

AKROLOY®

PA ICF 40 black (5270)

PA66+PA6I/6T CF40

AKROLOY® PA ICF 40 black (5270) is a 40% carbon fibre reinforced, UV-stabilised, semi-aromatic polyamide blend with high stiffness, good sliding properties and reduced moisture.

Features

UV-stabilised reduced moisture

Properties

Modulus

32.000 MPa

Strength

250 MPa

Impact

55 kJ/m²

Sustainability

Recycled content 40 %

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

32000 MPa

1 mm/min | conditioned

30000 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

250 MPa

5 mm/min | conditioned

230 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

1,1 %

5 mm/min | conditioned

1,4 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

35000 MPa

2 mm/min | conditioned

33000 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

400 MPa

2 mm/min | conditioned

360 MPa

Flexural strain at break

ISO 178

2 mm/min | d.a.m.

1,5 %

2 mm/min | conditioned

2 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

55 kJ/m²

23°C | conditioned

55 kJ/m²

-30°C | d.a.m.

50 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

7 kJ/m²

23°C | conditioned

7 kJ/m²

-30°C | d.a.m.

7 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A

ISO 75

1,8 MPa

235 °C

Melting temperature

ISO 11357-3

DSC, 10K/min

255 °C

Coefficient of linear thermal expansion

ISO 11359-1/2

23°C to 80°C | parallel

0,4 10⁻⁴/K

23°C to 80°C | transverse

0,7 10⁻⁴/K

Thermal conductivity

DIN 52612

0,45 W/mK

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

1,35 g/cm³

Humidity absorption

ISO 1110

70°C, 62% r.H.

1,3 %

Molding shrinkage

ISO 294-4

flow

0,1 - 0,3 %

transverse

0,3 - 0,5 %

Electrical Properties

Surface resistivity	d.a.m.	10⁴ Ω
IEC 62631-3-2	conditioned	10⁴ Ω

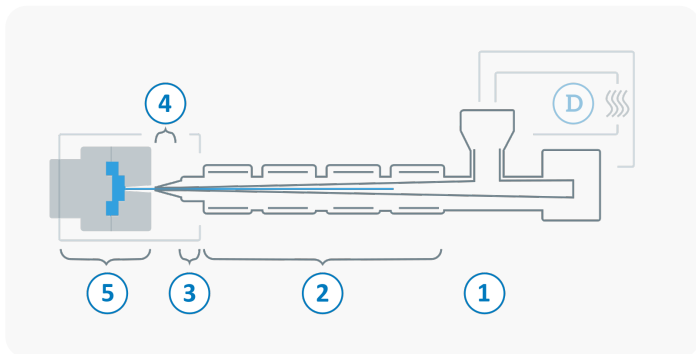
Rheological Properties

Flowability	2 mm Thickness	360 mm
AKRO		

MVR	275°C/5kg	15 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 - 310 °C
3	Nozzle temperature	270 - 310 °C
4	Melt temperature	280 - 310 °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