

AKROMID®

NEXT C3 GF 30 1 FR black (7243BMBCI)

PA66+PA6 GF30 FR(40)

AKROMID® C3 GF 30 1 FR black (7243BMBCI) is a 30 % glass fiber reinforced, flame retardant and heat stabilised PA6/6.6 blend, colored in black similar to RAL 9005. The flame retardant system is free of halogens, red phosphorus, PFAS 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). The material is certified according to ISCC PLUS. 94 % of the fossil raw materials required for manufacturing this product were replaced by sustainable biomass-balanced PA and FR (Allocation factor).

Features

biomass balanced heat stabilised 130 electrically neutral

flame retardant easy flow E&E public transportation

Sports & leisure E-Mobility

Regulatory

EN45545-2



Properties

Modulus

10.800 MPa

Strength

148 MPa

Impact

74 kJ/m²

Sustainability

Allocation factor

only valid for ISCC PLUS/REDcert² certified products

94 %

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

0,4mm Wall thickness

140 °C

0,8mm Wall thickness

150 °C

1,6mm Wall thickness

150 °C

3,2mm Wall thickness

150 °C

RTI impact

UL 746B

0,4mm Wall thickness

120 °C

0,8mm Wall thickness

125 °C

1,6mm Wall thickness

125 °C

3,2mm Wall thickness

125 °C

RTI strength

UL 746B

0,4mm Wall thickness

135 °C

0,8mm Wall thickness

140 °C

1,6mm Wall thickness

140 °C

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	0,4 mm Wall thickness	V-0 Class
	0,8 mm Wall thickness	V-0 Class
	1,6 mm Wall thickness	V-0 Class
	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	0,4 mm Wall thickness	960 °C
	0,8 mm Wall thickness	960 °C
	1,6 mm Wall thickness	960 °C
	3,2 mm Wall thickness	960 °C
GWIT IEC 60695-2-13	0,4 mm Wall thickness	725 °C
	0,8 mm Wall thickness	725 °C
	1,6 mm Wall thickness	725 °C
	3,2 mm Wall thickness	775 °C
HWI UL 746A	0,4 mm Wall thickness	0 PLC
	0,8 mm Wall thickness	0 PLC
	1,6 mm Wall thickness	0 PLC
	3,2 mm Wall thickness	0 PLC
HAI UL 746A	0,4 mm Wall thickness	0 PLC
	0,8 mm Wall thickness	0 PLC
	1,6 mm Wall thickness	0 PLC
	3,2 mm Wall thickness	0 PLC
Burning rate (<100 mm/min) FMVSS 302	> 1 mm Thickness	+

General Properties

Density ISO 1183	23°C	1,42 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	d.a.m.	10¹² Ω x cm
IEC 62631-3-1		

Comparative tracking index	Test liquid A	600 V
IEC 60112		

Comparative tracking index		0 PLC
ASTM D3638		

Dielectric strength	1 mm	24,6 kV/mm
IEC 60243		

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

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

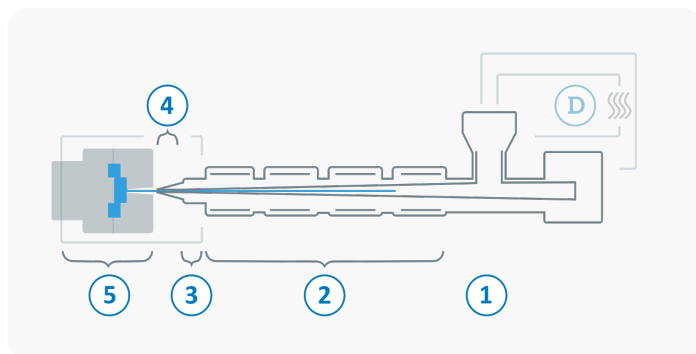
High Volt, Low Current Arc Resistance		6 PLC
ASTM D495		

Rheological Properties

Flowability	2 mm Thickness	460 mm
AKRO		

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