

Datasheet

Description:

AKROMID® A3 GF 30 5 black (2180) is a 30% glass fibre reinforced, high heat stabilised polyamide 6.6 with high stiffness and strength

Applications

Applications are functional parts in the mechanical engineering and 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	9500	7000
Stress at break	5 mm/min	ISO 527-2	MPa	190	120
Strain at break	5 mm/min	ISO 527-2	%	3,5	5,5
Flexural modulus	2 mm/min	ISO 178	MPa	8500	7000
Flexural strength	2 mm/min	ISO 178	MPa	280	210
Charpy impact strength	23°C	ISO 179-1/1eU	kJ/m ²	85	95
Charpy impact strength	-30°C	ISO 179-1/1eU	kJ/m ²	80	
Charpy notched impact strength	23°C	ISO 179-1/1eA	kJ/m ²	10	15
Charpy notched impact strength	-30°C	ISO 179-1/1eA	kJ/m ²	9	

Thermal Properties

Melting temperature	DSC, 10K/min	DIN EN 11357-1	°C	262
Temp. of deflection under load HDT/A	1,8 MPa	ISO 75	°C	255
Temp. of deflection under load HDT/C	8 MPa	ISO 75	°C	210
Coeff. of linear therm. expansion, parallel	23°C - 80°C	ISO 11359-1/2	1,0E-4/K	0,19
Coeff. of linear therm. expansion, normal	23°C - 80°C	ISO 11359-1/2	1,0E-4/K	0,95

Flammability

Wall thickness			mm	0,4	0,8	1,6	2,0	3,2
Flammability		UL 94	class			HB		
Burning rate (< 100 mm/min)	> 1 mm thickness	FMVSS 302				+		

General Properties

Density	23°C	ISO 1183	g/cm ³	1,36
Content reinforcement/Content Filler		ISO 1172	%	30
Humidity absorption	70°C, 62% r.h.	ISO 1110	%	1,9 - 2,1
Water absorption	23°C, saturated	ISO 62	%	5,2 - 5,8

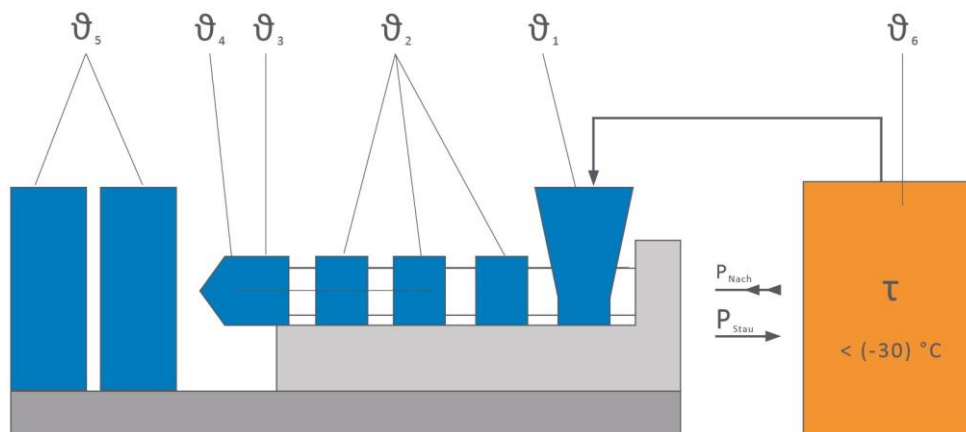
Processing

Molding shrinkage	flow	ISO 294-4	%	0,2
Molding shrinkage	transverse	ISO 294-4	%	1,3

* = specimen acc. ISO 1110 stored

Continuation

Processing recommendations



ϑ_6	Drying time	h	0 - 4
ϑ_6	Drying temperature	°C	80
	Processing moisture	%	0,02 - 0,1
ϑ_1	Feed section	°C	60 - 80
ϑ_2	Section 1 - Section 4	°C	260 - 300
ϑ_3	Nozzle	°C	270 - 310
ϑ_4	Melt	°C	280 - 300
ϑ_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.