

Datasheet

Description:

AKROMID® A3 1 S3 black (1139) is an unreinforced, heat stabilised and dry impact resistant polyamide 6.6

Applications

Applications are connecting and fixing systems, used at elevated temperatures in the automotive and electro industry

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

Mechanical Properties

Tensile modulus	1 mm/min	ISO 527-2	MPa	2700	1300
Stress at yield	50 mm/min	ISO 527-2	MPa	63	45
Strain at yield	50 mm/min	ISO 527-2	%	5,6	
Strain at break	50 mm/min	ISO 527-2	%	> 35	> 100
Nominal strain at break	50 mm/min	ISO 527-2	%	≥ 30	
Flexural modulus	2 mm/min	ISO 178	MPa	2500	
Flexural strength	2 mm/min	ISO 178	MPa	90	
Flexural strain at break	2 mm/min	ISO 178	%	7,5	
Charpy impact strength	23°C	ISO 179-1/1eU	kJ/m ²	n.b.	n.b.
Charpy impact strength	-30°C	ISO 179-1/1eU	kJ/m ²	n.b.	n.b.
Charpy notched impact strength	23°C	ISO 179-1/1eA	kJ/m ²	17	95
Charpy notched impact strength	-30°C	ISO 179-1/1eA	kJ/m ²	10	13
Izod notched impact strength	23°C	ISO 180/1A	kJ/m ²	15	
Izod notched impact strength	-20°C	ISO 180/1A	kJ/m ²	12	
Izod notched impact strength	-40°C	ISO 180/1A	kJ/m ²	12	
Shore D Hardness	23°C	DIN 53 505		75	

Electrical Properties

Volume resistivity		IEC 60093	Ohm x cm	1,0E+15	
Surface resistivity		b.o. IEC 60093	Ohm	1,0E+14	
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	70	
Temp. of deflection under load HDT/B	0,45 MPa	ISO 75	°C	213	

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	1,1	
Humidity absorption	70°C, 62% r.h.	ISO 1110	%	2,1	

Continuation

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

Processing

Flowability	7 x 3,5 mm & **	AKRO	mm	800
Molding shrinkage	flow	ISO 294-4	%	2,1
Molding shrinkage	transverse	ISO 294-4	%	2,2

b.o.: based on

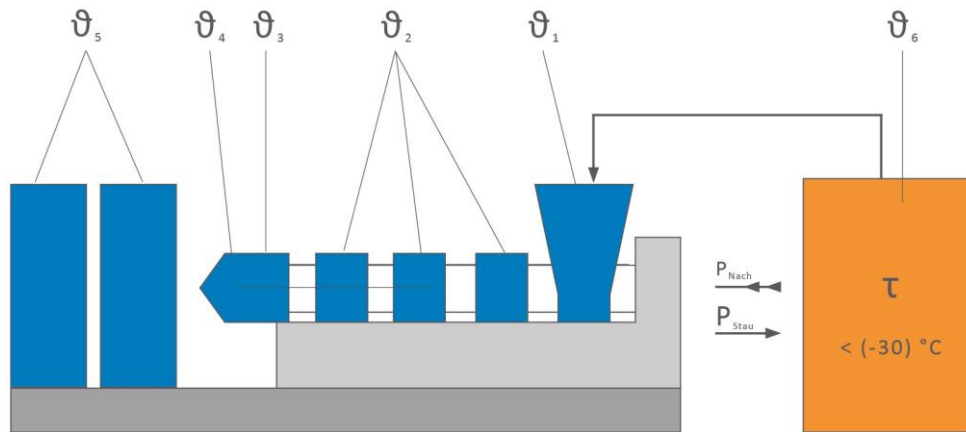
n.b. = not broken

* = 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	40 - 80
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.