+135-3858-6433 (GuangDong)
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AKRO COMPOUNDS

Compound No.: **6194**

AKROMID®
B3 ICF 10 1 black (6194)

PA6 CF10

AKROMID® B3 ICF 10 1 black (6194) is a heat stabilised Polyamide 6 with 10% carbon fiber reinforcement, offering high stiffness and flexural strength. Compared to glass fiber-reinforced PA 6, it provides an optimized strength-to-weight ratio. Thanks to its low density and high mechanical durability, this material is ideal for load-bearing components in the automotive industry, such as lightweight structural parts, as well as for sports and leisure applications, including high-stress sports equipment and technical components.

Features

heat stabilised 130 | recycled content | reduced density | tribological modified | Sports & leisure | lightweight construction

Properties

Modulus	Strength	Impact
8.500 MPa	**125** MPa	**45** kJ/m²

Sustainability

Recycled content	**10 %**

Mechanical Properties

Tensile modulus ISO 527-2	1 mm/min | d.a.m. 1 mm/min | conditioned	**8500 MPa** **3500 MPa**
Tensile stress at break ISO 527-2	5 mm/min | d.a.m. 5 mm/min | conditioned	**125 MPa** **50 MPa**
Tensile strain at break ISO 527-2	5 mm/min | d.a.m. 5 mm/min | conditioned	**3,5 %** **8 %**
Flexural modulus ISO 178	2 mm/min | d.a.m. 2 mm/min | conditioned	**7000 MPa** **3400 MPa**
Flexural strength ISO 178	2 mm/min | d.a.m. 2 mm/min | conditioned	**200 MPa** **100 MPa**

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Flexural strain at break ISO 178	2 mm/min | d.a.m. 2 mm/min | conditioned	**4,5 %** **7 %**
Charpy impact strength ISO 179-1/1eU	23°C | d.a.m. 23°C | conditioned -30°C | d.a.m.	**45 kJ/m²** **95 kJ/m²** **40 kJ/m²**
Charpy notched impact strength ISO 179-1/1eA	23°C | d.a.m. 23°C | conditioned -30°C | d.a.m.	**4 kJ/m²** **9 kJ/m²** **3 kJ/m²**

Thermal Properties

Temperature of deflection under load HDT/A ISO 75	1,8 MPa	**188 °C**
Melting temperature ISO 11357-3	DSC, 10K/min	**220 °C**
Coefficient of linear thermal expansion ISO 11359-1/2	23°C to 80°C | parallel 23°C to 80°C | transverse	**0,23 10^{-4}/K** **0,97 10^{-4}/K**

Flammability

Flammability UL 94	1,6 mm Wall thickness	**HB Class**
GWFI IEC 60695-2-12	1,6 mm Wall thickness	**650 °C**
GWIT IEC 60695-2-13	1,6 mm Wall thickness	**675 °C**
Burning rate (<100 mm/min) FMVSS 302	> 1 mm Thickness	**+**

General Properties

Density ISO 1183	23°C	**1,17 g/cm³**
Humidity absorption ISO 1110	70°C, 62% r.H.	**2,8 - 3,0 %**

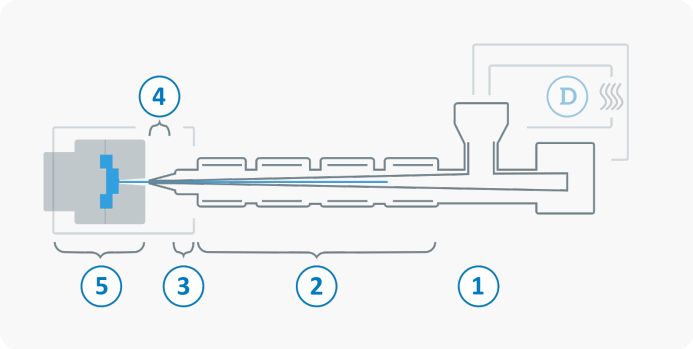
Molding shrinkage ISO 294-4	flow	**0,3 - 0,5 %**
	transverse	**0,6 - 0,8 %**

Electrical Properties

Surface resistivity IEC 62631-3-2	d.a.m.	**10^{11} Ω**

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	0 - 4 h
	Drying temperature (τ <= -30°C)	80 °C
	Processing moisture	0,02 - 0,1 %
1	Feed section	60 - 80 °C
2	Temperature Zone 1 - Zone 4	240 - 300 °C
3	Nozzle temperature	270 - 300 °C
4	Melt temperature	270 - 300 °C
5	Mold temperature	80 - 130 °C
→	Holding pressure, spec.	300 - 800 bar
←	Back pressure, spec.	50 - 150 bar
	Injection speed	medium to high
	Screw speed	8 - 15 m/min