

AKROLOY®

PA GF 40 black (6416)

PA66+PA6I/6T GF40

AKROLOY® PA GF 40 black (6416) is a 40% glass fibre reinforced, semi-aromatic polyamide blend with very high stiffness and strength, even in conditioned state.

Properties

Modulus

13.000 MPa

Strength

235 MPa

Impact

95 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

13000 MPa

1 mm/min | conditioned

12500 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

235 MPa

5 mm/min | conditioned

160 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

2,8 %

5 mm/min | conditioned

2,8 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

12500 MPa

2 mm/min | conditioned

12500 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

330 MPa

2 mm/min | conditioned

245 MPa

Flexural strain at break

ISO 178

2 mm/min | d.a.m.

3,1 %

2 mm/min | conditioned

3 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

95 kJ/m²

23°C | conditioned

95 kJ/m²

-30°C | d.a.m.

75 kJ/m²

-30°C | conditioned

75 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

15 kJ/m²

23°C | conditioned

15 kJ/m²

-30°C | d.a.m.

13 kJ/m²

-30°C | conditioned

13 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A

ISO 75

1,8 MPa

237 °C

Temperature of deflection under load HDT/C

ISO 75

8 MPa

173 °C

Melting temperature

ISO 11357-3

DSC, 10K/min

255 °C

Temperature index for 50% loss of tensile strength

IEC 60216

5.000 h

150 °C

20.000 h

115 °C

Flammability

Flammability

UL 94

1,6 mm Wall thickness

HB Class

Burning rate (<100 mm/min)

FMVSS 302

> 1 mm Thickness

+

General Properties

Density

ISO 1183

23°C

1,47 g/cm³

Humidity absorption

ISO 1110

70°C, 62% r.H.

1,6 %

Molding shrinkage

ISO 294-4

flow

0,1 - 0,3 %

transverse

0,4 - 0,6 %

Rheological Properties

Flowability

AKRO

1 mm Thickness

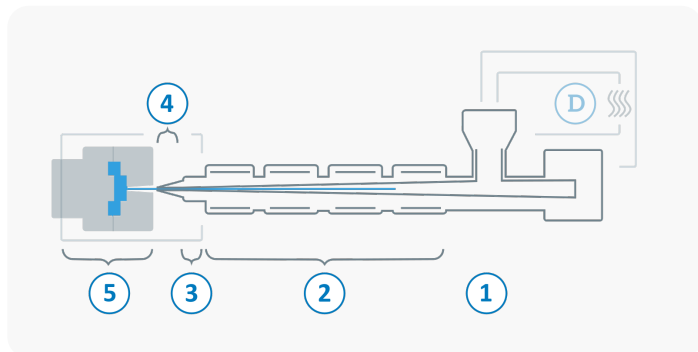
140 mm

2 mm Thickness

400 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	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

