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AKRO COMPOUNDS

Compound No.: **null**

AKROMID®
NEXT C3 GF 25 1 FR natural (7208BMBCI)

PA66+PA6 GF25 FR(40)

AKROMID® C3 GF 25 1 FR natural (7208BMBCI) is a 25 % glass fiber reinforced, flame retardant and heat stabilised PA6/6.6 blend. 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 for applications with high strength requirements in the automotive and E&E markets. The material is certified according to ISCC PLUS. 96 % 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 | flame retardant | easy flow | E&E

Regulatory

ISCC International Sustainability & Carbon Certification

Properties

Modulus	Strength	Impact
9.200 MPa	**140** MPa	**73** kJ/m²

Sustainability

Allocation factor only valid for ISCC PLUS/REDcert² certified products	**96 %**

Mechanical Properties

Tensile modulus ISO 527-2	1 mm/min | d.a.m. 1 mm/min | conditioned	**9200 MPa** **6300 MPa**
Tensile stress at break ISO 527-2	5 mm/min | d.a.m. 5 mm/min | conditioned	**140 MPa** **95 MPa**
Tensile strain at break ISO 527-2	5 mm/min | d.a.m. 5 mm/min | conditioned	**3,3 %** **5,5 %**
Flexural modulus ISO 178	2 mm/min | d.a.m. 2 mm/min | conditioned	**8600 MPa** **5900 MPa**

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Flexural strength ISO 178	2 mm/min | d.a.m. 2 mm/min | conditioned	**225 MPa** **160 MPa**
Flexural strain at break ISO 178	2 mm/min | d.a.m. 2 mm/min | conditioned	**3,5 %** **5 %**
Charpy impact strength ISO 179-1/1eU	23°C | d.a.m. 23°C | conditioned -30°C | d.a.m.	**73 kJ/m²** **75 kJ/m²** **74 kJ/m²**
Charpy notched impact strength ISO 179-1/1eA	23°C | d.a.m. 23°C | conditioned	**11 kJ/m²** **15 kJ/m²**

Thermal Properties

RTI electrical UL 746B	0,8mm Wall thickness 1,6mm Wall thickness 3,2mm Wall thickness	**150 °C** **150 °C** **150 °C**
RTI impact UL 746B	0,8mm Wall thickness 1,6mm Wall thickness 3,2mm Wall thickness	**125 °C** **125 °C** **125 °C**
RTI strength UL 746B	0,8mm Wall thickness 1,6mm Wall thickness 3,2mm Wall thickness	**140 °C** **140 °C** **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	**151 °C**
Temperature of deflection under load HDT/C ISO 75	8 MPa	**168 °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 23°C to 80°C | transverse	**0,19 10^{-4}/K** **1,02 10^{-4}/K**
Temperature index for 50% loss of tensile strength IEC 60216	5.000 h 20.000 h	**155 °C** **130 °C**

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Flammability

Flammability UL 94	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	0,8 mm Wall thickness	**960 °C**
	1,6 mm Wall thickness	**960 °C**
	3,2 mm Wall thickness	**960 °C**
GWIT IEC 60695-2-13	0,8 mm Wall thickness	**750 °C**
	1,6 mm Wall thickness	**750 °C**
	3,2 mm Wall thickness	**750 °C**
HWI UL 746A	0,8 mm Wall thickness	**0 PLC**
	1,6 mm Wall thickness	**0 PLC**
	3,2 mm Wall thickness	**0 PLC**
HAI UL 746A	0,8 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	**1,37 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

Volume resistivity IEC 62631-3-1	d.a.m.	**10^{12} Ω x cm**

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Comparative tracking index IEC 60112	Test liquid A	**600 V**
Comparative tracking index ASTM D3638		**0 PLC**
Dielectric strength IEC 60243	3 mm	**12 kV/mm**
Inclined-Plane Tracking, IPT ASTM D2303-13		**1 kV**
High voltage arc tracking rate (HVTR) UL 746A		**1 PLC**
High Volt, Low Current Arc Resistance ASTM D495		**6 PLC**

Rheological Properties

Flowability AKRO	1 mm Thickness	**220 mm**
	2 mm Thickness	**480 mm**

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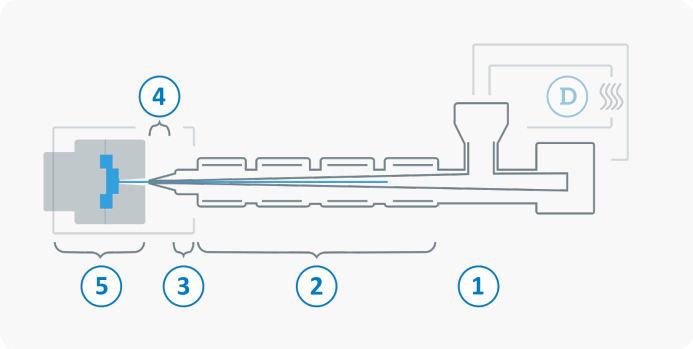
Processing

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 (τ <= -30°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