

AKROLOY®

PARA GF 50 HU black (8596)

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AKROLOY® PARA GF 50 HU black (8596) is a 50% glass fibre reinforced polyarylamid with very high stiffness and strength, even in conditioned state. Even in conditioned state, it impresses with very high stiffness and strength owing to its lower moisture uptake. Furthermore, the material shows very good flowability and surface properties. It is perfectly suitable for parts where dimensional stability is required. Besides, it can be used as an alternative for aluminium and zinc diecast alloys. The material is listed at UL in all colors.

Features

reduced moisture easy flow metal substitution

Regulatory



Properties

Modulus

19.700 MPa

Strength

295 MPa

Impact

78 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

19700 MPa

1 mm/min | conditioned

19700 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

295 MPa

5 mm/min | conditioned

270 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

2,0 %

5 mm/min | conditioned

2,0 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

78 kJ/m²

23°C | conditioned

90 kJ/m²

-30°C | d.a.m.

60 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

15 kJ/m²

23°C | conditioned

14 kJ/m²

-30°C | d.a.m.

17 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A ISO 75	1,8 MPa	230 °C
Temperature of deflection under load HDT/C ISO 75	8 MPa	200 °C
Glass transition temperature ISO 11357-2	DSC, 2nd heating	87 °C
Melting temperature ISO 11357-3	DSC, 10K/min	238 °C

Flammability

Flammability UL 94	UL 0,8 mm Wall thickness	HB Class
	UL 1,6 mm Wall thickness	HB Class
	UL 3,2 mm Wall thickness	HB Class
HWI UL 746A	UL 0,8 mm Wall thickness	4 PLC
	UL 1,6 mm Wall thickness	2 PLC
	UL 3,2 mm Wall thickness	2 PLC
HAI UL 746A	UL 0,8 mm Wall thickness	0 PLC
	UL 1,6 mm Wall thickness	0 PLC
	UL 3,2 mm Wall thickness	0 PLC
Burning rate (<100 mm/min) FMVSS 302	> 1 mm Thickness	+

General Properties

Density ISO 1183	23°C	1,65 g/cm ³
Humidity absorption ISO 1110	70°C, 62% r.H.	0,7 - 0,9 %
Water absorption ISO 62	23°C, saturated	3,5 %
Molding shrinkage ISO 294-4	flow	0,1 - 0,2 %
	transverse	0,2 - 0,4 %

Electrical Properties

Comparative tracking index IEC 60112	Test liquid A	600 V
Comparative tracking index ASTM D3638		0 PLC

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	4 - 12 h
	Drying temperature ($\tau \leq -30^{\circ}\text{C}$)	80 - 90 °C
	Processing moisture	0,02 - 0,1 %
1	Feed section	60 - 80 °C
2	Temperature Zone 1 - Zone 4	250 - 300 °C
3	Nozzle temperature	270 - 300 °C
4	Melt temperature	270 - 300 °C
5	Mold temperature	120 - 160 °C
→	Holding pressure, spec.	300 - 1500 bar
←	Back pressure, spec.	50 -150 bar
	Injection speed	high
	Screw speed	8 - 10 m/min

Diagrams

