Compound No.: **8559**

AKROMID® UL PRELIMINARY
T9 GF 50 8 HU grey (8559)

PPA GF50

AKROMID® T9 GF 50 8 HU grey (8559) is a 50% glass fibre reinforced polyphthalamide, colored in grey, similar to RAL 7035. It is characterised by its very high stiffness and strength, even at elevated temperatures up to 120°C. Due to its low moisture absorption, the mechanical properties remain nearly unchanged even in conditioned state. Not only the good creep resistance, but also the hydrolysis and chemical resistance complement the property profile. This UL94 HB all colors listed grade corresponds to the American FDA 21 CFR and is suitable for parts of kitchen and household appliances.

Features

heat stabilised 130 | reduced moisture | E&E | household appliances

Regulatory

Properties

Modulus	Strength	Impact
17.200 MPa	**245** MPa	**90** kJ/m²

Mechanical Properties

Tensile modulus ISO 527-2	1 mm/min | d.a.m. 1 mm/min | conditioned	**17200 MPa** **17200 MPa**
Tensile stress at break ISO 527-2	5 mm/min | d.a.m. 5 mm/min | conditioned	**245 MPa** **220 MPa**
Tensile strain at break ISO 527-2	5 mm/min | d.a.m. 5 mm/min | conditioned	**2,2 %** **2 %**
Charpy impact strength ISO 179-1/1eU	23°C | d.a.m. -30°C | d.a.m.	**90 kJ/m²** **80 kJ/m²**
Charpy notched impact strength ISO 179-1/1eA	23°C | d.a.m. -30°C | d.a.m.	**13 kJ/m²** **13 kJ/m²**

Thermal Properties

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Temperature of deflection under load HDT/A ISO 75	1,8 MPa	**270 °C**
Temperature of deflection under load HDT/C ISO 75	8 MPa	**238 °C**
Melting temperature ISO 11357-3	DSC, 10K/min	**305 °C**

Flammability

Flammability UL 94	UL 0,4 mm Wall thickness	**HB Class**
	UL 0,8 mm Wall thickness	**HB Class**
	UL 1,6 mm Wall thickness	**HB Class**
	UL 3,2 mm Wall thickness	**HB Class**
HWI UL 746A	UL 0,4 mm Wall thickness	**PLC 4 PLC**
	UL 0,8 mm Wall thickness	**PLC 4 PLC**
	UL 1,6 mm Wall thickness	**PLC 4 PLC**
	UL 3,2 mm Wall thickness	**PLC 3 PLC**
HAI UL 746A	UL 0,4 mm Wall thickness	**PLC 0 PLC**
	UL 0,8 mm Wall thickness	**PLC 0 PLC**
	UL 1,6 mm Wall thickness	**PLC 0 PLC**
	UL 3,2 mm Wall thickness	**PLC 0 PLC**

General Properties

Density ISO 1183	23°C	**1,57 g/cm³**
Humidity absorption ISO 1110	70°C, 62% r.H.	**0,1 - 0,3 %**
Molding shrinkage ISO 294-4	flow	**0,2 - 0,4 %**
	transverse	**0,7 - 0,9 %**

Electrical Properties

Comparative tracking index IEC 60112	Test liquid A	**600 V**

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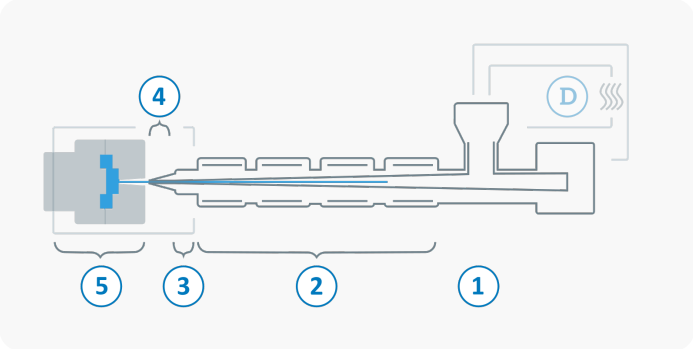
Processing

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	0 - 4 h
	Drying temperature (τ <= -30°C)	120 °C
	Processing moisture	<0,05 %
1	Feed section	60 - 90 °C
2	Temperature Zone 1 - Zone 4	300 - 340 °C
3	Nozzle temperature	310 - 350 °C
4	Melt temperature	310 - 340 °C
5	Mold temperature	>135 °C
→	Holding pressure, spec.	300 - 800 bar
←	Back pressure, spec.	50 - 150 bar
	Injection speed	medium to high
	Screw speed	8 - 15 m/min

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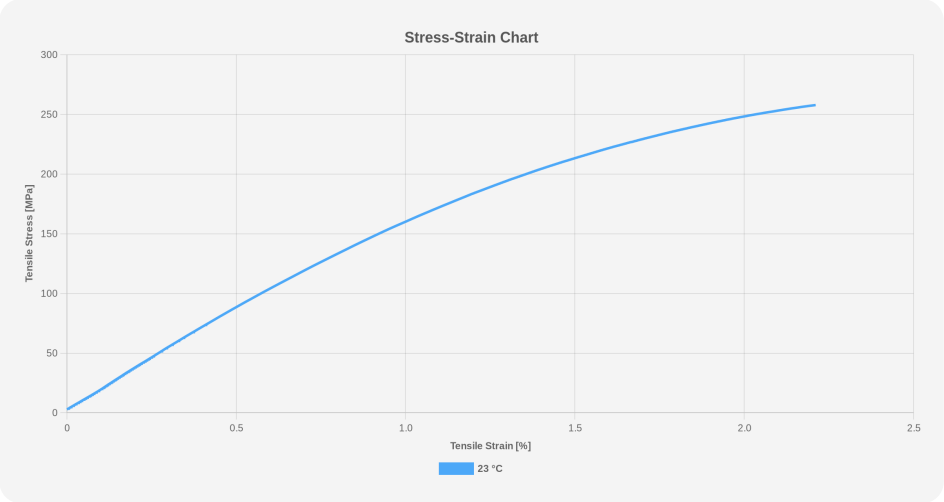
Diagrams


Stress-Strain Chart
300
250
200
150
100
50
0
Tensile Stress [MPa]
0
0.5
1.0
1.5
2.0
2.5
Tensile Strain [%]
23 °C