

PA6.6 – Polyamide 6.6 PA66 GF30 FR(40)

## AKROMID® A3 GF 30 FR-EN black (6654)

Tensile modulus

**10500 MPa**

1 mm/min

ISO 527-2

Stress at break

**150 MPa**

5 mm/min

ISO 527-2

Charpy impact strength

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

23°C

ISO 179-1/1eU

AKROMID® A3 GF 30 FR-EN black (6654) is a UL in all colors listed PA66 with 30% glass-fibers and flame retardant free of halogens and red phosphorous. The product contains an organic stabilization package and is optimized for use in electronic and electric applications.

### Typical applications

circuit breaker and housings in E&E industry.

### Regulatory



### Mechanical Properties

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

d.a.m.

10500 MPa

conditioned

7600 MPa

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

d.a.m.

150 MPa

conditioned

107 MPa

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

d.a.m.

2,7 %

conditioned

3,9 %

Flexural modulus (2 mm/min | ISO 178)

d.a.m.

11500 MPa

Flexural strength (2 mm/min | ISO 178)

d.a.m.

230 MPa

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

d.a.m.

2,6 %

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

d.a.m.

67 kJ/m<sup>2</sup>

conditioned

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

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

d.a.m.

61 kJ/m<sup>2</sup>

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

d.a.m.

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

conditioned

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

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

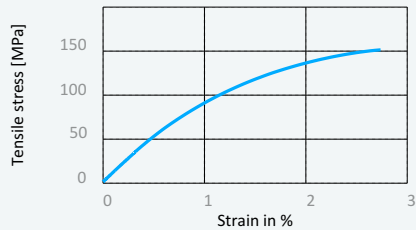
d.a.m.

9 kJ/m<sup>2</sup>

#### Disclaimer:

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Stress strain chart at 23°C



**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
Coefficient of linear thermal expansion, parallel (23°C bis 80°C   ISO 11359-1/2)	0,18 1,0E-4/K
Coefficient of linear thermal expansion, transverse (23°C bis 80°C   ISO 11359-1/2)	0,9 1,0E-4/K
Temperature index for 50% loss of tensile strength after 5.000h (5.000 h   IEC 60216)	155 °C
Temperature index for 50% loss of tensile strength after 20.000h (20.000 Std.   IEC 60216)	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	750 °C
0,8mm Wall thickness	750 °C
1,6mm Wall thickness	750 °C
3,2mm Wall thickness	775 °C
<b>HWI (UL 746A)</b>	
0,4mm Wall thickness	0 PLC
0,8mm Wall thickness	0 PLC
1,6mm Wall thickness	0 PLC
3,2mm Wall thickness	0 PLC
<b>HAI (UL 746A)</b>	
0,4mm Wall thickness	0 PLC
0,8mm Wall thickness	0 PLC
1,6mm Wall thickness	0 PLC
3,2mm Wall thickness	0 PLC
<b>Burning rate (&lt;100 mm/min) (&gt; 1 mm Thickness   FMVSS 302)</b>	+

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**General properties**

Density (23°C   ISO 1183)	1,39 g/cm <sup>3</sup>
Humidity absorption (70°C, 62% r.H.   ISO 1110)	1,9-2,1 %
Water absorption 23°C saturated (23°C, saturated   ISO 62)	5,3-5,6 %
Molding shrinkage (flow   ISO 294-4)	0,1-0,3 %
Molding shrinkage (transverse   ISO 294-4)	0,7-0,9 %

**Electrical Properties**

Volume resistivity (IEC 60093) d.a.m. conditioned	2,2E+15 Ohm x cm 1.7E+13 Ohm x cm
Comparative tracking index (Test liquid A   IEC 60112)	>600 V

**Rheological Properties**

Flowability (1mm Thickness   AKRO)	140 mm
Flowability (2mm Thickness   AKRO)	440 mm

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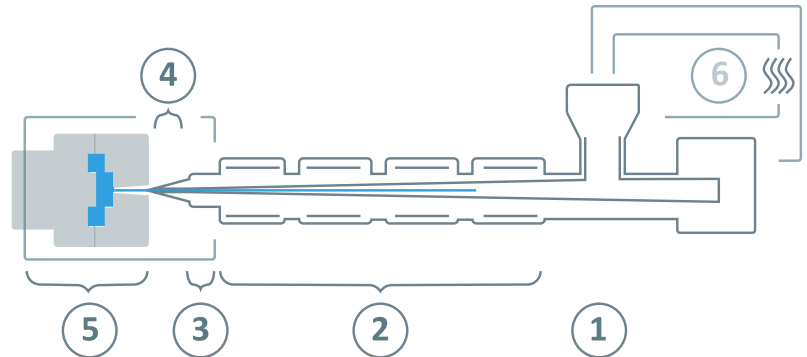
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### Processing information

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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