

PA6.6 – Polyamide 6.6 PA66 GF25 FR

## AKROMID® A3 K1 FR natural (2312)

Tensile modulus

**9200 MPa**

1 mm/min

ISO 527-2

Stress at break

**140 MPa**

5 mm/min

ISO 527-2

Charpy impact strength

**65 kJ/m<sup>2</sup>**

23°C

ISO 179-1/1eU

AKROMID® A3 K1 FR natural (2312) is a 25% glass fibre reinforced, halogen- and red phosphorus free flame retardant polyamide 6.6 with light inherent color, all color listed at UL and NF F 16-101.

The formulation of this product is not based on the latest state of the art raw materials and additives. The successor of this product is A3 GF 25 FR natural (7649). It offers better thermal stability and lower corrosion during processing

### Typical applications

Switch housings in the electric industry

### Regulatory



### Mechanical Properties

Tensile modulus (1 mm/min | ISO 527-2)

d.a.m.

9200 MPa

conditioned

6500 MPa

Stress at break (5 mm/min | ISO 527-2)

d.a.m.

140 MPa

conditioned

100 MPa

Strain at break (5 mm/min | ISO 527-2)

d.a.m.

3 %

conditioned

4 %

Flexural modulus (2 mm/min | ISO 178)

d.a.m.

9000 MPa

conditioned

7000 MPa

Flexural strength (2 mm/min | ISO 178)

d.a.m.

220 MPa

conditioned

170 MPa

Flexural strain at break (2 mm/min | ISO 178)

d.a.m.

3 %

conditioned

4 %

Charpy impact strength (23°C | ISO 179-1/1eU)

d.a.m.

65 kJ/m<sup>2</sup>

conditioned

70 kJ/m<sup>2</sup>

Charpy impact strength (-30°C | ISO 179-1/1eU)

d.a.m.

65 kJ/m<sup>2</sup>

Charpy notched impact strength (23°C | ISO 179-1/1eA)

d.a.m.

11 kJ/m<sup>2</sup>

conditioned

13 kJ/m<sup>2</sup>

Izod-notched impact strength (23°C | ISO 180/1A)

d.a.m.

10 kJ/m<sup>2</sup>

Ball indentation hardness (358N/30s | ISO 2039-1)

d.a.m.

221 MPa

#### Disclaimer:

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**Thermal Properties**

Temperature of deflection under load HDT/A (1,8 MPa   ISO 75)	246 °C
Temperature of deflection under load HDT/B (0,45 MPa   ISO 75)	261 °C
Melt temperature (DSC, 10K/min   DIN EN 11357-1)	262 °C
Temperature index for 50% loss of tensile strength after 20.000h (20.000 Std.   IEC 60216)	120-130 °C

**Flammability**

<b>Burning rate (UL 94)</b>	
0,4mm Wall thickness	V-0 Class
0,8mm Wall thickness	V-0 Class
1,6mm Wall thickness	V-0 Class
3,2mm Wall thickness	V-0 Class
<b>GWFI (IEC 60695-2-12)</b>	
0,4mm Wall thickness	960 °C
0,8mm Wall thickness	960 °C
1,6mm Wall thickness	960 °C
3,2mm Wall thickness	960 °C
<b>GWIT (IEC 60695-2-13)</b>	
0,4mm Wall thickness	775 °C
0,8mm Wall thickness	750 °C
1,6mm Wall thickness	775 °C
3,2mm Wall thickness	775 °C
<b>HWI (UL 746A)</b>	
0,8mm Wall thickness	0 PLC
<b>HAI (UL 746A)</b>	
0,8mm Wall thickness	0 PLC
<b>Oxygen index (ISO 4589-2)</b>	32 %

**General properties**

Density (23°C   ISO 1183)	1,34 g/cm <sup>3</sup>
Molding shrinkage (flow   ISO 294-4)	0,2-0,4 %
Molding shrinkage (transverse   ISO 294-4)	0,9-1,1 %

**Electrical Properties**

Comparative tracking index (Test liquid A   IEC 60112)	600 V
Dielectric strength (3 mm   IEC 60243)	28 kV/mm
Permittivity (1 MHz   IEC 60250)	3,7

**Disclaimer:**

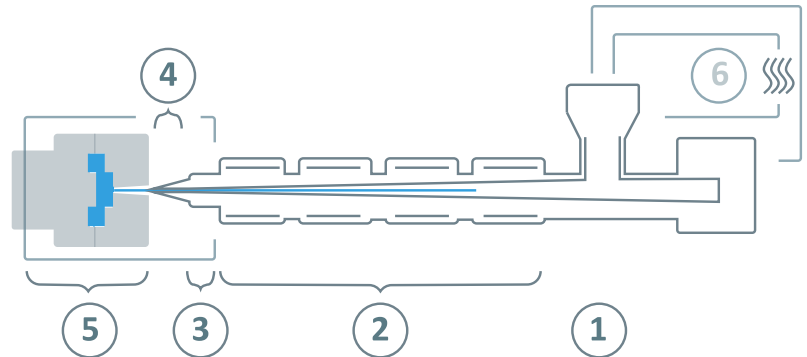
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### Processing information

The listed values are recommendations. Higher values should be used for higher glass loadings. We recommend only dehumidifying or vacuum dryers. Extensive drying can cause filling problems and surface defects.



⑥	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

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