

Datasheet

Description:

AKROMID® A3 ICF 20 black (5102) is a 20% carbon fibre reinforced polyamide 6.6 with high flexural strength and good sliding properties

Applications

Mechanically high stressed parts in all industries

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

Mechanical Properties

Tensile modulus	1 mm/min	ISO 527-2	MPa	16000	10400
Stress at break	5 mm/min	ISO 527-2	MPa	190	135
Strain at break	5 mm/min	ISO 527-2	%	2,5	4
Flexural modulus	2 mm/min	ISO 178	MPa	14000	
Flexural strength	2 mm/min	ISO 178	MPa	280	
Flexural strain at break	2 mm/min	ISO 178	%	3	
Charpy impact strength	23°C	ISO 179-1/1eU	kJ/m ²	50	60
Charpy impact strength	-30°C	ISO 179-1/1eU	kJ/m ²	42	
Charpy notched impact strength	23°C	ISO 179-1/1eA	kJ/m ²	6	8
Charpy notched impact strength	-30°C	ISO 179-1/1eA	kJ/m ²	4	

Electrical Properties

Surface resistivity		b.o. IEC 60093	Ohm	1,0E+4	1,0E+4
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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	
Coeff. of linear therm. expansion, parallel	23°C - 80°C	ISO 11359-1/2	1,0E-4/K	0,10	
Coeff. of linear therm. expansion, normal	23°C - 80°C	ISO 11359-1/2	1,0E-4/K	0,90	
Thermal conductivity		DIN 52612	W/mK	0,34	

Flammability

Wall thickness			mm	0,4	0,8	1,6	2,0	3,2
Flammability		UL 94	class			HB		

General Properties

Density	23°C	ISO 1183	g/cm ³	1,23	
Content reinforcement/Content Filler		ISO 1172	%	20	
Humidity absorption	70°C, 62% r.h.	ISO 1110	%	2,3	

Processing

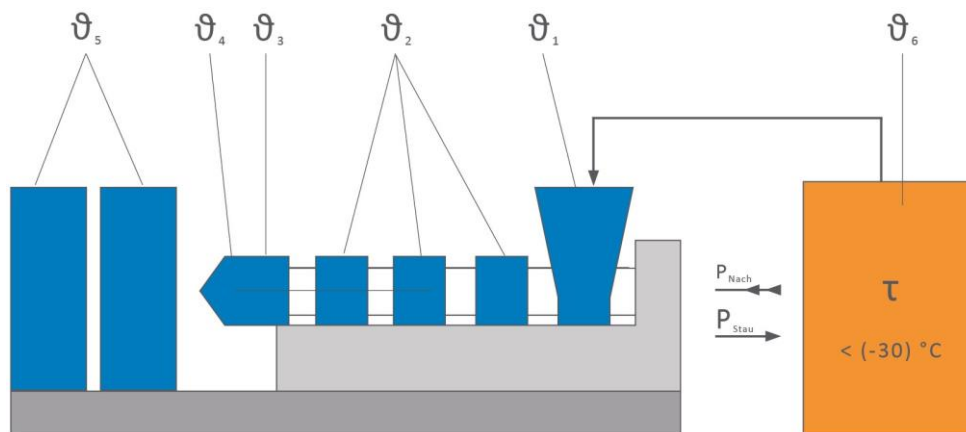
Molding shrinkage	flow	ISO 294-4	%	0,25	
Molding shrinkage	transverse	ISO 294-4	%	0,8	

b.o.: based on

* = 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 - 310
ϑ_3	Nozzle	°C	270 - 310
ϑ_4	Melt	°C	280 - 310
ϑ_5	Mould	°C	80 - 140
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.