

Datasheet

Description:

AKROMID® A3 GF 60 1 black (2395) is a 60% glass fibre reinforced and heat stabilised polyamide 6.6 with very high rigidity and strength, UL listed.

Applications

Components in mechanical engineering and in the automotive industry. Further application is extrusion of insulating profile.

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

Mechanical Properties

Tensile modulus	1 mm/min	ISO 527-2	MPa	20500	15800
Stress at break	5 mm/min	ISO 527-2	MPa	260	190
Strain at break	5 mm/min	ISO 527-2	%	2	2,5
Flexural modulus	2 mm/min	ISO 178	MPa	19800	
Flexural strength	2 mm/min	ISO 178	MPa	400	
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	97	
Charpy notched impact strength	23°C	ISO 179-1/1eA	kJ/m ²	19	22
Charpy notched impact strength	-30°C	ISO 179-1/1eA	kJ/m ²	19	
Ball indentation hardness	961/30	ISO 2039-1	MPa	330	

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	262	
Temp. of deflection under load HDT/A	1,8 MPa	ISO 75	°C	260	
Temp. of deflection under load HDT/B	0,45 MPa	ISO 75	°C	260	
Temp. of deflection under load HDT/C	8 MPa	ISO 75	°C	235	
Coeff. of linear therm. expansion, parallel	23°C - 80°C	ISO 11359-1/2	1,0E-4/K	0,12	
Coeff. of linear therm. expansion, normal	23°C - 80°C	ISO 11359-1/2	1,0E-4/K	0,82	

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 ³	1,71	
Content reinforcement/Content Filler		ISO 1172	%	60	
Humidity absorption	70°C, 62% r.h.	ISO 1110	%	1,0 - 1,2	
Water absorption	23°C, saturated	ISO 62	%	3,2 - 3,7	

Continuation

Typical values	Test specification	Method	Unit	Value
				d.a.m.
Processing				
Flowability	8,4 x 2 mm & **	AKRO	mm	300
Flowability	7 x 3,5 mm & **	AKRO	mm	530
Molding shrinkage	flow	ISO 294-4	%	0,1 - 0,3
Molding shrinkage	transverse	ISO 294-4	%	0,4 - 0,6

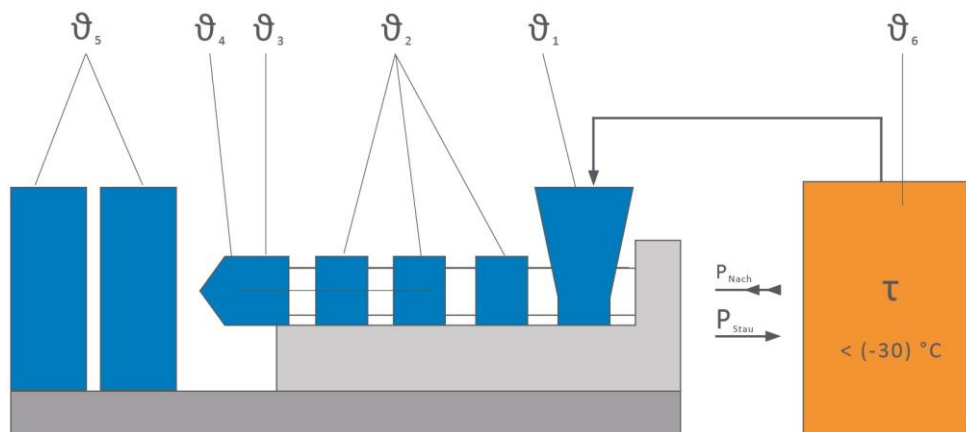
b.o.: based on

* = specimen acc. ISO 1110 stored

** = mould temperature: 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.