

AKROLOY®

PA FGF 50 black (6546)

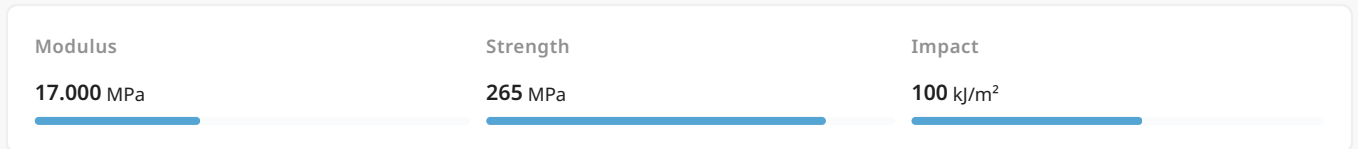
PA66+PA6I/6T FGF50

AKROLOY® PA FGF 50 black (6546) is a 50% flat glass fiber reinforced, semi-aromatic polyamide blend. Due to the flat glass fiber, it is characterised by significantly improved properties 90° to the flow direction as well as low warpage. Even in conditioned state, the material impresses with very high stiffness and strength owing to its lower moisture uptake. The material is perfectly suitable for parts where dimensional stability is required. Furthermore, it can be used as an alternative for aluminium and zinc diecast alloys.

Features

low warpage reduced moisture metal substitution

Properties



Mechanical Properties

Tensile modulus ISO 527-2	1 mm/min d.a.m.	17000 MPa
	1 mm/min conditioned	15500 MPa
Tensile stress at break ISO 527-2	5 mm/min d.a.m.	265 MPa
	5 mm/min conditioned	190 MPa
Tensile strain at break ISO 527-2	5 mm/min d.a.m.	2,5 %
	5 mm/min conditioned	2,5 %
Flexural modulus ISO 178	2 mm/min d.a.m.	17500 MPa
	2 mm/min conditioned	16000 MPa
Flexural strength ISO 178	2 mm/min d.a.m.	400 MPa
	2 mm/min conditioned	390 MPa
Flexural strain at break ISO 178	2 mm/min d.a.m.	2,8 %
	2 mm/min conditioned	2,8 %
Charpy impact strength ISO 179-1/1eU	23°C d.a.m.	100 kJ/m²

Charpy notched impact strength	23°C d.a.m.	20 kJ/m ²
ISO 179-1/1eA		

Thermal Properties

Temperature of deflection under load HDT/A	1,8 MPa	245 °C
ISO 75		

Melting temperature	DSC, 10K/min	255 °C
ISO 11357-3		

Temperature index for 50% loss of tensile strength	5.000 h	150 °C
IEC 60216	20.000 h	115 °C

Flammability

Flammability	1,6 mm Wall thickness	HB Class
UL 94		

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

General Properties

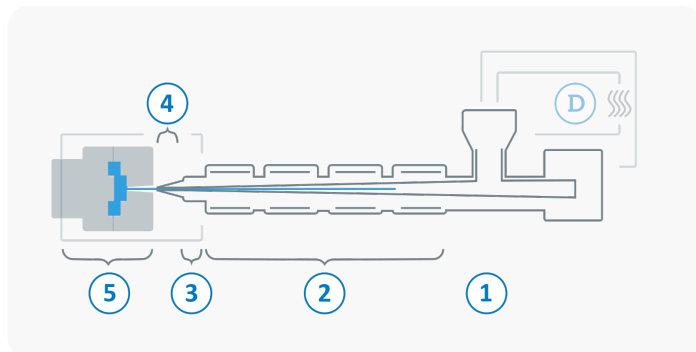
Density	23°C	1,57 g/cm ³
ISO 1183		

Humidity absorption	70°C, 62% r.H.	1,3 - 1,5 %
ISO 1110		

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

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

Diagrams

