

Datasheet

Description:

AKROLOY® PA GF 60 natural (2941) is a 60% glass fibre reinforced polyamide blend with very high stiffness and strength, even in conditioned state. This material is listed at UL at 0,8 mm all colors HB.

Applications

Components with high dimensional stability, independent from moisture content. AKROLOY PA GF 60 is an alternative for aluminium- and zinc diecast alloys.

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

Mechanical Properties

Tensile modulus	1 mm/min	ISO 527-2	MPa	21000	20000
Stress at break	5 mm/min	ISO 527-2	MPa	275	245
Strain at break	5 mm/min	ISO 527-2	%	2,5	2,5
Flexural modulus	2 mm/min	ISO 178	MPa	20000	
Flexural strength	2 mm/min	ISO 178	MPa	405	
Charpy impact strength	23°C	ISO 179-1/1eU	kJ/m ²	100	95
Charpy impact strength	-30°C	ISO 179-1/1eU	kJ/m ²	90	
Charpy notched impact strength	23°C	ISO 179-1/1eA	kJ/m ²	16	16
Charpy notched impact strength	-30°C	ISO 179-1/1eA	kJ/m ²	14	
Ball indentation hardness	961/30	ISO 2039-1	MPa	330	

Electrical Properties

Comparative tracking index	test solution A	IEC 60112		600
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Thermal Properties

Melting temperature	DSC, 10K/min	DIN EN 11357-1	°C	255
Temp. of deflection under load HDT/A	1,8 MPa	ISO 75	°C	225
Temp. of deflection under load HDT/B	0,45 MPa	ISO 75	°C	245
Coeff. of linear therm. expansion, parallel	23°C - 80°C	ISO 11359-1/2	1,0E-4/K	0,15
Coeff. of linear therm. expansion, normal	23°C - 80°C	ISO 11359-1/2	1,0E-4/K	0,55
Temp. index for 50% loss of tens. strength	5.000 Std.	IEC 60216	°C	140 - 150
Temp. index for 50% loss of tens. strength	20.000 Std.	IEC 60216	°C	110 - 130

Flammability

Wall thickness			mm	0,4	0,8	1,6	2,0	3,2
Flammability		UL 94	class		HB			
GWIT		IEC 60695-2-13	°C		650			
Burning rate (< 100 mm/min)	> 1 mm thickness	FMVSS 302						+

General Properties

Density	23°C	ISO 1183	g/cm ³	1,72
Content reinforcement/Content Filler		ISO 1172	%	60
Humidity absorption	70°C, 62% r.h.	ISO 1110	%	0,8
Water absorption	23°C, saturated	ISO 62	%	3 - 3,5

Processing

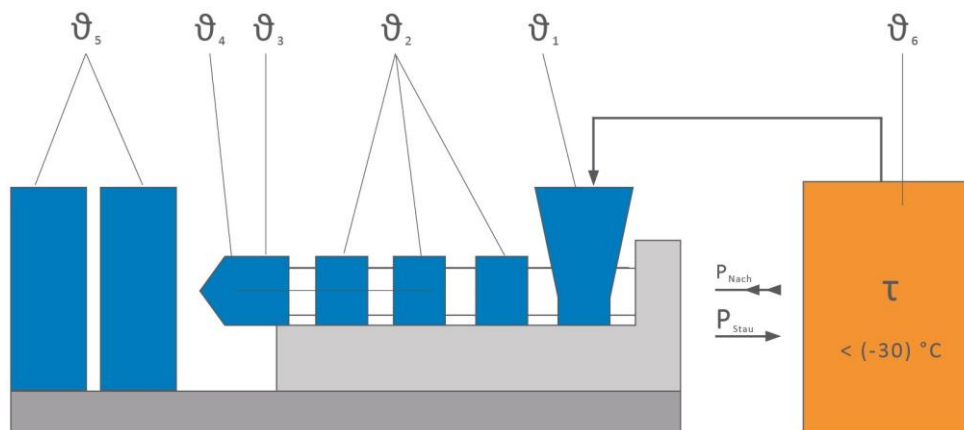
Flowability	7 x 3,5 mm & **	AKRO	mm	470
Molding shrinkage	flow	ISO 294-4	%	0,0 - 0,2
Molding shrinkage	transverse	ISO 294-4	%	0,2 - 0,4

* = 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 - 300
ϑ_4 Melt	°C	280 - 300
ϑ_5 Mould	°C	90 - 130
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.