

AKROMID®

C3 GF 30 1 FR black (7243)

PA66+PA6 GF30 FR(40)

AKROMID® C3 GF 30 1 FR black (7243) is a 30 % glass fiber reinforced, flame retardant and heat stabilised PA6/6.6 blend, colored in black similar to RAL 9005. This material is listed in all colors according to UL 94 including excellent RTI values. It is based on a flame retardant system that is free of red phosphorus, PFAS, zinc borate, halogens and melamine. Due to its good flowability, an improved surface quality is achieved. This grade is also suitable E&E applications (e.g. control cabinets) as well as for railroad applications and meets the requirements for public transportation (EN 45545-2 R22/23/24/26 HL3).

Features

heat stabilised 130 electrically neutral flame retardant
easy flow E&E public transportation

Regulatory

EN45545-2



Properties

Modulus

10.800 MPa

Strength

148 MPa

Impact

74 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

10800 MPa

1 mm/min | conditioned

7500 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

148 MPa

5 mm/min | conditioned

105 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

3,0 %

5 mm/min | conditioned

5,3 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

74 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

9 kJ/m²

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	725 °C
	UL 0,8 mm Wall thickness	725 °C
	UL 1,6 mm Wall thickness	725 °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	+
Protection Train EN 45545-2	R22/R23/R24/R26 HL3	

General Properties

Density ISO 1183	23°C	1,42 g/cm ³
Humidity absorption ISO 1110	70°C, 62% r.H.	1,6 - 1,8 %
Molding shrinkage ISO 294-4	flow	0,1 - 0,3 %
	transverse	0,6 - 0,8 %

Electrical Properties

Volume resistivity IEC 62631-3-1	d.a.m.	10 ¹² Ω x cm
Comparative tracking index IEC 60112	Test liquid A	600 V

Comparative tracking index

ASTM D3638

UL

0 PLC

Dielectric strength

IEC 60243

UL 1 mm

24,6 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

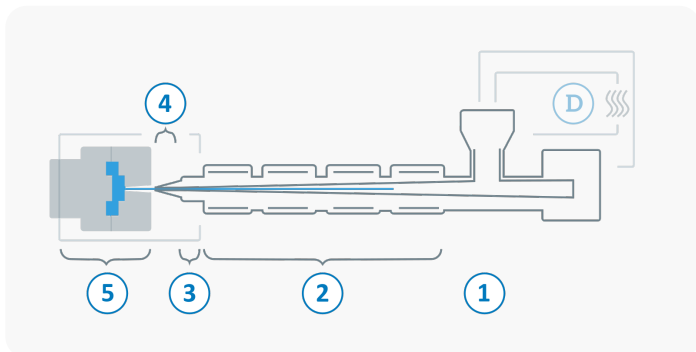
AKRO

2 mm Thickness

460 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

