

Datasheet

Description:

AKROMID® A3 GF 20 1 black (2307) is a 20% glass fibre reinforced and heat stabilised polyamide 6.6 with medium stiffness and strength, UL listed.

Applications

Mainly 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	7200	4600
Stress at break	5 mm/min	ISO 527-2	MPa	160	100
Strain at break	5 mm/min	ISO 527-2	%	3,5	8
Flexural modulus	2 mm/min	ISO 178	MPa	7000	5000
Flexural strength	2 mm/min	ISO 178	MPa	235	165
Charpy impact strength	23°C	ISO 179-1/1eU	kJ/m ²	60	86
Charpy impact strength	-30°C	ISO 179-1/1eU	kJ/m ²	48	
Charpy notched impact strength	23°C	ISO 179-1/1eA	kJ/m ²	9	11
Charpy notched impact strength	-30°C	ISO 179-1/1eA	kJ/m ²	8	

Electrical Properties

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

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	250
Temp. of deflection under load HDT/B	0,45 MPa	ISO 75	°C	260
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	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 ³	1,28
Content reinforcement/Content Filler		ISO 1172	%	20
Humidity absorption	70°C, 62% r.h.	ISO 1110	%	2,3 - 2,5
Water absorption	23°C, saturated	ISO 62	%	6,7 - 7,2

Processing

Flowability	7 x 3,5 mm & **	AKRO	mm	950
Molding shrinkage	flow	ISO 294-4	%	0,3
Molding shrinkage	transverse	ISO 294-4	%	1,3

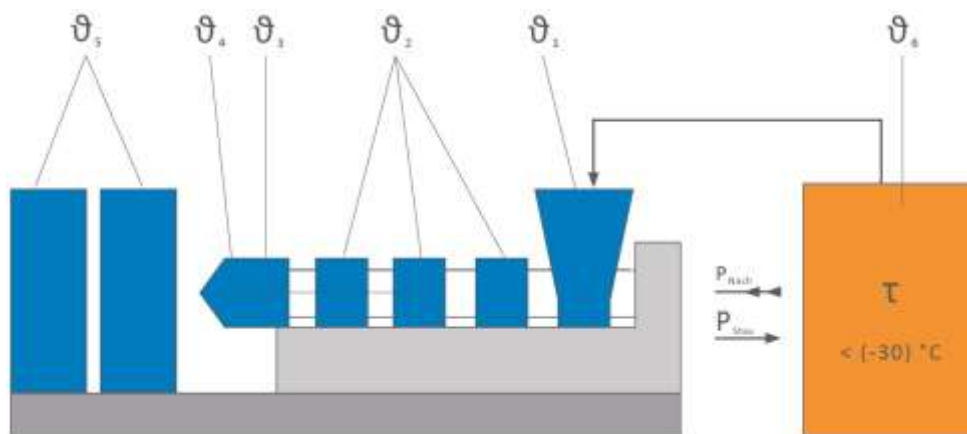
b.o.: based on

* = specimen acc. ISO 1110 stored

** = mould temperature: 100°C, melt temperature: 320°C, injection pressure: 750 bar

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.