

#### Datasheet

#### Description:

AKROMID® A3 K1 FR natural (2312) is a 25% glass fibre reinforced, halogen- and red phosphorus free flame retardant polyamide 6.6 with light inherent color, all color listed at UL and NF F 16-101.

#### Applications

Switch housings in the electric industry

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

#### Mechanical Properties

Tensile modulus	1 mm/min	ISO 527-2	MPa	9200	6500
Stress at break	5 mm/min	ISO 527-2	MPa	140	100
Strain at break	5 mm/min	ISO 527-2	%	3	4
Flexural modulus	2 mm/min	ISO 178	MPa	9000	7000
Flexural strength	2 mm/min	ISO 178	MPa	220	170
Flexural strain at break	2 mm/min	ISO 178	%	3	4
Charpy impact strength	23°C	ISO 179-1/1eU	kJ/m <sup>2</sup>	65	70
Charpy impact strength	-30°C	ISO 179-1/1eU	kJ/m <sup>2</sup>	65	
Charpy notched impact strength	23°C	ISO 179-1/1eA	kJ/m <sup>2</sup>	11	13
Izod notched impact strength	23°C	ISO 180/1A	kJ/m <sup>2</sup>	10	
Ball indentation hardness	358/30	ISO 2039-1	MPa	221	

#### Electrical Properties

Comparative tracking index	test solution A	IEC 60112		600
Dielectric strength	3 mm	IEC 60243	kV/mm	28
Permittivity	1 MHz	IEC 60250		3,7

#### 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	246
Temp. of deflection under load HDT/B	0,45 MPa	ISO 75	°C	261
Temp. index for 50% loss of tens. strength	20.000 Std.	IEC 60216	°C	120-130

#### Flammability

Wall thickness			mm	0,4	0,8	1,6	3,2
Flammability		UL 94	class	V0	V0	V0	V0
GWFI		IEC 60695-2-12	°C	960	960	960	960
GWIT		IEC 60695-2-13	°C	775	750	775	775
Hot wire ignition		UL 746A	PLC		0		
High current arc ignition		UL 746A	PLC		0		
Burning and smoke gas classification		NF F 16-101	class			I3/F1	
Oxygen Index		ISO 4589-2	%			32	
		ISO 4589-2					

#### General Properties

Density	23°C	ISO 1183	g/cm <sup>3</sup>	1,34
Content reinforcement/Content Filler		ISO 1172	%	25

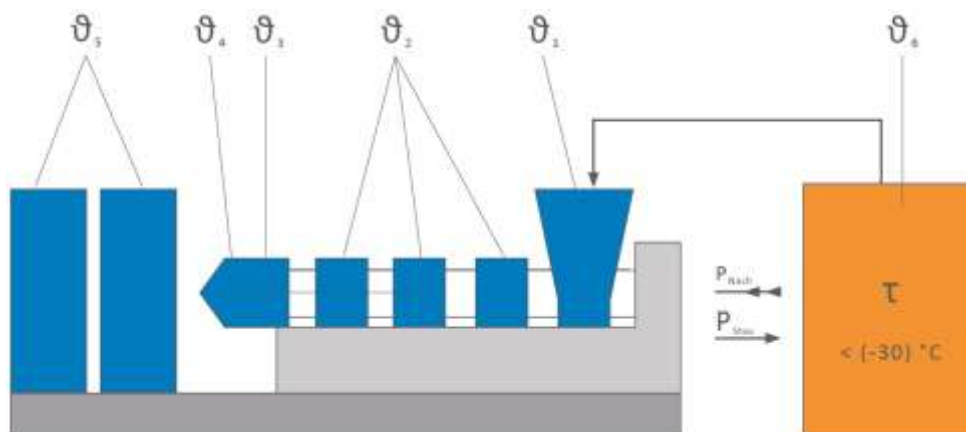
#### Processing

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

\* = specimen acc. ISO 1110 stored

#### Continuation

#### Processing recommendations



$\vartheta_6$	Drying time	h	2 - 4
$\vartheta_6$	Drying temperature	°C	80
	Processing moisture	%	0,02 - 0,08
$\vartheta_1$	Feed section	°C	60 - 80
$\vartheta_2$	Section 1 - Section 4	°C	260 - 290
$\vartheta_3$	Nozzle	°C	260 - 300
$\vartheta_4$	Melt	°C	270 - 290
$\vartheta_5$	Mould	°C	60 - 100
$P_{Nach}$	Holding pressure, spec.	bar	300 - 800
$P_{Stau}$	Back pressure, spez.	bar	30 - 100
	Injection speed		medium
	Screw speed	m/min	5 - 10

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.