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AKROMID® UL PRELIMINARY
A3 GF 50 HU black (6666)

PA66 GF50

AKROMID® A3 GF 50 HU black (6666) is a 50 % glass fibre reinforced PA 6.6.. It is characterised by very high stiffness and strength. Furthermore, the material is electrical neutral heat stabilised and therefore perfectly suitable for technical parts in industrial engineering and in the automotive industry. Additionally, it is listed at UL HB in all colors.

Features

heat stabilised 130 | electrically neutral | E&E | Sports & leisure | E-Mobility

Regulatory

Properties

Modulus	Strength	Impact
18.000 MPa	**255** MPa	**105** kJ/m²

Mechanical Properties

Tensile modulus ISO 527-2	1 mm/min | d.a.m. 1 mm/min | conditioned	**18000 MPa** **12700 MPa**
Tensile stress at break ISO 527-2	5 mm/min | d.a.m. 5 mm/min | conditioned	**255 MPa** **180 MPa**
Tensile strain at break ISO 527-2	5 mm/min | d.a.m. 5 mm/min | conditioned	**2,8 %** **3,5 %**
Charpy impact strength ISO 179-1/1eU	23°C | d.a.m.	**105 kJ/m²**
Charpy notched impact strength ISO 179-1/1eA	23°C | d.a.m.	**20 kJ/m²**

Thermal Properties

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RTI electrical UL 746B	UL 0,4mm Wall thickness	125 °C
	UL 0,8mm Wall thickness	125 °C
	UL 1,6mm Wall thickness	130 °C
	UL 3,2mm Wall thickness	130 °C
RTI impact UL 746B	UL 0,8mm Wall thickness	120 °C
	UL 1,6mm Wall thickness	120 °C
	UL 3,2mm Wall thickness	120 °C
RTI strength UL 746B	UL 0,8mm Wall thickness	130 °C
	UL 1,6mm Wall thickness	130 °C
	UL 3,2mm Wall thickness	130 °C
Temperature of deflection under load HDT/A ISO 75	1,8 MPa	260 °C
Temperature of deflection under load HDT/B ISO 75	0,45 MPa	260 °C
Melting temperature ISO 11357-3	DSC, 10K/min	262 °C
Coefficient of linear thermal expansion ISO 11359-1/2	23°C to 80°C | parallel	0,14 10^{-4}/K
	23°C to 80°C | transverse	1,25 10^{-4}/K
Temperature index for 50% loss of tensile strength IEC 60216	5.000 h	155 °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
GWFI IEC 60695-2-12	0,8 mm Wall thickness	700 °C
	1,6 mm Wall thickness	700 °C
	3,2 mm Wall thickness	700 °C
HWI UL 746A	UL 0,4 mm Wall thickness	4 PLC
	UL 0,8 mm Wall thickness	4 PLC
	UL 1,6 mm Wall thickness	4 PLC
	UL 3,2 mm Wall thickness	4 PLC

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HAI UL 746A	UL 0,4 mm Wall thickness	0 PLC
	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	1,56 g/cm³
Humidity absorption ISO 1110	70°C, 62% r.H.	1,3 - 1,5 %
Water absorption ISO 62	23°C, saturated	3,7 - 4,3 %
Molding shrinkage ISO 294-4	flow	0,1 - 0,3 %
	transverse	0,5 - 0,7 %

Electrical Properties

Volume resistivity IEC 62631-3-1	UL d.a.m.	10^{11} Ω x cm
Comparative tracking index ASTM D3638	UL	0 PLC
Dielectric strength IEC 60243	UL 3 mm	12 kV/mm
High voltage arc tracking rate (HVTR) UL 746A	UL	1 PLC
High Volt, Low Current Arc Resistance ASTM D495	UL	5 PLC

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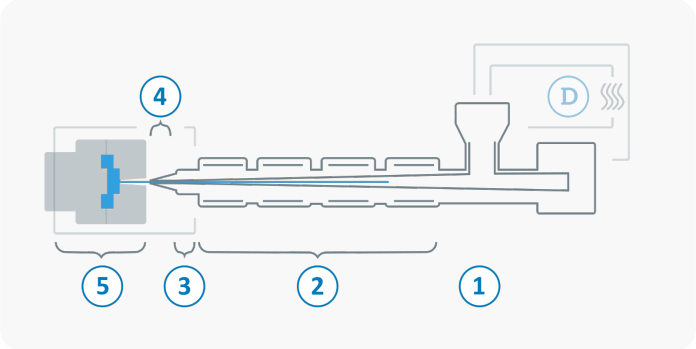
Processing

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 (τ <= -30°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 - 310 °C
4	Melt temperature	280 - 300 °C
5	Mold temperature	80 - 100 °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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Diagrams