

Data sheet
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/m ³	ISO 1183	1570
Bulk density	kg/m ³	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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Typical Properties

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

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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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