

AKROMID®

C3 GF 25 1 FR black (7246)

PA66+PA6 GF25 FR(40)

AKROMID® C3 GF 25 1 FR black (7246) is a 25 % glass fiber reinforced, flame retardant and heat stabilised PA6/6.6 blend, colored in black. Listed to UL 94 in black V0 @ 0,4 mm and all-colours V0 @ 0,8mm, the material is based on a flame retardant system that is free of red phosphorus, halogens, PFAS and melamine. Due to its good flowability, an improved surface quality is achieved. This grade is also suitable for applications with high strength requirements in the automotive and E&E markets.

Features

heat stabilised 130 flame retardant surface modified

easy flow E&E

Regulatory



Properties

Modulus

9.100 MPa

Strength

137 MPa

Impact

66 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

9100 MPa

1 mm/min | conditioned

6300 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

137 MPa

5 mm/min | conditioned

95 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

3,0 %

5 mm/min | conditioned

5,5 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

8800 MPa

2 mm/min | conditioned

6000 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

225 MPa

2 mm/min | conditioned

160 MPa

Flexural strain at break

ISO 178

2 mm/min | d.a.m.

3,5 %

2 mm/min | conditioned

5 %

Charpy impact strength ISO 179-1/1eU	23°C d.a.m.	66 kJ/m ²
	23°C conditioned	75 kJ/m ²
	-30°C d.a.m.	57 kJ/m ²
Charpy notched impact strength ISO 179-1/1eA	23°C d.a.m.	11 kJ/m ²
	23°C conditioned	15 kJ/m ²

Thermal Properties

RTI electrical UL 746B	UL 0,4mm Wall thickness	140 °C
	UL 0,8mm Wall thickness	150 °C
	UL 1,6mm Wall thickness	150 °C
	UL 3,2mm Wall thickness	150 °C
RTI impact UL 746B	UL 0,4mm Wall thickness	120 °C
	UL 0,8mm Wall thickness	125 °C
	UL 1,6mm Wall thickness	125 °C
	UL 3,2mm Wall thickness	125 °C
RTI strength UL 746B	UL 0,4mm Wall thickness	135 °C
	UL 0,8mm Wall thickness	140 °C
	UL 1,6mm Wall thickness	140 °C
	UL 3,2mm Wall thickness	140 °C
Temperature of deflection under load HDT/A ISO 75	1,8 MPa	225 °C
Temperature of deflection under load HDT/B ISO 75	0,45 MPa	251 °C
Temperature of deflection under load HDT/C ISO 75	8 MPa	168 °C
Melting temperature ISO 11357-3	DSC, 10K/min	262 °C
Ball pressure test IEC 60695-10-2		> 210 °C
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
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	750 °C
	UL 0,8 mm Wall thickness	750 °C
	UL 1,6 mm Wall thickness	750 °C
	UL 3,2 mm Wall thickness	750 °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	1,37 g/cm³
Humidity absorption ISO 1110	70°C, 62% r.H.	1,8 - 2,0 %
Molding shrinkage ISO 294-4	flow	0,1 - 0,3 %
	transverse	0,5 - 0,7 %

Electrical Properties

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

12 kV/mm

Inclined-Plane Tracking, IPT

ASTM D2303-13

UL

1 kV

High voltage arc tracking rate (HVTR)

UL 746A

UL

1 PLC

High Volt, Low Current Arc Resistance

ASTM D495

UL

6 PLC

Rheological Properties

Flowability

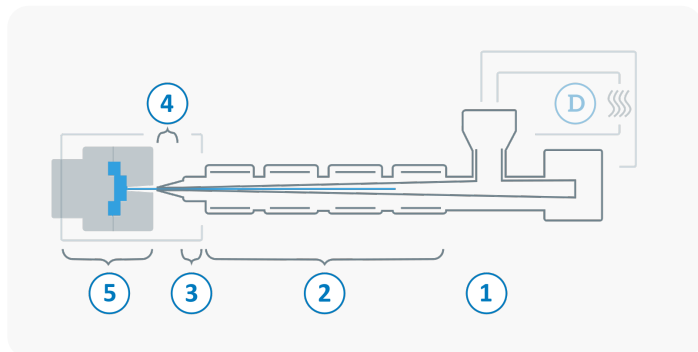
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2 mm Thickness

480 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

