

Preliminary Datasheet

Description:

AKROMID® B3 GM 10/20 1 L black (4646) is a 10% glass fibre reinforced, 20% glass bead filled and heat stabilised polyamide-blend with a reduced density compared to standard PA6 GF10 + GB20

Applications

Optical components in the automotive and electronic industry, where a weight and cost reduction is required

Typical values	Test specification	Method	Unit	Value	
				d.a.m.	moist.*
Mechanical Properties					
Tensile modulus	1 mm/min	ISO 527-2	MPa	5100	3300
Stress at break	5 mm/min	ISO 527-2	MPa	88	55
Strain at break	5 mm/min	ISO 527-2	%	3,4	6
Flexural modulus	2 mm/min	ISO 178	MPa	4700	
Flexural strength	2 mm/min	ISO 178	MPa	130	
Charpy impact strength	23°C	ISO 179-1/1eU	kJ/m ²	46	44
Charpy impact strength	-30°C	ISO 179-1/1eU	kJ/m ²	43	42
Charpy notched impact strength	23°C	ISO 179-1/1eA	kJ/m ²	7	9
Charpy notched impact strength	-30°C	ISO 179-1/1eA	kJ/m ²	4	4

Thermal Properties

Melting temperature	DSC, 10K/min	DIN EN 11357-1	°C	220
Temp. of deflection under load HDT/A	1,8 MPa	ISO 75	°C	165
Temp. of deflection under load HDT/B	0,45 MPa	ISO 75	°C	208

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	1,26
Content reinforcement/Content Filler		ISO 1172	%	30
Humidity absorption	70°C, 62% r.h.	ISO 1110	%	1,4

Rheological Properties

MVR	275/5	ISO 1133	cm ³ /10min	18
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Processing

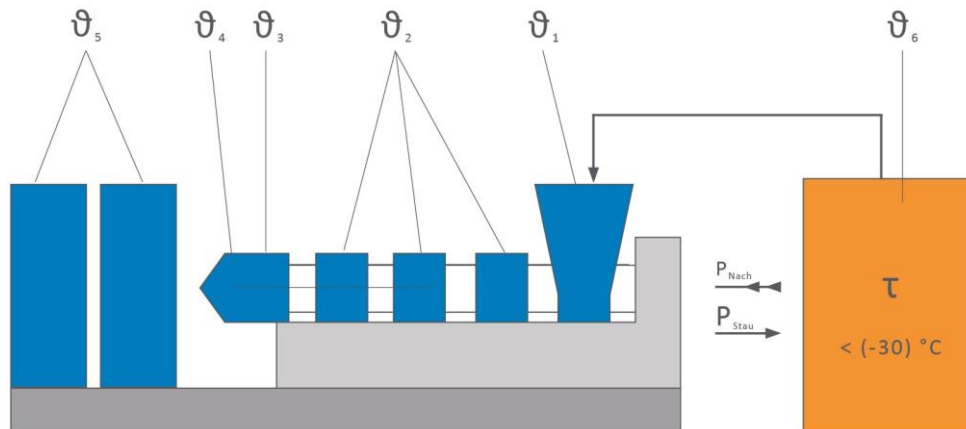
Flowability	7 x 3,5 mm & **	AKRO	mm	730
Molding shrinkage	flow	ISO 294-4	%	0,5
Molding shrinkage	transverse	ISO 294-4	%	1,2

* = specimen acc. ISO 1110 stored

** = mould temperature: 80°C, melt temperature: 270°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	220 - 290
ϑ_3 Nozzle	°C	240 - 300
ϑ_4 Melt	°C	240 - 290
ϑ_5 Mould	°C	70 - 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	5 - 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.