Durethan AKV30FN04LT 904040

PA 66, 30 % glass fibers, injection molding, halogen free flame retardant, NIR-laser transparent coloring (black)

ISO Shortname: ISO 16396-PA 66,GF30 FR(40),GF2HR,S14-100

Property	Test Condition	Unit	Standard	guide value d.a.m.	guide value cond.
Rheological properties					
C Molding shrinkage, parallel	60x60x2; 270 °C / WZ 80 °C; 600 bar	%	ISO 294-4	0.3	
C Molding shrinkage, transverse	60x60x2; 270 °C / WZ 80 °C; 600 bar	%	ISO 294-4	0.8	
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	10500	6500
C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	138	87
C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	2.9	5.7
C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	65	70
C Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	60	60
C Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	<10	11
C Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	<10	<10
Izod impact strength	23 °C	kJ/m²	ISO 180-1U	55	65
Izod impact strength	-30 °C	kJ/m²	ISO 180-1U	50	55
Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	<10	12
Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A		<10
Flexural modulus	2 mm/min	MPa	ISO 178-A	10100	6300
Flexural strength	2 mm/min	MPa	ISO 178-A	230	150
Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	3.2	5.5
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A		135
Ball indentation hardness		N/mm²	ISO 2039-1	207	
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	230	
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	233	
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.2	
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.7	
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	34	
Resistance to heat (ball pressure test)		°C	IEC 60695-10-2	233	
Glow wire test (GWFI)	0.4 mm	°C	IEC 60695-2-12	960	

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	Property	Test Condition	Unit	Standard	guide value d.a.m.	cond.
	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	750	
	Glow wire test (GWIT)	0.75 mm	°C	IEC 60695-2-13	750	
	Glow wire test (GWIT)	1.5 mm	°C	IEC 60695-2-13	750	
	Glow wire test (GWIT)	3.0 mm	°C	IEC 60695-2-13	750	
Electrical properties (23 °C/50 % r. h.)						
C	Volume resistivity		Ohm·m	IEC 60093	5.00E+13	
C	Surface resistivity		Ohm	IEC 60093	3.00E+16	
C	Electric strength	1 mm	kV/mm	IEC 60243-1	41	
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	4.4	
C	Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	1.4	
C	Density		kg/m³	ISO 1183	1420	
	Bulk density		kg/m³	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	

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.

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Color and Visual Effects

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

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