

PA6.6 – Polyamide 6.6 PA66 + PA6I/6T GF50

AKROLOY® PA GF 50 black (6546)

Tensile modulus

17000 MPa

1 mm/min
ISO 527-2

Stress at break

265 MPa

5 mm/min
ISO 527-2

Charpy impact strength

100 kJ/m²

23°C
ISO 179-1/1eU

AKROLOY® PA GF 50 black (6546) is a 50% flat glass fibre reinforced, semi-aromatic polyamide-blend with very high stiffness and strength, even in conditioned state.

Typical applications

Components with high dimensional stability, independent from moisture content. AKROLOY PA GF 50 black is an alternative for aluminium- and zinc diecast alloys.



Mechanical Properties

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

d.a.m.	17000 MPa
conditioned	15500 MPa

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

d.a.m.	265 MPa
conditioned	190 MPa

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

d.a.m.	2,5 %
conditioned	2,5 %

Flexural modulus (2 mm/min | ISO 178)

d.a.m.	17500 MPa
conditioned	16000 MPa

Flexural strength (2 mm/min | ISO 178)

d.a.m.	400 MPa
conditioned	390 MPa

Flexural strain at break (2 mm/min | ISO 178)

d.a.m.	2,8 %
conditioned	2,8 %

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

d.a.m.	100 kJ/m ²
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Charpy notched impact strength (23°C | ISO 179-1/1eA)

d.a.m.	20 kJ/m ²
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Thermal Properties

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

Melt temperature (DSC, 10K/min | DIN EN 11357-1) 255 °C

Temperature index for 50% loss of tensile strength after 5.000h (5.000 h | IEC 60216) 150 °C

Temperature index for 50% loss of tensile strength after 20.000h (20.000 Std. | IEC 60216) 115 °C



Flammability

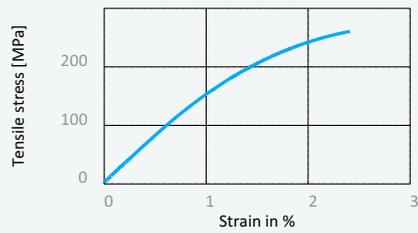
Burning rate (UL 94)
1,6mm Wall thickness HB Class

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

Disclaimer:

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Stress strain chart at 23°C



General properties

Density (23°C ISO 1183)	1,57 g/cm ³
Humidity absorption (70°C, 62% r.H. ISO 1110)	1,4 %
Molding shrinkage (flow ISO 294-4)	0,1-0,3 %
Molding shrinkage (transverse ISO 294-4)	0,3-0,5 %

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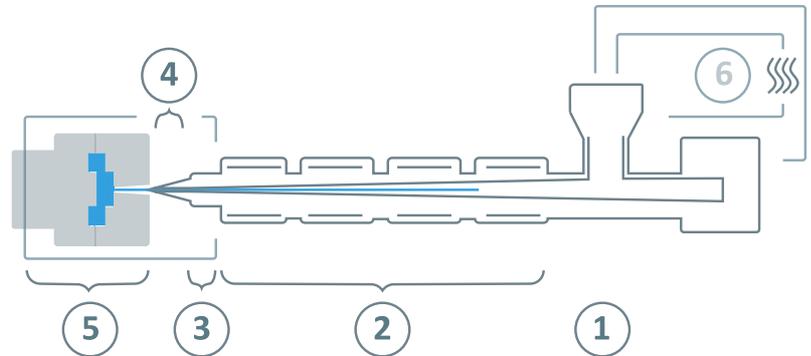
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Processing information

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	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

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