.	95 kJ/m ²
Charpy notched impact strength ISO 179-1/1eA	23°C d.a.m.	17 kJ/m ²
	23°C conditioned	17 kJ/m ²
	-30°C d.a.m.	15 kJ/m ²

Ball indentation hardness

ISO 2039-1

961N/30s | d.a.m.

290 MPa

Thermal Properties

Temperature of deflection under load HDT/A

ISO 75

1,8 MPa

225 °C

Temperature of deflection under load HDT/B

ISO 75

0,45 MPa

245 °C

Melting temperature

ISO 11357-3

DSC, 10K/min

243 °C

Coefficient of linear thermal expansion

ISO 11359-1/2

23°C to 80°C | parallel

0,15 10⁻⁴/K

23°C to 80°C | transverse

0,65 10⁻⁴/K

Temperature index for 50% loss of tensile strength

IEC 60216

5.000 h

140 - 150 °C

20.000 h

110 - 130 °C

Vicat softening temperature B50

ISO 306

50°C/50N

242 °C

Flammability

Flammability

UL 94

0,8 mm Wall thickness

HB Class

GWFI

IEC 60695-2-12

1,6 mm Wall thickness

700 °C

Burning rate (<100 mm/min)

FMVSS 302

> 1 mm Thickness

+

General Properties

Density

ISO 1183

23°C

1,59 g/cm³

Humidity absorption

ISO 1110

70°C, 62% r.H.

1,05 %

Water absorption

ISO 62

23°C, saturated

3,5 - 4 %

Molding shrinkage	flow	0,1 - 0,3 %
ISO 294-4	transverse	0,3 - 0,5 %

Electrical Properties

Surface resistivity	d.a.m.	$10^{17} \Omega$
IEC 62631-3-2		

Comparative tracking index	Test liquid A	600 V
IEC 60112		

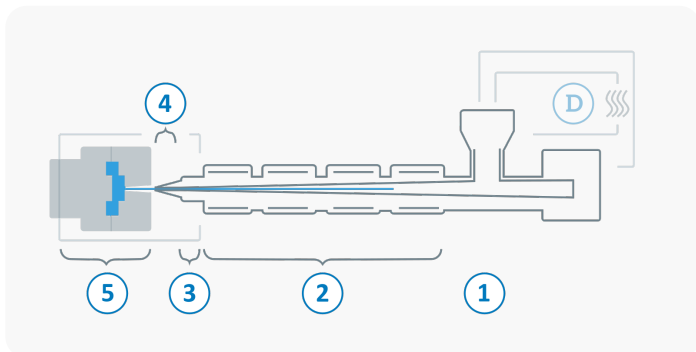
Permittivity	1 MHz	4,42
IEC 60250		

Rheological Properties

MVR	275°C/5kg	9 cm³/10 min
ISO 1133		

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	260 - 300 °C
3	Nozzle temperature	270 - 300 °C
4	Melt temperature	280 - 300 °C
5	Mold temperature	90 - 130 °C
→	Holding pressure, spec.	300 - 800 bar
←	Back pressure, spec.	50 - 150 bar
	Injection speed	medium to high
	Screw speed	8 - 15 m/min