

Datasheet

Description:

AKROMID® A3 GF 50 1 PST black (6838) is a 50% glass fibre reinforced, heat stabilised polyamide 6.6 with very high rigidity and strength, and optimized für adhesion to PST (Plasma Seal-Tight®) coatings developed by Plasmatreat®

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	16700	12600
Stress at break	5 mm/min	ISO 527-2	MPa	250	180
Strain at break	5 mm/min	ISO 527-2	%	2,5	3,5
Flexural modulus	2 mm/min	ISO 178	MPa	15200	13600
Flexural strength	2 mm/min	ISO 178	MPa	380	310
Charpy impact strength	23°C	ISO 179-1/1eU	kJ/m ²	105	110
Charpy impact strength	-30°C	ISO 179-1/1eU	kJ/m ²	105	
Charpy impact strength	-45°C	ISO 179-1/1eU	kJ/m ²	90	90
Charpy notched impact strength	23°C	ISO 179-1/1eA	kJ/m ²	19	23
Charpy notched impact strength	-30°C	ISO 179-1/1eA	kJ/m ²	16	
Charpy notched impact strength	-45°C	ISO 179-1/1eA	kJ/m ²	15	15
Ball indentation hardness	961/30	ISO 2039-1	MPa	290	

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	0,17	
Coeff. of linear therm. expansion, normal	23°C - 80°C	ISO 11359-1/2	1,0E-4/K	0,88	
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	1,57		
Content reinforcement/Content Filler		ISO 1172	%	50		
Humidity absorption	70°C, 62% r.h.	ISO 1110	%	1,3 - 1,5		
Water absorption	23°C, saturated	ISO 62	%	3,7 - 4,3		

AKROMID®

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PA66 GF50



AKRO-PLASTIC GmbH

Member of the Feddersen Group

Continuation

Typical values	Test specification	Method	Unit	Value
				d.a.m.
Processing				
Flowability	8,4 x 1 mm & **	AKRO	mm	200
Flowability	8,4 x 2 mm & **	AKRO	mm	350
Flowability	7 x 3,5 mm & **	AKRO	mm	600
Molding shrinkage	flow	ISO 294-4	%	0,3
Molding shrinkage	transverse	ISO 294-4	%	1,2

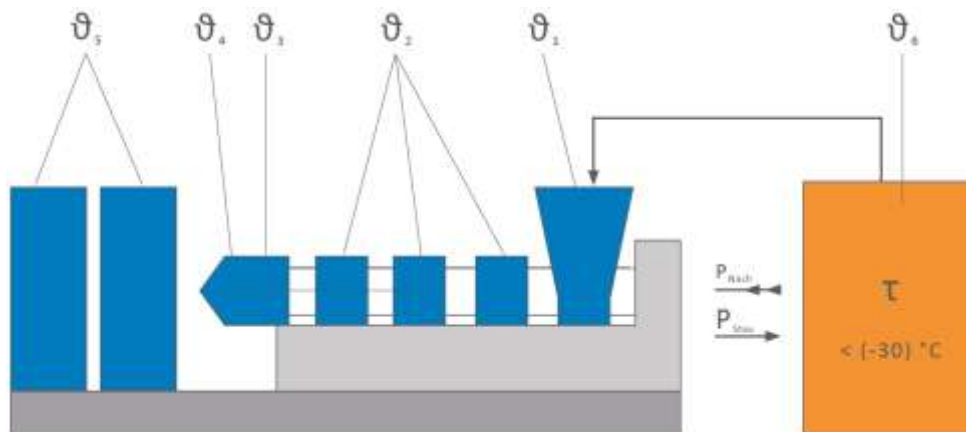
b.o.: based on

* = 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.