

Datasheet

Durethan AKV30FN22 000000

PA 66, 30% glass fibers, injection molding, halogen free flame retardant

ISO Shortname: ISO 16396-PA 66,GF30 FR(30),GF2,S14-060

Property	Test Condition	Unit	Standard	guide value ¹ d.a.m. cond.	
Rheological properties					
C Melt volume-flow rate	270 °C; 2.16 kg	cm³/(10 min)	ISO 1133-1	17	
C Molding shrinkage, parallel	60x60x2; 260 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.8	
C Molding shrinkage, transverse	60x60x2; 260 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.9	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.2	
Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.2	
Mechanical properties (23 °C/50 % r. h.)					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	6000	3900
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	85	56
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	3.5	13.2
C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	35	60
C Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	<10	<10
Izod impact strength	23 °C	kJ/m²	ISO 180-1U	30	50
Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	< 10	<10
Flexural modulus	2 mm/min	MPa	ISO 178-A	6700	3700
Flexural strength	2 mm/min	MPa	ISO 178-A	170	90
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	4.3	6.5
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A	165	80
Ball indentation hardness		N/mm²	ISO 2039-1	200	
Thermal properties					
C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	263	
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	200	
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	~250	
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	>230	
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.4	
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.8	
C Burning behavior UL 94	1.5 mm	Class	UL 94	V-2	
C Burning behavior UL 94	0.75 mm	Class	UL 94	V-2	
Resistance to heat (ball pressure test)		°C	IEC 60695-10-2	255	
Glow wire test (GWFI)	0.75 mm	°C	IEC 60695-2-12	960	
Glow wire test (GWFI)	1.5 mm	°C	IEC 60695-2-12	960	
Glow wire test (GWFI)	3.0 mm	°C	IEC 60695-2-12	960	
Glow wire test (GWIT)	0.75 mm	°C	IEC 60695-2-13	775	
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	245	

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Electrical properties (23 °C/50 % r. h.)				
C Volume resistivity		Ohm·m	IEC 62631-3	3.1E13
C Surface resistivity		Ohm	IEC 62631-3	9.7E14
C Electric strength	1 mm	kV/mm	IEC 60243-1	30
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	525
Comparative tracking index CTI	Solution A	PLC	UL 746A	0
Other properties (23 °C)				
C Density		kg/m ³	ISO 1183	1400
Material specific properties				
C Viscosity number		cm ³ /g	ISO 307	127
Processing conditions for test specimens				
C Injection molding-Melt temperature		°C	ISO 294	260
C Injection molding-Mold temperature		°C	ISO 294	80
Processing recommendations				
Drying temperature dry air dryer		°C	-	80
Drying time dry air dryer		h	-	2-6
Residual moisture content		%	Acc. to Karl Fischer	0.03-0.07
Melt temperature (Tmin - Tmax)		°C	-	260-270
Mold temperature		°C	-	80-100

Notes

1 Typical properties: these are not to be construed as specifications

C These property characteristics are taken from the CAMPUS plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350.

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Typical Properties

Property data is provided as general information only. Property values are approximate and are not part of the product specifications.

Flammability

Flammability results are based on small-scale laboratory tests for purposes of relative comparison and are not intended to reflect the hazards presented by this or any other material under actual fire conditions.

Health and Safety

Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling Envalior products mentioned in this publication. Before working with these products, you must read and become familiar with the available information on their hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms, e.g., material safety data sheets (MSDS) and product labels. Consult your Envalior representative or contact the Product Safety and Regulatory Affairs Department. For materials that are not Envalior products, appropriate industrial hygiene and other safety precautions recommended by their manufacturer(s) must be followed.

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Some of the end uses of the products described in this brochure must comply with applicable regulations, such as the FDA, NSF, USDA and CPSC. If you have any questions on the regulatory status of any Envalior engineering thermoplastic, consult your Envalior representative or contact the Regulatory Affairs Manager.

Color and Visual Effects

Type and quantity of pigments or additives used to obtain certain colors and special visual effects can affect mechanical properties.