

AKROMID®

A3 GM 20/10 S1 black (4817)

PA66-I (GF20+GB10)

AKROMID® A3 GM 20/10 S1 black (4817) is a 20% glass fiber and 10% glass beads reinforced, impact modified PA 6.6. It is characterised by a medium cold impact strength as well as a good surface appearance and low warpage. It is therefore perfectly suitable for technical demanding components in the mechanical engineering and automotive industry.

Features

impact modified surface modified low warpage

Properties

Modulus

6.900 MPa

Strength

130 MPa

Impact

80 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

6900 MPa

1 mm/min | conditioned

4200 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

130 MPa

5 mm/min | conditioned

85 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

4 %

5 mm/min | conditioned

10 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

6900 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

205 MPa

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

80 kJ/m²

23°C | conditioned

80 kJ/m²

-30°C | d.a.m.

76 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

15 kJ/m²

23°C | conditioned

16 kJ/m²

-30°C | d.a.m.

8 kJ/m²

Ball indentation hardness	358N/30s d.a.m.	127 MPa
ISO 2039-1		

Thermal Properties

Temperature of deflection under load HDT/A	1,8 MPa	245 °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		

Coefficient of linear thermal expansion	23°C to 80°C parallel	0,27 10⁻⁴/K
ISO 11359-1/2	23°C to 80°C transverse	1,11 10⁻⁴/K

Flammability

Flammability	1,6 mm Wall thickness	HB Class
UL 94		

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

General Properties

Density	23°C	1,31 g/cm³
ISO 1183		

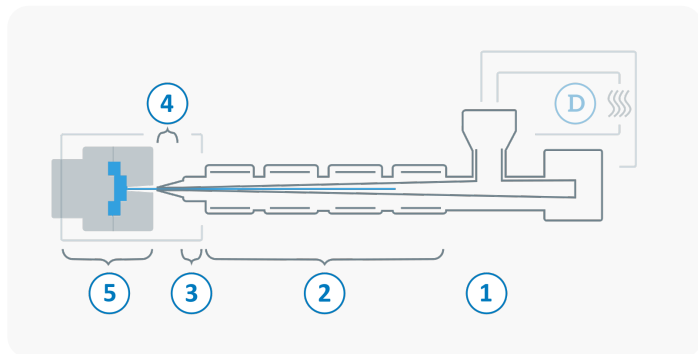
Humidity absorption	70°C, 62% r.H.	2 %
ISO 1110		

Water absorption	23°C, saturated	5,1 %
ISO 62		

Molding shrinkage	flow	0,5 %
ISO 294-4	transverse	1,3 %

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

