

AKROMID®

B3 GF 30 FR natural (7458)

PA6 GF30 FR(40)

AKROMID® B3 GF 30 FR natural (7458) is a 30 % glass fiber reinforced, flame-retardant PA6. Listed to UL 94 in all colors, the material is based on a flame retardant system that is free of red phosphorus, halogens, melamine, zinc borate and PFAS. This grade is suitable for applications in the automotive and E&E market where a V0 classification is required for thin wall thicknesses. For applications with component thicknesses from 1.6 mm, we recommend our AKROMID® B28 GF 30 9 FR natural (8069).

Features

heat stabilised 130 flame retardant E&E E-Mobility

Regulatory



Properties

Modulus

10.800 MPa

Strength

135 MPa

Impact

65 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

10800 MPa

1 mm/min | conditioned

6500 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

135 MPa

5 mm/min | conditioned

90 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

3 %

5 mm/min | conditioned

6 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

11300 MPa

2 mm/min | conditioned

7000 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

230 MPa

2 mm/min | conditioned

155 MPa

Flexural strain at break

ISO 178

2 mm/min | d.a.m.

3 %

2 mm/min | conditioned

5 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

65 kJ/m²

23°C | conditioned

70 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

11 kJ/m²

23°C | conditioned

15 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A

ISO 75

1,8 MPa

210 °C

Temperature of deflection under load HDT/B

ISO 75

0,45 MPa

220 °C

Melting temperature

ISO 11357-3

DSC, 10K/min

222 °C

Ball pressure test

IEC 60695-10-2

> 160 °C

Coefficient of linear thermal expansion

ISO 11359-1/2

23°C to 80°C | parallel

0,17 10⁻⁴/K

23°C to 80°C | transverse

0,97 10⁻⁴/K

Flammability

Flammability

UL 94

UL 0,8 mm Wall thickness

V-0 Class

UL 1,6 mm Wall thickness

V-0 Class

UL 3,2 mm Wall thickness

V-0 Class

Burning rate 5V

UL 94

1,6 mm Wall thickness

5VA Class

3,2 mm Wall thickness

5VA Class

GWFI

IEC 60695-2-12

UL 0,4 mm Wall thickness

960 °C

UL 0,8 mm Wall thickness

960 °C

UL 1,6 mm Wall thickness

960 °C

UL 3,2 mm Wall thickness

960 °C

GWIT

IEC 60695-2-13

UL 0,4 mm Wall thickness

800 °C

UL 0,8 mm Wall thickness

800 °C

UL 1,6 mm Wall thickness

800 °C

UL 3,2 mm Wall thickness

775 °C

HWI 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
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	1,39 g/cm³
Humidity absorption ISO 1110	70°C, 62% r.H.	1,4 - 1,6 %
Molding shrinkage ISO 294-4	flow transverse	0,1 - 0,3 % 0,5 - 0,7 %

Electrical Properties

Volume resistivity IEC 62631-3-1	UL d.a.m.	10¹² Ω x cm
Surface resistivity IEC 62631-3-2	d.a.m.	10¹¹ Ω
Comparative tracking index IEC 60112	Test liquid A	600 V
Comparative tracking index ASTM D3638	UL	0 PLC
Dielectric strength IEC 60243	UL 3 mm	9 kV/mm
Inclined-Plane Tracking, IPT ASTM D2303-13	UL	1 kV
High voltage arc tracking rate (HVTR) UL 746A	UL	0 PLC

High Volt, Low Current Arc Resistance

ASTM D495

UL

6 PLC

Rheological Properties

Flowability

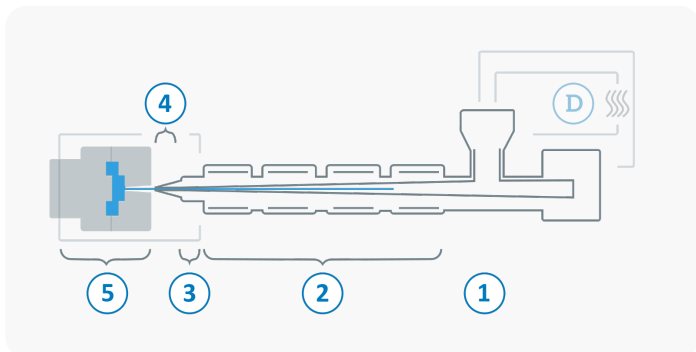
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2 mm Thickness

430 mm

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

Diagrams

