LANXESS Energizing Chemistry

Durethan AKV50H2.0 901510

PA 66, 50 % glass fibers, injection molding, heat-aging stabilized

ISO Shortname: ISO 16396-PA 66,GF50,GHR,S14-160

	Property	Test Condition	Unit	Standard	guide value	
					d.a.m.	cond.
	Rheological properties					
C	Molding shrinkage, parallel	60x60x2; 290 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.35	
C	Molding shrinkage, transverse	60x60x2; 290 °C / MT 80 °C; 600 bar	%	ISO 294-4	0.9	
	Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.05	
	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	16000	10200
C	Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	230	160
C	Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	2.6	4
C	Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	95	95
C	Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	100	100
C	Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	15	23
C	Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	13	15
	Izod impact strength	23 °C	kJ/m²	ISO 180-1U	90	90
	Izod impact strength	-30 °C	kJ/m²	ISO 180-1U	90	85
	Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	15	20
	Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A	13	13
	Flexural modulus	2 mm/min	MPa	ISO 178-A	14700	10000
	Flexural strength	2 mm/min	MPa	ISO 178-A	360	250
	Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	3.2	4.5
	Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178-A		230
C	Puncture maximum force	23 °C	N	ISO 6603-2	1100	1200
C	Puncture maximum force	-30 °C	N	ISO 6603-2	1000	
C	Puncture energy	23 °C	J	ISO 6603-2	4	5
C	Puncture energy	-30 °C	J	ISO 6603-2	3	
	Ball indentation hardness		N/mm²	ISO 2039-1	246	150
	Thermal properties					
C	Melting temperature	10 °C/min	°C	ISO 11357-1,-3	261	
C	Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	247	
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	>240	
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	0.8	
C	Burning behavior UL 94	1.5 mm	Class	UL 94	HB	
C	Burning behavior UL 94	0.75 mm	Class	UL 94	HB	
C	Oxygen index	Method A	%	ISO 4589-2	27	
	Resistance to heat (ball pressure test)		°C	IEC 60695-10-2	258	
	Glow wire test (GWFI)	2.0 mm	°C	IEC 60695-2-12	600	
	Burning behavior US-FMVSS302	>=1.0 mm		ISO 3795	passed	
C	Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	> 230	
	Electrical properties (23 °C/50 % r. h.)					
C	Relative permittivity	100 Hz	-	IEC 60250	4.5	14
C	Relative permittivity	1 MHz	-	IEC 60250	4	5
C	Dissipation factor	100 Hz	10-4	IEC 60250	90	3200
C	Dissipation factor	1 MHz	10-4	IEC 60250	150	850
C	Volume resistivity		Ohm·m	IEC 60093	1E13	1E12
C	Surface resistivity		Ohm	IEC 60093	1E13	1E12
C	Electric strength	1 mm	kV/mm	IEC 60243-1	40	35
C	Comparative tracking index CTI	Solution A	Rating	IEC 60112	550	
	Other properties (23 °C)					
C	Water absorption (Saturation value)	Water at 23 °C	%	ISO 62	4.5	
C	Water absorption (Equilibrium value)	23 °C; 50 % RH	%	ISO 62	1.4	

C	Density	kg/m³	ISO 1183	1570
	Bulk density	kg/m³	ISO 60	700
	Processing conditions for test specimens			
C	Injection molding-Melt temperature	°C	ISO 294	290
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	0.03-0.12
	Melt temperature (Tmin - Tmax)	°C	-	280-300
	Mold temperature	°C	-	80-120

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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Standard Disclaimer

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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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Appropriate literature has been assembled which provides information concerning the health and safety precautions that must be observed when handling LANXESS 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 LANXESS Corporation representative or contact the Product Safety and Regulatory Affairs Department at LANXESS. For materials that are not LANXESS products, appropriate industrial hygiene and other safety precautions recommended by their manufacturer(s) must be followed.

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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.