

AKROMID®

A3 GM 20/10 4 WIT black (4529)

PA66 (GF20+GB10)

AKROMID® A3 GM 20/10 4 WIT black (4529) is a 20% glass fiber and 10% glass bead reinforced polyamide 6.6. It is characterized by high rigidity and strength. The material also convinces with a good surface and low tendency to warp and can be processed using a water injection process. In addition, the material is stabilized against hydrolysis and chemicals and is therefore ideally suited, for example, for technical components in the cooling water circuit in the automotive industry.

Features

hydrolysis / chemically stabilised surface modified low warpage fluid injection (GIT/WIT/FIT)

Properties

Modulus

8.200 MPa

Strength

175 MPa

Impact

65 kJ/m²

Sustainability

Recycled content 10 %

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

8200 MPa

1 mm/min | conditioned

5200 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

175 MPa

5 mm/min | conditioned

100 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

3,7 %

5 mm/min | conditioned

11,5 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

7600 MPa

2 mm/min | conditioned

5200 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

260 MPa

2 mm/min | conditioned

170 MPa

Flexural strain at break	2 mm/min d.a.m.	4,6 %
ISO 178	2 mm/min conditioned	7,5 %

Charpy impact strength	23°C d.a.m.	65 kJ/m²
ISO 179-1/1eU	23°C conditioned	80 kJ/m²
	-30°C d.a.m.	50 kJ/m²
	-30°C conditioned	48 kJ/m²

Charpy notched impact strength	23°C d.a.m.	9 kJ/m²
ISO 179-1/1eA	23°C conditioned	9,5 kJ/m²
	-30°C d.a.m.	7 kJ/m²
	-30°C conditioned	6,5 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A	1,8 MPa	240 °C
ISO 75		

Temperature of deflection under load HDT/B	0,45 MPa	260 °C
ISO 75		

Melting temperature	DSC, 10K/min	262 °C
ISO 11357-3		

Flammability

Flammability	0,8 mm Wall thickness	HB Class
UL 94		

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

General Properties

Density	23°C	1,36 g/cm³
ISO 1183		

Humidity absorption	70°C, 62% r.H.	1,9 - 2,1 %
ISO 1110		

Molding shrinkage	flow	0,3 - 0,5 %
ISO 294-4	transverse	0,7 - 0,9 %

Electrical Properties

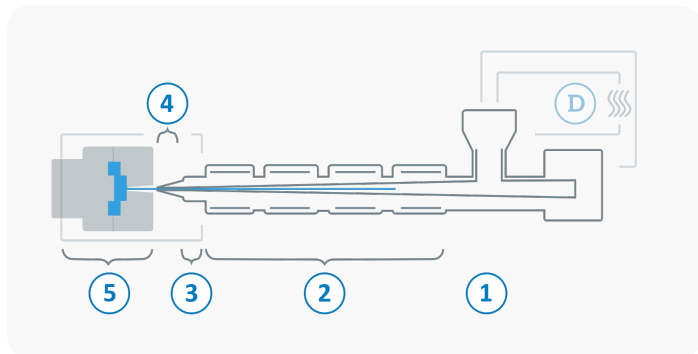
Volume resistivity	d.a.m.	$10^{13} \Omega \times \text{cm}$
IEC 62631-3-1	conditioned	$10^{10} \Omega \times \text{cm}$
Surface resistivity	d.a.m.	$10^{12} \Omega$
IEC 62631-3-2	conditioned	$10^{10} \Omega$

Rheological Properties

MVR	275°C/5kg	$6 \text{ cm}^3/10 \text{ min}$
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 - 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

Diagrams

