

Preliminary Datasheet

Description:

AKROMID® A3 GM 20/10 S1 black (4817) is an 20% glass fibre reinforced, 10% glass bead filled, cold impact strength polyamide 6.6 with good surface and low warpage

Applications

Technical devices in automotive and engineering industry capable of carrying high load.

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

Mechanical Properties

Tensile modulus	1 mm/min	ISO 527-2	MPa	6900	4200
Stress at break	5 mm/min	ISO 527-2	MPa	130	85
Strain at break	5 mm/min	ISO 527-2	%	4	10
Flexural modulus	2 mm/min	ISO 178	MPa	6900	
Flexural strength	2 mm/min	ISO 178	MPa	205	
Charpy impact strength	23°C	ISO 179-1/1eU	kJ/m ²	80	80
Charpy impact strength	-30°C	ISO 179-1/1eU	kJ/m ²	76	
Charpy notched impact strength	23°C	ISO 179-1/1eA	kJ/m ²	15	16
Charpy notched impact strength	-30°C	ISO 179-1/1eA	kJ/m ²	8	
Ball indentation hardness	358/30	ISO 2039-1	MPa	127	

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	245	
Temp. of deflection under load HDT/B	0,45 MPa	ISO 75	°C	260	

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	1,31	
Content reinforcement/Content Filler		ISO 1172	%	30	
Humidity absorption	70°C, 62% r.h.	ISO 1110	%	2	
Water absorption	23°C, saturated	ISO 62	%	5,1	

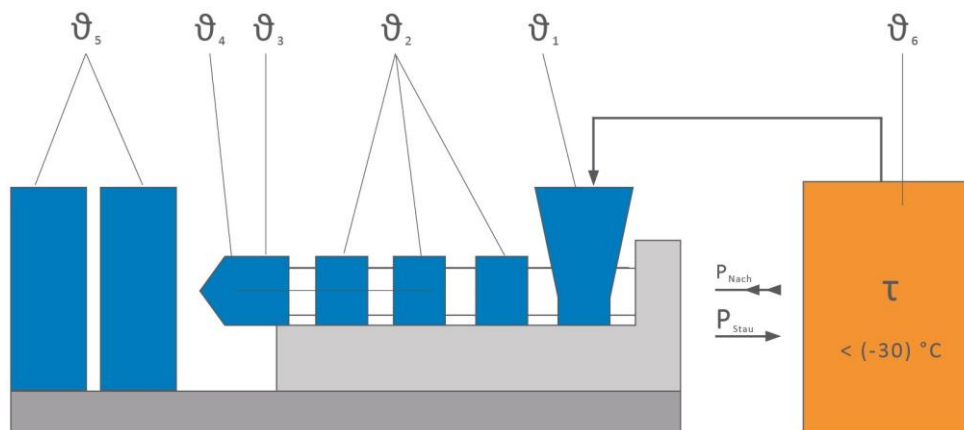
Processing

Molding shrinkage	flow	ISO 294-4	%	0,5	
Molding shrinkage	transverse	ISO 294-4	%	1,3	

* = 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 - 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.