

AKROMID®

A3 GF 30 FR EN black (6654)

PA66 GF30 FR(40)

AKROMID® A3 GF 30 FR EN black (6654) is a 30 % glass fibre reinforced, flame-retardant and heat-stabilized PA6.6, dyed in black similar to RAL 9005. The material is listed by UL in all-colors. It is based on a flame retardant system that is free of red phosphorus, halogens, PFAS, zinc borate and melamine. Due to formulation and production measures, electrical neutrality with regard to halogen compounds < 10 ppm for bromine + iodine can be guaranteed. This product is subject to increased testing. For new applications that do not explicitly require EN quality, please select AKROMID® A3 GF 30 FR black (7751).

Features

heat stabilised 130 electrically neutral flame retardant

E&E household appliances E-Mobility

Regulatory



Properties

Modulus

10.500 MPa

Strength

150 MPa

Impact

67 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

10500 MPa

1 mm/min | conditioned

7600 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

150 MPa

5 mm/min | conditioned

107 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

2,7 %

5 mm/min | conditioned

3,9 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

11500 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

230 MPa

Flexural strain at break

ISO 178

2 mm/min | d.a.m.

2,6 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

67 kJ/m²

23°C | conditioned

70 kJ/m²

-30°C | d.a.m.

61 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

10 kJ/m²

23°C | conditioned

13 kJ/m²

-30°C | d.a.m.

9 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A

ISO 75

1,8 MPa

246 °C

Temperature of deflection under load HDT/B

ISO 75

0,45 MPa

261 °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

0,18 10⁻⁴/K

23°C to 80°C | transverse

0,9 10⁻⁴/K

Temperature index for 50% loss of tensile strength

IEC 60216

5.000 h

155 °C

20.000 h

130 °C

Flammability

Flammability

UL 94

UL 0,4 mm Wall thickness

V-0 Class

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

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

750 °C

UL 0,8 mm Wall thickness

750 °C

UL 1,6 mm Wall thickness

750 °C

UL 3,2 mm Wall thickness

775 °C

HWI	UL 0,4 mm Wall thickness	0 PLC
UL 746A	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 0,4 mm Wall thickness	0 PLC
UL 746A	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)	> 1 mm Thickness	+
FMVSS 302		

General Properties

Density	23°C	1,39 g/cm³
ISO 1183		
Humidity absorption	70°C, 62% r.H.	1,9 - 2,1 %
ISO 1110		
Water absorption	23°C, saturated	5,3 - 5,6 %
ISO 62		
Molding shrinkage	flow	0,1 - 0,3 %
ISO 294-4	transverse	0,7 - 0,9 %

Electrical Properties

Volume resistivity	d.a.m.	10¹⁵ Ω x cm
IEC 62631-3-1	UL conditioned	10¹³ Ω x cm
Comparative tracking index	Test liquid A	600 V
IEC 60112		
Comparative tracking index	UL	0 PLC
ASTM D3638		
Dielectric strength	UL 3 mm	15 kV/mm
IEC 60243		
Inclined-Plane Tracking, IPT	UL	1 kV
ASTM D2303-13		
High voltage arc tracking rate (HVTR)	UL	1 PLC
UL 746A		

High Volt, Low Current Arc Resistance

ASTM D495

UL

6 PLC

Rheological Properties

Flowability

AKRO

1 mm Thickness

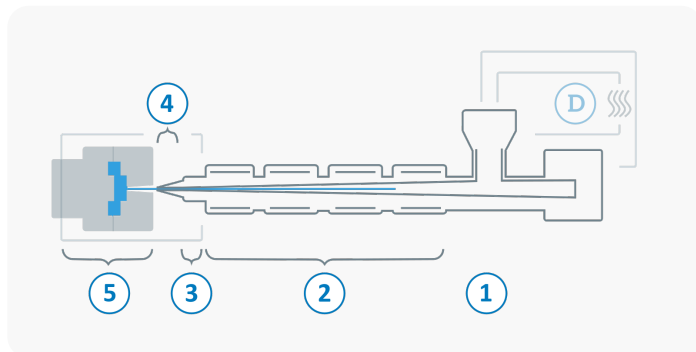
140 mm

2 mm Thickness

440 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	260 - 290 °C
3	Nozzle temperature	260 - 300 °C
4	Melt temperature	270 - 290 °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

