

## Datasheet

### Description:

AKROMID® B3 GF 50 1 natural (2531) is a 50% glass fibre reinforced, heat stabilised polyamide 6 with very high rigidity and strength and light inherent color

### Applications

Components in mechanical engineering and in the automotive industry

Typical values	Test specification	Method	Unit	Value	
				d.a.m.	moist.*

### Mechanical Properties

Tensile modulus	1 mm/min	ISO 527-2	MPa	17000	10300
Stress at break	5 mm/min	ISO 527-2	MPa	230	145
Strain at break	5 mm/min	ISO 527-2	%	2,5	4,5
Flexural modulus	2 mm/min	ISO 178	MPa	14900	
Flexural strength	2 mm/min	ISO 178	MPa	340	
Charpy impact strength	23°C	ISO 179-1/1eU	kJ/m <sup>2</sup>	100	110
Charpy impact strength	-30°C	ISO 179-1/1eU	kJ/m <sup>2</sup>	90	
Charpy notched impact strength	23°C	ISO 179-1/1eA	kJ/m <sup>2</sup>	20	26
Charpy notched impact strength	-30°C	ISO 179-1/1eA	kJ/m <sup>2</sup>	16	
Ball indentation hardness	961/30	ISO 2039-1	MPa	270	

### Electrical Properties

Volume resistivity		IEC 60093	Ohm x cm	1,0E+13	1,0E+10
Surface resistivity		b.o. IEC 60093	Ohm	1,0E+12	1,0E+10
Comparative tracking index	test solution A	IEC 60112		600	

### Thermal Properties

Melting temperature	DSC, 10K/min	DIN EN 11357-1	°C	220	
Temp. of deflection under load HDT/A	1,8 MPa	ISO 75	°C	220	
Temp. of deflection under load HDT/B	0,45 MPa	ISO 75	°C	220	
Temp. of deflection under load HDT/C	8 MPa	ISO 75	°C	185	
Coeff. of linear therm. expansion, parallel	23°C - 80°C	ISO 11359-1/2	1,0E-4/K	0,11	
Coeff. of linear therm. expansion, normal	23°C - 80°C	ISO 11359-1/2	1,0E-4/K	0,94	
Temp. index for 50% loss of tens. strength	5.000 Std.	IEC 60216	°C	160 - 175	
Temp. index for 50% loss of tens. strength	20.000 Std.	IEC 60216	°C	130 - 150	

### Flammability

Wall thickness			mm	0,4	0,8	1,6	2,0	3,2
Flammability		UL 94	class			HB		
GWFI		IEC 60695-2-12	°C			650		
Burning rate (< 100 mm/min)	> 1 mm thickness	FMVSS 302				+		

### General Properties

Density	23°C	ISO 1183	g/cm <sup>3</sup>	1,56	
Content reinforcement/Content Filler		ISO 1172	%	50	
Humidity absorption	70°C, 62% r.h.	ISO 1110	%	1,3 - 1,6	
Water absorption	23°C, saturated	ISO 62	%	4,5 - 5,1	

## Continuation

Typical values	Test specification	Method	Unit	Value
				d.a.m.

## Processing

Flowability	7 x 3,5 mm & **	AKRO	mm	430
Molding shrinkage	flow	ISO 294-4	%	0,1 - 0,3
Molding shrinkage	transverse	ISO 294-4	%	0,4 - 0,6

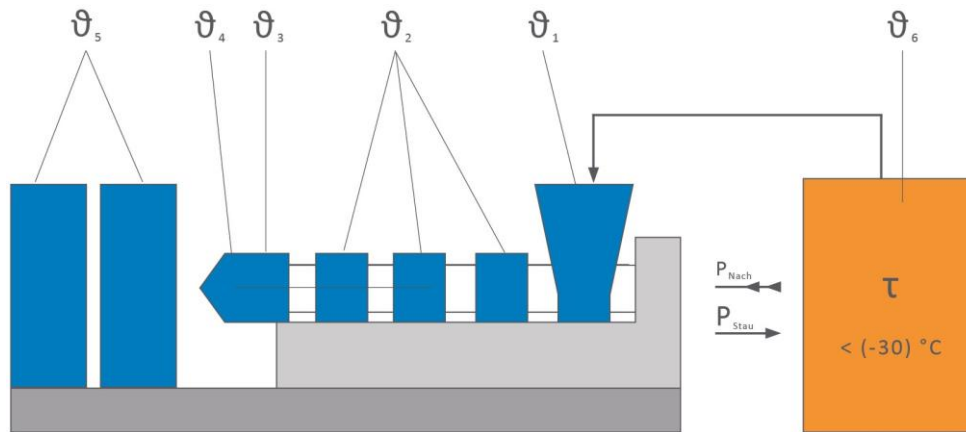
b.o.: based on

\* = specimen acc. ISO 1110 stored

\*\* = mould temperature: 80°C, melt temperature: 270°C, injection pressure: 750 bar

### Continuation

### Processing recommendations



$\vartheta_6$	Drying time	h	0 - 4
$\vartheta_6$	Drying temperature	°C	80
	Processing moisture	%	0,02 - 0,1
$\vartheta_1$	Feed section	°C	60 - 80
$\vartheta_2$	Section 1 - Section 4	°C	240 - 290
$\vartheta_3$	Nozzle	°C	260 - 300
$\vartheta_4$	Melt	°C	270 - 290
$\vartheta_5$	Mould	°C	80 - 100
$P_{Nach}$	Holding pressure, spec.	bar	300 - 800
$P_{Stau}$	Back pressure, spez.	bar	50 - 150
	Injection speed		medium to high
	Screw speed	m/min	8 - 15

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.