

AKROMID®

B28 GF 35 9 FR black (8189)

PA6 GF35 FR(40)

AKROMID® B28 GF 35 9 FR black (8189) is a flame retardant PA6 with 35% glass fibres. The flame retardant system is free of red phosphorus and halogens, leading to optimised electrical properties for e-mobility applications. This grade is UL listed with a V0 classification at 1.6mm. Due to its very good flowability, it is characterised by easy processability as well as good surface properties. The material has excellent long-term thermal stability and outstanding mechanical properties.

Features

heat stabilised 130 electrically neutral flame retardant

easy flow E&E E-Mobility

Regulatory



Properties

Modulus

12.600 MPa

Strength

152 MPa

Impact

70 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

12600 MPa

1 mm/min | conditioned

8300 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

152 MPa

5 mm/min | conditioned

108 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

2,6 %

5 mm/min | conditioned

4,0 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

11800 MPa

2 mm/min | conditioned

9000 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

240 MPa

2 mm/min | conditioned

179 MPa

Flexural strain at break

ISO 178

2 mm/min | d.a.m.

2,8 %

2 mm/min | conditioned

3,6 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

70 kJ/m²

-30°C | d.a.m.

70 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

12 kJ/m²

23°C | conditioned

14 kJ/m²

-30°C | d.a.m.

11 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A

ISO 75

UL 1,8 MPa

211 °C

Melting temperature

ISO 11357-3

DSC, 10K/min

220 °C

Temperature index for 50% loss of tensile strength

IEC 60216

5.000 h

165 °C

20.000 h

135 °C

Flammability

Flammability

UL 94

UL 1,6 mm Wall thickness

V-0 Class

UL 3,2 mm Wall thickness

V-0 Class

GWFI

IEC 60695-2-12

0,8 mm Wall thickness

960 °C

1,6 mm Wall thickness

850 °C

HWI

UL 746A

UL 1,6 mm Wall thickness

0 PLC

UL 3,2 mm Wall thickness

0 PLC

HAI

UL 746A

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

1,46 g/cm³

Humidity absorption

ISO 1110

70°C, 62% r.H.

1,6 - 1,8 %

Molding shrinkage	flow	0,1 - 0,3 %
ISO 294-4	transverse	0,5 - 0,7 %

Electrical Properties

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

Surface resistivity	UL d.a.m.	$10^{12} \Omega$
IEC 62631-3-2		

Comparative tracking index	Test liquid A	600 V
IEC 60112		

Comparative tracking index	UL	0 PLC
ASTM D3638		

Dielectric strength	UL 3 mm	22 kV/mm
IEC 60243		

Inclined-Plane Tracking, IPT	UL	1,5 kV
ASTM D2303-13		

High voltage arc tracking rate (HVTR)	UL	1 PLC
UL 746A		

High Volt, Low Current Arc Resistance	UL	4 PLC
ASTM D495		

Rheological Properties

Flowability	1 mm Thickness	120 mm
AKRO	2 mm Thickness	410 mm

MVR	275°C/5kg	40 cm ³ /10 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	2 - 4 h
	Drying temperature ($\tau \leq -30^{\circ}\text{C}$)	80 °C
	Processing moisture	0,02 - 0,08 %
1	Feed section	60 - 80 °C
2	Temperature Zone 1 - Zone 4	220 - 280 °C
3	Nozzle temperature	240 - 280 °C
4	Melt temperature	240 - 280 °C
5	Mold temperature	60 - 100 °C
→	Holding pressure, spec.	300 - 800 bar
←	Back pressure, spec.	30 - 100 bar
	Injection speed	medium
	Screw speed	5 - 10 m/min