

AKROLOY® PRELIMINARY

PARA GF 35 1 FR orange (8039)

PARA GF35 FR(40)

AKROLOY® PARA GF 35 1 FR orange (8039) is a 35% glass fibre reinforced, flame-retardant and heat-stabilized polyarylamide with very high rigidity and strength, colored similar to RAL 2003. The material is based on a flame retardant system that is free of red phosphorus, PFAS, zinc borate and melamine. The product has high flowability, excellent surface quality and low warpage. Applications include components that require a low creep tendency, even in a conditioned state, or excellent arc resistance. It is therefore also suitable as a replacement for components made of duroplastic materials. It is also the perfect candidate for thermal runaway requirements.

Features

electrically neutral flame retardant surface modified reduced moisture easy flow E-Mobility

Properties

Modulus

14.500 MPa

Strength

190 MPa

Impact

50 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

14500 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

190 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

2,0 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

14300 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

285 MPa

Flexural strain at break

ISO 178

2 mm/min | d.a.m.

2,3 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

50 kJ/m²

Charpy notched impact strength	23°C d.a.m.	13 kJ/m ²
ISO 179-1/1eA		

Thermal Properties

Temperature of deflection under load HDT/A	1,8 MPa	230 °C
ISO 75		

Melting temperature	DSC, 10K/min	235 °C
ISO 11357-3		

Coefficient of linear thermal expansion	23°C to 80°C parallel	0,233 10 ⁻⁴ /K
ISO 11359-1/2	23°C to 80°C transverse	0,357 10 ⁻⁴ /K

Flammability

Flammability	0,4 mm Wall thickness	V-0 Class
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

GWFI	0,4 mm Wall thickness	960 °C
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	0,4 mm Wall thickness	825 °C
IEC 60695-2-13	0,8 mm Wall thickness	800 °C
	1,6 mm Wall thickness	800 °C
	3,2 mm Wall thickness	825 °C

General Properties

Density	23°C	1,48 g/cm ³
ISO 1183		

Humidity absorption	70°C, 62% r.H.	0,8 - 1,0 %
ISO 1110		

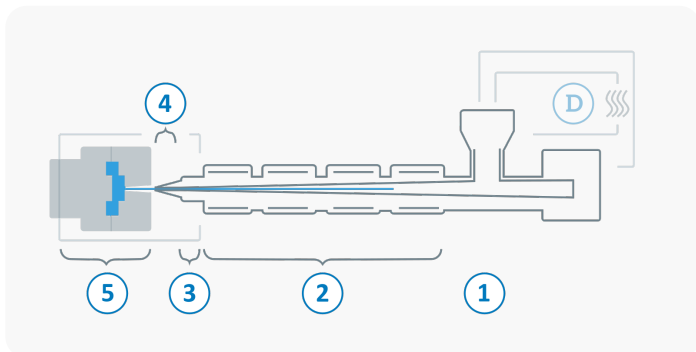
Molding shrinkage	flow	0,2 - 0,4 %
ISO 294-4	transverse	0,4 - 0,6 %

Electrical Properties

Volume resistivity IEC 62631-3-1	d.a.m.	$10^{15} \Omega \times \text{cm}$
Comparative tracking index IEC 60112	Test liquid A	600 V
Dielectric strength IEC 60243	1 mm	36 kV/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	4 - 12 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	240 - 270 °C
3	Nozzle temperature	240-280 °C
4	Melt temperature	240 - 280 °C
5	Mold temperature	120 - 160 °C
→	Holding pressure, spec.	300-800 bar
←	Back pressure, spec.	30-100 bar
	Injection speed	medium to high
	Screw speed	5 - 10 m/min