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PA6.6 – Polyamide 6.6 PA66 GF50

AKROMID® A3 GF 50 1 black (2387)

Tensile modulus	Stress at break	Charpy impact strength
16700 MPa	**250 MPa**	**105 kJ/m²**
1 mm/min	**5 mm/min**	**23°C**
ISO 527-2	ISO 527-2	ISO 179-1/1eU

AKROMID® A3 GF 50 1 black (2387) - 50% glass fiber reinforced PA 6.6, heat stabilised, technical parts in industrial engineering and automotive industry

Mechanical Properties

Tensile modulus (1 mm/min | ISO 527-2)	
d.a.m.	16700 MPa
conditioned	12600 MPa
Stress at break (5 mm/min | ISO 527-2)	
d.a.m.	250 MPa
conditioned	180 MPa
Strain at break (5 mm/min | ISO 527-2)	
d.a.m.	2,5 %
conditioned	3,5 %
Flexural modulus (2 mm/min | ISO 178)	
d.a.m.	15200 MPa
conditioned	13600 MPa
Flexural strength (2 mm/min | ISO 178)	
d.a.m.	380 MPa
conditioned	310 MPa
Charpy impact strength (23°C | ISO 179-1/1eU)	
d.a.m.	105 kJ/m²
conditioned	110 kJ/m²
Charpy impact strength (-30°C | ISO 179-1/1eU)	
d.a.m.	105 kJ/m²
Charpy impact strength (-45°C | ISO 179-1/1eU)	
d.a.m.	90 kJ/m²
conditioned	90 kJ/m²
Charpy notched impact strength (23°C | ISO 179-1/1eA)	
d.a.m.	19 kJ/m²
conditioned	23 kJ/m²
Charpy notched impact strength (-30°C | ISO 179-1/1eA)	
d.a.m.	16 kJ/m²
Charpy notched impact strength (-45°C | ISO 179-1/1eA)	
d.a.m.	15 kJ/m²
conditioned	15 kJ/m²
Ball indentation hardness (961N/30s | ISO 2039-1)	
d.a.m.	290 MPa

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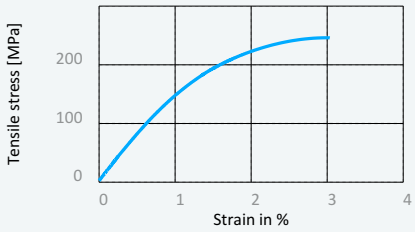
Stress strain chart at 23°C



Thermal Properties

Temperature of deflection under load HDT/A (1,8 MPa | ISO 75)	260 °C
Temperature of deflection under load HDT/B (0,45 MPa | ISO 75)	260 °C
Temperature of deflection under load HDT/C (8 MPa | ISO 75)	235 °C
Melting temperature (DSC, 10K/min | DIN EN ISO 11357-3)	262 °C
Coefficent of linear thermal expansion, parallel (23°C bis 80°C | ISO 11359-1/2)	0,17 1,0E-4/K
Coefficent of linear thermal expansion, transverse (23°C bis 80°C | ISO 11359-1/2)	0,88 1,0E-4/K
Temperature index for 50% loss of tensile strength after 5.000h (5.000 h | IEC 60216)	160 - 175 °C
Temperature index for 50% loss of tensile strength after 20.000h (20.000 Std. | IEC 60216)	130 - 150 °C

Flammability

Burning rate (UL 94)	
0,8mm Wall thickness	HB Class
GWFI (IEC 60695-2-12)	
1,6mm Wall thickness	650 °C
GWIT (IEC 60695-2-13)	
1,6mm Wall thickness	675 °C
Burning rate (<100 mm/min) (> 1 mm Thickness | FMVSS 302)	+

General properties

Density (23°C | ISO 1183)	1,57 g/cm³
Humidity absorption (70°C, 62% r.H. | ISO 1110)	1,3 - 1,5 %
Water absorption 23°C saturated (23°C, saturated | ISO 62)	3,7 - 4,3 %
Molding shrinkage (flow | ISO 294-4)	0,1 - 0,3 %
Molding shrinkage (transverse | ISO 294-4)	0,5 - 0,7 %

Electrical Properties

Volume resistivity (IEC 60093)	
d.a.m.	1,0E+13 Ohm x cm
conditioned	1,0E+10 Ohm x cm
Surface resistivity (DIN EN 62631-3-2)	
d.a.m.	1,0E+12 Ohm
conditioned	1,0E+10 Ohm
Comparative tracking index (Test liquid A | IEC 60112)	600 V

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Rheological Properties

Flowability (1mm Thickness | AKRO)	200 mm
Flowability (2mm Thickness | AKRO)	350 mm

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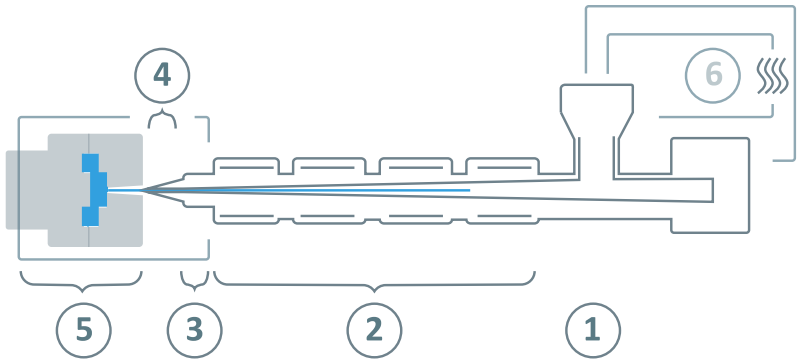
Processing information

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



6	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	260 - 300°C
3	Nozzle temperature	270 - 310°C
4	Melt temperature	280 - 300°C
5	Mold temperature	80 - 100°C
→	Holding pressure, spec.	300 - 800 bar
←	Back pressure, spec.	50 - 150 bar
	Injection speed	medium to high
	Screw speed	8 - 15 m/min