

Datasheet

Durethan AKV25FN00 000000

PA 66, 25% glass fibers, injection molding, halogen free flame retardant, heat-aging stabilized

ISO Shortname: ISO 16396-PA 66+PA 6,GF25 FR(30+40),GF2HR,S14-100

Property	Test Condition	Unit	Standard	guide value ¹	
				d.a.m.	cond.
Rheological properties					
C Melt volume-flow rate	270 °C; 2.16 kg	cm ³ /(10 min)	ISO 1133-1	12	
C Molding shrinkage, parallel	60x60x2; 270 °C / WZ 120 °C; 600 bar	%	ISO 294-4	0.3	
C Molding shrinkage, transverse	60x60x2; 270 °C / WZ 120 °C; 600 bar	%	ISO 294-4	0.9	
Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.1	
Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.1	
Mechanical properties (23 °C/50 % r. h.)					
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	9600	5800
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	125	80
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	3	6
C Charpy impact strength	23 °C	kJ/m ²	ISO 179-1eU	60	65
C Charpy impact strength	-30 °C	kJ/m ²	ISO 179-1eU	60	60
C Charpy notched impact strength	23 °C	kJ/m ²	ISO 179-1eA	<10	<10
Izod impact strength	23 °C	kJ/m ²	ISO 180-1U	55	65
Izod notched impact strength	23 °C	kJ/m ²	ISO 180-1A	<10	<10
Flexural modulus	2 mm/min	MPa	ISO 178-A	9100	5700
Flexural strength	2 mm/min	MPa	ISO 178-A	210	135
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	3.3	5.8
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A		120
Ball indentation hardness		N/mm ²	ISO 2039-1	228	
Thermal properties					
C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	260	
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	225	
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	225	
C Burning behavior UL 94	1.5 mm	Class	UL 94	V-0	
C Burning behavior UL 94	0.4 mm	Class	UL 94	V-0	
C Burning behavior UL 94-5V	1.5 mm	Class	UL 94	5VA	
C Oxygen index	Method A	%	ISO 4589-2	38	
Resistance to heat (ball pressure test)		°C	IEC 60695-10-2	228	
Glow wire test (GWFI)	0.4 mm	°C	IEC 60695-2-12	960	
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)	0.4 mm	°C	IEC 60695-2-13	775	

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Property	Test Condition	Unit	Standard	guide value ¹ <small>d.a.m. cond.</small>
Glow wire test (GWIT)	0.75 mm	°C	IEC 60695-2-13	775
Glow wire test (GWIT)	1.5 mm	°C	IEC 60695-2-13	775
Glow wire test (GWIT)	3.0 mm	°C	IEC 60695-2-13	775
Electrical properties (23 °C/50 % r. h.)				
C Volume resistivity		Ohm·m	IEC 62631-3	7.4 E13
Surface resistivity		Ohm	IEC 60167	1.1 E16
C Electric strength	1 mm	kV/mm	IEC 60243-1	35
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	600
Comparative tracking index CTI	Solution A	PLC	UL 746A	0
Other properties (23 °C)				
C Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	4.6
C Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	1.5
C Density		kg/m ³	ISO 1183	1390
Bulk density		kg/m ³	ISO 60	700
Processing conditions for test specimens				
C Injection molding-Melt temperature		°C	ISO 294	270
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	-	265-285
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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Test values

Unless specified to the contrary, the values given have been established on standardized test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mould/die, the processing conditions and the coloring.

Processing note

Under the recommended processing conditions small quantities of decomposition product may be given off during processing. To preclude any risk to the health and well-being of the machine operatives, tolerance limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace in accordance with the Safety Data Sheet. In order to prevent the partial decomposition of the polymer and the generation of volatile decomposition products, the prescribed processing temperatures should not be substantially exceeded. Since excessively high temperatures are generally the result of operator error or defects in the heating system, special care and controls are essential in these areas.

Conditioning

Conditioning in accordance with ISO 1110 (70 °C; 62 % r.h.)

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