

PPA – Polyphthalamide PPA GF50

AKROMID® T5 GF 50 black (6247)

Tensile modulus

20000 MPa

1 mm/min

ISO 527-2

Stress at break

280 MPa

5 mm/min

ISO 527-2

Charpy impact strength

90 kJ/m²

23°C

ISO 179-1/1eU

High Performance grade.

AKROMID® T5 GF 50 black (6247) is a 50% glass fibre reinforced polyphthalamide with heat stabilization, very high rigidity and strength, as well as high temperature and chemical resistance.

This aromatic PPA keeps mechanical performance even at elevated temperatures or moisture pick-up

Typical applications

Dimensionally stable and rigid parts for engineered automotive, industrial or electrical applications requiring strength and durability even at high temperatures or moist conditions.



Mechanical Properties

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

d.a.m.

20000 MPa

conditioned

20000 MPa

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

d.a.m.

280 MPa

conditioned

280 MPa

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

d.a.m.

2,1 %

conditioned

2,1 %

Poisson's ratio (0,05 % - 0,25 % | ISO 527-2)

d.a.m.

0,42

Flexural modulus (2 mm/min | ISO 178)

d.a.m.

19000 MPa

conditioned

19000 MPa

Flexural strength (2 mm/min | ISO 178)

d.a.m.

440 MPa

conditioned

380 MPa

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

d.a.m.

2,6 %

conditioned

2,6 %

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

d.a.m.

90 kJ/m²

conditioned

83 kJ/m²

Charpy impact strength (-30°C | ISO 179-1/1eU)

d.a.m.

75 kJ/m²

conditioned

75 kJ/m²

Charpy impact strength (-40°C | ISO 179-1/1eU)

d.a.m.

70 kJ/m²

conditioned

65 kJ/m²

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

d.a.m.

13 kJ/m²

conditioned

13 kJ/m²

Charpy notched impact strength (-30°C | ISO 179-1/1eA)

d.a.m.

12 kJ/m²

conditioned

11 kJ/m²

Charpy notched impact strength (-40°C | ISO 179-1/1eA)

d.a.m.

12 kJ/m²

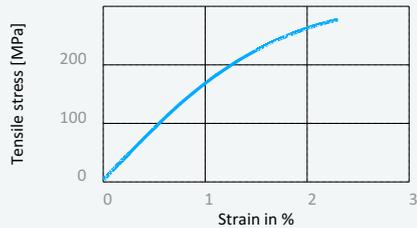
conditioned

11 kJ/m²

Disclaimer:

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Stress strain chart at 23°C

**Thermal Properties**

Temperature of deflection under load HDT/A (1,8 MPa ISO 75)	280 °C
Temperature of deflection under load HDT/C (8 MPa ISO 75)	237 °C
Glass transition temperature (DSC, 2nd heating DIN EN 11357-1)	135 °C
Melt temperature (DSC, 10K/min DIN EN 11357-1)	325 °C
Coefficient of linear thermal expansion, parallel (23°C bis 80°C ISO 11359-1/2)	0,14 1,0E-4/K
Coefficient of linear thermal expansion, transverse (23°C bis 80°C ISO 11359-1/2)	0,47 1,0E-4/K
Temperature index for 50% loss of tensile strength after 20.000h (20.000 Std. IEC 60216)	155 °C

**Flammability**

Burning rate (UL 94) 1,6mm Wall thickness	HB Class
Burning rate (<100 mm/min) (> 1 mm Thickness FMVSS 302)	+

**General properties**

Density (23°C ISO 1183)	1,65 g/cm ³
Humidity absorption (70°C, 62% r.H. ISO 1110)	0,8 %
Molding shrinkage (flow ISO 294-4)	0,1-0,3 %
Molding shrinkage (transverse ISO 294-4)	0,4-0,6 %

**Rheological Properties**

Flowability (1mm Thickness AKRO)	100 mm
Flowability (2mm Thickness AKRO)	280 mm

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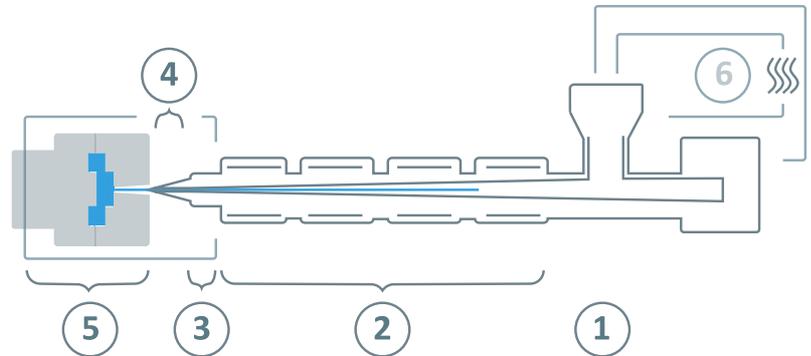
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Processing information

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 ($\tau \leq -30^\circ\text{C}$)	120°C
	Processing moisture	0,02 - 0,1%
①	Feed section	60 - 90°C
②	Temperature zone 1 - Zone 4	320 - 350°C
③	Nozzle temperature	330 - 350°C
④	Melt temperature	330 - 350°C
⑤	Mold temperature	120 - 160°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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